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Estimates of Internal Dose Equivalent to 22 Target Organs for Radionuclides Occurring in Routine Releases from Nuclear Fuel-Cycle Facilities Vol. II

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Prepared for the U.S. Nuclear Regulatory Commission
Division of Safeguards, Fuel Cycle,
and Environmental Research
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HEALTH AND SAFETY RESEARCH DIVISION
OAK RIDGE NATIONAL LABORATORY

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HIGHLIGHTS

This report is the second of a two-volume tabulation of internal radiation dose conversion factors for man for radionuclides of interest in environmental assessments of light-water-reactor fuel cycles. This volume treats 78 radionuclides, all of mass number greater than 200. Intake by inhalation and ingestion are considered. The International Commission on Radiological Protection (ICRP) Task Group Lung Model has been used to simulate the behavior of particulate matter in the respiratory tract. Results corresponding to activity median aerodynamic diameters (AMAD) of 0.3, 1.0, and 5.0 μm are given. The gastrointestinal (GI) tract has been represented by a four-segment catenary model with exponential transfer of radioactivity from one segment to the next. Retention of radionuclides in other organs is characterized by linear combinations of decaying exponential functions. Fifty-year dose commitment per microcurie intake of each parent nuclide is given for 22 target organs with contributions from specified source organs plus surplus activity in the rest of the body; cross irradiation due to penetrating radiations has also been incorporated into these tabulations. Dose conversion factors are also presented in four sets of summary tables for easy reference. In addition to the foregoing tabulations, in which the value $Q_\alpha = 10$ has been assumed for the quality factor corresponding to alpha emissions, an alternative table of dose conversion factors for alpha-emitting nuclides with $Q_\alpha = 20$ is provided. Specific computational details in which the present calculations depart from the general methodologies presented in the previous volume of this series are discussed.

1. INTRODUCTION

This volume presents tabulations of dose conversion factors for 22 target organs of man due to the inhalation or ingestion of any one of 78 radionuclides. The present tabulation has been restricted in scope to nuclides of mass number greater than 200. A previous volume (Killough et al., 1978a) contained similar tabulations for 64 radionuclides with mass numbers less than 150.

In the interest of convenience for the user of this document, introductory material from the previous volume has been included with minor editing as appropriate for present requirements. However, the reader is urged to consult Volume I for more extensive information than that provided here in the following paragraphs and Appendix A.

Our objective has been to assemble data and models that are believed to be representative of the state of the art in the estimation of internal dose from ingested or inhaled radionuclides, and to apply this information to a unified calculation of dose conversion factors for those radionuclides which are of concern to the Nuclear Regulatory Commission (NRC) in its regulatory activities. We consider the information preliminary, and it is not our purpose to recommend it at this time for uncritical adoption in all radiological applications. Rather its publication in this format is intended to permit critical examination of the data and methods employed.

The report presents information which consists of calculations performed, for the most part, in a unified manner. This systematic approach, embodied in the INREM II computer code (Killough et al., 1978b) is not entirely free of difficulties, which occur as minor conceptual inconsistencies as discussed in the previous volume or as the

requirement of special treatment for certain radionuclides (e.g., radon isotopes in the present volume).

While this document has drawn extensively upon the biomedical and health physics literature, it should not be regarded as a comprehensive review of internal dose models and the computer codes which implement them. Such an undertaking would have proved prohibitive.

We consider the intake of a radionuclide by ingestion or inhalation; in the latter case a particulate form is assumed, with the exception of radon isotopes. Dynamic models are applied to the estimation of microcurie-days residence of the radionuclide (and of radioactive daughters that are formed in the body) in the respiratory and gastrointestinal tracts and in other organs which may tend to concentrate the material. These acitivity integrals for the source organs are multiplied by dosimetric "S-factors" (rem/μCi-day) to provide estimates of dose equivalent to each of a standard list of 22 target organs. The terms "source" and "target" refer to the irradiation of organs by emissions from radionuclide activity in other organs. For every source and target combination, Appendix A provides dose matrices for the evaluation of these cross irradiation or "crossfire" components.

The 22 target organs considered here are (with two exclusions) those used in the S-factor tabulation of ORNL-5000 (Snyder et al., 1974; 1975). In any specific application, relatively few of these organs are likely to be of interest, but comparisons may be facilitated by this more complete listing which, moreover, is consistently provided for all radionuclides considered. It also seems likely that some of the additional information will prove useful in the estimation of radiation-induced

health effects to populations by means of organ-specific risk factors (e.g., ICRP Publication 26; ICRP, 1977). The user should be careful to select appropriate dose values from the tabulations. For example, endosteal cells and red marrow have been identified as radiosensitive tissues in bone and those doses should be used in many applications rather than doses tabulated for bone.

The dynamic models include the lung model for inhaled particulates proposed by a task group of the International Commission on Radiological Protection (ICRP) (Morrow et al., 1966). This model, with parameters from ICRP Publication 19 (ICRP, 1972), is employed to estimate deposition and retention in the major regions of the respiratory tract and to calculate translocation of the inspired material into the blood and other organs. The gastrointestinal (GI) tract is represented by a catenary model of four segments (Bernard, 1968) with mean transit times suggested by Eve (1966). The model permits absorption of activity into the blood from any combination of the segments, but we generally assume that all absorption is from the small intestine. Retention of activity in organs other than the respiratory and gastrointestinal tracts is modeled by linear combinations of up to five decaying exponential functions. Such retention functions are often derived as approximations to other functional forms [e.g., the power functions developed by Marshall et al. (1972) for the alkaline earth elements]. The reader is referred to Chap. 2 of the initial volume of this series for a more thorough discussion of the general methodology and mathematical models employed.

A point of emphasis in this work is the documentation of information that has gone into the calculations. It is our intention to leave a

trail from each tabulated dose conversion factor which a reader who is familiar with the various parts of this document can trace back to the models, data, and special assumptions which went into the calculation. To assist the reader in using this tabulation, we offer the following comments about its content and organization.

Chapter 2 and its subsections provide a discussion of specific computational details in which the present calculations differ from those documented in the previous volume. The representation of radionuclide activity in "other tissues" (i.e., in organs other than those explicitly represented) has undergone revision. We have also incorporated new calculations for estimating the dose from alpha particles to the radiosensitive endosteal cells and red marrow in bone. For calculations involving decay chains which include a radon isotope, the general methodology has been modified somewhat to interface with the ICRP Task Group Lung Model, a model for the dynamics of a gas in the respiratory air spaces. The final section of this chapter relates these dose calculations to the traditional concept of the working level month (WLM) for radon and daughters.

Chapter 3 contains descriptions of metabolic models and parameters which have been used in the calculations. As noted above, radon isotopes are treated differently from most of the other calculations.

The remaining information in this volume is assembled in three appendices. The more detailed is Appendix A, which presents computer-produced calculation sheets for each parent nuclide considered. For the parent nuclide and each radioactive daughter, these sheets summarize the physical and metabolic data assumed for the calculations, and display

the resulting matrices of dose conversion factors representing the 50-year dose commitments (rem/μCi) to each of the 22 target organs due to the parent and ingrowing daughters. Two or more cases (inhalation and ingestion) are usually presented. A more detailed guide to the information in Appendix A may be found in Sect. A.1.

Appendix B gives summary tabulations of dose conversion factors that include all of those presented in Appendix A and additional factors for inhalation cases. Four sets of tables are presented: three for inhalation and one for ingestion. Each lists dose conversion factors for each of the 22 target organs. The inhalation tables correspond to particle activity median aerodynamic diameters (AMAD) of 0.3, 1, and 5 μm. The respiratory clearance class of the parent nuclide (D, W, or Y, where applicable) is shown in the column labeled "SOL," and the GI tract absorption fraction is listed. These parameters will help the reader identify a similar case (when available) in Appendix A if further details are needed. The ingestion table shows only the GI absorption fraction f_1 of the parent nuclide, in addition to the dose conversion factors.

Appendices A and B assume, for alpha-emitting radionuclides, a quality factor $Q_\alpha = 10$. Appendix C repeats the summary listing of alpha emitters with $Q_\alpha = 20$, as recommended by the ICRP in Publication 26 (ICRP, 1977). Since an appropriate definition value for regulatory application is at present a matter of some controversy, this course seems preferable to restricting the tables to what might prove a premature choice.

2. COMPUTATIONAL METHODS AND SPECIAL CONSIDERATIONS

In this chapter we describe specific details in which the present tabulation differs from the methods documented in the previous volume of

this series (Killough et al., 1978a). The reader is referred to that document or to Killough et al. (1978b), which describes the INREM II computer code, for a complete discussion of the general methodology and the mathematical models on which these calculations are based.

2.1 Explicit Representation of "Other Tissues" Compartment

In the present volume of this series, the retention of a radionuclide in the body is specified by using retention data for mutually exclusive organs, Y_1, ..., Y_P and for a complementary compartment Y_{OTHER}, with the assumption that all activity remaining from what is initially absorbed through the lungs and GI tract is accounted for in this partitioning. Therefore, if the organs Y_1, ..., Y_P exclude lungs and GI tract, we may write

$$R_{i,ab}(t) = \sum_{k=1}^{P} f'_{2,i,k} R_{i,k}(t) + f'_{2,i,OTHER} R_{i,OTHER}(t), \qquad (2.1)$$

where i = index of the nuclide species in the decay chain, $f'_{2,i,k}$, $f'_{2,i,OTHER}$ = fractional transfer of species-i activity from blood to organ k and the "other tissues" compartment, respectively, and $R_{i,k}(t)$, $R_{i,OTHER}(t)$ = retention functions for organ k and "other tissues." The function $R_{i,ab}(t)$ describes the overall retention of species i in the total body after absorption from the lungs or GI tract. This formulation requires that

$$\sum_{k=1}^{P} f'_{2,i,k} + f'_{2,i,OTHER} = 1.$$

In Volume 1 of this tabulation (Killough et al., 1978a), the $R_{i,k}(t)$ and $R_{i,ab}(t)$ were specified, their cumulative activities (μCi-days)

calculated, and that of Y_{OTHER} computed by subtraction. The method of subtraction was originally chosen because of the customary presentation of uptake and retention data for total body and specified organs; but this method becomes approximate when it is applied to radioactive progeny produced in the body after intake of a parent nuclide. By specifying $R_{i,k}(t)$ and $R_{i,OTHER}(t)$ explicitly and calculating $R_{i,ab}(t)$ by addition, this difficulty is eliminated. The reader should be aware that the retention equations specified as "ABSORBED" in Appendix A represent this quantity $R_{i,ab}(t)$ and have been derived by summation of the retention equations for all organs, as in Eq. (2.1); in practice, $R_{i,ab}(t)$ is never used in any calculations by INREM II and is presented in the tabulations only for the user's information.

2.2 Alpha Dose to Endosteal Cells and Red Marrow

In the case of alpha-emitting radionuclides deposited in bone, special S-factors have been computed for the target tissues consisting of the endosteal cells and red marrow, when the source is bone. In the report of Dunning et al. (1977), which is based on the methods of Snyder et al. (1974, 1975), these alpha doses were tabulated as zero as an interim default action. For the present report, these S-factors have been derived from absorbed fractions computed by Thorne (1977) for a discrete range of alpha energies and source activity at various depths in bone. The following paragraphs present some details of the translation of Thorne's information into alpha-component S-factors.

2.2.1 Volume seeking radionuclides

If 1 μCi of an alpha emitter is uniformly distributed throughout bone, the fraction in a layer at depth z from the surface, with thickness

Δz, is

$$\frac{\Delta M}{M} = \frac{A \cdot \Delta z \cdot \rho}{M} ,$$

where M, the mass of bone, is 5,000 g; A, the area of the total endosteal surface, is 12.5×10^4 cm^2; and ρ, the density of soft tissue, is 1.00 g/cm^3, the numerical values having been taken from the Reference Man report (ICRP, 1975) and Thorne (1977). If linear measures are converted to micrometers, we have

$$\frac{\Delta M}{M} = (2.5 \times 10^3)\Delta z .$$

While there is some uncertainty about the location of those endosteal cells at risk for radiation-induced bone sarcoma, the layer between 0 and 10 μm from the surface has been used for these calculations (ICRP, 1977). We write $\phi e(E_\alpha, z)$ for the fraction of alpha particles, of energy E_α, emitted from depth z that are absorbed by the layer of target endosteal cells. Similarly, we use $\phi_m(E_\alpha, z)$ as the corresponding fraction that are absorbed in the red marrow. For the assumed uniform distribution of radioactivity throughout the bone volume, the specific absorbed fractions are

$$\Phi_{E_\alpha}(\text{ENDOSTEAL CELLS} \leftarrow \text{BONE VOLUME}) = \frac{1}{M_e} \int_0^{z_{max}} (2.5 \times 10^3)\phi_e(E_\alpha, z)\, dz$$

$$\Phi_{E_\alpha}(\text{RED MARROW} \leftarrow \text{BONE VOLUME}) = \frac{1}{M_m} \int_0^{z_{max}} (2.5 \times 10^{-3})\phi_m(E_\alpha, z)\, dz,$$

where M_e = 125 g and M_m = 1500 g are the masses of the 10 μm layer of

endosteal target cells and the red marrow, respectively, and z_{max} is a depth beyond which the alpha penetration is negligible. Values of $\phi_e(E_\alpha, z)$ and $\phi_m(E_\alpha, z)$ were read from graphs given by Thorne (1977) and the integrals estimated by the trapezoidal rule for each of the alpha energies E_α = 3, 4, ..., 8 MeV. These values are presented in Table 2.1.

2.2.2 Surface seeking radionuclides

When the distribution of radioactivity is assumed to be restricted to the bone surfaces, we may express the specific absorbed fractions for target endosteal cells and red marrow as

$$\Phi_{E_\alpha}(\text{ENDOSTEAL CELLS} \leftarrow \text{BONE SURFACE}) = \phi_e(E_\alpha, z = 0)/M_e$$

$$\Phi_{E_\alpha}(\text{RED MARROW} \leftarrow \text{BONE SURFACE}) = 0.5/M_m \ .$$

It has only been possible to implement these changes for that component of the dose to endosteal cells and red marrow that is due to alpha emissions in bone. For all other decay types, the assumption of a uniform volume distribution remains intact. Moreover, the alpha dose to the target "BONE" in the tables assumes a volume distribution and contains the N-factor 5 except when the isotope taken into the body is radium in Appendices A and B. These inconsistencies are called to the reader's attention in the hope that once understood, they might not cause undue confusion until such time as comparable refinements for the other decay types are possible. The effects of the inconsistency for the two target tissues in question, endosteal cells and red marrow, are negligible in view of the dominant magnitudes of the alpha energies.

Table 2.1. Specific absorbed fractions for alpha particles for endosteal cells and red marrow*

α-Energy (MeV)	Φ_{E_α} (ENDOSTEAL ← BONE)		Φ_{E_α} (RED MARROW ← BONE)	
	Volume Distribution	Surface Distribution	Volume Distribution	Surface Distribution
3	5.8E-5	3.4E-3	5.1E-6	3.3E-4
4	7.8E-5	3.0E-3	8.1E-6	3.3E-4
5	9.2E-5	2.4E-3	1.2E-5	3.3E-4
6	9.5E-5	1.8E-3	1.5E-5	3.3E-4
7	1.1E-4	1.4E-3	2.0E-5	3.3E-4
8	1.0E-4	1.1E-3	2.5E-5	3.3E-4

*Calculated from graphical information given by Thorne (1977).

2.3 Calculations for Decay Chains Containing Radon

A special calculation was performed for each decay chain containing radon gas. The objective was to simulate the dynamics of the gas when it is (1) taken into the lungs by inhalation, (2) formed in the lungs by decay of radium, and (3) transported to the lungs after formation in other parts of the body as the daughter of radium. Some modifications of the INREM II computer code were necessary in order to accomplish the calculations associated with radon returned to the lungs after being formed in the body.

The gas was assigned a biological half-time in the lungs which was estimated from the turnover of air as follows: The mean volume V (liters) of air in the respiratory tract is assumed to be

$$V = FRC + (1/2)\,(TV)\ ,$$

where FRC, the functional residual capacity, is the volume of gas remaining in the lungs at the resting expiratory level and TV, the tidal volume, is the volume of gas inspired or expired during each respiratory cycle. For Reference Man (ICRP, 1975) these values are

$$\text{FRC} = 2.2 \text{ liters} ,$$

$$\text{TV} = 1.0 \text{ liter} = \frac{(0.5 \text{ liters}) + 2 \times (1.25 \text{ liters})}{3} ,$$

where 0.5 and 1.25 liters are the tidal volumes for resting and light activity, respectively. Thus,

$$V = 2.2 + (1/2) \times 1.0 = 2.7 \text{ liters}$$

represents an average for the 24-hr period consisting of 16 hr of light activity and 8 hr of rest. Minute volumes for these respective states of activity are 7.5 and 20 liters/min for a mean minute volume of

$$\dot{V} = (1/3) \times (7.5 + 2 \times 20) = 15.8 \text{ liters/min.}$$

From V and $\dot{V}$, we estimate a turnover rate

$$\lambda^{B}_{res} = \dot{V}/V = 5.9 \text{ min}^{-1} = 8.4 \times 10^{3} \text{ day}^{-1},$$

which corresponds to the half-time

$$T^{B}_{res} = 8.2 \times 10^{-5} \text{ days.}$$

In order to mix calculations involving the gas with those utilizing the Task Group Lung Model for particulate species, it was assumed that radon gas entering the respiratory passages, either by inhalation or diffusion from other sites in the body, mixes promptly with the air and is distributed among the three respiratory regions in proportion to the air volumes associated with them. Daughters formed from the decay of radon in the respiratory air passages were assumed to deposit in the regions where they are formed. Radon gas forming from the decay of radium in a given region was assumed to be removed from the region by radioactive decay and the biological half-time derived previously, with radon daughters being deposited in that region and subsequently cleared according to the dynamics of the Task Group Lung Model.

The air volumes of the respiratory regions were derived as follows: Respiratory dead space for Reference Man is given as 0.16 liters, and this volume is assumed to consist of air volumes associated with the nasal pharynx and tracheobronchial tree. For its theoretical calculations the ICRP Task Group on Lung Dynamics (Morrow et al., 1966) utilized a model of Findeisen (1935) with 0.133 liter cumulative volume down to terminal bronchioles (corresponding approximately to the 0.16-liter dead space for Reference Man), with 0.05 liter assigned to the nasal pharynx. Adopting this latter value, we have 0.16 - 0.05 = 0.11 liter for the tracheobronchial tree. The mean pulmonary volume is estimated as 2.7 - 0.16 $\simeq$ 2.5 liters. Expressed as fractions of the total mean respiratory volume V, these regional volumes are 0.02 (N-P), 0.04 (T-B), and 0.94 (P).

Radon gas was assumed to enter the GI tract only through Reference Man's ingestion or inhalation of a progenitor nuclide. Absorption of radon into blood from the GI tract was taken to be zero in these calculations.

Translocation of radon gas to systemic organs from the respiratory and GI tracts was neglected in these calculations. While such translocation may occur, the resultant dose to organs is small in comparison with that resulting from absorption of radon daughters from the lungs and GI tract. Data on exhalation of radon by human volunteers who had inhaled radon for 8-1/2 hr were reported by Harley et al. (1958). Bernard and Snyder (1975) analyzed these data and derived retention functions for three groups of organs corresponding to a single intake by inhalation. These equations are used here to represent the retention of radon produced *in situ* in various organs of the body. It must be stressed that these functions represent radon gas only and not progeny. These functions are

$$R_1(t) = (6.108 \times 10^{-3}) \exp(-0.693t/0.963) + (5.138 \times 10^{-3}) \exp(-0.693t/0.146) + (9.691 \times 10^{-3}) \exp(-0.693t/0.0288) + (2.138 \times 10^{-2}) \exp(-0.693t/3.11 \times 10^{-3}) + 0.1827 \exp(-0.693t/2.65 \times 10^{-4}) ,$$

$$R_2(t) = (4.571 \times 10^{-6}) \exp(-0.693t/0.963) + (1.752 \times 10^{-3}) \exp(-0.693t/0.146) + (9.902 \times 10^{-3}) \exp(-0.693t/0.0288) + (2.227 \times 10^{-2}) \exp(-0.693t/3.11 \times 10^{-3}) + 0.1911 \exp(-0.693t/2.65 \times 10^{-4}) ,$$

$$R_3(t) = (3.747 \times 10^{-6}) \exp(-0.693t/0.963) + (1.741 \times 10^{-3}) \exp(-0693t/0.146) + (1.670 \times 10^{-4}) \exp(-0.693t/0.0288) + (4.764 \times 10^{-2}) \exp(-0693t/3.11 \times 10^{-3}) + 0.5005 \exp(-0.693t.2.65 \times 10^{-4}) ,$$

with t in days. The subscripts refer to three tissue groups defined as follows:

Group 1 — (12.5 kg) separable fat

Group 2 — (17.5 kg) all organs not in Group 1 or 3

Group 3 — (40 kg) bone, heart, muscle, skin, testes, urinary bladder.

Normalization factors (sums of the coefficients) for these functions are 0.225, 0.225, and 0.55, respectively. Thus, for example, fractional retention in any organ of Group 3 is represented by $\exp(-\lambda^R t) \cdot R_3(t)/0.55$. In the calculations discussed in this report, these functions are only used to represent radon which forms *in situ*, except in bone; since translocation of radon from the respiratory and GI tracts is neglected, $f_2' = 0$. This interpretation is not strictly consistent with the analysis of Bernard and Snyder (1975). In the context of their work, these functions should be viewed as giving the uptake and retention, by the three tissue groups defined above, of a unit pulse of radon gas introduced into the respiratory air spaces (radiological decay neglected). But with their interpretation, the monotone decreasing functions imply an uptake that is instantaneous and removal characterized by mean biological residence times of 65, 6.1, and 2.1 min, respectively, in Groups 1, 2, and 3. The calculations described in this report, in effect, utilize these mean residence times to characterize the removal of radon formed

in situ, except in bone. Of the isotopes considered, only ^{222}Rn has a half-life that is long in comparison with these characteristic times (3.82 days). A rather complex extension of the methods of Bernard and Snyder would be necessary to derive sets of retention functions that would coincide with the present interpretation, and such functions would require a computational implementation of which the INREM II computer code represents only a special case. It is a considered judgment that these extensions would not result in dramatic differences in the estimates of microcurie-days' residences for radon isotopes in the organs in question.

We depart from the models of Bernard and Snyder for the case of radon produced *in situ* in bone. Experience with radium dial painters and other sources indicate a retention of approximately 30% of the radon activity in bone (ICRP, 1959). For radon produced in bone, we have used the retention equation

$$R(t) = 0.700 \exp(-0.693t/2.65 \times 10^{-4}) + 0.3 ,$$

where 2.65×10^{-4} days is the shortest half-time in $R_3(t)$. The first term is negligible, and the effect is to have 30% of the radon removed by radioactive decay, with the remainder being removed essentially instantaneously.

Another facet of the calculation, mentioned previously, is accounting for the dose due to radon that is formed in the body and transported to the respiratory passages. This component of the radon, once in the lungs, was treated the same as inhaled radon gas, including the formation

and subsequent translocation of daughters. A modified version of the INREM II code was used for this type of calculation. Two runs were required for each decay chain containing radon as a daughter. The first run was conventional, except that a tally was kept of the radon formed and removed from each organ by biological processes; this tally, together with all microcurie-days' residences for all species in the decay chain, was punched into cards for input to the second run. In the second run, the radon previously released from the organs was introduced into the lungs as if by inhalation (and apportioned among the N-P, T-B, and P regions in the ratio of their air volumes — 0.02:0.04:0.94) and the microcurie-days' residences in all organs due to radon plus daughters were calculated and added to their counterparts from the previous run. Total doses were then estimated from the resulting residences in the usual way.

2.4 Dose per Working Level Month for Radon and Daughters

Dose conversion factors for radon and daughters traditionally have been at variance because of differences in assumptions and uncertainties related to aerosol properties (e.g., particle size distribution and percentage of "unattached" daughters), lung models, and critical tissue (Parker, 1969; Nelson and Parker, 1974; Walsh, 1970; Walsh, 1977; FRC, 1968; NAS, 1972). Such variance has led in some instances to abandonment of dose calculations and reliance on relative exposure estimates and associated epidemiological data in order to suggest guidance for exposures. Thus, guidance for general population groups has been based upon risk per working level month (WLM) derived from data for underground miners with recognition of the fact that dose per WLM to the general population

could differ from that to miners. The WLM exposure unit was developed during a study in underground mines (Holaday, 1957) and is defined as exposure at a one-working-level (WL) concentration for 170 hours. One WL is defined as exposure to an atmosphere that contains any combination of concentrations of ^{222}RN daughters so that the total alpha particle emission in one liter of air is 1.3×10^5 MeV in the complete decay through ^{214}Po. This quantity may be expressed mathematically as

$$2.22(C_1T_1(E_1 + E_2) + C_2T_2E_2 + C_3T_3E_2) = 1.3 \times 10^5 \text{ MeV/liter}$$

where

2.22 = dpm/pCi,

C_1, C_2, and C_3 = the concentrations of ^{218}Po, ^{214}Pb, and ^{214}Bi, respectively (pCi/liter),

E_1 = energy of ^{218}Po alphas (6.00 MeV),

E_2 = energy of ^{214}Po alphas (7.69 MeV),

T_1, T_2, and T_3 = mean physical lives of ^{218}Po, ^{214}Pb, and ^{214}Bi, respectively.

The WL definition was developed because it was recognized that most of the respiratory tract dose was due to alpha particles from the short-lived radon daughters, and thus, measurement of the total alpha emission should provide a sufficiently accurate exposure estimate and provide input for dose calculations. However, the WLM exposure estimates do not replace dose calculations in deriving general guidance. They do not

provide needed information on particle size distributions. They do not provide a basis for comparison with exposures to other types of ionizing radiation, nor do they provide a basis for extrapolation between population groups. It is therefore important to estimate the rem per WLM conversion factor for radon daughters so that comparison with maximum permissible lung doses (ICRP, 1959) can be made. Also comparisons could be made with other groups exhibiting excess radiogenic lung cancer, regardless of the type of radiation which may have been the inducer.

Given a WLM exposure, calculation of a corresponding dose can be attempted if enough is known about the exposure conditions (e.g., particle size distributions with respect to activity), deposition in the respiratory tract, translocation within and out of the respiratory tract, and the properties of the exposed tissues. Several discussions of the calculation of the dose to the respiratory tract are available (Walsh, 1977; Walsh, 1970; Harley and Pasternak, 1972; Jacobi, 1973), and a detailed discussion will not be given here. A review by Walsh (1970) concluded that a detailed site-by-site (e.g., an area as small as a bifuration) dose calculation was not possible, and such calculations are still not feasible with any degree of certainty. Walsh calculated the average dose to each region (Weibel model, 17 regions; Weibel, 1963) of the tracheobronchial tree and showed that the highest doses to particular regions were not much higher than the average dose to the entire tracheobronchial epithelium. The average dose to the bronchial epithelium was 1.4 rads per WLM, while the dose to the basal cells of the bronchial epithelium (thought to be the critical cells) located at variable depths below the surface of the bronchial epithelium was estimated to be less

than 1 rad per WLM. Later calculations by Harley and Pasternak (1972) and Jacobi (1973) have tended to agree that dose to the basal cells is less than 1 rad per WLM.

For comparison with the WLM approach, the INREM II methodology may be used for calculation of the tracheobronchial dose from radon and radon daughters. Using this computational methodology, determination of the dose to an individual exposed to radon and radon daughters would be more easily accomplished and readily compared to dose contributions from other radionuclides in the source term. In order to do so, it is necessary to compute the dose conversion factors specific to the tracheobronchial tree, which is assumed to have a mass of 40 grams. Table 2.2 presents estimates of dose conversion factors for ^{222}Rn and progeny to the tracheobronchial tree and to the whole lung computed by INREM II.

Table 2.2. Dose conversion factors (rem/μCi) for tracheobronchial tree and lung

	Radionuclide							
Target	^{222}Rn	^{218}Po	^{214}Pb	^{214}Bi	^{214}Po	^{210}Pb	^{210}Bi	^{210}Po
T-B	1.0E-3	2.8E-2	0.10	0.11	2.2E-8	0.57	9.9E-2	4.4
Lungs	1.2E-3	1.3E-2	5.9E-2	4.8E-2	7.1E-9	3.2	0.53	23.

For relatively short-lived radionuclides, the dose to the T-B region may be 2 to 3 times greater than the average dose to the entire lung. For long-lived nuclides, however, the dose to the lung would be greater, due to the relatively longer retention of particles in the pulmonary region.

These long-lived daughters, however, are not of concern in the working-level calculation, because their concentrations in air are usually relatively low as compared to the short-lived daughters.

The WL refers to any combination of radon daughters associated with 1.3×10^5 MeV/liter alpha emission. The INREM II methodology requires that the concentration of each of the daughters (C_1, C_2, C_3) be known so that its contribution to the dose can be determined. The dose per WLM will depend on the relative concentrations of (i.e., degree of equilibrium among) the short-lived daughters and of course many other factors such as the "unattached" fraction. The dose per WLM calculated from the dose conversion factors from Table 2.2 is given in Table 2.3 for three equilibrium conditions, representing complete equilibrium, extreme disequilibrium, and a more typical intermediate equilibrium condition. Each case represents a 1 WL concentration.

Table 2.3. Dose per WLM for radon daughters using the INREM II methodology.

Daughter/Concentrations (pCi/liter)			Dose/WLM
^{218}Po	^{214}Pb	^{214}Bi	(rem/WLM)
100	100	100[a]	4.1
975	0	0[b]	4.6
200	100	77[c]	4.1

[a]Represents equilibrium among short-lived radon daughters.
[b]Represents extreme disequilibrium among short-lived radon daughters.
[c]Represents an intermediate equilibrium condition more typical of actual conditions.

Recent calculations by Walsh (1979) of the dose per WLM conversion factors for radon daughters indicate that the average dose to the tracheobronchial tree is about 6 rem/WLM. If the "unattached" fraction is taken as a percentage of total potential alpha energy, then the average dose to the tracheobronchial tree per WLM is not very sensitive to reasonable variations in this factor (Jacobi, 1973). The difference between the values in Table 2.3 and that calculated by Walsh are due primarily to a higher tidal volume (20 liters/min) assumed by Walsh to apply for miners as compared to 15.8 liters/min used in these calculations for application to general populations. Also, for miners no clearance of radon daughters from the lung was assumed because most miners are exposed to other agents (e.g., heavy smoking) which may tend to reduce clearance; in the present calculations, clearance is calculated as described in Sect. 2.3.

3. METABOLIC DATA AND RETENTION MODELS

The information in this chapter is arranged, for the most part, in order of increasing atomic (Z) numbers of the elements considered. An exception is the description of the metabolic models for uranium, which preceeds a discussion of metabolic considerations for all other elements of the actinide series. As in the previous volume, the information given for an element typically consists of

1. respiratory clearance classes (D, W, or Y) of expected chemical forms of the element if it is assumed to be inhaled as a particulate,
2. fractional allocations (f_1) of assumed chemical forms from the GI tract,

3. fractional allocations (f_2') of the element to those organs where it is assumed to concentrate and possibly to prompt excretion,
4. fractional retention functions for the element in the body and various organs; it is understood throughout this chapter that radioactive decay factors $ex(-\lambda^R t)$ are not included in the retention functions.

For the actinide elements treated in this volume, information in this chapter was originally contributed by one of the authors (S. R. Bernard) to Appendix VI of the Rasmussen Reactor Safety Study (USNRC WASH-1400, 1975), and we have adopted corresponding passages of text from that document intact or with minor editing.

A brief discussion concerning the nature of the retention models used in this report may be helpful. Most commonly, retention models for a particular element or compound are formulated through analysis of the available data describing retention and excretion of the material in a particular organ of the body. Mathematical equations are formulated to approximate the retention of the element in each organ for which appropriate data are available, and simplifying assumptions are adopted for those tissues where data are lacking or inadequate. Overall retention in the body is taken as the sum of these equations for individual organs.

The retention models used in this report for lead, bismuth, and polonium are of a different and less deterministic origin. These are examples of mammillary compartment models (Bernard, 1973, 1977). Here the models are developed to fit available data in terms of a central compartment (usually representing the blood) with bilateral transfer to

various peripheral compartments. Each of these compartments may be attributed only very general physiological significance in the sense of representing specific organs of the body. However, the overall model, with all compartments taken in concert, should be an appropriate representation of retention dynamics in the body. Although mathematically correct, these formulations may be subject to overspecification with respect to available data and physiological understanding.

Compartments may be physical in nature (e.g., a container such as an urn) or perhaps chemical in nature (e.g., a first order chemical reaction). Linear combinations of exponentials are used for each compartment, and linear combinations of the compartments are used to fit available data. The mammillary compartment model has the advantage that it is easy to fit to the data, since a fit can be forced through the use of linear combinations of compartments.

The interested reader should consult more complete discussions of mammillary compartment models presented elsewhere (Bernard, 1973; Sheppard and Householder, 1951).

3.1 Thallium

Much is known about the unfortunate effects of massive amounts of thallium on human beings (Sollman, 1957). Thallium has been used as a depilatory in children younger than ten years of age and as a poison both in suicidal and homicidal acts. There is also human experience with thallium in various chemical forms in industrial exposures (Patty, 1962). And it has been used as a rodenticide and pesticide.

There are no adequate data available on organ burdens of thallium in Reference Man (ICRP, 1975). The dietary intake is estimated to be

about 1.6 μg/day, urinary excretion 0.4 μg/day, and fecal excretion 1.2 μg/day. Thallium is also known to be absorbed through the skin.

Studies on the distribution and excretion of ^{204}Tl as the nitrate following intravenous, oral, subcutaneous, and intramuscular injection have been carried out by Lie et al. (1960). Potter et al. (1971) studied the fate of ingested ^{204}Tl (the chemical form is not given) in a dairy cow and a calf.

Thallium can exist in two valence states: +1 (thallous) and +3 (thallic). From chemical considerations of oxidation potentials, it may be concluded that the compound Tl_2O_3 in water at pH > 7 with no oxidizing substance available would dissolve to produce thallous ions, but in the presence of a strong oxidizing agent it should remain in the +3 valence state. The rates of reaction are not known from the oxidation potentials. According to the *Handbook of Chemistry and Physics* (Weast, 1977), Tl_2O_3 is insoluble in water but dissolves in acid media.

Schwetz et al. (1967) also have data on the effects of the two organic compounds diphenylthiocarbazone and diethyldithiocarbamate on the excretion of thallium by rats.

From the rat studies of Lie et al. (1960), a 95% uptake from the GI tract to blood of thallous nitrate is indicated. In this report the uptake of all of the common thallous salts is taken as 95%. Also, it is anticipated that the stomach acid will dissolve Tl_2O_3, and the resulting uptake of this compound will be 95%.

The oxides, hydroxides, and halides of thallium are in respiratory clearance class W (Morrow et al., 1966). Common inorganic forms are

assumed to be in class W. The GI-tract absorption fraction will be taken to be 0.95.

From data of Lie et al. (1960) and in agreement with the model given in ICRP Publication 2 [ICRP, 1959; based on the studies of Hamilton, (1954)], the retention in total body is taken to be

$$R(t) = \exp(-0.693t/4), \quad t \leq 20 \text{ days}.$$

The thallous ion is said to be similar in its metabolism to the alkali metal K^+, except for concentration of K^+ in erythrocytes. Therefore, a uniform distribution is assumed within the body except the kidneys, where the concentration is taken to be five times the uniform concentration.

3.2 Lead

Reference Man (ICRP, 1975) has approximately 120 mg of lead in his body. About 110 mg are in skeleton, and the remaining 10 mg are assumed to be distributed in soft tissues. The average concentration in soft tissues is approximately 0.2 μg/g of wet tissue. The liver and kidneys have 6 → 8 times this average, the aorta 10 times, the skeleton 50 times, the hair 250 times, and all other tissues have about 0.25 → 3 times the average. Reference Man's food intake of lead is 0.44 mg/day. About 0.045 mg/day is excreted in urine, and 0.3 mg is excreted in feces; the balance is lost through perspiration and hair.

Data on both small animals (rats) and large animals (baboons) are available in the experiments of Bolonowska et al. (1964), Lucas and Standford (1967), Castellino and Aloj (1965), and Cohen (1970). From Bolonowska's data on the rat, a power function retention equation for

the total body, $0.8t^{-0.2}$ ($t \geq 1$ day), and an excretion equation, $0.16t^{-1.2}$ ($t \geq 1$ day), are obtained for injected lead acetate. Lucas and Standford's data on rats that had been injected with $^{210}PbCl_2$ yielded a slightly different retention function, $0.8t^{-0.09}$ ($t \geq 1$ day), and excretion equation $0.1t^{-1.09}$ ($t \geq 1$ day). This experiment also showed that blood cells concentrate the lead almost two orders of magnitude higher than plasma. The data of Castellino and Aloj on rats sacrificed at times between 0 and 12 days after injection showed that lead favored uptake in the kidneys and the liver, followed by a slower decline than for blood, and then a tendency toward leveling off in uptake. In Cohen's study on baboons, there was approximately 4 → 20% initial uptake, each, in the liver and kidneys and decline with about a 10 → 20-day half-time out to 60 days following injection of $^{210}PbCl_2$. The total-body retention out to about 300 days was fitted with a two-exponential retention equation, 0.3 exp(-0.093t/10) + 0.7 exp(-0693t/320) (t in days).

The data of Hursh (1973) on dogs give whole-body retention and excretion out to 10^3 days following intravenous injection of $^{210}PbCl_2$. Four exponentials were used to represent the total-body retention data: 0.457 exp(-0.120t) + 0.230 exp(-0.0315t) + 0.178 exp(-0.00815t) + 0.135 exp(-0.0085t) (t in days). Hursh noted a more slowly decreasing retention in the total-body data when estimated from total excretion data, suggesting a loss of activity from excreta. The urine-to-fecal ratio was also estimated, and a value of about 1:0.5 was indicated.

Studies of the absorption of ^{212}Pb trapped in beer (from bubbling thoron gas into this fluid) from the GI tract of three men were also made by Hursh and Suomel'a (1968). Here it can be estimated that about 0.08 is the expected absorption fraction, and the standard deviation is about 0.06, indicating a wide spread in values.

In ICRP Publication 2 (1959), the value 0.08 was adopted for f_1. It is used here too for the usual inorganic compounds of lead and for food bearing lead.

The sulfides, oxides and hydroxides, halides, and nitrates of lead are in respiratory clearance class W. No class D or class Y compounds are recognized.

A mammillary compartment model has been used, together with data on the baboons and Reference Man, to generate equations for retention in organs and tissues. The model is seen in Fig. 3.1. The total-body retention equation for a single injection into blood is

$$R(t) = 0.1 \exp(-0.693t) + 0.2 \exp(-0.693t/10) + 0.3 \exp(-0693t/320) + 0.2 \exp(-0.693t/2000) + 0.2 \exp(-0.693t/8000) \quad (t \text{ in days}).$$

The mean residence time obtained from this equation is the same as would be found from the tissue data and dietary intake data on Reference Man.

The following equations express the retention in the compartments of the model:

$$R_1(t) = 0.00027 \exp(-\mu_1 t) + 0.000826 \exp(-\mu_2 t) + 0.00774 \exp(-\mu_3 t) + 0.165 \exp(-\mu_4 t) + 0.826 \exp(-\mu_5 t)$$

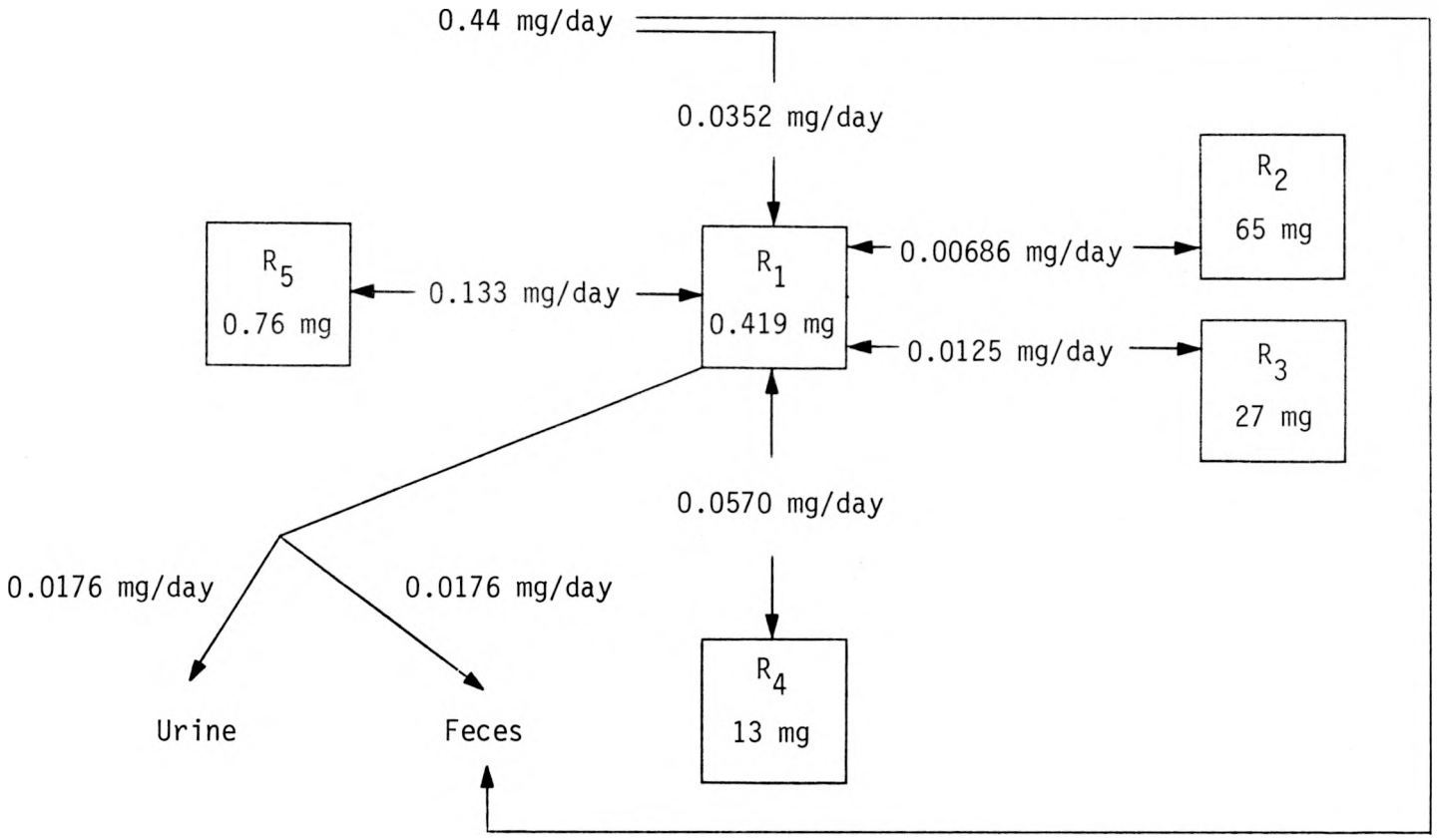


Fig. 3.1. Metabolic model for lead.

$$R_2(t) = 0.176 \exp(-\mu_1 t) - 0.0561 \exp(-\mu_2 t) - 0.06515 \exp(-\mu_3 t) - 0.0390 \exp(-\mu_4 t) - 0.0195 \exp(-\mu_5 t)$$

$$R_3(t) = 0.0167 \exp(-\mu_1 t) + 0.266 \exp(-\mu_2 t) - 0.135 \exp(-\mu_3 t) - 0.0717 \exp(-\mu_4 t) - 0.0356 \exp(-\mu_5 t)$$

$$R_4(t) = 0.00654 \exp(-\mu_1 t) + 0.0278 \exp(-\mu_2 t) + 0.475 \exp(-\mu_3 t) - 0.346 \exp(-\mu_4 t) - 0.063 \exp(-\mu_5 t)$$

$$R_5(t) = 0.000373 \exp(-\mu_1 t) + 0.00149 \exp(-\mu_2 t) + 0.0142 \exp(-\mu_3 t) + 0.492 \exp(-\mu_4 t) - 0.508 \exp(-\mu_5 t) .$$

With t in days in the above equations, $\mu_1 = 8.66 \times 10^{-5}$, $\mu_2 = 3.47 \times 10^{-4}$, $\mu_3 = 2.17 \times 10^{-3}$, $\mu_4 = 0.0693$, and $\mu_5 = 0.693$. Also, the retention equations obtained from the mammillary model are

$$R_{bone}(t) = 0.636R_5(t) + 0.800R_4(t) + 0.889[R_3(t) + R_2(t)],$$

$$R_{liver}(t) = 0.2R_5(t) + 0.2R_4(t) + 0.02[R_3(t) + R_2(t)],$$

$$R_{kidneys}(t) = 0.1R_5(t) + 0.002[R_3(t) + R_2(t)],$$

$$R_{blood}(t) = R_1(t) + R_4(t), \text{ and}$$

$$R_{other}(t) = 0.0636R_5(t) + 0.0800R_4(t) + 0.0889[R_3(t) + R_2(t)].$$

The equation for compartment 2, $R_2(t)$, times 0.889 is assumed to be cortical bone, while $0.889R_3(t)$ is assumed to be trabecular bone.

3.3 Bismuth

The ordinary basic salts of bismuth are said to be practically insoluble in water and very sparingly soluble in tissue fluids (Sollman, 1957). There is a vast body of literature and experience of a qualitative nature dealing with bismuth compounds taken into the human body, because bismuth was used as a treatment for syphilis and also to treat wounds and digestive disorders. Durbin (1960) refers to studies on rats given BiOCl or BiO(OH) intramuscularly and in which 75% of the dose (absorbed from the injection site) had been excreted in urine four days after injection. Coenengracht and Dorelyn (1961) injected bismuth citrate into patients and found that about 90% of the intravenous injection had been excreted in urine at six days post-injection. Hursh and Brown (1969) injected into rats a preparation of human plasma containing ^{212}Bi. They collected ^{212}Pb and ^{212}Bi in a saline rinse from the walls of a bottle through which thoron had been circulated. Next they mixed the saline with human-heparinated blood and incubated this mixture to let the red blood cells take up ^{212}Pb. Then they centrifuged out the cells which contained ^{212}Pb and injected a portion of the plasma which contained ^{212}Bi into the rats. From autopsy data taken over a two-hour period after injection, they found about 30% of the injected dose in kidneys, 20% in liver, and 10% in bone.

Mention is also made that Reference Man (ICRP, 1975) takes in ~20 μg/day of bismuth and excretes ~18 μg/day in feces and ~1.6 μg/day in urine.

Durbin (1960) suggests that bismuth as an oxygenated compound behaves similarly to UO_2^{+2} in the body.

In ICRP Publication 2 (ICRP, 1959) the value of f_1 was taken as 0.01 because of the poor solubility of bismuth in body fluids. The value of 0.05 will be used here because of the Reference Man data which indicate ~10% absorption.

The sulfides, sulfates, phosphates, oxides, hydroxides, halides, and nitrates of bismuth are in respiratory clearance class W. There are no class Y or D compounds of bismuth listed in the report of the Task Group on Lung Dynamics (Morrow et al., 1966).

The data of Russ et al. (1975) on rats given bismuth in a citrate solution are used here to obtain a two-compartment model and retention equations. For a single injection into compartment 1 (fig. 3.2),

$$R_1(t) = 0.017 \exp(-0.12t) + 0.983 \exp(-7t)$$

$$R_2(t) = 0.483[\exp(-0.12t) - \exp(-7t)] ,$$

and for retention in organs and tissues,

$$R_{kidneys}(t) = 0.4R_1(t) + 0.83R_2(t)$$

$$R_{other}(t) = 0.6R_1(t) + 0.17R_2(t) .$$

For a single injection into compartment 2, which would represent bismuth produced within an organ by radiological decay, the equations are

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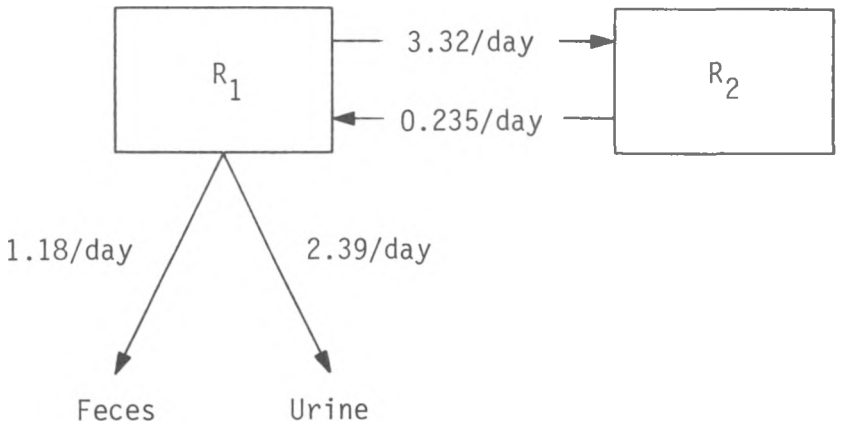


Fig. 3.2. Metabolic model for bismuth.

$$R_1(t) = 0.0342[\exp(-0.12t) - \exp(-7t)]$$

$$R_2(t) = 0.983 \exp(-0.12t) + 0.0167 \exp(-7t) .$$

In all of the foregoing equations, t is in days.

3.4 Polonium

The tissue data on polonium in the Reference Man report (ICRP, 1975) are very scanty. Polonium does not have a stable isotope, and the longest-lived radioisotope is ^{209}Po with a half-life of 109 years (Lederer et al., 1967). Polonium-210 occurs naturally, as a result of its presence in the ^{238}U decay chain, and Reference Man (nonsmoking) ingests ~3.2 pCi/day in food and fluids. He excretes in urine ~0.011 pCi/day and in feces ~3.2 pCi/day.

There are good animal experimental data on ^{210}Po (half-life = 139 days) provided by Stannard et al. (1964), and from these data and the human excretion data of Fink (1950), the metabolic model for polonium is obtained. For the most part, the animal investigations used polonium as the chloride (probably $PoCl_4$). In the injection studies, polonium was found to favor deposition in soft tissues, and distribution in all organs and tissues other than the reticuloendothelial system (RES) and the skeleton was rather uniform. The concentration in RES tissues is 10 times as high as in soft tissues. The concentration in muscle, bone, and testes is about 1/10 the average concentration. The GI-to-blood absorption fraction, f_1, for the chloride solution of polonium which was

either neutralized or diluted with 0.5 normal HCl, was estimated to be ~0.05. In the study by Fink (1950) in which polonium was mixed in acid and given orally to a human cancer patient, f_1 was estimated to be 0.1.

The oxides, hydroxides, and chlorides of polonium are in respiratory clearance class D (Morrow et al., 1966). Sulfates, carbonates, phosphates, and nitrates are assumed to be in class W. For all of these, the value $f_1 = 0.1$ is adopted in this report.

The single-injection data of Stannard et al. (1964) yielded a two-exponential retention function for total body with a mean residence time of about 50 to 60 days. From human excretion data, Fink (1950) estimates the retention as

$$R(t) = 0.01 \exp(-1.47) + 0.99 \exp(-0.014t) .$$

Analyzed in terms of a mammillary compartment model (Fig. 3.3) by the method of Bernard (1973), this retention equation is consistent with the equations

$$R_1(t) = 0.5[\exp(-1.4t) + \exp(-0.014t)]$$

$$R_2(t) = 0.49[\exp(-0.014t) - \exp(-1.4t)] .$$

These equations correspond to the case of unit input into compartment 1 initially and no input into the other compartment.

For uptake by the various organs from a unit input to compartment 1, we have

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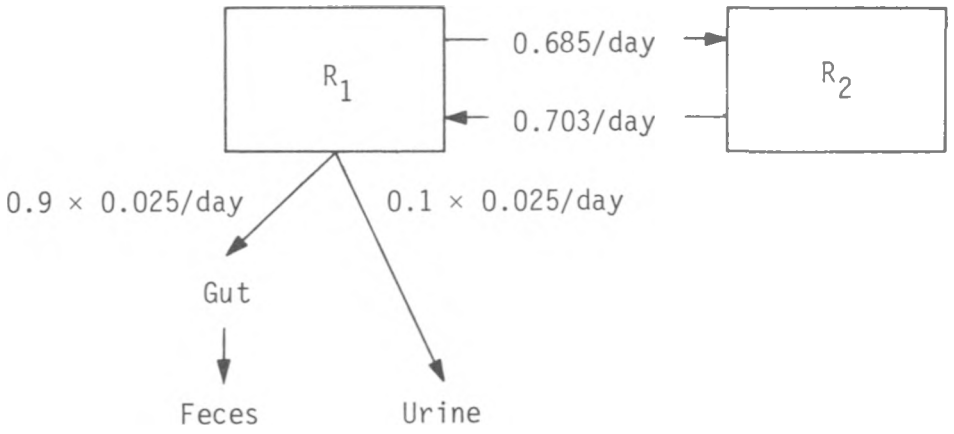


Fig. 3.3. Metabolic model for polonium.

$$R_{spleen}(t) = R_{liver}(t) = R_{kidneys}(t) = 0.1R_1(t) + 0.1R_2(t)$$

$$R_{other}(t) = 0.7R_1(t) + 0.7R_2(t) \ .$$

As responses to a single unit input to compartment 2, we have

$$R_1(t) = 0.488[\exp(-0.014t) - \exp(-1.4t)]$$

$$R_2(t) = 0.503 \exp(-0.014t) + 0.497 \exp(-1.4t) \ .$$

These equations would represent polonium produced within an organ by radiological decay.

3.5 Astatine

There are no data on uptake or amounts of astatine in the Reference Man report (ICRP, 1975) because all isotopes are radioactive and short-lived.

Because astatine is in Group VII of the periodic table of elements, which is the halide group, it is assumed to be similar to iodine. Thus, the value 0.95 is adopted for the GI-to-blood uptake fraction, f_1. Halides are in respiratory clearance class D (Morrow et al., 1966).

The data of Hamilton et al. (1953) are used to describe distribution and retention. Retention functions corresponding to a single intravenous injection are

$$R_{thyroid}(t) = 0.0303 \exp(-0.693t/30) - 0.02 \exp(-0.693t/0.2)$$

$$R_{skeleton}(t) = 0.05 \exp(-0.693t/30) + 0.04 \exp(-0.693t/0.2)$$

$$R_{other} = 0.679 \exp(-0.693t/30) + 0.281 \exp(-0.693t/0.2) .$$

3.6 Radon

The special calculational methods utilized for handling radon isotopes in this document are discussed in Sect. 2.3. Descriptions of the retention equations and metabolic parameters are presented in that discussion.

3.7 Francium

Because of chemical similarities and the absence of other information, the behavior of francium is assumed to be identical to that of cesium, which was described in the previous volume of this report (Killough et al., 1978a). Respiratory clearance class D and a value of $f_1 = 0.95$ are assumed.

Distribution within the body is assumed to be essentially uniform, and retention is represented by the equation

$$R(t) = 0.13 \exp(-0.693t/1.4) + 0.87 \exp(-0.693t/135) .$$

3.8 Radium

Retention models for radium have been adapted from the report of an ICRP task group which reviewed the metabolism of alkaline earth elements (Marshall et al., 1972). Because the functional representations of these models are not given in the form required by the INREM II computer

code, linear combinations of decaying exponentials have been fitted to them. The fitted retention functions are

$$R_{BONE}(t) = 0.152\ \exp(-0.693t/5.68) + 2.35E\text{-}03\ \exp(-0.693t/240) + 9.88E\text{-}03\ \exp(-0.693t/1490) + 3.50E\text{-}04\ \exp(-0.693t/1610) + 7.93E\text{-}03\ \exp(-0.693t/8380),$$

$$R_{SOFT}(t) = 0.813\ \exp(-0.693t/0.630) + 0.0647\ \exp(-0.693t/28.9) + 0.0278\ \exp(-0.693t/160) + 6.78E\text{-}03\ \exp(-0.693t/776) + 7.25E\text{-}04\ \exp(-0.693t/4040)\ ,$$

$$R_{ABSORBED}(t) = 0.917\ \exp(-0.693t/5.5) + 0.0536\ \exp(-0.693t/81) + 0.0200\ \exp(-0.693t/955) + 1.76E\text{-}04\ \exp(-0.693t/3140) + 9.39E\text{-}03\ \exp(-0.693t/7620)\ .$$

The retention function for BONE includes both compact and cancellous bone tissues. Comparisons of the 50-year integrals of the fitted exponentials with those of the original functions give agreement to within 4%. Marshall et al. (1972) estimate the original functions to be accurate within 20% of the data available.

It should be noted that R_{BONE} and R_{SOFT} are not normalized to unity at time 0. When radium occurs as a daughter in a decay chain, the retention equations must be normalized and used in connection with a blood-to-organ transfer fraction f_2'.

Marshall et al. (1972) give values for fractional absorption from the GI tract to blood ranging from 0.15 to 0.21. For this report f_1 =

0.2 has been assumed. All common compounds of radium are assumed to be of respiratory clearance class W (Morrow et al., 1966).

3.9 Uranium

Hursh et al. (1969) reported urinary excretion figures from four men (all over 55) who had each ingested 10.8 mg of uranium as uranyl nitrate. Hurst et at. concluded that the average absorption of soluble uranium by man lies between 0.005 and 0.05 of the ingested dose. On the other hand, dietary data from occupationally unexposed persons indicate a value of 0.2 [an average of 0.32 and 0.12 for the U.K. and the U.S.A. data, respectively (Hursh and Spoor, 1973; Spoor and Hursh, 1973)]. In this report, it is assumed that the uptake to blood from the GI tract is 0.05 for U(VI) compounds and 0.002 for other, mainly U(IV), compounds. The latter figure is based on studies on small laboratory animals (Tannenbaum, 1951).

Uranium compounds such as uranyl fluoride and uranyl nitrate are very soluble in plasma so that on entering the lungs, aerosols of these compounds are rapidly absorbed and become generally distributed in the blood from which they are rapidly excreted (predominatly in the urine) -- more than 60% within 24 hours. Aerosols of less soluble uranium compounds, such as oxides, which are deposited in the lungs, are removed at a rate depending on their transportability (i.e., their solubility and mobility in body fluids and their transport within phagocytes) (Hursh and Spoor, 1973). Data from 25 years of industrial experience indicate that the amount retained in human lungs is much less than that calculated from environmental data using the usual parameters. The available data can be used to support values for the half-life in human lung of 5 days for

the trioxide (UO_3), 100 days for the dioxide (UO_2), and 400 days for the octoxide (U_3O_8) (Donoghue et al., 1972). There are animal data on several species which support the value of 5 days for UO_3 (Morrow et al., 1972) and confirm that U_3O_8 and UO_2 are class Y compounds.

The more common uranium compounds are classified as follows for respiratory clearance: UF_6, UO_2F_2, $UO_2(NO_3)_2$, and UO_3 are in class D; UF_4 and UCl_4 are in class W; and UO_2 and U_3O_8 are in class Y. The absorption into blood of material transported from lung to gut is assumed to be the same as in the case of ingestion of the compound.

Although there are important exceptions (for example UF_4 and UO_3), the indications are that most inhaled uranium aerosols enter the blood stream as the uranyl ion which forms two complexes: a nondiffusible complex with plasma proteins and a diffusible bicarbonate complex. The uranyl ion also complexes with many substances of biological interest containing phosphate, carboxyl, or hydroxyl groups (Welford and Baird, 1967; Hamilton, 1972; Norikov and Abramova, 1969; and Nozaki et al., 1970).

Daily intake of uranium is 1.25 μg; body content is 100 μg; excretion in urine is 0.25 μg/day and in feces 1.0 μg/day. The distribution of uranium in the body is as follows: skeleton, 63%; kidneys, 2%; and soft tissues, 35%.

After uptake of a unit amount of uranium to blood following ingestion or inhalation, retention fractions (at t days after intake) may be expressed as follows:

$$R_{bone}(t) = 0.20 \exp(-0.693t/20) + 0.023 \exp(-0.693t/5000)$$

$$R_{kidney}(t) = 0.12 \exp(-0.693t/6) + 0.00052 \exp(-0.693t/1500)$$

$$R_{other}(t) = o.025 \exp(-0.693t/5000) .$$

The first two equations are based on data from adults who had ingested uranium at normal dietary levels and on data from postmortem tissues from a man who had been occupationally exposed to natural uranium aerosols for some years (Hursh and Spoor, 1973; Donoghue et al., 1972; and Adams and Spoor, 1973). The equation for other tissues is suggested from rat data and postmortem data on nonoccupationally exposed persons. Uniform distribution is assumed.

For higher levels of uranium intake to blood, the retention equation for kidneys becomes

$$R_{kidneys}(t) = \left\{0.2(1 + b_0) \exp(-\frac{0.693t}{4}) + b_0 \left[0.08 \exp(-\frac{0.693t}{40}) + 0.02 \exp(-\frac{0.693t}{1400})\right]\right\} \div (1 + b_0) , \quad t \leq 500 \text{ days} ,$$

where b_0 = 0.0011 times the injected amount of U(VI) in μg/kg body weight. This equation approximately fits the data on terminal patients and on rats and mice (Spoor and Hursh, 1973), given high doses by intravenous injection.

3.10 Actinides

Plutonium and the actinide elements neptunium, americium, and curium, have been the subjects of several fairly recent reviews (Durbin, 1971; ICRP, 1972; and Hodge et al., 1973). The metabolic model used in

this report for these actinides, and also for actinium, thorium, protoactinium, and californium, is essentially that developed in ICRP Publication 19 (ICRP, 1972) with a few minor changes that reflect more recent experience and review.

The chemical forms that these elements would assume cannot be specified without very precise information about the release. Dose estimates in this report are based on the dioxides and the nitrates. Respiratory clearance class Y is used for the dioxide, and class W is used for the nitrate; no compound of class D is known that likely would be produced in a reactor, but perhaps the various organic complexes of these elements might qualify.

The value of $f_1 = 3 \times 10^{-5}$ is used for plutonium of either form, and because of the comparative paucity of experimental data, the value of f_1 for the other actinides is conservatively set at 10^{-3}.

Once the material has entered the blood stream, it is partitioned between the liver and bone, with smaller amounts deposited in other soft tissues or excreted. The amount going to bone may vary widely depending on the polymeric form and the complexing that has taken place. The ICRP Publication 19 (ICRP, 1972) recommends that 10% of the activity entering the blood stream be assigned for deposition in other soft tissues, or for excretion, and that the other 90% be equally divided between bone and liver. The report also recommends that the retention half-times in the liver and in bone be taken as 40 and 100 years, respectively. Thus, for the activity entering the blood stream, the retention at t days after the intake is as follows:

$$R_{bone}(t) = 0.45 \exp(-0.693t/36{,}500)$$

$$R_{liver}(t) = 0.45 \exp(-0.693t/14{,}600)$$

$$R_{kidneys}(t) = 0.01 \exp(-0.693t/14{,}600)$$

$$R_{testes}(t) = 0.00035 \exp(-0.693t/36{,}500)$$

$$R_{ovaries}(t) = 0.00011 \exp(-0.693t/36{,}500)$$

$$R_{other}(t) = 0.05 \exp(-0.693t/36{,}500) .$$

The kidneys, ovaries, and testes are assigned somewhat more activity (per unit mass) than the "other tissues." This assignment represents a considered judgment based on experimental work with animals and also on autopsy data on human beings with plutonium in their bodies (Richmond and Thomas, 1975). These metabolic models, with the values of f_1 noted above, are used for all the actinides, even those occurring as daughter elements produced in the body. Variation from this model is rather poorly defined, and may be very significant in specific cases.

Although there are known differences in the metabolism of the actinides, the experimental work has not been so exhaustive that one can predict human exposure with confidence. Thus, the adoption of the plutonium model for the other actinides represents a degree of conservatism since most experimental work indicates more rapid elimination for other actinides than is the case for plutonium.

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APPENDIX A

Calculation Sheets

A.1 INTRODUCTION TO APPENDIX A

This appendix shows detailed data used in the dose calculations, arranged in sections for the parent radionuclides according to increasing Z (atomic number) and A (isotopic mass number). Table A.1 lists all radionuclides included in this tabulation; for each nuclide, the radioactive half-life and first-generation radioactive progeny with branching ratios are listed. The information specified for each nuclide in this appendix consists of

input: physical decay data and uptake and retention data for parent and daughters; and S-factors (rem/μCi-day) for the parent (S-factors for daughters may be found in their own respective sections of the appendix)

output: dose estimates corresponding to two or more intake cases (a case consists of the inhalation or ingestion of 1 μCi of the parent nuclide); the resultant target ← source dose matrices representing the 50-year dose committments (rem/μCi) due to the parent plus ingrowing daughters to each of the 22 target organs, as estimated by the models described in the previous volume (Killough et al., 1978a) and in Chap. 2.

Each inhalation case shows, along with the dose matrix, the respiratory clearance class (D, W, or Y) for each particulate species in the decay chain and its fractional absorption from the GI tract. The special treatment of radon isotopes is discussed in Sect. 2.3. Each ingestion case indicates the assumed fractional absorption of each species from the GI tract into the blood. The calculation allows for absorption of activity from each segment of the GI tract, but for all elements considered

Table A.1. Radionuclides of Volume II with First-Generation Daughters[a]

Nuclide	Radioactive half-life (days)	Daughter nuclide	Branching ratio	Daughter nuclide	Branching ratio	Spontaneous fission fraction
TL-207	3.31E-3					
TL-208	2.13E-3					
TL-209	1.53E-3					
PB-209	1.38E-1					
PB-210	8.14E+3	BI-210	1.0	HG-206	2.0E-08	
PB-211	2.51E-2	BI-211	1.0			
PB-212	4.43E-1	BI-212	1.0			
PB-214	1.96E-2	BI-214	1.0			
BI-210	5.01E+0	PO-210	1.0	TL-206	1.3E-06	
BI-211	1.48E-3	TL-207	0.9972	PO-211	0.0028	
BI-212	4.20E-2	PO-212	0.6407	TL-208	0.3593	
BI-213	3.17E-2	PO-213	0.9784	TL-209	0.0216	
BI-214	1.38E-2	PO-214	0.99979	TL-210	0.00021	
PO-210	1.38E+2					
PO-211	6.48E-9					
PO-212	3.53E-12					
PO-213	4.86E-11	PB-209	1.0			
PO-214	1.89E-9	PB-210	1.0			
PO-215	2.06E-3	PB-211	1.0	AT-215	2.3E-06	
PO-216	1.74E-6	PB-212	1.0			
PO-218	2.12E-3	PB-214	0.9998	AT-218	0.0002	
AT-217	3.74E-7	BI-213	1.0			
RN-219	4.58E-5	PO-215	1.0			
RN-220	6.44E-4	PO-216	1.0			
RN-222	3.82E+0	PO-218	1.0			
FR-221	3.33E-3	AT-217	1.0			
RA-223	1.14E+1	RN-219	1.0			
RA-224	3.66E+0	RN-220	1.0			
RA-225	1.48E+1	AC-225	1.0			
RA-226	5.84E+5	RN-222	1.0			
RA-228	2.10E+3	AC-228	1.0			
AC-225	1.00E+1	FR-221	1.0			
AC-227	7.95E+3	TH-227	0.9862	FR-223	0.0138	
AC-228	2.56E-1	TH-228	1.0			
TH-227	1.87E+1	RA-223	1.0			
TH-228	6.98E+2	RA-224	1.0			
TH-229	2.68E+6	RA-225	1.0			
TH-230	2.81E+7	RA-226	1.0			5.0E-13
TH-231	1.06E+0	PA-231	1.0			
TH-232	5.13E12	RA-228	1.0			
TH-234	2.41E+1	PA-234	1.0			
PA-231	1.19E+7	AC-227	1.0			3.0E-12
PA-233	2.70E+1	U-233	1.0			
PA-234	2.79E-1	U-234	1.0			
PA-234M	8.13E-4	U-234	0.9987	PA-234	0.0013	
U-232	2.62E+4	TH-228	1.0			1.0E-12
U-233	5.79E+7	TH-229	1.0			
U-234	8.92E+7	TH-230	1.0			1.0E-11
U-235	2.59E11	TH-231	1.0			
U-236	8.55E+9	TH-232	1.0			1.2E-09
U-237	6.75E+0	NP-237	1.0			
U-238	1.63E12	TH-234	1.0			4.55E-07
U-240	5.88E-1	NP-240M	1.0			
NP-237	7.91E+8	PA-233	1.0			
NP-238	2.12E+0	PU-238	1.0			
NP-239	2.36E+0	PU-239	1.0			
NP-240	4.51E-2	PU-240	1.0			
NP-240M	5.14E-3	PU-240	0.99887	NP-240	0.0011	
PU-236	1.04E+3	U-232	1.0			
PU-238	3.20E+4	U-234	1.0			1.7E-09
PU-239	8.90E+5	U-235	1.0			4.5E-12
PU-240	2.39E+6	U-236	1.0			4.9E-08
PU-241	5.26E+3	AM-241	0.999975	U-237	0.000245	
PU-242	1.41E+8	U-238	1.0			5.5E-06
PU-243	2.07E-1	AM-243	1.0			
PU-244	3.01E10	U-240	0.99875			1.25E-03
AM-241	1.58E+5	NP-237	1.0			3.8E-12
AM-242	6.68E-1	CM-242	0.827	PU-242	0.173	
AM-242M	5.55E+4	AM-242	0.995	NP-238	0.00476	1.6E-10
AM-243	2.69E+6	NP-239	1.0			
CM-242	1.63E+2	PU-238	1.0			6.8E-08
CM-243	1.04E+4	PU-239	0.9976	AM-243	0.0024	
CM-244	6.61E+3	PU-240	1.0			1.347E-06
CM-245	3.10E+6	PU-241	1.0			
CM-246	1.73E+6	PU-242	0.99973386			2.614E-04
CM-247	5.69E+9	PU-243	1.0			
CM-248	1.24E+8	PU-244	0.9174			8.26E-02
CF-252	9.63E+2	CM-248	0.96908			3.092E-02

[a]Physical data from D. C. Kocher, *Nuclear Decay Data for Radionuclides Occurring in Routine Releases from Nuclear Fuel Cycle Facilities*, ORNL/NUREG/TM-102, 1977.

in this volume, absorption is assumed to be restricted to the small intestine with the absorption fractions for the other segments set to zero.

Inhalation and ingestion cases are presented for each chemical form of a radionuclide considered appropriate for applications. Descriptions of probable chemical species and the associated respiratory clearance class and GI absorption properties are found in Chapt. 2. All inhalation cases shown in this appendix correspond to an activity median aerodynamic diameter (AMAD) of 1 μm. Two additional particle sizes (0.3 and 5 μm) are considered in Appendix B and C.

For every case, a source-target dose matrix is presented, with a column showing the total dose to each of a standard list of 22 target organs. These total dose equivalent estimates are the dose conversion factors. Each represents the dose equivalent (rem) to the indicated organ due to the intake of 1 μCi of the parent nuclide by the intake mode (inhalation or ingestion) specified for that case. To the left of the column of totals, a column headed "OTHER" gives the dose equivalent contribution from organs and tissues in which the activity is not explicitly accounted for and assumed to be uniformly distributed with respect to mass. The sum of a row of the matrix, to the left of the total column, gives an accounting for the energy absorbed by the target from all disintegrations of the parent and daughters in the body, and it is this sum that is tabulated in the total column as the dose conversion factor for that organ.

In some applications considerable uncertainty exists with regard to both the chemical form of the inhaled material and its aerosol properties.

Moreover, the fractional absorption of a radionuclide from ingested material might depend on unknown factors. Accordingly, the reader is reminded that the appropriateness of the dose estimates shown here may be open to question in such situations.

When radioactive daughters are formed, a supplementary table labeled "PERCENT DOSE EQUIVALENT" resolves the relative contributions of the parent and each daughter to percentages of the total dose to each of the 22 target organs. This information has proved useful in detecting errors during the preparation of this document, and it is offered with the expectation that it will prove useful to the reader for this and other purposes.

For each parent radionuclide we indicate near the bottom of the first page of the listing the decay type(s), radioactive half-life and uncertainty, and when appropriate, branching ratios, in formats illustrated by the following examples:

β^- decay (5730 Y 40)

β^- decay (30 H 2) 77.8%

IT decay (30 H 2) 22.2%

The abbreviations Y, D, H, M, and S are used for years, days, hours, minutes, and seconds, respectively. This information is from the tabulation of D. C. Kocher (1977), from which may be obtained the detailed decay data used to compute the S-factors. Additional footnotes concerning retention functions or the choice of cases sometimes follow the decay information.

Finally, a remark on significant digits is in order. The computer-produced tables in this appendix and Appendicies B and C show results to three and four digits. The practice of obtaining printouts in this form has proved useful for diagnostic purposes and data checking. However, we would urge readers to round resultant dose conversion factors to two significant digits before making further use of them. The number two is arbitrary and is intended only to stand as a reminder of the considerable uncertainty in the information that goes into dose calculations.

RADIONUCLIDE: TL-207

PHYSICAL AND METABOLIC PARAMETERS FOR DOSIMETRICALLY SIGNIFICANT PROGENY:

NUCLIDE	RADIOACTIVE HALF-LIFE (DAYS)
TL-207	3.310DE-03

ORGAN	NUCLIDE	BLOOD TRANSFER FRACTION F2-PRIME	COMPARTMENT DEPOSITION FRACTION	COMPARTMENT BIOLOGICAL HALF-TIME (DAYS)
ABSORBED	TL-207	1.00	1.00	4.00
BONE	*TL-207	0.118	1.00	4.00
LIVER	*TL-207	4.240E-02	1.00	4.00
KIDNEYS	TL-207	3.760E-02	1.00	4.00
SPLEEN	*TL-207	4.240E-03	1.00	4.00
TESTES	*TL-207	8.240E-04	1.00	4.00
OVARIES	*TL-207	2.590E-04	1.00	4.00
OTHER	TL-207	0.814	1.00	4.00

S FACTORS (REM/MICROCURIE-DAY) FOR TL-207

TARGET ORGANS	SOURCE ORGANS												
	LUNGS	RES LYM	S CONT	SI CONT	ULI CONT	LLI CONT	BONE	LIVER	KIDNEYS	SPLEEN	TESTES	OVARIES	OTHER
LUNGS	0.252E-01	0.252E-01	0.646E-06	0.129E-06	0.148E-06	0.560E-07	0.364E-06	0.878E-06	0.363E-06	0.772E-06	0.994E-08	0.561E-07	0.457E-06
RES LYM	0.252E-01	0.169E-01	0.646E-06	0.129E-06	0.148E-06	0.560E-07	0.364E-06	0.878E-06	0.363E-06	0.772E-06	0.994E-08	0.561E-07	0.457E-06
S WALL	0.698E-06	0.698E-06	0.505E-01	0.126E-05	0.133E-05	0.377E-06	0.200E-06	0.711E-06	0.120E-05	0.333E-05	0.330E-07	0.283E-06	0.492E-06
SI WALL	0.116E-06	0.115E-06	0.920E-06	0.315E-01	0.569E-05	0.318E-05	0.307E-06	0.575E-06	0.160E-05	0.508E-06	0.198E-06	0.404E-05	0.544E-06
ULI WALL	0.151E-06	0.151E-06	0.110E-05	0.808E-05	0.574E-01	0.143E-05	0.283E-06	0.875E-06	0.103E-05	0.510E-06	0.147E-06	0.191E-05	0.559E-06
LLI WALL	0.342E-07	0.342E-07	0.496E-06	0.244E-05	0.118E-05	0.935E-01	0.387E-06	0.103E-06	0.318E-06	0.235E-06	0.856E-06	0.483E-05	0.593E-06
T BODY	0.361E-03	0.361E-03	0.109E-03	0.289E-03	0.173E-03	0.214E-03	0.361E-03	0.361E-03	0.361E-03	0.361E-03	0.361E-03	0.361E-03	0.359E-03
ADREN	0.867E-06	0.867E-06	0.779E-06	0.434E-06	0.443E-06	0.182E-06	0.675E-06	0.175E-05	0.448E-05	0.253E-05	0.320E-07	0.210E-06	0.744E-03
BL WALL	0.328E-07	0.328E-07	0.181E-06	0.861E-06	0.767E-06	0.186E-05	0.172E-06	0.781E-07	0.169E-06	0.120E-06	0.192E-05	0.252E-05	0.373E-03
KIDNEYS	0.363E-06	0.363E-06	0.118E-05	0.115E-05	0.103E-05	0.334E-06	0.423E-06	0.133E-05	0.814E-01	0.293E-05	0.524E-07	0.406E-06	0.520E-06
LIVER	0.861E-06	0.861E-06	0.714E-06	0.675E-06	0.902E-06	0.140E-06	0.266E-06	0.140E-01	0.138E-05	0.393E-06	0.356E-07	0.238E-06	0.397E-06
OVARIES	0.622E-07	0.622E-07	0.484E-06	0.364E-05	0.302E-05	0.604E-05	0.361E-06	0.233E-06	0.565E-06	0.233E-06	0.0	0.229E 01	0.677E-06
PANCREAS	0.440E-06	0.440E-06	0.595E-05	0.736E-06	0.738E-06	0.271E-06	0.358E-06	0.156E-05	0.247E-05	0.660E-05	0.345E-07	0.321E-05	0.744E-03
BONE	0.356E-06	0.356E-06	0.212E-06	0.283E-06	0.256E-06	0.360E-06	0.464E-02	0.258E-06	0.348E-06	0.277E-06	0.240E-06	0.324E-06	0.606E-04
R MAR	0.450E-06	0.450E-06	0.360E-06	0.875E-06	0.729E-06	0.109E-05	0.155E-02	0.365E-06	0.874E-06	0.407E-06	0.199E-06	0.106E-05	0.516E-03
Y MAR	0.376E-06	0.376E-06	0.294E-06	0.389E-06	0.355E-06	0.448E-06	0.108E-05	0.384E-06	0.432E-06	0.413E-06	0.104E-06	0.430E-06	0.744E-03
ENDOST	0.356E-06	0.356E-06	0.212E-06	0.283E-06	0.256E-06	0.366E-06	0.365E-02	0.258E-06	0.348E-06	0.277E-06	0.240E-06	0.324E-06	0.403E-03
SPLEEN	0.794E-06	0.794E-06	0.340E-05	0.565E-06	0.494E-06	0.385E-06	0.325E-06	0.412E-06	0.301E-05	0.140E 00	0.289E-07	0.334E-06	0.519E-06
TESTES	0.126E-07	0.126E-07	0.519E-07	0.145E-06	0.208E-06	0.387E-06	0.241E-06	0.856E-07	0.622E-07	0.415E-07	0.721E 00	0.0	0.433E-06
THYMUS	0.148E-05	0.148E-05	0.269E-06	0.580E-07	0.627E-07	0.208E-07	0.308E-06	0.328E-06	0.557E-07	0.249E-06	0.650E-08	0.381E-07	0.744E-03
THYROID	0.502E-06	0.502E-06	0.628E-07	0.193E-07	0.209E-07	0.700E-08	0.228E-06	0.739E-07	0.412E-07	0.613E-07	0.242E-08	0.383E-03	0.744E-03
UTERUS	0.429E-07	0.429E-07	0.351E-06	0.305E-05	0.169E-05	0.200E-05	0.321E-06	0.146E-06	0.308E-06	0.221E-06	0.0	0.405E-05	0.745E-03

β^- decay (4.77 M 3)

*Retention data derived from "other tissues" compartment.

CASE 1.. INHALATION

AMAD (MICRON).. 1.00 D3 =0.310 D4 =8.000E-02 D5 =0.249

	SOLUBILITY CLASS	G.I. UPTAKE FRACTIONS STOMACH	S INT	U L INT	L L INT
TL-207	W	0.0	0.950	0.0	0.0

DOSE EQUIVALENT (REM)

SOURCE	LUNGS	RES LYM	S CONT	SI CONT	ULI CONT	LLI CONT	BONE	LIVER	KIDNEYS	SPLEEN	TESTES
TARGET											
LUNGS	7.443E-05	9.923E-11	8.154E-12	1.186E-13	3.866E-15	1.033E-17	3.640E-12	3.155E-12	1.157E-12	2.774E-13	6.942E-16
RES LYM	7.443E-05	6.615E-09	8.154E-12	1.185E-13	3.866E-15	1.033E-17	3.640E-12	3.155E-12	1.157E-12	2.774E-13	6.942E-16
S WALL	2.062E-09	2.748E-15	6.375E-07	1.159E-12	3.396E-14	1.022E-16	2.000E-12	2.655E-12	3.824E-12	1.197E-12	2.305E-15
SI WALL	3.426E-10	4.568E-16	1.161E-11	2.897E-08	1.486E-13	7.698E-16	3.070E-12	2.066E-12	3.187E-12	1.826E-13	1.383E-14
ULI WALL	4.460E-10	5.946E-16	1.389E-11	7.431E-12	1.499E-09	5.277E-16	2.830E-12	3.144E-12	3.282E-12	1.833E-13	1.027E-14
LLI WALL	1.010E-10	1.347E-16	6.261E-12	2.244E-12	3.092E-14	2.143E-11	3.870E-12	3.701E-12	1.013E-12	8.445E-14	5.978E-14
T BODY	1.066E-06	1.421E-12	1.376E-09	2.658E-10	4.519E-12	4.994E-14	3.610E-09	1.297E-09	1.150E-09	1.297E-10	2.521E-11
ADREN	2.561E-09	3.414E-15	9.833E-12	3.991E-13	1.137E-14	4.171E-17	6.751E-12	6.289E-12	1.428E-11	9.092E-13	2.235E-15
BL WALL	9.688E-11	1.292E-16	2.285E-12	7.918E-13	2.003E-14	4.263E-16	1.720E-12	2.807E-12	5.386E-13	4.312E-14	1.341E-13
KIDNEYS	1.372E-09	1.829E-15	1.489E-11	1.058E-12	2.690E-14	7.005E-17	4.230E-12	4.780E-12	2.594E-07	1.053E-12	3.660E-15
LIVER	2.543E-09	3.390E-15	9.013E-12	6.209E-13	2.356E-14	5.406E-17	2.660E-12	5.031E-08	4.398E-12	1.412E-13	2.486E-15
OVARIES	1.837E-10	2.449E-16	6.109E-12	3.348E-12	7.888E-14	1.384E-15	3.610E-12	8.373E-13	1.801E-12	8.373E-14	0.0
PANCREAS	2.481E-09	3.308E-15	7.511E-11	6.769E-13	1.928E-14	5.211E-17	3.580E-12	5.606E-12	7.871E-12	2.372E-12	2.409E-15
BONE	1.051E-09	1.402E-15	2.676E-12	2.603E-13	6.530E-15	3.388E-17	4.641E-08	9.272E-13	1.109E-12	9.954E-14	1.676E-14
R MAR	1.329E-09	1.772E-15	4.544E-12	8.047E-13	1.904E-14	2.498E-16	1.550E-08	1.312E-12	2.785E-12	1.463E-13	1.320E-14
Y MAR	1.111E-09	1.481E-15	3.711E-12	3.577E-13	9.273E-15	1.027E-16	1.080E-11	1.380E-12	1.377E-12	1.484E-13	7.263E-15
ENDOST	1.051E-09	1.402E-15	2.676E-12	2.603E-13	6.530E-15	3.388E-17	3.650E-08	9.272E-13	1.109E-12	9.954E-14	1.676E-14
SPLEEN	2.345E-09	3.126E-15	4.292E-11	5.196E-13	1.290E-14	8.624E-17	3.250E-12	1.481E-12	9.592E-12	5.031E-08	2.018E-15
TESTES	3.722E-11	4.961E-17	6.551E-13	1.701E-13	5.433E-15	1.343E-16	2.410E-12	3.076E-13	1.982E-13	1.491E-14	5.035E-08
THYMUS	4.371E-09	5.828E-15	3.396E-12	5.334E-14	1.638E-15	8.098E-18	3.080E-12	1.179E-12	1.775E-13	8.948E-14	4.540E-16
THYROID	1.483E-09	1.977E-15	7.997E-13	1.773E-14	5.355E-16	2.630E-18	2.280E-12	2.656E-13	1.313E-13	2.203E-14	1.690E-16
UTERUS	1.267E-10	1.689E-16	4.431E-12	2.805E-12	4.338E-14	4.564E-16	3.210E-12	5.247E-13	9.815E-13	7.942E-14	0.0

DOSE EQUIVALENT (REM)

SOURCE	OVARIES	OTHER	TOTAL
TARGET			
LUNGS	1.231E-15	3.153E-11	7.443E-05
RES LYM	1.231E-15	3.153E-11	7.444E-05
S WALL	6.212E-15	3.394E-11	6.396E-07
SI WALL	8.868E-14	3.753E-11	2.937E-08
ULI WALL	3.364E-14	3.950E-11	2.015E-09
LLI WALL	1.060E-13	4.133E-11	1.779E-10
T BODY	7.925E-12	2.477E-08	1.099E-06
ADREN	4.610E-13	5.133E-08	5.393E-08
BL WALL	5.632E-14	2.566E-08	2.577E-08
KIDNEYS	8.912E-13	3.538E-11	2.605E-07
LIVER	5.225E-13	2.739E-11	5.290E-08
OVARIES	5.027E-09	4.671E-11	5.052E-08
PANCREAS	7.046E-13	5.133E-08	5.391E-08
BONE	7.112E-13	4.181E-09	5.164E-09
R MAR	2.327E-14	3.550E-09	5.244E-08
Y MAR	9.439E-13	5.133E-08	5.246E-08
ENDOST	7.112E-13	2.773E-08	5.530E-08
SPLEEN	5.137E-13	3.574E-11	5.275E-08
TESTES	0.0	2.997E-11	5.042E-08
THYMUS	6.168E-16	5.133E-08	5.571E-08
THYROID	2.158E-16	5.133E-08	5.282E-08
UTERUS	1.328E-13	5.140E-08	5.154E-08

CASE 2.. INGESTION

INGESTION TRANSFER FRACTIONS (G. I. TRACT TO BLOOD)

	TL-207
STOMACH	0.0
S INT	0.950
U L INT	0.0
L L INT	0.0

DOSE EQUIVALENT (REM)

SOURCE	S CONT	SI CONT	ULI CONT	LLI CONT	BONE	LIVER	KIDNEYS	SPLEEN	TESTES	OVARIES	OTHER
TARGET											
LUNGS	2.768E-09	4.027E-11	1.312E-12	4.356E-15	7.293E-12	9.521E-12	2.317E-12	5.558E-13	1.391E-15	2.467E-15	6.316E-11
RES LYM	2.768E-09	4.027E-11	1.312E-12	4.356E-15	7.293E-12	9.521E-12	2.317E-12	5.558E-13	1.391E-15	2.467E-15	6.316E-11
S WALL	2.134E-04	3.933E-10	1.152E-11	4.489E-14	4.007E-12	5.116E-12	7.661E-12	2.397E-12	4.617E-15	1.244E-14	6.800E-11
SI WALL	3.942E-09	9.833E-06	3.044E-11	2.474E-13	6.151E-12	4.139E-12	6.384E-12	3.657E-13	2.770E-14	1.777E-13	7.518E-11
ULI WALL	4.713E-09	2.522E-09	5.089E-07	1.112E-13	5.670E-12	6.299E-12	6.575E-12	3.671E-13	2.057E-14	1.675E-13	7.712E-11
LLI WALL	2.125E-09	7.616E-10	1.046E-11	7.273E-09	7.753E-12	7.419E-13	2.030E-12	1.692E-13	1.198E-13	2.124E-13	8.279E-11
T BODY	4.670E-07	9.021E-08	1.534E-09	1.665E-11	7.233E-09	2.599E-09	2.305E-09	2.599E-10	5.051E-11	1.587E-11	4.962E-08
ADREN	3.337E-09	1.355E-10	3.927E-12	1.416E-14	1.352E-11	1.280E-11	2.360E-11	1.821E-12	4.477E-15	9.235E-15	1.028E-07
BL WALL	7.753E-10	2.698E-10	6.800E-12	1.447E-13	3.446E-12	5.022E-13	1.079E-12	8.639E-14	2.686E-13	1.108E-13	5.141E-08
KIDNEYS	5.055E-09	3.500E-10	9.131E-12	2.598E-14	8.475E-12	9.375E-12	5.197E-07	2.109E-12	7.331E-15	1.785E-14	7.187E-11
LIVER	3.059E-09	2.107E-10	7.997E-12	1.089E-14	5.329E-12	1.008E-07	3.810E-12	2.829E-13	4.981E-15	1.047E-14	5.487E-11
OVARIES	2.074E-09	1.136E-09	2.677E-11	4.698E-13	7.233E-12	1.077E-12	3.637E-12	1.677E-13	0.0	1.007E-07	9.357E-11
PANCREAS	2.549E-09	2.297E-10	6.543E-12	2.108E-14	7.172E-12	1.123E-11	1.577E-11	4.751E-12	4.827E-15	1.412E-14	1.028E-07
BONE	9.083E-10	8.834E-11	2.216E-12	2.847E-14	9.296E-08	1.057E-12	2.222E-12	1.994E-13	3.358E-14	1.425E-14	8.375E-09
R MAR	1.542E-09	2.731E-10	6.463E-12	8.478E-14	3.105E-08	2.028E-12	5.580E-12	2.930E-13	2.644E-14	4.661E-14	7.131E-08
Y MAR	1.263E-09	1.214E-10	3.147E-12	3.485E-14	2.154E-11	2.704E-12	2.758E-12	2.973E-13	1.455E-14	1.891E-14	1.028E-07
ENDOST	9.083E-10	8.834E-11	2.216E-12	2.847E-14	7.313E-08	1.057E-12	2.222E-12	1.994E-13	3.358E-14	1.425E-14	5.556E-08
SPLEEN	1.457E-08	1.754E-10	4.379E-12	2.995E-14	6.511E-12	2.700E-12	1.922E-11	1.008E-07	4.043E-15	1.029E-14	7.159E-11
TESTES	2.234E-10	5.775E-11	1.844E-12	4.566E-14	4.828E-12	6.162E-13	3.971E-13	2.988E-14	1.009E-07	0.0	5.984E-11
THYMUS	1.152E-09	1.810E-11	5.559E-13	2.069E-15	6.171E-12	2.361E-12	3.556E-13	1.793E-13	9.094E-16	1.236E-15	1.028E-07
THYROID	2.691E-10	6.004E-12	1.817E-13	7.467E-16	4.568E-12	9.324E-13	2.630E-13	4.413E-14	3.386E-16	4.323E-16	1.028E-07
UTERUS	1.504E-09	9.520E-10	1.489E-11	1.556E-13	6.431E-12	1.051E-12	1.966E-12	1.591E-13	0.0	2.660E-13	1.030E-07

DOSE EQUIVALENT (REM)

SOURCE	TOTAL
TARGET	
LUNGS	2.889E-09
RES LYM	2.889E-09
S WALL	2.134E-04
SI WALL	9.937E-06
ULI WALL	5.152E-07
LLI WALL	1.026E-08
T BODY	6.208E-07
ADREN	1.054E-07
BL WALL	5.247E-08
KIDNEYS	5.252E-07
LIVER	1.041E-07
OVARIES	1.040E-07
PANCREAS	1.286E-07
BONE	1.023E-07
R MAR	1.042E-07
Y MAR	1.042E-07
ENDOST	1.297E-07
SPLEEN	1.156E-07
TESTES	1.012E-07
THYMUS	1.040E-07
THYROID	1.031E-07
UTERUS	1.054E-07

RADIONUCLIDE: TL-208

PHYSICAL AND METABOLIC PARAMETERS FOR DOSIMETRICALLY SIGNIFICANT PROGENY:

NUCLIDE	RADIOACTIVE HALF-LIFE (DAYS)
TL-208	2.130E-03

ORGAN	NUCLIDE	BLOOD TRANSFER FRACTION F2-PRIME	COMPARTMENT DEPOSITION FRACTION	COMPARTMENT BIOLOGICAL HALF-TIME (DAYS)
ABSORBED	TL-208	1.00	1.00	4.00
BONE	*TL-208	6.11E	1.00	4.00
LIVER	*TL-208	4.240E-02	1.00	4.00
KIDNEYS	TL-208	3.760E-02	1.00	4.00
SPLEEN	*TL-208	4.240E-03	1.00	4.00
TESTES	*TL-208	9.240E-04	1.00	4.00
OVARIES	*TL-208	2.590E-04	1.00	4.00
OTHER	TL-208	0.814	1.00	4.00

S FACTORS (REM/MICROCURIE-DAY) FOR TL-209

TARGET ORGANS	SOURCE ORGANS												
	LUNGS	RES LYM	S CONT	SI CONT	ULI CONT	LLI CONT	BONE	LIVER	KIDNEYS	SPLEEN	TESTES	OVARIES	OTHER
LUNGS	0.373E-01	0.373E-01	0.875E-03	0.199E-03	0.213E-03	0.111E-03	0.512E-03	0.119E-02	0.459E-03	0.110E-02	0.204E-04	0.993E-04	0.627E-03
RES LYM	0.372E-01	0.204E-01	0.875E-03	0.199E-03	0.213E-03	0.111E-03	0.512E-03	0.119E-02	0.459E-03	0.110E-02	0.204E-04	0.993E-04	0.627E-03
S WALL	0.969E-03	0.969E-03	0.856E-01	0.169E-02	0.173E-02	0.943E-03	0.297E-03	0.103E-02	0.459E-02	0.171E-02	0.774E-04	0.527E-03	0.677E-03
SI WALL	0.191E-03	0.191E-03	0.132E-02	0.536E-01	0.739E-02	0.432E-02	0.408E-03	0.811E-03	0.138E-02	0.710E-03	0.305E-03	0.849E-03	0.751E-03
ULI WALL	0.250E-03	0.250E-03	0.153E-02	0.109E-01	0.897E-01	0.196E-02	0.383E-03	0.119E-02	0.131E-02	0.740E-03	0.317E-03	0.511E-03	0.771E-03
LLI WALL	0.437E-04	0.437E-04	0.454E-03	0.346E-02	0.141E-02	0.137E-00	0.486E-03	0.187E-03	0.491E-03	0.370E-03	0.134E-02	0.679E-02	0.935E-03
T BODY	0.115E-02	0.115E-02	0.101E-02	0.131E-02	0.115E-02	0.120E-02	0.116E-02	0.129E-02	0.128E-02	0.127E-02	0.116E-02	0.142E-02	0.114E-02
ADREN	0.853E-03	0.853E-03	0.122E-02	0.685E-03	0.585E-03	0.259E-03	0.731E-03	0.282E-02	0.560E-02	0.308E-02	0.585E-04	0.293E-03	0.174E-02
BL WALL	0.561E-04	0.561E-04	0.216E-03	0.138E-02	0.111E-02	0.271E-02	0.333E-03	0.165E-03	0.237E-03	0.152E-03	0.233E-02	0.309E-02	0.144E-02
KIDNEYS	0.466E-03	0.466E-03	0.157E-02	0.147E-02	0.130E-02	0.543E-03	0.450E-03	0.185E-02	0.133E 00	0.401E-02	0.823E-04	0.608E-03	0.774E-03
LIVER	0.116E-02	0.116E-02	0.104E-02	0.929E-03	0.126E-02	0.211E-03	0.411E-03	0.290E-01	0.190E-02	0.561E-03	0.624E-04	0.368E-03	0.594E-03
OVARIES	0.987E-04	0.987E-04	0.461E-03	0.435E-02	0.546E-02	0.788E-02	0.486E-03	0.327E-03	0.501E-03	0.161E-03	0.0	0.314E 01	0.341E-03
PANCREAS	0.115E-02	0.115E-02	0.776E-02	0.102E-02	0.121E-02	0.389E-03	0.513E-03	0.190E-02	0.288E-02	0.966E-02	0.845E-04	0.288E-03	0.201E-02
BONE	0.504E-03	0.504E-03	0.337E-03	0.305E-03	0.357E-03	0.515E-03	0.724E-02	0.378E-03	0.488E-03	0.384E-03	0.340E-03	0.453E-03	0.689E-03
R MAR	0.635E-03	0.635E-03	0.505E-03	0.119E-02	0.103E-02	0.148E-02	0.344E-02	0.544E-03	0.120E-02	0.564E-03	0.277E-03	0.142E-02	0.141E-02
Y MAR	0.531E-03	0.531E-03	0.429E-03	0.538E-03	0.496E-03	0.629E-03	0.142E-02	0.551E-03	0.597E-03	0.569E-03	0.169E-03	0.590E-03	0.194E-02
ENDOST	0.504E-03	0.504E-03	0.307E-03	0.305E-03	0.357E-03	0.515E-03	0.600E-02	0.378E-03	0.488E-03	0.384E-03	0.340E-03	0.453E-03	0.113E-02
SPLEEN	0.109E-02	0.109E-02	0.432E-02	0.819E-03	0.663E-03	0.516E-03	0.365E-03	0.516E-03	0.385E-02	0.231E 00	0.777E-04	0.405E-03	0.711E-03
TESTES	0.253E-04	0.253E-04	0.398E-04	0.298E-03	0.203E-03	0.984E-03	0.526E-03	0.827E-04	0.991E-04	0.697E-04	0.104E-01	0.0	0.692E-03
THYMUS	0.194E-03	0.194E-03	0.260E-03	0.931E-04	0.998E-04	0.460E-04	0.419E-03	0.563E-03	0.124E-03	0.330E-03	0.151E-04	0.449E-04	0.772E-02
THYROID	0.551E-03	0.551E-03	0.998E-04	0.365E-04	0.382E-04	0.204E-04	0.225E-03	0.115E-03	0.684E-04	0.976E-04	0.705E-05	0.210E-04	0.137E-02
UTERUS	0.103E-03	0.103E-03	0.321E-03	0.306E-03	0.241E-02	0.261E-02	0.301E-03	0.281E-03	0.456E-03	0.321E-03	0.0	0.938E-02	0.737E-02

β^- decay (3.07 M 2)

*Retention data derived from "other tissues" compartment.

CASE 1.. INHALATION

AMAD (MICRON).. 1.00 D3 =0.310 D4 =8.000E-02 D5 =0.249

	SOLUBILITY CLASS	G.I. UPTAKE FRACTIONS STOMACH	S INT	U L INT	L L INT
TL-208	W	0.0	0.050	0.0	0.0

DOSE EQUIVALENT (REM)

SOURCE	LUNGS	RES LYM	S CONT	SI CONT	ULI CONT	LLI CONT	BONE	LIVER	KIDNEYS	SPLEEN	TESTES
TARGET											
LUNGS	7.161E-05	6.082E-11	4.762E-09	5.835E-11	1.145E-12	3.375E-15	2.320E-09	1.937E-09	7.204E-10	1.791E-10	6.454E-13
RES LYM	7.161E-05	3.327E-09	4.762E-09	5.835E-11	1.145E-12	3.375E-15	2.320E-09	1.937E-09	7.204E-10	1.791E-10	6.454E-13
S WALL	1.860E-06	1.580E-12	4.658E-07	4.955E-10	9.300E-12	2.867E-14	1.346E-09	1.677E-09	2.469E-09	7.473E-10	2.449E-12
SI WALL	3.667E-07	3.115E-13	7.183E-09	1.542E-08	3.973E-11	1.313E-13	1.849E-09	1.320E-09	1.992E-09	1.156E-10	9.777E-12
ULI WALL	4.800E-07	4.077E-13	8.326E-09	3.196E-09	4.822E-10	5.959E-14	1.735E-09	1.937E-09	1.891E-09	1.205E-10	1.003E-11
LLI WALL	8.390E-08	7.126E-14	3.559E-09	1.015E-09	7.580E-12	4.165E-12	2.202E-09	3.044E-10	7.089E-10	6.024E-11	4.240E-11
T BODY	2.208E-06	1.875E-12	5.496E-09	3.841E-10	6.182E-12	3.648E-14	5.256E-09	2.084E-09	1.848E-09	2.068E-10	3.670E-11
ADREN	1.638E-06	1.391E-12	6.639E-09	2.009E-10	3.145E-12	7.874E-15	3.312E-09	4.591E-09	8.085E-09	5.014E-10	1.765E-12
BL WALL	1.077E-07	9.148E-14	1.175E-09	4.046E-10	5.967E-12	3.239E-14	1.509E-09	3.686E-10	3.422E-10	2.475E-11	7.372E-11
KIDNEYS	8.946E-07	7.599E-13	8.544E-09	4.310E-10	6.938E-12	1.651E-14	2.039E-09	3.012E-09	1.920E-07	6.529E-10	2.604E-12
LIVER	2.227E-06	1.892E-12	5.659E-09	2.724E-10	6.773E-12	9.415E-15	1.862E-09	4.721E-08	2.743E-09	9.133E-11	1.974E-12
OVARIES	1.895E-07	1.609E-13	2.509E-09	1.275E-09	2.935E-11	2.396E-13	2.202E-09	5.324E-10	7.233E-10	2.621E-11	0.0
PANCREAS	2.208E-06	1.875E-12	4.223E-08	2.991E-10	6.505E-12	1.180E-14	2.324E-09	3.093E-09	4.158E-09	1.410E-09	2.664E-12
BONE	9.676E-07	8.218E-13	1.671E-09	1.158E-10	1.919E-12	1.566E-14	3.280E-08	6.154E-10	7.045E-10	6.252E-11	1.076E-11
R MAR	1.219E-06	1.035E-12	2.749E-09	3.489E-10	5.537E-12	4.500E-14	1.559E-08	3.857E-10	1.732E-09	9.182E-11	8.764E-12
Y MAR	1.019E-06	8.659E-13	2.335E-09	1.577E-10	2.666E-12	1.912E-14	6.434E-09	8.971E-10	8.619E-10	9.264E-11	5.347E-12
ENDOST	9.676E-07	8.218E-13	1.671E-09	1.158E-10	1.919E-12	1.566E-14	2.719E-08	6.154E-10	7.045E-10	6.252E-11	1.076E-11
SPLEEN	2.093E-06	1.777E-12	2.351E-08	2.401E-10	3.564E-12	1.560E-14	1.654E-09	3.401E-10	5.558E-09	3.761E-08	2.458E-12
TESTES	4.857E-08	4.126E-14	4.669E-10	8.739E-11	1.375E-12	2.992E-14	2.383E-09	1.348E-10	1.431E-10	1.135E-11	3.291E-08
THYMUS	3.724E-06	3.163E-12	1.415E-09	2.730E-11	5.365E-13	1.426E-15	1.858E-09	9.199E-10	1.848E-10	5.373E-11	4.778E-13
THYROID	1.058E-06	8.985E-13	5.431E-10	1.070E-11	2.054E-13	6.202E-16	1.019E-09	1.872E-10	1.002E-10	1.589E-11	2.231E-13
UTERUS	1.977E-07	1.680E-13	2.835E-09	1.161E-09	1.296E-11	8.148E-14	1.364E-09	4.575E-10	6.583E-10	5.226E-11	0.0

DOSE EQUIVALENT (REM)

SOURCE	OVARIES	OTHER	TOTAL
TARGET			
LUNGS	9.875E-13	1.960E-08	7.164E-05
RES LYM	9.875E-13	1.960E-08	7.164E-05
S WALL	5.241E-12	2.116E-08	2.354E-06
SI WALL	5.460E-11	2.347E-08	4.181E-07
ULI WALL	5.082E-11	2.410E-08	5.218E-07
LLI WALL	6.753E-11	2.610E-08	1.180E-07
T BODY	1.412E-11	3.563E-08	2.259E-06
ADREN	2.514E-12	5.438E-08	1.715E-06
BL WALL	3.073E-11	4.501E-08	1.565E-07
KIDNEYS	6.047E-12	2.263E-08	1.124E-06
LIVER	3.660E-12	1.732E-08	2.302E-06
OVARIES	3.123E-08	2.941E-08	2.574E-07
PANCREAS	2.834E-12	6.282E-08	2.324E-06
BONE	4.505E-12	2.154E-08	1.025E-06
R MAR	1.412E-11	4.407E-08	1.285E-06
Y MAR	5.568E-12	4.813E-08	1.078E-06
ENDOST	4.505E-12	3.532E-08	1.033E-06
SPLEEN	4.028E-12	2.222E-08	2.184E-06
TESTES	0.0	2.132E-08	1.060E-07
THYMUS	4.963E-13	8.502E-08	3.814E-06
THYROID	2.088E-13	5.220E-08	1.112E-06
UTERUS	8.334E-11	9.595E-08	3.003E-07

CASE 2.. INGESTION

INGESTION TRANSFER FRACTIONS (G. I. TRACT TO BLOOD)

	TL-208
STOMACH	0.0
S INT	0.950
U L INT	0.0
L L INT	0.0

DOSE EQUIVALENT (REM)

SOURCE	S CONT	SI CONT	ULI CONT	LLI CONT	BONE	LIVER	KIDNEYS	SPLEEN	TESTES	OVARIES	OTHER
TARGET											
LUNGS	2.504E-06	3.069E-08	6.022E-10	1.775E-12	3.262E-09	2.724E-09	1.013E-09	2.518E-10	9.076E-13	1.389E-12	2.756E-08
RES LYM	2.504E-06	3.069E-08	6.022E-10	1.775E-12	3.262E-09	2.724E-09	1.013E-09	2.518E-10	9.076E-13	1.389E-12	2.756E-08
S WALL	2.450E-04	2.606E-07	4.891E-09	1.508E-11	1.892E-09	2.358E-09	3.471E-09	1.051E-09	3.443E-12	7.359E-12	2.975E-08
SI WALL	3.778E-06	8.111E-06	2.089E-08	6.907E-11	2.599E-09	1.857E-09	2.901E-09	1.625E-10	1.375E-11	7.677E-11	3.301E-08
ULI WALL	4.375E-06	1.681E-06	2.536E-07	3.134E-11	2.440E-09	2.724E-09	2.659E-09	1.694E-10	1.410E-11	7.146E-11	3.388E-08
LLI WALL	1.872E-06	5.335E-07	3.986E-09	2.191E-09	3.096E-09	4.281E-10	9.968E-10	8.470E-11	5.961E-11	9.495E-11	3.670E-08
T BODY	2.850E-06	2.020E-07	3.251E-09	1.919E-11	7.390E-09	2.930E-09	2.598E-09	2.907E-10	5.161E-11	1.986E-11	5.010E-08
ADREN	3.491E-06	1.056E-07	1.654E-09	4.141E-12	4.657E-09	6.456E-09	1.137E-08	7.051E-10	2.482E-12	4.097E-12	7.647E-08
BL WALL	6.182E-07	2.128E-07	3.138E-09	4.333E-11	2.122E-09	7.777E-10	4.811E-10	3.480E-11	1.037E-10	4.321E-11	6.329E-08
KIDNEYS	4.493E-06	2.267E-07	3.675E-09	8.682E-12	2.867E-09	4.235E-09	2.700E-07	9.180E-10	3.661E-12	8.502E-12	3.182E-08
LIVER	2.576E-06	1.433E-07	3.562E-09	3.374E-12	2.618E-09	6.639E-08	3.857E-09	1.284E-10	2.776E-12	5.146E-12	2.435E-08
OVARIES	1.319E-06	6.708E-07	1.544E-08	1.260E-10	3.096E-09	7.486E-10	1.017E-09	3.686E-11	0.0	4.391E-08	4.136E-08
PANCREAS	2.221E-05	1.573E-07	3.421E-09	6.204E-12	3.268E-09	4.349E-09	5.847E-09	1.982E-09	3.746E-12	3.985E-12	8.834E-08
BONE	8.786E-07	6.091E-08	1.009E-09	8.234E-12	4.613E-08	8.653E-10	9.907E-10	8.791E-11	1.513E-11	6.335E-12	3.028E-08
R MAR	1.445E-06	1.835E-07	2.912E-09	2.366E-11	2.192E-08	1.245E-09	2.436E-09	1.291E-10	1.232E-11	1.986E-11	6.197E-08
Y MAP	1.228E-06	8.296E-08	1.402E-09	1.006E-11	9.047E-09	1.261E-09	1.212E-09	1.303E-10	7.519E-12	8.250E-12	6.768E-08
ENDOST	8.786E-07	6.091E-08	1.009E-09	8.234E-12	3.823E-08	8.653E-10	9.907E-10	8.791E-11	1.513E-11	6.335E-12	4.966E-08
SPLEEN	1.236E-05	1.263E-07	1.874E-09	8.250E-12	2.325E-09	1.181E-09	7.816E-09	9.288E-08	3.457E-12	5.663E-12	3.125E-08
TESTES	2.455E-07	4.595E-08	8.283E-10	1.573E-11	3.351E-09	1.893E-10	2.012E-10	1.566E-11	4.627E-08	0.0	2.997E-08
THYMUS	7.441E-07	1.436E-08	2.821E-10	7.499E-13	2.669E-09	1.293E-09	2.598E-10	7.554E-11	6.718E-13	6.978E-13	1.195E-07
THYROID	2.856E-07	5.628E-09	1.080E-10	3.262E-13	1.433E-09	2.633E-10	1.409E-10	2.234E-11	3.136E-13	2.937E-13	7.339E-08
UTERUS	1.491E-06	6.106E-07	6.813E-09	4.285E-11	1.918E-09	6.433E-10	9.257E-10	7.348E-11	0.0	1.172E-10	1.349E-07

DOSE EQUIVALENT (REM)

SOURCE	TOTAL
TARGET	
LUNGS	2.570E-06
RES LYM	2.570E-06
S WALL	2.453E-04
SI WALL	1.195E-05
ULI WALL	6.355E-06
LLI WALL	2.453E-06
T BODY	3.155E-06
ADREN	3.698E-06
BL WALL	9.006E-07
KIDNEYS	5.033E-06
LIVER	3.221E-06
OVARIES	2.096E-06
PANCREAS	2.247E-05
BONE	1.019E-06
R MAR	1.719E-06
Y MAR	1.391E-06
ENDOST	1.030E-06
SPLEEN	1.259E-05
TESTES	3.723E-07
THYMUS	8.826E-07
THYROID	3.666E-07
UTERUS	2.247E-06

RADIONUCLIDE: TL-209

PHYSICAL AND METABOLIC PARAMETERS FOR DOSIMETRICALLY SIGNIFICANT PROGENY:

NUCLIDE	RADIOACTIVE HALF-LIFE (DAYS)
TL-209	1.530E-03
PB-209	0.1380

BRANCHING RATIOS: FROM TL-209 TO PB-209 FRACTION 1.000

ORGAN ABSORBED	NUCLIDE	BLOOD TRANSFER FRACTION F2-PRIME	COMPARTMENT DEPOSITION FRACTION	COMPARTMENT BIOLOGICAL HALF-TIME (DAYS)
	TL-209	1.00	1.00	4.00
	PB-209	1.00	1.000E-01	1.00
			0.200	10.0
			0.300	320.
			0.200	2.000E 03
			0.200	8.000E 03
BONE	* TL-209	0.118	1.00	4.00
	PB-209	0.562	0.375	320.
			0.310	2.000E 03
			0.315	8.000E 03
LIVER	* TL-209	4.240E-02	1.00	4.00
	PB-209	0.106	0.843	10.0
			7.870E-02	320.
			4.010E-02	2.000E 03
			3.820E-02	8.000E 03
KIDNEYS	TL-209	3.760E-02	1.00	4.00
	PB-209	5.090E-02	0.962	10.0
			2.000E-02	320.
			9.600E-03	2.000E 03
			8.290E-04	8.000E 03
SPLEEN	* TL-209	4.240E-03	1.00	4.00
	* PB-209	2.960E-04	0.375	320.
			0.310	2.000E 03
			0.315	8.000E 03
THYROID	* TL-209	4.700E-04	1.00	4.00
	* PB-209	3.290E-05	0.375	320.
			0.310	2.000E 03
			0.315	8.000E 03
TESTES	* TL-209	8.240E-04	1.00	4.00
	* PB-209	5.760E-05	0.375	320.
			0.310	2.000E 03
			0.315	8.000E 03
OVARIES	* TL-209	2.590E-04	1.00	4.00
	* PB-209	1.810E-05	0.375	320.
			0.310	2.000E 03
			0.315	8.000E 03
OTHER	TL-209	0.914	1.00	4.00
	PB-209	5.580E-02	0.375	320.
			0.310	2.000E 03
			0.315	8.000E 03

β^- decay (2.20 M 7)

* Retention data derived from "other tissues" compartment.

S FACTORS (REM/MICROCURIE-DAY) FOR TL-209

TARGET ORGANS	SOURCE ORGANS									
	LUNGS	RES LYM	S CONT	SI CONT	ULI CONT	LLI CONT	BONE	LIVER	KIDNEYS	SPLEEN
LUNGS	0.400E-01	0.400E-01	0.618E-03	0.116E-03	0.144E-03	0.557E-04	0.340E-03	0.853E-03	0.327E-03	0.721E-03
RES LYM	0.400E-01	0.234E-01	0.618E-03	0.116E-03	0.144E-03	0.557E-04	0.340E-03	0.853E-03	0.327E-03	0.721E-03
S WALL	0.679E-03	0.679E-03	0.371E-01	0.120E-02	0.113E-02	0.567E-03	0.208E-03	0.670E-03	0.103E-02	0.145E-02
SI WALL	0.109E-03	0.109E-03	0.853E-03	0.541E-01	0.525E-02	0.301E-02	0.267E-03	0.563E-03	0.983E-03	0.507E-03
ULI WALL	0.148E-03	0.148E-03	0.124E-02	0.762E-02	0.939E-01	0.149E-02	0.256E-03	0.783E-03	0.110E-02	0.511E-03
LLI WALL	0.249E-04	0.240E-04	0.479E-03	0.232E-02	0.991E-03	0.147E 00	0.336E-03	0.126E-03	0.349E-03	0.237E-03
T BODY	0.995E-03	0.995E-03	0.756E-03	0.107E-02	0.890E-03	0.947E-03	0.998E-03	0.108E-02	0.108E-02	0.108E-02
ADREN	0.697E-03	0.697E-03	0.111E-02	0.421E-03	0.371E-03	0.175E-03	0.639E-03	0.159E-02	0.404E-02	0.216E-02
BL WALL	0.329E-04	0.329E-04	0.153E-03	0.115E-02	0.611E-03	0.218E-02	0.259E-03	0.974E-04	0.149E-03	0.847E-04
KIDNEYS	0.374E-03	0.374E-03	0.111E-02	0.101E-02	0.949E-03	0.328E-03	0.333E-03	0.129E-02	0.137E 00	0.289E-02
LIVER	0.810E-03	0.810E-03	0.696E-03	0.633E-03	0.859E-03	0.149E-03	0.255E-03	0.280E-01	0.131E-02	0.379E-03
OVARIES	0.606E-04	0.606E-04	0.289E-03	0.277E-02	0.289E-02	0.562E-02	0.320E-03	0.289E-03	0.418E-03	0.241E-03
PANCREAS	0.860E-03	0.860E-03	0.576E-02	0.621E-03	0.707E-03	0.209E-03	0.384E-03	0.141E-02	0.217E-02	0.603E-02
BONE	0.347E-03	0.347E-03	0.213E-03	0.280E-03	0.255E-03	0.365E-03	0.760E-02	0.266E-03	0.350E-03	0.276E-03
R MAR	0.442E-03	0.442E-03	0.353E-03	0.868E-03	0.748E-03	0.108E-02	0.341E-02	0.385E-03	0.879E-03	0.398E-03
Y MAR	0.356E-03	0.356E-03	0.301E-03	0.383E-03	0.361E-03	0.454E-03	0.132E-02	0.395E-03	0.430E-03	0.410E-03
ENDOST	0.347E-03	0.347E-03	0.213E-03	0.280E-03	0.255E-03	0.365E-03	0.613E-02	0.266E-03	0.350E-03	0.276E-03
SPLEEN	0.653E-03	0.653E-03	0.318E-02	0.575E-03	0.496E-03	0.336E-03	0.240E-03	0.336E-03	0.275E-02	0.238E 00
TESTES	0.135E-04	0.135E-04	0.504E-04	0.190E-03	0.153E-03	0.598E-03	0.264E-03	0.474E-04	0.606E-04	0.414E-04
THYMUS	0.145E-02	0.145E-02	0.108E-03	0.565E-04	0.612E-04	0.209E-04	0.190E-03	0.292E-03	0.118E-03	0.945E-04
THYROID	0.334E-03	0.334E-03	0.610E-04	0.202E-04	0.213E-04	0.106E-04	0.723E-04	0.369E-03	0.410E-04	0.596E-04
UTERUS	0.793E-04	0.793E-04	0.340E-03	0.282E-02	0.170E-02	0.200E-02	0.212E-03	0.205E-03	0.361E-03	0.106E-03

S FACTORS (REM/MICROCURIE-DAY) FOR TL-209

TARGET ORGANS	SOURCE ORGANS			
	THYROID	TESTES	OVARIES	OTHER
LUNGS	0.369E-03	0.135E-04	0.548E-04	0.432E-03
RES LYM	0.369E-03	0.135E-04	0.548E-04	0.432E-03
S WALL	0.538E-04	0.425E-04	0.341E-03	0.453E-03
SI WALL	0.160E-04	0.191E-03	0.385E-02	0.515E-03
ULI WALL	0.189E-04	0.136E-03	0.364E-02	0.528E-03
LLI WALL	0.923E-05	0.914E-03	0.463E-02	0.570E-03
T BODY	0.950E-03	0.997E-03	0.118E-02	0.981E-03
ADREN	0.767E-04	0.323E-04	0.120E-03	0.161E-02
BL WALL	0.674E-05	0.161E-02	0.233E-02	0.120E-02
KIDNEYS	0.534E-04	0.516E-04	0.376E-03	0.494E-03
LIVER	0.737E-04	0.376E-04	0.232E-03	0.375E-03
OVARIES	0.139E-04	0.0	0.345E 01	0.656E-03
PANCREAS	0.118E-03	0.421E-04	0.186E-03	0.180E-02
BONE	0.270E-03	0.234E-03	0.327E-03	0.509E-03
R MAR	0.297E-03	0.181E-03	0.136E-02	0.125E-02
Y MAR	0.150E-03	0.105E-03	0.429E-03	0.148E-02
ENDOST	0.270E-03	0.234E-03	0.327E-03	0.101E-02
SPLEEN	0.604E-04	0.323E-04	0.202E-03	0.487E-03
TESTES	0.315E-05	0.112E 01	0.0	0.420E-03
THYMUS	0.191E-02	0.753E-05	0.286E-04	0.235E-02
THYROID	0.192E 01	0.314E-05	0.109E-04	0.430E-03
UTERUS	0.195E-04	0.0	0.578E-02	0.226E-02

CASE 1.. INHALATION

AMAD (MICRON).. 1.00 D3 =0.310 D4 =8.000E-02 D5 =0.249

	SOLUBILITY CLASS	G.I. UPTAKE FRACTIONS STOMACH	S INT	U L INT	L L INT
TL-209	W	0.0	0.950	0.0	0.0
PB-209	W	0.0	8.000E-02	0.0	0.0

DOSE EQUIVALENT (REM)

SOURCE	LUNGS	RES LYM	S CONT	SI CONT	ULI CONT	LLI CONT	BONE	LIVER	KIDNEYS	SPLEEN	THYROID
TARGET											
LUNGS	6.605E-05	8.039E-10	1.772E-09	1.393E-11	2.291E-13	3.588E-16	8.353E-10	7.530E-10	2.560E-10	6.365E-11	3.611E-12
RES LYM	6.605E-05	5.337E-08	1.772E-09	1.393E-11	2.281E-13	3.588E-16	8.353E-10	7.530E-10	2.560E-10	6.365E-11	3.611E-12
S WALL	9.417E-07	5.713E-13	9.593E-07	1.441E-10	1.790E-12	3.852E-15	5.110E-10	5.915E-10	8.063E-10	3.046E-10	5.754E-13
SI WALL	1.512E-07	9.171E-14	2.460E-09	9.273E-07	8.316E-12	1.939E-14	6.560E-10	4.970E-10	7.695E-10	4.476E-11	1.566E-13
ULI WALL	2.053E-07	1.245E-13	3.556E-09	9.151E-10	1.468E-06	9.533E-15	6.289E-10	6.912E-10	7.828E-10	4.511E-11	1.849E-13
LLI WALL	3.453E-08	2.095E-14	1.374E-09	2.786E-10	1.570E-12	7.318E-07	8.255E-10	1.112E-10	2.732E-10	2.092E-11	9.032E-14
T BODY	1.531E-06	1.182E-11	3.689E-09	8.606E-09	4.400E-09	1.075E-09	1.471E-09	3.299E-09	2.012E-09	1.143E-10	1.140E-11
ADREN	9.667E-07	5.864E-13	3.183E-09	5.056E-11	5.877E-13	1.095E-15	1.579E-09	1.404E-09	3.163E-09	1.907E-10	7.506E-13
BL WALL	4.563E-08	2.768E-14	4.387E-10	1.381E-10	9.679E-13	1.404E-14	6.363E-10	8.598E-11	1.166E-10	7.477E-12	6.595E-14
KIDNEYS	5.187E-07	3.147E-13	3.183E-09	1.213E-10	1.503E-12	2.113E-15	8.181E-10	1.139E-09	3.713E-07	2.551E-10	4.932E-13
LIVER	1.123E-06	6.815E-13	1.996E-09	7.602E-11	1.361E-12	9.597E-16	6.265E-10	1.161E-07	1.026E-09	3.346E-11	7.212E-13
OVARIES	8.405E-08	5.099E-14	8.287E-10	3.327E-10	4.578E-12	3.062E-14	7.862E-10	2.551E-10	3.272E-10	2.128E-11	1.067E-13
PANCREAS	1.193E-06	7.236E-13	1.652E-08	7.458E-11	1.120E-12	1.539E-15	9.434E-10	1.245E-09	1.699E-09	5.323E-10	1.155E-12
BONE	4.813E-07	2.920E-13	6.108E-10	3.363E-11	4.039E-13	2.351E-15	1.787E-07	2.348E-10	2.740E-10	2.436E-11	2.642E-12
R MAR	6.130E-07	3.719E-13	1.012E-09	1.042E-10	1.185E-12	6.956E-15	5.051E-08	3.399E-10	6.881E-10	3.513E-11	2.906E-12
Y MAR	4.937E-07	2.995E-13	8.631E-10	4.600E-11	5.719E-13	2.924E-15	2.506E-09	3.487E-10	3.366E-10	3.619E-11	1.468E-12
ENDOST	4.813E-07	2.920E-13	6.108E-10	3.363E-11	4.039E-13	2.351E-15	1.419E-07	2.348E-10	2.740E-10	2.436E-11	2.642E-12
SPLEEN	9.057E-07	5.494E-13	9.119E-09	6.905E-11	7.857E-13	2.184E-15	5.896E-10	2.966E-10	2.153E-09	2.842E-08	5.910E-13
TESTES	1.872E-08	1.136E-14	1.445E-10	2.282E-11	2.424E-13	5.852E-15	6.486E-10	4.184E-11	4.744E-11	3.655E-12	3.082E-14
THYMUS	2.011E-06	1.220E-12	5.678E-10	6.785E-12	9.695E-14	1.733E-16	4.668E-10	2.578E-10	9.238E-11	8.342E-12	1.478E-11
THYROID	4.632E-07	2.810E-13	1.749E-10	2.426E-12	3.374E-14	6.827E-17	9.066E-10	6.383E-11	3.210E-11	5.261E-12	2.617E-08
UTERUS	1.100E-07	6.672E-14	9.749E-10	3.387E-10	2.693E-12	1.268E-14	5.208E-10	1.910E-10	2.826E-10	9.358E-12	1.027E-13

DOSE EQUIVALENT (REM)

SOURCE	TESTES	OVARIES	OTHER	TOTAL
TARGET				
LUNGS	2.316E-13	2.955E-13	7.321E-09	6.607E-05
RES LYM	2.316E-13	2.955E-13	7.321E-09	6.612E-05
S WALL	7.291E-13	1.839E-12	7.847E-09	1.911E-06
SI WALL	3.277E-12	2.076E-11	8.729E-09	1.092E-06
ULI WALL	2.333E-12	1.963E-11	8.948E-09	1.689E-06
LLI WALL	1.568E-11	2.497E-11	9.660E-09	7.789E-07
T BODY	2.079E-11	7.523E-12	2.025E-08	1.590E-06
ADREN	5.541E-13	1.025E-12	3.478E-08	1.011E-06
BL WALL	2.762E-11	1.229E-11	2.408E-08	7.118E-08
KIDNEYS	8.832E-13	2.028E-12	8.372E-09	9.039E-07
LIVER	6.451E-13	1.251E-12	6.355E-09	1.250E-06
OVARIES	0.0	2.601E-08	1.112E-08	1.237E-07
PANCREAS	7.223E-13	1.003E-12	3.800E-08	1.252E-06
BONE	4.015E-12	1.763E-12	9.150E-09	6.703E-07
R MAR	3.105E-12	5.716E-12	2.684E-08	6.926E-07
Y MAR	1.901E-12	2.313E-12	3.258E-08	5.305E-07
ENDOST	4.015E-12	1.763E-12	2.099E-08	6.453E-07
SPLEEN	5.541E-13	1.099E-12	8.254E-09	9.546E-07
TESTES	2.662E-08	0.0	7.118E-09	5.337E-08
THYMUS	1.292E-13	1.542E-13	4.732E-08	2.060E-06
THYROID	5.387E-14	5.878E-14	7.288E-09	4.979E-07
UTERUS	0.0	3.117E-11	4.580E-08	1.581E-07

PERCENT DOSE EQUIVALENT..

NUCLIDE	TL-209	PB-209
TARGET		
LUNGS	84.0	16.0
RES LYM	83.9	16.1
S WALL	62.9	37.1
SI WALL	15.7	84.3
ULI WALL	13.1	86.9
LLI WALL	6.0	94.0
T BODY	88.3	11.7
ADREN	99.3	0.7
BL WALL	94.7	5.3
KIDNEYS	70.8	29.2
LIVER	92.7	7.3
OVARIES	94.0	6.0
PANCREAS	99.4	0.6
BONE	76.0	24.0
R MAR	93.1	6.9
Y MAR	98.6	1.4
ENDOST	79.7	20.3
SPLEEN	99.2	0.8
TESTES	86.1	13.9
THYMUS	99.6	0.4
THYROID	98.5	1.5
UTERUS	95.3	4.7

CASE 2.. INGESTION

INGESTION TRANSFER FRACTIONS (G. I. TRACT TO BLOOD)

	TL-209	PB-209
STOMACH	0.0	0.0
S INT	0.950	8.000E-02
U L INT	0.0	0.0
L L INT	0.0	0.0

DOSE EQUIVALENT (REM)

SOURCE	S CONT	SI CONT	ULI CONT	LLI CONT	BONE	LIVER	KIDNEYS	SPLEEN	THYROID	TESTES	OVARIES
TARGET											
LUNGS	1.295E-06	1.018E-08	1.668E-10	2.623E-13	8.860E-10	7.987E-10	2.715E-10	6.751E-11	3.830E-12	2.457E-13	3.134E-13
RES LYM	1.295E-06	1.018E-08	1.668E-10	2.623E-13	8.860E-10	7.987E-10	2.715E-10	6.751E-11	3.830E-12	2.457E-13	3.134E-13
S WALL	1.899E-04	1.054E-07	1.309E-09	2.670E-12	5.420E-10	9.274E-10	8.553E-10	3.230E-10	6.103E-13	7.734E-13	1.950E-12
SI WALL	1.799E-06	1.473E-05	6.080E-09	1.417E-11	6.958E-10	9.272E-10	8.162E-10	4.747E-11	1.661E-13	3.476E-12	2.202E-11
ULI WALL	2.599E-06	6.690E-07	1.605E-05	6.969E-12	6.671E-10	7.332E-10	8.304E-10	4.785E-11	1.962E-13	2.475E-12	2.082E-11
LLI WALL	1.004E-06	2.037E-07	1.148E-09	7.945E-06	8.756E-10	1.180E-10	2.898E-10	2.219E-11	9.580E-14	1.663E-11	2.648E-11
T BODY	1.600E-06	1.859E-07	4.878E-08	1.819E-08	9.636E-09	2.386E-09	1.605E-09	1.181E-10	1.174E-11	2.145E-11	7.787E-12
ADREN	2.327E-06	3.696E-08	4.296E-10	8.005E-13	1.665E-09	1.489E-09	3.355E-09	2.023E-10	7.961E-13	5.878E-13	1.087E-12
BL WALL	3.207E-07	1.010E-07	7.076E-10	1.026E-11	6.749E-10	9.120E-11	1.237E-10	7.931E-12	6.996E-14	2.930E-11	1.304E-11
KIDNEYS	2.327E-06	8.867E-08	1.099E-09	1.544E-12	8.678E-10	1.208E-09	2.740E-07	2.706E-10	5.231E-13	9.390E-13	2.151E-12
LIVER	1.459E-06	5.558E-08	9.948E-10	7.016E-13	6.645E-10	7.979E-08	1.088E-09	3.549E-11	7.650E-13	6.842E-13	1.327E-12
OVARIES	6.058E-07	2.432E-07	3.347E-09	2.646E-11	8.339E-10	2.706E-10	3.471E-10	2.257E-11	1.131E-13	0.0	2.636E-08
PANCREAS	1.207E-05	5.452E-08	8.187E-10	1.125E-12	1.001E-09	1.320E-09	1.802E-09	5.646E-10	1.225E-12	7.661E-13	1.064E-12
BONE	4.465E-07	2.458E-08	2.953E-10	1.719E-12	1.117E-07	2.491E-10	2.906E-10	2.584E-11	2.802E-12	4.258E-12	1.870E-12
R MAR	7.400E-07	7.621E-08	8.662E-10	5.085E-12	3.307E-08	3.605E-10	7.299E-10	3.727E-11	3.083E-12	3.294E-12	6.063E-12
Y MAR	6.310E-07	3.363E-08	4.181E-10	2.138E-12	2.658E-09	3.099E-10	3.571E-10	3.839E-11	1.557E-12	1.911E-12	2.454E-12
ENDOST	4.465E-07	2.458E-08	2.953E-10	1.719E-12	8.877E-08	2.491E-10	2.906E-10	2.584E-11	2.802E-12	4.258E-12	1.870E-12
SPLEEN	6.666E-06	5.048E-08	5.744E-10	1.582E-12	6.254E-10	3.146E-10	2.284E-09	2.892E-08	6.269E-13	5.878E-13	1.155E-12
TESTES	1.057E-07	1.668E-08	1.772E-10	2.816E-12	6.880E-10	4.438E-11	5.032E-11	3.877E-12	3.270E-14	2.701E-08	0.0
THYMUS	4.151E-07	4.960E-09	7.087E-11	1.267E-13	4.951E-10	2.734E-10	9.798E-11	8.849E-12	1.567E-11	1.370E-13	1.636E-13
THYROID	1.279E-07	1.773E-09	2.467E-11	4.991E-14	9.616E-10	6.770E-11	3.404E-11	5.581E-12	2.654E-08	5.714E-14	6.235E-14
UTERUS	7.127E-07	2.476E-07	1.969E-09	9.417E-12	5.525E-10	1.920E-10	2.998E-10	9.925E-12	1.090E-13	0.0	3.306E-11

DOSE EQUIVALENT (REM)

SOURCE	OTHER	TOTAL
TARGET		
LUNGS	7.766E-09	1.316E-06
RES LYM	7.766E-09	1.316E-06
S WALL	8.323E-09	1.900E-04
SI WALL	9.258E-09	1.655E-05
ULI WALL	9.492E-09	1.933E-05
LLI WALL	1.025E-08	9.166E-06
T BODY	2.089E-08	1.888E-06
ADREN	3.567E-08	2.407E-06
BL WALL	2.493E-08	4.483E-07
KIDNEYS	8.880E-09	2.702E-06
LIVER	6.741E-09	1.604E-06
OVARIES	1.179E-08	8.920E-07
PANCREAS	3.908E-09	1.217E-05
BONE	9.619E-09	5.932E-07
R MAR	2.755E-08	8.788E-07
Y MAR	3.333E-09	7.018E-07
ENDOST	2.163E-08	5.824E-07
SPLEEN	8.755E-09	6.758E-06
TESTES	7.350E-09	1.579E-07
THYMUS	4.897E-08	4.700E-07
THYROID	7.730E-09	1.650E-07
UTERUS	4.735E-08	1.011E-06

PERCENT DOSE EQUIVALENT..

NUCLIDE	TL-209	PB-209
TARGET		
LUNGS	100.0	0.0
RES LYM	100.0	0.0
S WALL	96.1	3.9
SI WALL	39.7	60.3
ULI WALL	17.5	82.5
LLI WALL	13.3	86.7
T BODY	90.2	9.8
ADREN	99.7	0.3
BL WALL	99.2	0.8
KIDNEYS	94.1	5.9
LIVER	96.7	3.3
OVARIES	99.3	0.7
PANCREAS	99.9	0.1
BONE	84.4	15.6
R MAR	96.7	3.3
Y MAR	99.0	1.0
ENDOST	86.9	13.1
SPLEEN	99.9	0.1
TESTES	95.8	4.2
THYMUS	98.6	1.4
THYROID	96.0	4.0
UTERUS	99.3	0.7

RADIONUCLIDE: PB-209

PHYSICAL AND METABOLIC PARAMETERS FOR DOSIMETRICALLY SIGNIFICANT PROGENY:

NUCLIDE	RADIOACTIVE HALF-LIFE (DAYS)
PB-209	0.1380

ORGAN ABSORBED	NUCLIDE	BLOOD TRANSFER FRACTION F2-PRIME	COMPARTMENT DEPOSITION FRACTION	COMPARTMENT BIOLOGICAL HALF-TIME (DAYS)
	PB-209	1.00	1.000E-01	1.00
			0.200	10.0
			0.300	320.
			0.200	2.000E 03
			0.200	8.000E 03
BONE	PB-209	1.00	-0.323	1.00
			-6.240E-02	10.0
			0.211	320.
			0.174	2.000E 03
			0.177	8.000E 03
LIVER	PB-209	1.00	-0.104	1.00
			8.930E-02	10.0
			8.340E-03	320.
			4.250E-04	2.000E 03
			4.350E-03	8.000E 03
KIDNEYS	PB-209	1.00	-5.090E-02	1.00
			4.900E-02	10.0
			1.020E-03	320.
			4.890E-04	2.000E 03
			4.220E-04	8.000E 03
SPLEEN	*PB-209	5.280E-03	-3.230E-02	1.00
			-6.240E-03	10.0
			2.110E-02	320.
			1.740E-02	2.000E 03
			1.770E-02	8.000E 03
THYROID	*PB-209	5.870E-04	-3.230E-02	1.00
			-6.240E-03	10.0
			2.110E-02	320.
			1.740E-02	2.000E 03
			1.770E-02	8.000E 03
TESTES	*PB-209	1.030E-03	-3.230E-02	1.00
			-6.240E-03	10.0
			2.110E-02	320.
			1.740E-02	2.000E 03
			1.770E-02	8.000E 03
OVARIES	*PB-209	3.230E-04	-3.230E-02	1.00
			-6.240E-03	10.0
			2.110E-02	320.
			1.740E-02	2.000E 03
			1.770E-02	8.000E 03
OTHER	PB-209	0.333	-3.230E-02	1.00
			-6.240E-03	10.0
			2.110E-02	320.
			1.740E-02	2.000E 03
			1.770E-02	8.000E 03

β^- deacy (3.31 H 3)

*Retention data derived from "other tissues" compartment.

S FACTORS (REM/MICROCURIE-DAY) FOR PB-209

TARGET ORGANS	SOURCE ORGANS									
	LUNGS	RES LYM	S CONT	SI CONT	ULI CONT	LLI CONT	BONE	LIVER	KIDNEYS	SPLEEN
LUNGS	0.101E-01	0.101E-01	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
RES LYM	0.101E-01	0.574E 00	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
S WALL	0.0	0.0	0.202E-01	0.0	0.0	0.0	0.0	0.0	0.0	0.0
SI WALL	0.0	0.0	0.0	0.126E-01	0.0	0.0	0.0	0.0	0.0	0.0
ULI WALL	0.0	0.0	0.0	0.0	0.230E-01	0.0	0.0	0.0	0.0	0.0
LLI WALL	0.0	0.0	0.0	0.0	0.0	0.374E-01	0.0	0.0	0.0	0.0
T BODY	0.144E-03	0.144E-03	0.433E-04	0.116E-03	0.689E-04	0.858E-04	0.144E-03	0.144E-03	0.144E-03	0.144E-03
ADREN	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
BL WALL	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
KIDNEYS	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.326E-01	0.0
LIVER	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.561E-02	0.0	0.0
OVARIES	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
PANCREAS	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
BONE	0.0	0.0	0.0	0.0	0.0	0.0	0.198E-02	0.0	0.0	0.0
R MAR	0.0	0.0	0.0	0.0	0.0	0.0	0.495E-03	0.0	0.0	0.0
Y MAR	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
ENDOST	0.0	0.0	0.0	0.0	0.0	0.0	0.149E-02	0.0	0.0	0.0
SPLEEN	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.562E-01
TESTES	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
THYMUS	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
THYROID	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
UTERUS	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

S FACTORS (REM/MICROCURIE-DAY) FOR PB-209

TARGET ORGANS	SOURCE ORGANS			
	THYROID	TESTES	OVARIES	OTHER
LUNGS	0.0	0.0	0.0	0.0
RES LYM	0.0	0.0	0.0	0.0
S WALL	0.0	0.0	0.0	0.0
SI WALL	0.0	0.0	0.0	0.0
ULI WALL	0.0	0.0	0.0	0.0
LLI WALL	0.0	0.0	0.0	0.0
T BODY	0.144E-03	0.144E-03	0.144E-03	0.144E-03
ADREN	0.0	0.0	0.0	0.299E-03
BL WALL	0.0	0.0	0.0	0.149E-03
KIDNEYS	0.0	0.0	0.0	0.0
LIVER	0.0	0.0	0.0	0.0
OVARIES	0.0	0.0	0.919E 00	0.0
PANCREAS	0.0	0.0	0.0	0.299E-03
BONE	0.0	0.0	0.0	0.309E-04
R MAR	0.0	0.0	0.0	0.225E-03
Y MAR	0.0	0.0	0.0	0.299E-03
ENDOST	0.0	0.0	0.0	0.154E-03
SPLEEN	0.0	0.0	0.0	0.0
TESTES	0.0	0.299E 00	0.0	0.0
THYMUS	0.0	0.0	0.0	0.299E-03
THYROID	0.505E 00	0.0	0.0	0.0
UTERUS	0.0	0.0	0.0	0.299E-03

CASE 2.. INGESTION

INGESTION TRANSFER FRACTIONS (G. I. TRACT TO BLOOD)

	PB-209
STOMACH	0.0
S INT	8.000E-02
U L INT	0.0
L L INT	0.0

DOSE EQUIVALENT (REM)

SOURCE	S CONT	SI CONT	ULI CONT	LLI CONT	BONE	LIVER	KIDNEYS	SPLEEN	THYROID	TESTES	OVARIES
TARGET											
LUNGS	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
RES LYM	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
S WALL	6.960E-04	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
SI WALL	0.0	9.025E-04	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
ULI WALL	0.0	0.0	1.439E-03	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
LLI WALL	0.0	0.0	0.0	7.173E-04	0.0	0.0	0.0	0.0	0.0	0.0	0.0
T BODY	1.492E-05	3.309E-06	4.311E-06	1.642E-05	2.320E-07	1.019E-08	5.931E-09	1.923E-10	1.762E-11	2.389E-11	7.493E-12
ADREN	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
BL WALL	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
KIDNEYS	0.0	0.0	0.0	0.0	0.0	0.0	1.343E-06	0.0	0.0	0.0	0.0
LIVER	0.0	0.0	0.0	0.0	0.0	3.958E-07	0.0	0.0	0.0	0.0	0.0
OVARIES	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	4.782E-08
PANCREAS	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
BONE	0.0	0.0	0.0	0.0	3.029E-06	0.0	0.0	0.0	0.0	0.0	0.0
R MAR	0.0	0.0	0.0	0.0	7.974E-07	0.0	0.0	0.0	0.0	0.0	0.0
Y MAR	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
ENDOST	0.0	0.0	0.0	0.0	2.400E-06	0.0	0.0	0.0	0.0	0.0	0.0
SPLEEN	0.0	0.0	0.0	0.0	0.0	0.0	0.0	4.730E-08	0.0	0.0	0.0
TESTES	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	4.795E-08	0.0
THYMUS	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
THYROID	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	4.775E-08	0.0	0.0
UTERUS	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

DOSE EQUIVALENT (REM)

SOURCE	OTHER	TOTAL
TARGET		
LUNGS	0.0	0.0
RES LYM	0.0	0.0
S WALL	0.0	6.960E-04
SI WALL	0.0	9.025E-04
ULI WALL	0.0	1.439E-03
LLI WALL	0.0	7.173E-04
T BODY	2.304E-08	1.602E-05
ADREN	4.767E-08	4.767E-08
BL WALL	2.384E-08	2.384E-08
KIDNEYS	0.0	1.343E-06
LIVER	0.0	3.958E-07
OVARIES	0.0	4.782E-08
PANCREAS	4.767E-08	4.767E-08
BONE	3.337E-08	3.032E-06
R MAR	3.576E-08	8.334E-07
Y MAR	4.767E-08	4.767E-08
ENDOST	2.464E-08	2.425E-06
SPLEEN	0.0	4.730E-08
TESTES	0.0	4.795E-08
THYMUS	4.767E-08	4.767E-08
THYROID	0.0	4.775E-08
UTERUS	4.767E-08	4.767E-08

CASE 1.. INHALATION

AMAD (MICRON).. 1.00 D3 =0.310 D4 =8.000E-02 D5 =0.249

	SOLUBILITY CLASS	G.I. UPTAKE FRACTIONS			
		STOMACH	S INT	U L INT	L L INT
PB-209	W	0.0	8.000E-02	0.0	0.0

DOSE EQUIVALENT (REM)

SOURCE	LUNGS	RES LYM	S CONT	SI CONT	ULI CONT	LLI CONT	BONE	LIVER	KIDNEYS	SPLEEN	THYROID
TARGET											
LUNGS	9.649E-04	9.876E-08	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
RES LYM	9.649E-04	4.598E-06	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
S WALL	0.0	0.0	6.468E-05	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
SI WALL	0.0	0.0	0.0	8.388E-05	0.0	0.0	0.0	0.0	0.0	0.0	0.0
ULI WALL	0.0	0.0	0.0	0.0	1.337E-04	0.0	0.0	0.0	0.0	0.0	0.0
LLI WALL	0.0	0.0	0.0	0.0	0.0	6.666E-05	0.0	0.0	0.0	0.0	0.0
T BODY	1.376E-05	9.803E-10	1.387E-07	7.722E-07	4.006E-07	1.526E-07	4.341E-07	1.902E-08	1.107E-08	2.287E-10	2.542E-11
ADREN	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
BL WALL	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
KIDNEYS	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	2.507E-06	0.0	0.0
LIVER	0.0	0.0	0.0	0.0	0.0	0.0	0.0	7.409E-07	0.0	0.0	0.0
OVARIES	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
PANCREAS	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
BONE	0.0	0.0	0.0	0.0	0.0	0.0	5.655E-05	0.0	0.0	0.0	0.0
R MAR	0.0	0.0	0.0	0.0	0.0	0.0	1.489E-06	0.0	0.0	0.0	0.0
Y MAR	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
ENDOST	0.0	0.0	0.0	0.0	0.0	0.0	4.482E-06	0.0	0.0	0.0	0.0
SPLEEN	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	8.925E-08	0.0
TESTES	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
THYMUS	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
THYROID	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	8.916E-08
UTERUS	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

DOSE EQUIVALENT (REM)

SOURCE	TESTES	OVARIES	OTHER	TOTAL
TARGET				
LUNGS	0.0	0.0	0.0	9.650E-04
RES LYM	0.0	0.0	0.0	9.695E-04
S WALL	0.0	0.0	0.0	6.468E-05
SI WALL	0.0	0.0	0.0	8.388E-05
ULI WALL	0.0	0.0	0.0	1.337E-04
LLI WALL	0.0	0.0	0.0	6.666E-05
T BODY	4.461E-11	1.399E-11	4.301E-08	1.573E-05
ADREN	0.0	0.0	8.900E-08	8.900E-08
BL WALL	0.0	0.0	4.450E-08	4.450E-08
KIDNEYS	0.0	0.0	0.0	2.507E-06
LIVER	0.0	0.0	0.0	7.409E-07
OVARIES	0.0	8.928E-08	0.0	8.928E-08
PANCREAS	0.0	0.0	8.900E-08	8.900E-08
BONE	0.0	0.0	6.212E-09	5.661E-05
R MAR	0.0	0.0	6.720E-08	1.556E-06
Y MAR	0.0	0.0	9.900E-08	8.900E-08
ENDOST	0.0	0.0	4.600E-08	4.528E-06
SPLEEN	0.0	0.0	0.0	8.925E-08
TESTES	8.953E-08	0.0	0.0	8.953E-08
THYMUS	0.0	0.0	8.900E-08	8.900E-08
THYROID	0.0	0.0	0.0	8.916E-08
UTERUS	0.0	0.0	8.900E-08	8.900E-08

RADIONUCLIDE: PB-210

PHYSICAL AND METABOLIC PARAMETERS FOR DOSIMETRICALLY SIGNIFICANT PROGENY:

NUCLIDE	RADIOACTIVE HALF-LIFE (DAYS)
PB-210	8140.
BI-210	5.010
PO-210	138.0

BRANCHING RATIOS:

FROM	TO	FRACTION
PB-210	BI-210	1.000
BI-210	PO-210	1.000

ORGAN ABSORBED	NUCLIDE	BLOOD TRANSFER FRACTION F2-PRIME	COMPARTMENT DEPOSITION FRACTION	COMPARTMENT BIOLOGICAL HALF-TIME (DAYS)
	PB-210	1.00	1.000E-01	1.00
			0.200	10.0
			0.300	320.
			0.200	2.000E 03
			0.200	8.000E 03
	BI-210	1.00	-1.720E-02	1.000E-01
			1.02	5.78
	PO-210	1.00	1.000E-02	0.500
			0.990	50.0
BONE	PB-210	1.00	-0.323	1.00
			-6.240E-02	10.0
			0.211	320.
			0.174	2.000E 03
			0.177	8.000E 03
	* BI-210	7.340E-02	-1.000E-01	1.000E-01
			1.10	5.78
	* PO-210	9.000E-02	1.000E-02	0.500
			0.990	50.0
LIVER	PB-210	1.00	-0.104	1.00
			8.930E-02	10.0
			8.340E-03	320.
			4.260E-03	2.000E 03
			4.050E-03	8.000E 03
	* BI-210	2.640E-02	-1.000E-01	1.000E-01
			1.10	5.78
	PO-210	1.000E-01	1.000E-02	0.500
			0.990	50.0
KIDNEYS	PB-210	1.00	-5.000E-02	1.00
			4.900E-02	10.0
			1.020E-03	320.
			4.890E-04	2.000E 03
			4.320E-04	8.000E 03
	BI-210	0.400	1.00	5.78
	PO-210	1.000E-01	1.000E-02	0.500
			0.990	50.0
SPLEEN	* PB-210	5.280E-03	-3.230E-02	1.00
			-6.240E-03	10.0
			0.211	320.
			1.740E-02	2.000E 03
			1.770E-02	8.000E 03
	* BI-210	2.640E-03	-1.000E-01	1.000E-01
			1.10	5.78
	PO-210	1.000E-01	1.000E-02	0.500
			0.990	50.0
OTHER	PB-210	0.995	-3.230E-02	1.00
			-6.240E-03	10.0
			0.211	320.
			1.740E-02	2.000E 03
			1.770E-02	8.000E 03
	BI-210	0.500	-1.000E-01	1.000E-01
			1.10	5.78
	PO-210	0.610	1.000E-02	0.500
			0.990	50.0

β^- decay (22.3 Y 2)

*Retention data derived from "other tissues" compartment.

S FACTORS (REM/MICROCURIE-DAY) FOR PB-210

TARGET ORGANS	SOURCE ORGANS									
	LUNGS	RES LYM	S CONT	SI CONT	ULI CONT	LLI CONT	BONE	LIVER	KIDNEYS	SPLEEN
LUNGS	0.188E-02	0.188E-02	0.923E-06	0.377E-07	0.600E-07	0.922E-08	0.430E-06	0.150E-05	0.285E-05	0.128E-05
RES LYM	0.188E-02	0.118E-02	0.923E-06	0.377E-07	0.600E-07	0.922E-08	0.430E-06	0.150E-05	0.285E-05	0.128E-05
S WALL	0.564E-06	0.964E-06	0.362E-02	0.175E-03	0.231E-05	0.720E-06	0.176E-06	0.832E-06	0.140E-05	0.568E-05
SI WALL	0.294E-07	0.294E-07	0.111E-05	0.233E-02	0.124E-04	0.649E-05	0.296E-06	0.581E-06	0.109E-05	0.429E-06
ULI WALL	0.420E-07	0.420E-07	0.190E-05	0.763E-04	0.410E-02	0.391E-05	0.259E-06	0.111E-05	0.103E-05	0.507E-06
LLI WALL	0.674E-08	0.674E-08	0.411E-06	0.374E-05	0.187E-05	0.666E-02	0.474E-06	0.270E-07	0.195E-06	0.166E-06
T BODY	0.281E-04	0.281E-04	0.105E-04	0.232E-04	0.153E-04	0.190E-04	0.281E-04	0.281E-04	0.281E-04	0.281E-04
ADREN	0.120E-05	0.120E-05	0.102E-05	0.224E-06	0.274E-06	0.571E-07	0.583E-06	0.252E-05	0.738E-05	0.371E-05
BL WALL	0.415E-08	0.415E-08	0.428E-07	0.911E-06	0.653E-06	0.318E-05	0.125E-06	0.165E-07	0.234E-07	0.182E-07
KIDNEYS	0.257E-06	0.257E-06	0.145E-05	0.114E-05	0.109E-05	0.261E-06	0.333E-06	0.194E-05	0.617E-02	0.635E-05
LIVER	0.132E-05	0.132E-05	0.755E-06	0.703E-06	0.109E-05	0.741E-07	0.234E-05	0.107E-02	0.138E-05	0.243E-06
OVARIES	0.183E-07	0.183E-07	0.192E-06	0.823E-05	0.361E-05	0.174E-04	0.822E-06	0.122E-06	0.303E-06	0.959E-07
PANCREAS	0.117E-05	0.117E-05	0.124E-04	0.671E-06	0.689E-06	0.144E-06	0.736E-06	0.223E-05	0.297E-05	0.141E-04
BONE	0.114E-05	0.114E-05	0.495E-06	0.784E-05	0.699E-06	0.129E-05	0.367E-07	0.730E-06	0.982E-06	0.765E-06
R MAR	0.138E-05	0.138E-05	0.746E-06	0.205E-05	0.281E-05	0.473E-05	0.286E-04	0.856E-05	0.252E-05	0.047E-06
Y MAR	0.126E-05	0.126E-05	0.725E-06	0.111E-05	0.101E-05	0.173E-05	0.165E-04	0.116E-05	0.110E-05	0.120E-05
ENDOST	0.114E-05	0.114E-05	0.495E-06	0.784E-06	0.699E-06	0.129E-05	0.134E-05	0.736E-06	0.982E-06	0.765E-06
SPLEEN	0.118E-05	0.118E-05	0.565E-05	0.451E-06	0.509E-06	0.204E-05	0.347E-06	0.247E-06	0.625E-05	0.106E-01
TESTES	0.400E-09	0.400E-09	0.438E-03	0.396E-07	0.412E-07	0.727E-06	0.152E-06	0.272E-08	0.418E-08	0.166E-08
THYMUS	0.199E-05	0.199E-05	0.126E-06	0.379E-08	0.460E-08	0.819E-09	0.203E-06	0.135E-06	0.240E-07	0.203E-07
THYROID	0.196E-06	0.196E-06	0.464E-08	0.277E-09	0.330E-09	0.653E-10	0.283E-06	0.702E-08	0.164E-08	0.410E-08
UTERUS	0.148E-07	0.148E-07	0.118E-06	0.562E-05	0.747E-05	0.729E-06	0.150E-06	0.735E-07	0.152E-06	0.553E-07

S FACTORS (REM/MICROCURIE-DAY) FOR PB-210

TARGET ORGANS	SOURCE ORGANS
	OTHER
LUNGS	0.115E-05
RES LYM	0.115E-05
S WALL	0.695E-06
SI WALL	0.779E-06
ULI WALL	0.115E-05
LLI WALL	0.807E-06
T BODY	0.277E-04
ADREN	0.560E-04
BL WALL	0.279E-04
KIDNEYS	0.866E-06
LIVER	0.566E-06
OVARIES	0.576E-04
PANCREAS	0.591E-04
BONE	0.205E-05
R MAR	0.544E-04
Y MAR	0.552E-04
ENDOST	0.349E-04
SPLEEN	0.901E-06
TESTES	0.560E-04
THYMUS	0.561E-04
THYROID	0.565E-04
UTERUS	0.584E-04

CASE 1.. INHALATION

AMAD (MICRON).. 1.00 D3 =0.310 D4 =8.000E-02 D5 =0.249

	SOLUBILITY CLASS	G.I. UPTAKE FRACTIONS STOMACH	S INT	U L INT	L L INT
PB-210	W	0.0	8.000E-02	0.0	0.0
BI-210	W	0.0	5.000E-02	0.0	0.0
PO-210	W	0.0	1.000E-01	0.0	0.0

DOSE EQUIVALENT (REM/MICROCURIE)

SOURCE	LUNGS	RES LYM	S CONT	SI CONT	ULI CONT	LLI CONT	BONE	LIVER	KIDNEYS	SPLEEN	OTHER
TARGET											
LUNGS	3.22	1.862E-02	1.991E-08	2.994E-09	1.290E-08	4.396E-09	1.031E-04	9.043E-06	2.110E-07	2.545E-07	4.306E-05
RES LYM	0.156	56.0	1.991E-08	2.994E-09	1.290E-08	4.396E-09	1.031E-04	9.043E-06	2.110E-07	2.545E-07	4.306E-05
S WALL	1.070E-05	8.565E-07	1.063E-03	1.389E-07	5.959E-07	3.429E-07	4.221E-05	5.017E-06	1.036E-06	1.129E-06	2.603E-05
SI WALL	3.266E-07	2.623E-08	2.395E-08	2.517E-03	3.199E-06	3.091E-06	7.099E-05	3.503E-06	8.066E-07	8.538E-08	2.917E-05
ULI WALL	4.665E-07	3.745E-08	4.099E-08	6.056E-06	1.477E-02	1.862E-06	6.188E-05	6.693E-06	7.622E-07	1.009E-07	4.456E-05
LLI WALL	7.490E-08	6.021E-09	8.867E-09	6.938E-07	4.824E-07	4.421E-02	1.146E-04	1.631E-07	1.148E-07	3.345E-08	3.022E-05
T BODY	4.603E-02	1.201E-02	2.337E-06	2.310E-05	4.511E-05	1.022E-04	7.51	4.095E-02	7.552E-03	3.431E-03	0.254
ADREN	1.331E-05	1.066E-06	2.200E-08	1.779E-08	7.070E-08	2.716E-08	1.398E-04	1.519E-05	5.903E-06	6.583E-07	0.525
BL WALL	4.617E-08	3.720E-09	9.239E-10	7.232E-08	1.685E-07	1.491E-06	2.999E-05	9.979E-08	1.890E-08	3.649E-09	0.263
KIDNEYS	2.852E-06	2.286E-07	3.128E-08	9.050E-03	2.812E-07	1.053E-07	7.987E-05	1.170E-05	1.71	1.262E-06	3.250E-05
LIVER	1.465E-05	1.173E-06	1.629E-08	5.581E-08	2.812E-07	1.768E-08	5.612E-05	1.59	1.391E-06	4.840E-08	2.120E-05
OVARIES	2.032E-07	1.631E-08	4.143E-09	6.533E-07	2.221E-06	8.286E-06	7.723E-05	7.359E-07	2.244E-07	1.914E-08	0.525
PANCREAS	1.298E-05	1.040E-06	2.675E-07	5.327E-08	1.779E-07	6.860E-08	8.058E-05	1.344E-05	2.197E-06	2.803E-06	0.525
BONE	1.265E-05	1.012E-06	1.068E-08	6.223E-08	1.780E-07	6.143E-07	105.	4.436E-06	7.262E-07	1.520E-07	1.076E-03
R MAR	1.531E-05	1.225E-06	1.609E-08	2.342E-07	6.475E-07	2.262E-06	0.437	5.160E-06	1.938E-06	1.882E-07	0.522
Y MAR	1.398E-05	1.119E-06	1.564E-08	8.811E-08	2.606E-07	8.238E-07	3.955E-03	6.992E-06	8.801E-07	2.385E-07	0.525
ENDOST	1.265E-05	1.012E-06	1.068E-08	6.223E-08	1.780E-07	6.143E-07	10.2	4.436E-06	7.262E-07	1.520E-07	8.185E-03
SPLEEN	1.309E-05	1.048E-06	1.215E-07	3.581E-03	1.313E-07	1.257E-07	8.321E-05	1.490E-06	4.623E-06	1.34	3.374E-05
TESTES	4.487E-09	3.686E-10	9.464E-11	3.146E-09	1.064E-08	3.605E-07	3.646E-05	1.669E-08	3.134E-09	3.431E-10	0.525
THYMUS	2.208E-05	1.768E-06	2.719E-09	3.016E-10	1.190E-09	3.926E-10	4.870E-05	8.150E-07	2.076E-08	4.110E-09	0.525
THYROID	2.176E-06	1.745E-07	1.003E-10	2.225E-11	8.609E-11	3.329E-11	6.787E-05	4.259E-08	1.241E-09	8.343E-10	0.525
UTERUS	1.643E-07	1.318E-08	2.547E-09	4.517E-07	6.372E-07	1.562E-06	3.599E-05	4.435E-07	1.126E-07	1.105E-08	0.525

DOSE EQUIVALENT (REM/MICROCURIE)

SOURCE	TOTAL
TARGET	
LUNGS	3.24
RES LYM	56.2
S WALL	1.151E-03
SI WALL	2.628E-03
ULI WALL	1.489E-02
LLI WALL	4.436E-02
T BODY	7.87
ADREN	0.526
BL WALL	0.263
KIDNEYS	1.71
LIVER	1.59
OVARIES	0.526
PANCREAS	0.526
BONE	105.
R MAR	0.959
Y MAR	0.529
ENDOST	10.2
SPLEEN	1.34
TESTES	0.525
THYMUS	0.525
THYROID	0.525
UTERUS	0.525

PERCENT DOSE EQUIVALENT..

NUCLIDE	PB-210	BI-210	PO-210
TARGET			
LUNGS	0.7	4.7	94.6
RES LYM	0.2	2.3	97.5
S WALL	14.4	80.9	4.7
SI WALL	11.3	84.0	4.7
ULI WALL	7.9	86.8	5.2
LLI WALL	7.5	86.7	5.8
T BODY	0.1	0.6	99.3
ADREN	0.4	2.5	97.1
BL WALL	0.4	2.5	97.1
KIDNEYS	0.3	1.9	97.9
LIVER	0.4	2.4	97.1
OVARIES	0.4	2.5	97.1
PANCREAS	0.4	2.5	97.1
BONE	0.1	0.5	99.4
R MAR	0.9	17.7	81.4
Y MAR	1.1	2.4	96.4
ENDOST	0.3	4.1	95.6
SPLEEN	0.2	1.0	98.9
TESTES	0.4	2.5	97.1
THYMUS	0.4	2.5	97.1
THYROID	0.4	2.5	97.1
UTERUS	0.4	2.5	97.1

CASE 2.. INGESTION

INGESTION TRANSFER FRACTIONS (G. I. TRACT TO BLOOD)

	PB-210	BI-210	PO-210
STOMACH	0.0	0.0	0.0
S INT	8.000E-02	5.000E-02	1.000E-01
U L INT	0.0	0.0	0.0
L L INT	0.0	0.0	0.0

DOSE EQUIVALENT (REM/MICROCURIE)

SOURCE	S CONT	SI CONT	ULI CONT	LLI CONT	BONE	LIVER	KIDNEYS	SPLEEN	OTHER	TOTAL
TARGET										
LUNGS	3.846E-08	5.781E-09	2.492E-08	8.481E-09	5.096E-05	4.469E-06	1.042E-07	1.257E-07	2.128E-05	7.702E-05
RES LYM	3.846E-08	5.781E-09	2.492E-08	8.481E-09	5.096E-05	4.469E-06	1.042E-07	1.257E-07	2.128E-05	7.702E-05
S WALL	1.603E-04	2.683E-07	1.151E-06	6.623E-07	2.086E-05	2.479E-06	5.118E-07	5.578E-07	1.286E-05	1.997E-04
SI WALL	4.625E-08	4.613E-04	6.179E-06	5.970E-06	3.509E-05	1.732E-06	3.985E-07	4.215E-08	1.442E-05	5.252E-04
ULI WALL	7.917E-08	1.170E-05	4.192E-03	3.597E-06	3.058E-05	3.308E-06	3.766E-07	4.981E-08	2.202E-05	4.264E-03
LLI WALL	1.712E-08	1.340E-06	9.318E-07	2.015E-02	5.665E-05	8.061E-08	5.670E-08	1.651E-08	1.494E-05	2.022E-02
T BODY	4.579E-07	4.506E-06	1.394E-05	4.852E-05	3.70	1.914E-02	2.165E-03	6.315E-04	0.118	3.84
ADREN	4.250E-08	3.435E-08	1.365E-07	5.243E-08	6.911E-05	7.509E-06	2.917E-06	3.251E-07	0.245	0.245
BL WALL	1.783E-09	1.397E-07	3.254E-07	2.879E-06	1.482E-05	4.931E-08	9.315E-09	1.793E-09	0.122	0.122
KIDNEYS	6.042E-08	1.748E-07	5.432E-07	2.033E-07	3.947E-05	5.781E-06	0.489	6.236E-07	1.606E-05	0.489
LIVER	3.146E-08	1.078E-07	5.432E-07	3.413E-08	2.774E-05	0.745	6.872E-07	2.388E-08	1.048E-05	0.746
OVARIES	8.000E-09	1.262E-06	4.290E-06	1.601E-05	3.817E-05	3.637E-07	1.108E-07	9.431E-09	0.245	0.245
PANCREAS	5.167E-07	1.029E-07	3.433E-07	1.325E-07	3.983E-05	6.645E-06	1.086E-06	1.385E-06	0.245	0.245
BONE	2.062E-08	1.202E-07	3.438E-07	1.187E-06	51.9	2.193E-06	3.589E-07	7.512E-08	5.292E-04	51.9
R MAR	3.108E-08	4.523E-07	1.251E-06	4.369E-06	0.216	2.550E-06	9.575E-07	9.300E-08	0.243	0.459
Y MAR	3.021E-08	1.702E-07	5.033E-07	1.591E-06	1.955E-03	3.456E-06	4.349E-07	1.178E-07	0.245	0.247
ENDOST	2.062E-08	1.202E-07	3.438E-07	1.187E-06	5.02	2.193E-06	3.589E-07	7.512E-08	4.026E-03	5.02
SPLEEN	2.354E-07	6.915E-08	2.536E-07	2.428E-07	4.113E-05	7.364E-07	2.284E-06	0.246	1.667E-05	0.246
TESTES	1.825E-10	6.072E-09	2.053E-08	6.963E-07	1.802E-05	8.239E-09	1.540E-09	1.654E-10	0.245	0.245
THYMUS	5.250E-09	5.811E-10	2.292E-09	7.535E-10	2.407E-05	4.028E-07	1.025E-08	2.007E-09	0.245	0.245
THYROID	1.933E-10	4.247E-11	1.645E-10	6.259E-11	3.354E-05	2.104E-08	6.075E-10	4.061E-10	0.245	0.245
UTERUS	4.917E-09	8.725E-07	1.231E-06	3.017E-06	1.779E-05	2.192E-07	5.560E-08	5.442E-09	0.245	0.245

PERCENT DOSE EQUIVALENT..

NUCLIDE	PB-210	BI-210	PO-210
TARGET			
LUNGS	100.0	0.0	0.0
RES LYM	100.0	0.0	0.0
S WALL	95.2	4.8	0.0
SI WALL	80.2	19.8	0.0
ULI WALL	49.6	50.2	0.2
LLI WALL	30.7	68.7	0.6
T BODY	0.1	0.6	99.3
ADREN	0.5	2.6	96.9
BL WALL	0.4	2.6	97.0
KIDNEYS	0.5	2.6	96.9
LIVER	0.4	2.6	97.0
OVARIES	0.5	2.6	96.9
PANCREAS	0.5	2.6	96.9
BONE	0.1	0.5	99.4
R MAR	1.0	18.3	80.8
Y MAR	1.2	2.6	96.2
ENDOST	0.3	4.1	95.6
SPLEEN	0.4	2.6	97.0
TESTES	0.4	2.6	97.0
THYMUS	0.4	2.6	97.0
THYROID	0.4	2.6	97.0
UTERUS	0.5	2.6	97.0

RADIONUCLIDE: PB-211

PHYSICAL AND METABOLIC PARAMETERS FOR DOSIMETRICALLY SIGNIFICANT PROGENY:

NUCLIDE	RADIOACTIVE HALF-LIFE (DAYS)
PB-211	2.5100E-02
BI-211	1.4800E-03
PO-211	5.4900E-06
TL-207	3.8100E-03

BRANCHING RATIOS:

FROM	TO	FRACTION
PB-211	BI-211	1.000
BI-211	PO-211	3.0000E-03
BI-211	TL-207	0.9970

ORGAN ABSORBED	NUCLIDE	BLOOD TRANSFER FRACTION F2-PRIME	COMPARTMENT DEPOSITION FRACTION	COMPARTMENT BIOLOGICAL HALF-TIME (DAYS)
	PB-211	1.00	1.000E-01	1.00
			0.200	10.0
			0.300	320.
			0.200	2.000E 03
			0.200	8.000E 03
	BI-211	1.00	-1.720E-02	1.000E-01
			1.02	5.78
	PO-211	1.00	1.000E-02	0.500
			0.990	50.0
	TL-207	1.00	1.00	4.00
BONE	PB-211	1.00	-0.323	1.00
			-6.240E-02	10.0
			0.211	320.
			0.174	2.000E 03
			0.177	8.000E 03
	* BI-211	7.140E-02	-1.000E-01	1.000E-01
			1.10	5.78
	* PO-211	9.100E-02	1.000E-02	0.500
			0.990	50.0
	* TL-207	0.118	1.00	4.00
LIVER	PB-211	1.00	-0.104	1.00
			8.930E-02	10.0
			8.340E-03	320.
			4.250E-04	2.000E 03
			4.050E-03	8.000E 03
	* BI-211	2.640E-02	-1.000E-01	1.000E-01
			1.10	5.78
	PO-211	1.000E-01	1.000E-02	0.500
			0.990	50.0
	* TL-207	4.240E-02	1.00	4.00
KIDNEYS	PB-211	1.00	-5.090E-02	1.00
			4.900E-02	10.0
			1.020E-03	320.
			4.890E-04	2.000E 03
			4.220E-04	8.000E 03
	BI-211	0.400	1.00	5.78
	PO-211	1.300E-01	1.000E-02	0.500
			0.990	50.0
	TL-207	3.760E-02	1.00	4.00
SPLEEN	* PB-211	5.280E-03	-3.230E-02	1.00
			-6.240E-03	10.0
			2.110E-02	320.
			1.740E-02	2.000E 03
			1.770E-02	8.000E 03
	* BI-211	2.640E-03	-1.000E-01	1.000E-01
			1.10	5.78
	* PO-211	1.000E-01	1.000E-02	0.500
			0.990	50.0
	* TL-207	4.240E-03	1.00	4.00

β^- decay (36.1 M 2)

*Retention data derived from "other tissues" compartment.

ORGAN	NUCLIDE	BLOOD TRANSFER FRACTION F2-PRIME	COMPARTMENT DEPOSITION FRACTION	COMPARTMENT BIOLOGICAL HALF-TIME (DAYS)
TESTES	*PB-211	1.030E-03	-3.230E-02	1.00
			-5.240E-03	10.0
			2.110E-02	320.
			1.740E-02	2.000E 03
			1.770E-02	8.000E 03
	*BI-211	5.140E-04	-1.000E-01	1.000E-01
			1.10	5.78
	*PO-211	5.300E-04	1.000E-02	0.500
			0.990	50.0
	*TL-207	8.240E-04	1.00	4.00
OVARIES	*PB-211	5.230E-04	-3.230E-02	1.00
			-5.240E-03	10.0
			2.110E-02	320.
			1.740E-02	2.000E 03
			1.770E-02	8.000E 03
	*BI-211	1.610E-04	-1.000E-01	1.000E-01
			1.10	5.78
	*PO-211	1.980E-04	1.000E-02	0.500
			0.990	50.0
	*TL-207	2.590E-04	1.00	4.00
OTHER	PB-211	0.907	-3.230E-02	1.00
			-5.240E-03	10.0
			2.110E-02	320.
			1.740E-02	2.000E 03
			1.770E-02	8.000E 03
	BI-211	0.500	-1.000E-01	1.000E-01
			1.10	5.78
	PO-211	0.610	1.000E-02	0.500
			0.990	50.0
	TL-207	0.914	1.00	4.00

S FACTORS (REM/MICROCURIE-DAY) FOR PB-211

TARGET ORGANS	SOURCE ORGANS												
	LUNGS	RES LYM	S CONT	SI CONT	ULI CONT	LLI CONT	BONE	LIVER	KIDNEYS	SPLEEN	TESTES	OVARIES	OTHER
LUNGS	0.234E-01	0.234E-01	0.157E-04	0.291E-05	0.317E-05	0.108E-05	0.866E-05	0.211E-04	0.839E-05	0.189E-04	0.175E-06	0.111E-05	0.110E-04
RES LYM	0.234E-01	0.155E-01	0.157E-04	0.291E-05	0.317E-05	0.108E-05	0.866E-05	0.211E-04	0.839E-05	0.189E-04	0.175E-06	0.111E-05	0.110E-04
S WALL	0.164E-04	0.164E-04	0.470E-01	0.302E-04	0.315E-04	0.149E-04	0.497E-05	0.168E-04	0.291E-04	0.830E-04	0.845E-06	0.703E-05	0.117E-04
SI WALL	0.251E-05	0.251E-05	0.226E-04	0.294E-01	0.140E-03	0.778E-04	0.715E-05	0.139E-04	0.241E-04	0.122E-04	0.459E-05	0.101E-04	0.131E-04
ULI WALL	0.132E-05	0.132E-05	0.283E-04	0.109E-03	0.533E-01	0.337E-04	0.647E-05	0.217E-04	0.249E-04	0.121E-04	0.319E-05	0.346E-04	0.134E-04
LLI WALL	0.777E-06	0.777E-06	0.115E-04	0.693E-04	0.272E-04	0.807E-01	0.895E-05	0.259E-05	0.761E-05	0.583E-05	0.229E-04	0.139E-04	0.144E-04
T BODY	0.345E-03	0.345E-03	0.115E-03	0.283E-03	0.175E-03	0.214E-03	0.345E-03	0.347E-03	0.347E-03	0.347E-03	0.345E-03	0.350E-03	0.345E-03
ADREN	0.211E-04	0.211E-04	0.193E-04	0.110E-04	0.954E-05	0.430E-05	0.150E-04	0.425E-04	0.106E-03	0.569E-04	0.661E-05	0.494E-05	0.701E-03
BL WALL	0.686E-06	0.686E-06	0.391E-05	0.247E-04	0.177E-04	0.481E-04	0.442E-05	0.230E-05	0.359E-05	0.199E-05	0.449E-04	0.500E-04	0.363E-03
KIDNEYS	0.878E-05	0.878E-05	0.288E-04	0.275E-04	0.249E-04	0.772E-05	0.897E-05	0.325E-04	0.757E-01	0.729E-04	0.101E-05	0.967E-03	0.124E-04
LIVER	0.209E-04	0.209E-04	0.174E-04	0.160E-04	0.217E-04	0.311E-05	0.624E-05	0.132E-01	0.340E-04	0.935E-05	0.626E-06	0.349E-05	0.944E-05
OVARIES	0.137E-05	0.137E-05	0.765E-05	0.835E-04	0.921E-04	0.140E-03	0.971E-05	0.380E-05	0.119E-04	0.708E-05	0.0	0.219E-01	0.154E-04
PANCREAS	0.222E-04	0.222E-04	0.149E-03	0.179E-04	0.172E-04	0.647E-05	0.840E-05	0.390E-04	0.541E-04	0.164E-03	0.597E-05	0.610E-05	0.704E-03
STNE	0.490E-05	0.490E-05	0.537E-05	0.710E-05	0.641E-05	0.969E-05	0.432E-02	0.654E-05	0.873E-05	0.690E-05	0.591E-05	0.429E-05	0.651E-04
R MAR	0.112E-04	0.112E-04	0.924E-05	0.822E-04	0.191E-04	0.270E-04	0.142E-02	0.942E-05	0.221E-04	0.102E-04	0.479E-05	0.376E-04	0.435E-03
Y MAR	0.937E-05	0.937E-05	0.744E-05	0.992E-05	0.910E-05	0.114E-04	0.265E-04	0.965E-05	0.103E-04	0.252E-05	0.110E-04	0.509E-03	
ENDOST	0.890E-05	0.890E-05	0.537E-05	0.710E-05	0.641E-05	0.969E-05	0.341E-02	0.654E-05	0.873E-05	0.690E-05	0.591E-05	0.429E-05	0.780E-03
SPLEEN	0.190E-04	0.190E-04	0.930E-04	0.136E-04	0.114E-04	0.856E-05	0.736E-05	0.919E-05	0.729E-04	0.130E 00	0.824E-06	0.571E-05	0.123E-04
TESTES	0.242E-06	0.242E-06	0.732E-06	0.374E-05	0.452E-05	0.106E-04	0.542E-05	0.145E-05	0.136E-05	0.970E-06	0.66HE 00	0.0	0.103E-04
THYMUS	0.341E-04	0.341E-04	0.409E-05	0.124E-05	0.138E-05	0.348E-06	0.671E-05	0.921E-05	0.231E-05	0.489E-05	0.117E-06	0.574E-06	0.714E-03
THYROID	0.108E-04	0.108E-04	0.134E-05	0.394E-06	0.409E-06	0.186E-06	0.756E-05	0.172E-05	0.872E-06	0.134E-05	0.403E-07	0.193E-06	0.699E-03
UTERUS	0.926E-06	0.926E-06	0.802E-05	0.755E-04	0.400E-04	0.500E-04	0.631E-05	0.364E-05	0.757E-05	0.457E-05	0.0	0.165E-03	0.723E-03

CASE 1.. INHALATION

AMAD (MICRON).. 1.00 D3 =0.310 D4 =8.000E-02 D5 =0.249

	SOLUBILITY CLASS	G.I. UPTAKE FRACTIONS STOMACH	S INT	U L INT	L L INT
PB-211	W	0.0	8.000E-02	0.0	0.0
BI-211	W	0.0	5.000E-02	0.0	0.0
PO-211	W	0.0	1.000E-01	0.0	0.0
TL-207	W	0.0	0.950	0.0	0.0

DOSE EQUIVALENT (REM/MICROCURIE)

SOURCE	LUNGS	RES LYM	S CONT	SI CONT	ULI CONT	LLI CONT	BONE	LIVER	KIDNEYS	SPLEEN	TESTES
TARGET											
LUNGS	7.172E-02	1.219E-08	1.292E-08	1.582E-09	3.493E-10	7.373E-12	5.947E-09	1.845E-10	7.561E-10	2.035E-11	2.844E-14
RES LYM	9.884E-04	5.654E-05	1.292E-08	1.582E-09	3.493E-10	7.373E-12	5.947E-09	1.845E-10	7.561E-10	2.035E-11	2.844E-14
S WALL	6.546E-07	7.491E-12	7.191E-05	1.782E-08	3.806E-09	1.177E-10	3.455E-09	1.449E-10	2.844E-09	8.889E-11	1.509E-13
SI WALL	9.215E-08	1.052E-12	1.880E-08	2.881E-05	1.701E-08	6.098E-10	4.928E-09	1.221E-10	2.365E-09	1.291E-11	8.764E-13
ULI WALL	1.208E-07	1.379E-12	2.393E-08	1.170E-07	1.192E-05	2.805E-10	4.407E-09	1.878E-10	2.418E-09	1.233E-11	6.342E-13
LLI WALL	3.185E-08	3.648E-13	9.369E-09	3.503E-08	3.195E-09	1.269E-06	6.093E-09	2.100E-11	7.182E-10	6.104E-12	4.909E-12
T BODY	1.025E-03	1.212E-08	1.662E-07	2.719E-07	3.760E-08	3.023E-09	8.945E-05	3.634E-07	4.865E-06	4.138E-08	8.055E-09
ADREN	8.538E-07	9.773E-12	1.601E-08	6.714E-09	1.073E-09	3.246E-11	9.626E-09	3.713E-10	9.498E-09	5.919E-11	1.147E-13
BL WALL	2.463E-08	2.809E-13	2.839E-09	1.473E-08	2.113E-09	3.921E-10	3.339E-09	1.824E-11	2.926E-10	1.714E-12	9.037E-12
KIDNEYS	3.437E-07	3.931E-12	2.425E-08	1.591E-08	2.882E-09	5.982E-11	5.863E-09	2.846E-10	1.096E-03	7.936E-11	1.649E-13
LIVER	8.455E-07	9.678E-12	1.438E-08	9.318E-09	2.621E-09	2.250E-11	4.221E-09	1.411E-05	3.301E-09	9.696E-12	1.009E-13
OVARIES	5.146E-08	5.877E-13	4.975E-09	4.920E-08	1.175E-08	1.171E-09	5.669E-09	3.022E-11	1.018E-09	7.193E-12	0.0
PANCREAS	9.082E-07	1.040E-11	1.257E-07	1.043E-09	2.132E-09	4.913E-11	5.874E-09	3.259E-10	5.493E-09	1.753E-10	1.132E-13
BONE	3.748E-07	4.296E-12	4.692E-09	4.411E-09	8.195E-10	7.653E-11	1.255E-03	6.158E-11	9.252E-10	7.831E-12	1.280E-12
R MAR	4.720E-07	5.409E-12	8.154E-09	1.416E-08	2.493E-09	2.312E-10	2.079E-04	8.901E-11	2.384E-09	1.175E-11	1.027E-12
Y MAR	3.930E-07	4.503E-12	6.514E-09	6.117E-09	1.166E-09	9.416E-11	1.891E-08	9.091E-11	1.147E-09	1.170E-11	5.260E-13
ENDOST	3.748E-07	4.296E-12	4.692E-09	4.411E-09	8.195E-10	7.653E-11	1.979E-03	6.158E-11	9.252E-10	7.831E-12	1.280E-12
SPLEEN	7.687E-07	8.799E-12	6.975E-08	7.894E-09	1.374E-09	6.192E-11	4.785E-09	7.481E-11	7.222E-09	1.607E-05	1.390E-13
TESTES	8.158E-09	9.287E-14	4.799E-10	1.994E-09	4.853E-10	1.308E-10	3.676E-09	9.235E-12	1.118E-10	8.047E-13	1.611E-05
THYMUS	1.362E-06	1.559E-11	2.645E-09	6.749E-10	1.524E-10	3.717E-12	4.173E-09	7.253E-11	2.407E-10	4.353E-12	1.755E-14
THYROID	3.961E-07	4.521E-12	1.055E-09	1.905E-10	4.204E-11	1.159E-12	5.590E-09	1.510E-11	6.794E-11	1.265E-12	5.546E-15
UTERUS	3.547E-08	4.055E-13	6.389E-09	4.509E-08	4.826E-09	4.076E-10	4.006E-09	3.087E-11	7.943E-10	4.287E-12	0.0

DOSE EQUIVALENT (REM/MICROCURIE)

SOURCE	OVARIES	OTHER	TOTAL
TARGET			
LUNGS	5.859E-14	2.188E-09	7.172E-02
RES LYM	5.859E-14	2.188E-09	1.045E-03
S WALL	4.537E-13	2.339E-09	7.259E-05
SI WALL	6.628E-12	2.632E-09	2.895E-05
ULI WALL	6.238E-12	2.681E-09	1.219E-05
LLI WALL	7.959E-12	2.892E-09	1.358E-06
T BODY	2.524E-09	7.791E-06	1.128E-03
ADREN	2.858E-13	1.621E-05	1.711E-05
BL WALL	3.858E-12	8.075E-06	8.123E-06
KIDNEYS	5.980E-13	2.456E-09	1.097E-03
LIVER	3.415E-13	1.963E-09	1.499E-05
OVARIES	1.605E-05	3.296E-09	1.617E-05
PANCREAS	3.339E-13	1.621E-05	1.727E-05
BONE	5.930E-13	4.062E-08	1.255E-03
R MAR	2.013E-12	1.606E-05	2.245E-04
Y MAR	7.942E-13	1.621E-05	1.664E-05
ENDOST	5.930E-13	2.596E-07	1.980E-03
SPLEEN	3.515E-13	2.452E-09	1.693E-05
TESTES	0.0	2.031E-09	1.613E-05
THYMUS	3.089E-14	1.621E-05	1.758E-05
THYROID	8.936E-15	1.621E-05	1.661E-05
UTERUS	1.074E-11	1.621E-05	1.631E-05

PERCENT DOSE EQUIVALENT..

NUCLIDE	PB-211	BI-211	PO-211	TL-207
TARGET				
LUNGS	0.7	98.3	0.3	0.7
RES LYM	46.0	6.5	0.0	47.5
S WALL	27.1	40.8	0.1	32.0
SI WALL	29.6	45.5	0.2	24.8
ULI WALL	26.9	40.8	0.1	32.2
LLI WALL	27.4	40.7	0.1	31.8
T BODY	0.7	98.3	0.3	0.7
ADREN	2.8	94.2	0.3	2.7
BL WALL	0.5	96.4	0.3	2.8
KIDNEYS	0.0	98.8	0.3	0.9
LIVER	3.0	93.7	0.3	3.0
OVARIES	0.5	96.4	0.3	2.8
PANCREAS	3.2	93.8	0.3	2.7
BONE	0.1	99.4	0.3	0.2
R MAR	0.3	98.9	0.3	0.4
Y MAR	1.4	95.5	0.3	2.8
ENDOST	0.1	99.6	0.3	0.1
SPLEEN	2.7	94.2	0.4	2.7
TESTES	0.2	96.7	0.3	2.8
THYMUS	4.1	92.8	0.3	2.7
THYROID	1.5	95.4	0.3	2.8
UTERUS	0.4	96.4	0.3	2.8

CASE 2.. INGESTION

INGESTION TRANSFER FRACTIONS (G. I. TRACT TO BLOOD)

	PB-211	BI-211	PO-211	TL-207
STOMACH	0.0	0.0	0.0	0.0
S INT	8.000E-02	5.000E-02	1.000E-01	0.950
U L INT	0.0	0.0	0.0	0.0
L L INT	0.0	0.0	0.0	0.0

DOSE EQUIVALENT (REM/MICROCURIE)

SOURCE	S CONT	SI CONT	ULI CONT	LLI CONT	BONE	LIVER	KIDNEYS	SPLEEN	TESTES	OVARIES	OTHER
TARGET											
LUNGS	5.803E-07	7.433E-08	1.646E-08	3.476E-10	1.053E-09	2.188E-10	1.106E-10	1.978E-11	4.791E-14	8.560E-14	2.239E-09
RES LYM	5.803E-07	7.433E-08	1.646E-08	3.476E-10	1.053E-09	2.188E-10	1.106E-10	1.978E-11	4.791E-14	8.560E-14	2.239E-09
S WALL	3.006E-03	8.370E-07	1.794E-07	5.550E-09	6.042E-10	1.769E-10	3.806E-10	8.542E-11	1.633E-13	4.430E-13	2.409E-09
SI WALL	8.439E-07	1.341E-03	8.016E-07	2.875E-08	8.625E-10	1.434E-10	3.169E-10	1.298E-11	9.767E-13	6.334E-12	2.667E-09
ULI WALL	1.073E-06	5.498E-06	5.609E-04	1.322E-03	7.890E-10	2.183E-10	3.257E-10	1.299E-11	7.235E-13	5.972E-12	2.734E-09
LLI WALL	4.209E-07	1.645E-06	1.506E-07	5.983E-05	1.088E-09	2.564E-11	9.931E-11	6.017E-12	4.301E-12	7.574E-12	2.936E-09
T BODY	6.983E-06	1.266E-05	1.770E-06	1.425E-07	1.229E-05	1.044E-07	2.858E-07	1.114E-08	2.166E-09	6.805E-10	2.119E-06
ADREN	7.183E-07	3.153E-07	5.056E-08	1.530E-09	1.762E-09	4.363E-10	1.372E-09	6.429E-11	1.559E-13	3.253E-13	4.396E-06
BL WALL	1.282E-07	6.918E-07	9.961E-08	1.849E-08	5.700E-10	1.959E-11	4.884E-11	2.971E-12	9.506E-12	3.931E-12	2.196E-06
KIDNEYS	1.088E-06	7.473E-07	1.359E-07	2.820E-09	1.081E-09	3.317E-10	6.441E-05	7.523E-11	2.537E-13	6.318E-13	2.545E-09
LIVER	6.457E-07	4.377E-07	1.235E-07	1.061E-09	7.525E-10	4.050E-06	4.391E-10	1.003E-11	1.715E-13	3.697E-13	1.943E-09
OVARIES	2.254E-07	2.311E-06	5.540E-07	5.522E-09	1.014E-09	5.696E-11	1.650E-10	6.056E-12	0.0	4.319E-06	3.321E-09
PANCREAS	5.640E-06	4.901E-07	1.005E-07	2.316E-09	1.039E-09	3.888E-10	7.675E-10	1.692E-10	1.672E-13	4.895E-13	4.396E-06
BONE	2.102E-07	2.072E-07	3.863E-08	3.608E-09	1.721E-04	6.470E-11	1.148E-10	7.133E-12	1.199E-12	5.120E-13	2.776E-07
R MAR	3.653E-07	6.649E-07	1.175E-07	1.090E-08	2.903E-05	9.165E-11	2.909E-10	1.050E-11	9.452E-13	1.680E-12	3.352E-06
Y MAR	2.919E-07	2.873E-07	5.494E-08	4.439E-09	3.296E-09	9.626E-11	1.424E-10	1.064E-11	5.175E-13	6.800E-13	4.396E-06
ENDOST	2.102E-07	2.072E-07	3.863E-08	3.608E-09	2.690E-04	6.470E-11	1.148E-10	7.133E-12	1.199E-12	5.120E-13	1.841E-06
SPLEEN	3.130E-06	3.708E-07	6.475E-08	2.919E-09	8.688E-10	1.020E-10	9.585E-10	4.322E-06	1.437E-13	3.647E-13	2.536E-09
TESTES	2.172E-08	9.369E-08	2.288E-08	6.166E-09	6.615E-10	2.083E-11	1.816E-11	1.043E-12	4.328E-06	0.0	2.119E-09
THYMUS	1.198E-07	3.171E-08	7.184E-09	1.752E-10	7.742E-10	8.202E-11	2.255E-11	6.225E-12	3.127E-14	4.299E-14	4.396E-06
THYROID	4.750E-08	8.953E-09	1.982E-09	5.464E-11	9.143E-10	1.839E-11	1.176E-11	1.547E-12	1.157E-14	1.490E-14	4.396E-06
UTERUS	2.873E-07	2.118E-06	2.275E-07	1.922E-08	7.596E-10	3.640E-11	1.005E-10	5.555E-12	0.0	9.540E-12	4.401E-06

DOSE EQUIVALENT (REM/MICROCURIE)

SOURCE	TOTAL
TARGET	
LUNGS	6.751E-07
RES LYM	6.751E-07
S WALL	3.007E-03
SI WALL	1.343E-03
ULI WALL	5.675E-04
LLI WALL	6.205E-05
T BODY	3.637E-05
ADREN	5.486E-06
BL WALL	3.135E-06
KIDNEYS	6.639E-05
LIVER	5.261E-06
OVARIES	7.469E-06
PANCREAS	1.063E-05
BONE	1.728E-04
R MAR	3.354E-05
Y MAR	5.038E-06
ENDOST	2.713E-04
SPLEEN	7.895E-06
TESTES	4.475E-06
THYMUS	4.556E-06
THYROID	4.456E-06
UTERUS	7.054E-06

PERCENT DOSE EQUIVALENT..

NUCLIDE	PB-211	BI-211	PO-211	TL-207
TARGET				
LUNGS	52.3	45.4	0.0	2.2
RES LYM	52.3	45.4	0.0	2.2
S WALL	30.3	41.9	0.1	27.7
SI WALL	29.9	45.8	0.2	24.2
ULI WALL	26.6	40.8	0.1	32.4
LLI WALL	26.8	40.3	0.1	32.7
T BODY	18.2	61.1	0.2	20.5
ADREN	10.0	27.5	0.1	62.4
BL WALL	15.1	30.1	0.1	54.8
KIDNEYS	1.5	71.8	0.2	26.4
LIVER	11.7	24.4	0.1	63.8
OVARIES	21.0	33.5	0.1	45.4
PANCREAS	29.9	37.0	0.0	33.0
BONE	0.2	97.4	0.3	2.1
R MAR	1.8	87.5	0.3	10.4
Y MAR	6.1	26.0	0.1	67.8
ENDOST	0.1	98.0	0.3	1.6
SPLEEN	23.2	33.7	0.1	43.1
TESTES	1.9	23.3	0.1	74.7
THYMUS	2.3	22.8	0.1	74.8
THYROID	0.8	22.7	0.1	76.4
UTERUS	18.5	32.5	0.1	48.9

RADIONUCLIDE: PB-212

PHYSICAL AND METABOLIC PARAMETERS FOR DOSIMETRICALLY SIGNIFICANT PROGENY:

NUCLIDE	RADIOACTIVE HALF-LIFE (DAYS)
PB-212	0.4430
BI-212	4.2000E-02
PO-212	3.4300E-12
TL-208	2.1300E-03

BRANCHING RATIOS:

FROM	TO	FRACTION
PB-212	BI-212	1.000
BI-212	PO-212	0.6400
BI-212	TL-208	0.3600

ORGAN ABSORBED	NUCLIDE	BLOOD TRANSFER FRACTION F2-PRIME	COMPARTMENT DEPOSITION FRACTION	COMPARTMENT BIOLOGICAL HALF-TIME (DAYS)
	PB-212	1.00	1.000E-01	1.00
			0.200	10.0
			0.300	320.
			0.200	2.000E 03
			0.200	8.000E 03
	BI-212	1.00	-1.700E-02	1.000E-01
			1.02	5.78
	PO-212	1.00	1.000E-02	0.500
			0.990	50.0
	TL-208	1.00	1.00	4.00
BONE	PB-212	1.00	-0.323	1.00
			-6.240E-02	10.0
			0.211	320.
			0.174	2.000E 03
			0.177	8.000E 03
	* BI-212	7.340E-02	-1.000E-01	1.000E-01
			1.10	5.78
	* PO-212	9.000E-02	1.000E-02	0.500
			0.990	50.0
	* TL-208	0.110	1.00	4.00
LIVER	PB-212	1.00	-0.104	1.00
			8.930E-02	10.0
			9.340E-03	320.
			4.250E-03	2.000E 03
			4.050E-03	8.000E 03
	* BI-212	2.640E-02	-1.000E-01	1.000E-01
			1.10	5.78
	PO-212	1.000E-01	1.000E-02	0.500
			0.990	50.0
	* TL-208	4.240E-02	1.00	4.00
KIDNEYS	PB-212	1.00	-5.090E-02	1.00
			4.900E-02	10.0
			1.020E-03	320.
			4.800E-04	2.000E 03
			4.320E-04	8.000E 03
	BI-212	0.400	1.00	5.78
	PO-212	1.000E-01	1.000E-02	0.500
			0.990	50.0
	TL-208	3.760E-02	1.00	4.00
SPLEEN	* PB-212	5.280E-03	-3.230E-02	1.00
			-6.240E-03	10.0
			2.110E-02	320.
			1.740E-02	2.000E 03
			1.770E-02	8.000E 03
	* BI-212	2.640E-03	-1.000E-01	1.000E-01
			1.10	5.78
	PO-212	1.000E-01	1.000E-02	0.500
			0.990	50.0
	* TL-208	4.240E-03	1.00	4.00
TESTES	* PB-212	1.030E-03	-3.230E-02	1.00
			-6.240E-03	10.0
			2.110E-02	320.
			1.740E-02	2.000E 03
			1.770E-02	8.000E 03
	* BI-212	5.140E-04	-1.000E-01	1.000E-01
			1.10	5.78
	* PO-212	6.300E-04	1.000E-02	0.500
			0.990	50.0
	* TL-208	8.240E-04	1.00	4.00

β^- decay (10.64 H 1)

* Retention data derived from "other tissues" compartment.

ORGAN	NUCLIDE	BLOOD TRANSFER FRACTION F2-PRIME	COMPARTMENT DEPOSITION FRACTION	COMPARTMENT BIOLOGICAL HALF-TIME (DAYS)
OVARIES	*PB-212	3.230E-04	-3.230E-02	1.00
			-6.240E-03	10.0
			2.110E-02	320.
			1.740E-02	2.000E 03
			1.770E-02	8.000E 03
	*BI-212	1.610E-04	-1.000E-01	1.000E-01
			1.10	5.78
	*PO-212	1.980E-04	1.000E-02	0.500
			0.990	50.0
	*TL-208	2.590E-04	1.00	4.00
OTHER	PB-212	0.993	-3.230E-02	1.00
			-6.240E-03	10.0
			2.110E-02	320.
			1.740E-02	2.000E 03
			1.770E-02	8.000E 03
	BI-212	0.500	-1.000E-01	1.000E-01
			1.10	5.78
	PO-212	0.610	1.000E-02	0.500
			0.990	50.0
	TL-208	0.814	1.00	4.00

S FACTORS (REM/MICROCURIE-DAY) FOR PB-212

TARGET ORGANS	SOURCE ORGANS									
	LUNGS	RES LYM	S CONT	SI CONT	ULI CONT	LLI CONT	BONE	LIVER	KIDNEYS	SPLEEN
LUNGS	0.932E-02	0.932E-02	0.482E-04	0.661E-05	0.731E-05	0.224E-05	0.268E-04	0.702E-04	0.232E-04	0.627E-04
RES LYM	0.632E-02	0.590E 00	0.482E-04	0.661E-05	0.731E-05	0.224E-05	0.268E-04	0.702E-04	0.232E-04	0.627E-04
S WALL	0.516E-04	0.516E-04	0.192E-01	0.101E-03	0.105E-03	0.493E-04	0.153E-04	0.531E-04	0.944E-04	0.274E-03
SI WALL	0.534E-05	0.534E-05	0.725E-04	0.130E-01	0.477E-03	0.263E-03	0.204E-04	0.451E-04	0.784E-04	0.383E-04
ULI WALL	0.659E-05	0.659E-05	0.685E-04	0.633E-03	0.213E-01	0.119E-03	0.197E-04	0.684E-04	0.784E-04	0.356E-04
LLI WALL	0.252E-05	0.252E-05	0.345E-04	0.202E-03	0.943E-04	0.342E-01	0.289E-04	0.633E-05	0.216E-04	0.171E-04
T BODY	0.169E-03	0.169E-03	0.984E-04	0.159E-03	0.115E-03	0.140E-03	0.158E-03	0.179E-03	0.174E-03	0.175E-03
ADREN	0.690E-04	0.690E-04	0.677E-04	0.373E-04	0.349E-04	0.115E-04	0.351E-04	0.135E-03	0.296E-03	0.179E-03
BL WALL	0.128E-05	0.128E-05	0.679E-05	0.731E-04	0.574E-04	0.192E-03	0.134E-04	0.459E-05	0.801E-05	0.402E-05
KIDNEYS	0.239E-04	0.239E-04	0.967E-04	0.844E-04	0.767E-04	0.246E-04	0.243E-04	0.107E-03	0.307E-01	0.252E-03
LIVER	0.687E-04	0.687E-04	0.542E-04	0.405E-04	0.712E-04	0.733E-05	0.181E-04	0.567E-02	0.107E-03	0.272E-04
OVARIES	0.713E-05	0.713E-05	0.107E-04	0.207E-03	0.325E-03	0.534E-03	0.223E-04	0.121E-04	0.321E-04	0.155E-04
PANCREAS	0.712E-04	0.712E-04	0.511E-03	0.557E-04	0.630E-04	0.197E-04	0.272E-04	0.113E-03	0.179E-03	0.537E-03
BONE	0.371E-04	0.371E-04	0.320E-04	0.306E-04	0.277E-04	.437E-04	.181E-02	0.227E-04	0.258E-04	0.286E-04
R MAR	0.469E-04	0.469E-04	0.385E-04	0.103E-03	0.895E-04	0.128E-03	0.415E-03	0.391E-04	0.936E-04	0.423E-04
Y MAR	0.387E-04	0.387E-04	0.309E-04	0.429E-04	0.494E-04	0.593E-04	0.111E-03	0.413E-04	0.440E-04	0.428E-04
ENDOST	0.371E-04	0.371E-04	0.220E-04	0.336E-04	0.275E-04	0.407E-04	0.135E-02	0.277E-04	0.359E-04	0.286E-04
SPLEEN	0.631E-04	0.631E-04	0.283E-03	0.416E-04	0.302E-04	0.219E-04	0.180E-04	0.251E-04	0.247E-03	0.531E-01
TESTES	0.330E-06	0.330E-06	0.148E-05	0.889E-05	0.365E-05	0.542E-04	0.165E-04	0.209E-06	0.289E-05	0.169E-05
THYMUS	0.113E-03	0.113E-03	0.717E-03	0.266E-03	0.302E-05	0.298E-04	0.139E-04	0.579E-05	0.570E-05	0.225E-05
THYROID	0.236E-04	0.236E-04	0.205E-05	0.511E-06	0.635E-05	0.230E-04	0.245E-04	0.515E-05	0.166E-05	0.284E-05
UTERUS	0.245E-05	0.245E-05	0.213E-04	0.265E-03	0.137E-02	0.103E-03	0.161E-04	0.104E-04	0.266E-04	0.105E-04

S FACTORS (REM/MICROCURIE-DAY) FOR BI-212

TARGET ORGANS	SOURCE ORGANS		
	TESTES	OVARIES	OTHER
LUNGS	0.279E-06	0.188E-05	0.345E-04
RES LYM	0.279E-06	0.188E-05	0.345E-04
S WALL	0.135E-04	0.213E-04	0.365E-04
SI WALL	0.109E-04	0.338E-03	0.414E-04
ULI WALL	0.912E-05	0.316E-03	0.422E-04
LLI WALL	0.766E-04	0.408E-03	0.455E-04
T BODY	0.165E-03	0.184E-03	0.164E-03
ADREN	0.116E-04	0.161E-04	0.302E-03
BL WALL	0.135E-03	0.196E-03	0.196E-03
KIDNEYS	0.148E-04	0.259E-04	0.379E-04
LIVER	0.101E-04	0.152E-04	0.396E-04
OVARIES	0.0	0.932E 00	0.526E-04
PANCREAS	0.168E-04	0.130E-04	0.326E-03
BONE	0.222E-04	0.374E-04	0.460E-04
R MAR	0.178E-04	0.133E-03	0.277E-03
Y MAR	0.844E-05	0.506E-04	0.307E-03
ENDOST	0.222E-04	0.374E-04	0.171E-03
SPLEEN	0.843E-04	0.145E-04	0.387E-04
TESTES	0.264E 00	0.0	0.311E-04
THYMUS	0.121E-04	0.967E-06	0.736E-03
THYROID	0.269E-07	0.216E-06	0.334E-04
UTERUS	0.0	0.537E-03	0.781E-03

CASE 1.. INHALATION

AMAD (MICRON).. 1.00 D3 =0.310 D4 =8.000E-02 D5 =0.249

	SOLUBILITY CLASS	G.I. UPTAKE FRACTIONS STOMACH	S INT	U L INT	L L INT
PB-212	W	0.0	8.000E-02	0.0	0.0
BI-212	W	0.0	5.000E-02	0.0	0.0
PO-212	W	0.0	1.000E-01	0.0	0.0
TL-208	W	0.0	0.950	0.0	0.0

DOSE EQUIVALENT (REM/MICROCURIE)

SOURCE	LUNGS	RES LYM	S CONT	SI CONT	ULI CONT	LLI CONT	BONE	LIVER	KIDNEYS	SPLEEN	TESTES
TARGET											
LUNGS	0.917	3.490E-06	2.932E-06	1.677E-06	4.196E-06	1.490E-06	3.917E-06	1.205E-06	1.113E-06	3.066E-08	1.074E-10
RES LYM	1.047E-02	2.094E-02	2.932E-06	1.677E-06	4.196E-06	1.490E-06	3.917E-06	1.205E-06	1.113E-06	3.066E-08	1.074E-10
S WALL	1.010E-04	3.433E-08	1.264E-03	1.562E-05	3.614E-05	1.385E-05	2.268E-06	1.021E-06	3.803E-06	1.288E-07	4.068E-10
SI WALL	1.831E-05	6.284E-09	4.384E-06	2.531E-03	1.564E-04	6.574E-05	3.121E-06	8.132E-07	3.103E-06	1.983E-08	1.657E-09
ULI WALL	2.390E-05	8.207E-09	5.263E-06	1.022E-04	8.672E-03	2.994E-05	2.930E-06	1.199E-06	2.981E-06	2.058E-08	1.660E-09
LLI WALL	4.570E-06	1.552E-09	2.185E-06	3.168E-05	2.972E-05	1.015E-02	3.791E-06	1.785E-07	1.091E-06	1.024E-08	7.258E-09
T BODY	1.317E-02	4.516E-06	5.488E-06	3.076E-05	4.435E-05	3.655E-05	4.634E-03	1.141E-04	2.996E-04	2.232E-06	4.342E-07
ADREN	9.780E-05	3.299E-08	4.104E-06	6.122E-06	1.174E-05	3.792E-06	5.740E-06	2.747E-06	1.270E-05	8.656E-08	2.956E-10
BL WALL	5.300E-06	1.822E-09	6.905E-07	1.260E-05	2.243E-05	4.187E-05	2.472E-06	1.548E-07	5.232E-07	4.176E-09	1.275E-08
KIDNEYS	4.903E-05	1.669E-08	5.343E-06	1.355E-05	2.729E-05	7.848E-06	3.533E-06	1.865E-06	6.738E-02	1.125E-07	4.378E-10
LIVER	1.227E-04	4.166E-08	3.433E-06	8.429E-06	2.606E-05	3.026E-06	3.064E-06	4.410E-03	4.273E-06	1.561E-08	3.297E-10
OVARIES	9.609E-06	3.292E-09	1.463E-06	4.110E-05	1.114E-04	1.220E-04	3.663E-06	3.189E-07	1.182E-06	4.996E-09	0.0
PANCREAS	1.231E-04	4.175E-08	2.680E-05	9.205E-06	2.430E-05	5.704E-06	3.946E-06	1.947E-06	6.594E-06	2.433E-07	4.386E-10
BONE	5.479E-05	1.851E-08	1.060E-06	3.790E-06	7.678E-06	8.082E-06	6.491E-02	3.886E-07	1.101E-06	1.079E-08	1.849E-09
R MAR	6.910E-05	2.334E-08	1.766E-06	1.171E-05	2.255E-05	2.363E-05	1.073E-02	5.578E-07	2.719E-06	1.593E-08	1.502E-09
Y MAR	5.757E-05	1.945E-08	1.482E-06	5.195E-06	1.074E-05	9.921E-06	1.153E-05	5.689E-07	1.349E-06	1.599E-08	9.076E-10
ENDOST	5.479E-05	1.851E-08	1.060E-06	3.790E-06	7.678E-06	8.082E-06	8.490E-02	3.886E-07	1.101E-06	1.079E-08	1.849E-09
SPLEEN	1.139E-04	3.869E-08	1.492E-05	7.352E-06	1.382E-05	7.543E-06	2.824E-06	5.138E-07	8.734E-06	8.596E-04	4.047E-10
TESTES	2.296E-06	7.926E-10	2.528E-07	2.483E-06	5.666E-06	1.457E-05	3.713E-06	7.996E-08	2.167E-07	1.904E-09	8.595E-04
THYMUS	2.055E-04	6.977E-08	8.309E-07	7.732E-07	1.929E-06	6.391E-07	3.044E-06	5.376E-07	2.877E-07	8.975E-09	7.960E-11
THYROID	5.662E-05	1.932E-08	3.085E-07	2.865E-07	7.061E-07	2.682E-07	2.105E-06	1.121E-07	1.506E-07	2.678E-09	3.634E-11
UTERUS	9.703E-06	3.335E-09	1.667E-06	3.741E-05	4.981E-05	4.178E-05	2.375E-06	2.698E-07	1.025E-06	8.720E-09	0.0

DOSE EQUIVALENT (REM/MICROCURIE)

SOURCE	OVARIES	OTHER	TOTAL
TARGET			
LUNGS	1.645E-10	3.336E-06	0.917
RES LYM	1.645E-10	3.336E-06	3.143E-02
S WALL	8.830E-10	3.598E-06	1.441E-03
SI WALL	9.398E-09	3.992E-06	2.787E-03
ULI WALL	8.759E-09	4.099E-06	9.844E-03
LLI WALL	1.159E-08	4.435E-06	1.022E-02
T BODY	1.365E-07	4.191E-04	1.876E-02
ADREN	4.963E-10	8.680E-04	1.013E-03
BL WALL	5.319E-09	4.359E-04	5.220E-04
KIDNEYS	1.027E-09	3.844E-06	6.749E-02
LIVER	6.201E-10	2.939E-06	4.584E-03
OVARIES	8.573E-04	5.005E-06	1.153E-03
PANCREAS	4.929E-10	8.693E-04	1.071E-03
BONE	7.782E-10	4.057E-06	6.499E-02
R MAR	2.454E-09	8.643E-04	1.172E-02
Y MAR	1.016E-09	8.670E-04	9.654E-04
ENDOST	7.782E-10	8.751E-06	8.499E-02
SPLEEN	6.753E-10	3.779E-06	1.033E-03
TESTES	0.0	3.584E-06	8.924E-04
THYMUS	9.283E-11	8.728E-04	1.086E-03
THYROID	3.445E-11	8.677E-04	9.282E-04
UTERUS	1.436E-08	8.745E-04	1.019E-03

PERCENT DOSE EQUIVALENT..

NUCLIDE	PB-212	BI-212	PO-212	TL-208
TARGET				
LUNGS	0.2	28.1	71.3	0.3
RES LYM	7.2	35.8	47.5	9.5
S WALL	11.6	36.4	27.9	24.1
SI WALL	10.8	39.4	30.7	19.0
ULI WALL	9.9	40.4	32.3	17.4
LLI WALL	9.7	41.1	33.2	16.0
T BODY	0.3	23.1	70.8	0.8
ADREN	2.0	26.1	60.9	11.0
BL WALL	1.9	25.4	58.9	13.8
KIDNEYS	0.1	28.1	71.4	0.5
LIVER	0.7	27.5	68.5	3.3
OVARIES	3.2	24.1	53.0	19.7
PANCREAS	2.5	25.1	57.5	14.9
BONE	0.1	27.9	71.9	0.2
R MAR	0.2	27.8	70.9	1.0
Y MAR	1.6	26.4	63.8	8.1
ENDOST	0.0	52.4	47.4	0.1
SPLEEN	2.1	25.5	59.2	13.2
TESTES	0.3	27.6	68.6	3.6
THYMUS	2.6	24.9	56.7	15.7
THYROID	0.7	27.1	66.4	5.8
UTERUS	1.8	25.8	60.5	11.9

CASE 2.. INGESTION

INGESTION TRANSFER FRACTIONS (G. I. TRACT TO BLOOD)

	PB-212	BI-212	PO-212	TL-208
STOMACH	0.0	0.0	0.0	0.0
S INT	8.000E-02	5.000E-02	1.000E-01	0.950
U L INT	0.0	0.0	0.0	0.0
L L INT	0.0	0.0	0.0	0.0

DOSE EQUIVALENT (REM/MICROCURIE)

SOURCE	S CONT	SI CONT	ULI CONT	LLI CONT	BONE	LIVER	KIDNEYS	SPLEEN	TESTES	OVARIES	OTHER
TARGET											
LUNGS	7.438E-06	7.174E-06	2.080E-05	7.574E-06	3.249E-06	1.179E-06	4.577E-07	4.916E-08	1.757E-10	2.690E-10	5.372E-06
RES LYM	7.438E-06	7.174E-06	2.080E-05	7.574E-06	3.249E-06	1.179E-06	4.577E-07	4.916E-08	1.757E-10	2.690E-10	5.372E-06
S WALL	3.268E-03	6.766E-05	1.794E-04	7.043E-05	1.881E-06	1.005E-06	1.570E-06	2.055E-07	6.666E-10	1.433E-09	5.798E-06
SI WALL	1.113E-05	1.094E-02	7.768E-04	3.343E-04	2.588E-06	7.980E-07	1.277E-06	5.174E-08	2.674E-09	1.501E-08	6.433E-06
ULI WALL	1.362E-05	4.432E-04	4.306E-02	1.523E-04	2.430E-06	1.175E-06	1.223E-06	3.304E-08	2.731E-09	1.397E-08	6.604E-06
LLI WALL	5.511E-06	1.372E-04	1.475E-04	5.160E-02	3.137E-06	1.776E-07	4.488E-07	1.650E-08	1.164E-08	1.855E-08	7.151E-06
T BODY	1.409E-05	1.330E-04	2.202E-04	1.859E-04	3.305E-03	7.524E-05	7.784E-05	7.123E-07	1.378E-07	4.391E-08	1.327E-04
ADREN	1.042E-05	2.646E-05	5.823E-05	1.928E-05	4.742E-06	2.719E-06	5.201E-06	1.379E-07	4.814E-10	7.978E-10	2.706E-04
BL WALL	1.649E-06	5.442E-05	1.113E-04	2.129E-04	2.057E-06	1.548E-07	2.149E-07	6.759E-09	2.028E-08	8.458E-09	1.398E-04
KIDNEYS	1.375E-05	5.862E-05	1.355E-04	3.991E-05	2.920E-06	1.828E-06	1.746E-02	1.795E-07	7.104E-10	1.656E-09	6.199E-06
LIVER	8.655E-06	3.642E-05	1.293E-04	1.538E-05	2.549E-06	2.901E-03	1.758E-06	2.505E-08	5.379E-10	1.002E-09	4.742E-06
OVARIES	3.458E-06	1.787E-04	5.529E-04	6.204E-04	3.042E-06	3.151E-07	4.791E-07	7.369E-09	0.0	2.630E-04	8.062E-06
PANCREAS	6.958E-05	3.979E-05	1.206E-04	2.900E-05	3.270E-06	1.898E-06	2.701E-06	5.877E-07	7.241E-10	7.798E-10	2.729E-04
BONE	2.791E-06	1.654E-05	3.815E-05	4.111E-05	4.623E-02	3.791E-07	4.552E-07	1.721E-08	2.957E-09	1.241E-09	6.024E-06
R MAR	4.691E-06	5.129E-05	1.121E-04	1.202E-04	7.652E-03	5.446E-07	1.124E-06	2.527E-08	2.408E-09	3.899E-09	2.672E-04
Y MAR	3.906E-06	2.269E-05	5.336E-05	5.046E-05	9.501E-06	5.544E-07	5.576E-07	2.550E-08	1.465E-09	1.618E-09	2.689E-04
ENDOST	2.791E-06	1.654E-05	3.815E-05	4.111E-05	6.054E-02	3.791E-07	4.552E-07	1.721E-08	2.957E-09	1.241E-09	1.057E-05
SPLEEN	3.870E-05	3.172E-05	6.859E-05	3.835E-05	2.338E-06	5.049E-07	3.592E-06	2.649E-04	6.677E-10	1.100E-09	6.090E-06
TESTES	5.798E-07	1.060E-05	2.808E-05	7.408E-05	3.111E-06	7.909E-08	8.918E-08	3.096E-09	2.640E-04	0.0	5.825E-06
THYMUS	1.963E-06	3.300E-06	9.561E-06	3.249E-06	2.540E-06	5.353E-07	1.179E-07	1.465E-08	1.297E-10	1.352E-10	2.789E-04
THYROID	7.340E-07	1.214E-06	3.496E-06	1.363E-06	1.707E-06	1.109E-07	6.204E-08	4.340E-09	6.044E-11	5.674E-11	2.700E-04
UTERUS	4.087E-06	1.625E-04	2.472E-04	2.125E-04	1.962E-06	2.679E-07	4.220E-07	1.425E-08	0.0	2.293E-08	2.818E-04

DOSE EQUIVALENT (REM/MICROCURIE)

SOURCE	TOTAL
TARGET	
LUNGS	5.329E-05
RES LYM	5.329E-05
S WALL	3.596E-03
SI WALL	1.207E-02
ULI WALL	4.368E-02
LLI WALL	5.190E-02
T BODY	4.145E-03
ADREN	3.978E-04
BL WALL	5.226E-04
KIDNEYS	1.771E-02
LIVER	3.100E-03
OVARIES	1.630E-03
PANCREAS	5.401E-04
BONE	4.639E-02
R MAR	8.209E-03
Y MAR	4.100E-04
ENDOST	6.065E-02
SPLEEN	4.548E-04
TESTES	3.864E-04
THYMUS	3.002E-04
THYROID	2.787E-04
UTERUS	9.108E-04

PERCENT DOSE EQUIVALENT..

NUCLIDE	PB-212	BI-212	PO-212	TL-208
TARGET				
LUNGS	9.2	11.2	0.0	79.6
RES LYM	9.2	11.2	0.0	79.6
S WALL	22.0	33.0	25.5	19.5
SI WALL	12.7	38.6	30.0	18.7
ULI WALL	10.2	40.4	32.4	17.0
LLI WALL	9.8	41.1	33.3	15.8
T BODY	1.6	28.3	64.9	5.3
ADREN	3.7	22.3	46.1	27.9
BL WALL	9.1	16.5	17.5	56.8
KIDNEYS	0.3	27.8	70.2	1.7
LIVER	1.0	27.0	66.4	5.6
OVARIES	11.1	14.9	11.2	62.8
PANCREAS	8.0	19.3	34.0	38.8
BONE	0.1	27.9	71.8	0.2
R MAR	0.7	27.4	69.1	2.8
Y MAR	5.7	21.9	44.7	27.6
ENDOST	0.1	52.4	47.4	0.2
SPLEEN	6.1	21.2	40.1	32.6
TESTES	2.9	22.4	47.2	27.5
THYMUS	0.6	24.9	61.1	13.3
THYROID	0.3	26.3	65.8	7.5
UTERUS	9.7	17.3	20.1	52.8

RADIONUCLIDE: PB-214

PHYSICAL AND METABOLIC PARAMETERS FOR DOSIMETRICALLY SIGNIFICANT PROGENY:

NUCLIDE	RADIOACTIVE HALF-LIFE (DAYS)
PB-214	1.66CCE-02
BI-214	1.38CCE-02
PO-214	1.85C0E-05
PB-210	8140.
BI-210	5.01C
PO-210	138.0

BRANCHING RATIOS:

FROM	TO	FRACTION
PB-214	BI-214	1.000
BI-214	PO-214	1.000
PO-214	PB-210	1.000
PB-210	BI-210	1.000
BI-210	PO-210	1.000

ORGAN	NUCLIDE	BLOOD TRANSFER FRACTION F2-PRIME	COMPARTMENT DEPOSITION FRACTION	COMPARTMENT BIOLOGICAL HALF-TIME (DAYS)
ABSORBED	PB-214	1.00	1.000E-01	1.00
			0.200	10.0
			0.300	320.
			0.200	2.000E 03
			0.200	8.000E 03
	BI-214	1.00	-1.720E-02	1.000E-01
			1.02	5.78
	PO-214	1.00	1.000E-02	0.500
			0.990	50.0
	PB-210	1.00	1.000E-01	1.00
			0.200	10.0
			0.300	320.
			0.200	2.000E 03
			0.200	8.000E 03
	BI-210	1.00	-1.720E-02	1.000E-01
			1.02	5.78
	PO-210	1.00	1.000E-02	0.500
			0.990	50.0
BONE	PB-214	1.00	-0.323	1.00
			-6.240E-02	10.0
			0.211	320.
			0.174	2.000E 03
			0.177	8.000E 03
	*BI-214	7.340E-02	-1.000E-01	1.000E-01
			1.10	5.78
	*PO-214	9.000E-02	1.000E-02	0.500
			0.990	50.0
	PB-210	0.562	0.375	320.
			0.310	2.000E 03
			0.315	8.000E 03
	*BI-210	7.340E-02	-1.000E-01	1.000E-01
			1.10	5.78
	*PO-210	9.000E-02	1.000E-02	0.500
			0.990	50.0
LIVER	PB-214	1.00	-0.104	1.00
			9.930E-02	10.0
			8.340E-03	320.
			4.250E-03	2.000E 03
			4.050E-03	8.000E 03
	*BI-214	2.640E-02	-1.000E-01	1.000E-01
			1.10	5.78
	PO-214	1.000E-01	1.000E-02	0.500
			0.990	50.0
	PB-210	0.106	0.843	10.0
			7.870E-02	320.
			4.010E-03	2.000E 03
			3.820E-03	8.000E 03
	*BI-210	2.640E-02	-1.000E-01	1.000E-01
			1.10	5.78
	PO-210	1.000E-01	1.000E-02	0.500
			0.990	50.0

β^- decay (26.8 M)

* Retention data derived from "other tissues" compartment.

LEAD-214 CONTINUED

ORGAN	NUCLIDE	BLOOD TRANSFER FRACTION F2-PRIME	COMPARTMENT DEPOSITION FRACTION	COMPARTMENT BIOLOGICAL HALF-TIME (DAYS)
KIDNEYS	PB-214	1.00	-5.390E-02	1.00
			4.700E-02	10.0
			1.020E-03	320.
			4.990E-04	2.000E 03
			4.220E-04	8.000E 03
	BI-214	0.400	1.00	5.78
	PO-214	1.000E-01	1.000E-02	0.500
			0.990	50.0
	PB-210	5.090E-02	0.362	10.0
			2.000E-02	320.
			9.600E-02	2.000E 04
			8.290E-03	8.000E 04
	BI-210	0.400	1.00	5.78
	PO-210	1.000E-01	1.000E-02	0.500
			0.990	50.
SPLEEN	* PB-214	5.280E-03	-3.230E-02	1.00
			-6.240E-03	10.0
			0.211	320.
			1.740E-02	2.000E 03
			1.770E-02	8.000E 03
	* BI-214	2.640E-03	-1.000E-01	1.000E-01
			1.10	5.78
	PO-214	1.000E-01	1.000E-02	0.500
			0.990	50.0
	* PB-210	2.960E-04	0.375	320.
			0.310	2.000E 03
			0.315	8.000E 03
	* BI-210	2.640E-03	-1.000E-01	1.000E-01
			1.10	5.78
	PO-210	1.000E-01	1.000E-02	0.500
			0.990	50.0
OTHER	PB-214	0.995	-3.230E-02	1.00
			-6.240E-03	10.0
			0.211	320.
			1.740E-02	2.000E 03
			1.770E-02	8.000E 03
	BI-214	0.500	-1.000E-01	1.000E-01
			1.10	5.78
	PO-214	0.610	1.000E-02	0.500
			0.990	50.0
	PB-210	5.580E-03	0.375	320.
			0.310	2.000E 03
			0.315	8.000E 03
	BI-210	0.500	-1.000E-01	1.000E-01
			1.10	5.78
	PO-210	0.610	1.000E-02	0.500
			0.990	50.0

S FACTORS (REM/MICROCURIE-DAY) FOR PB-214

SOURCE ORGANS

TARGET ORGANS	LUNGS	RES LYM	S CONT	SI CONT	ULI CONT	LLI CONT	BONE	LIVER	KIDNEYS	SPLEEN	OTHER
LUNGS	0.156E-01	0.156E-01	0.791E-04	0.125E-04	0.134E-04	0.414E-05	0.438E-04	0.111E-03	0.395E-04	0.996E-04	0.655E-04
RES LYM	0.156E-01	0.992E 00	0.791E-04	0.125E-04	0.134E-04	0.413E-05	0.438E-04	0.111E-03	0.395E-04	0.996E-04	0.655E-04
S WALL	0.830E-04	0.830E-04	0.321E-01	0.159E-03	0.166E-03	0.796E-04	0.256E-04	0.858E-04	0.151E-03	0.436E-03	0.559E-04
SI WALL	0.102E-04	0.102E-04	0.117E-03	0.200E-01	0.744E-03	0.414E-03	0.347E-04	0.727E-04	0.126E-03	0.624E-04	0.672E-04
ULI WALL	0.132E-04	0.132E-04	0.154E-03	0.197E-03	0.357E-01	0.100E-03	0.322E-04	0.112E-03	0.128E-03	0.597E-04	0.666E-04
LLI WALL	0.413E-05	0.413E-05	0.569E-04	0.316E-03	0.135E-03	0.574E-01	0.453E-04	0.119E-04	0.374E-04	0.291E-04	0.741E-04
T BODY	0.279E-03	0.279E-03	0.144E-03	0.259E-03	0.188E-03	0.214E-03	0.279E-03	0.286E-03	0.239E-03	0.289E-03	0.273E-03
ADREN	0.110E-03	0.110E-03	0.103E-03	0.613E-04	0.426E-04	0.208E-04	0.643E-04	0.221E-03	0.498E-03	0.284E-03	0.513E-03
BL WALL	0.263E-05	0.263E-05	0.144E-04	0.129E-05	0.910E-04	0.277E-03	0.243E-04	0.125E-04	0.150E-04	0.696E-05	0.305E-03
KIDNEYS	0.419E-04	0.419E-04	0.153E-03	0.138E-03	0.123E-03	0.387E-04	0.407E-04	0.171E-03	0.513E-01	0.393E-03	0.621E-04
LIVER	0.109E-03	0.109E-03	0.989E-04	0.817E-04	0.114E-03	0.135E-04	0.303E-04	0.943E-02	0.175E-03	0.460E-04	0.471E-04
OVARIES	0.589E-05	0.589E-05	0.223E-04	0.446E-03	0.632E-04	0.816E-05	0.483E-04	0.169E-04	0.534E-04	0.331E-04	0.538E-05
PANCREAS	0.117E-03	0.117E-03	0.802E-03	0.915E-04	0.956E-04	0.317E-04	0.440E-04	0.191E-03	0.291E-03	0.858E-03	0.541E-03
BONE	0.521E-04	0.521E-04	0.316E-04	0.427E-04	0.387E-04	0.562E-04	0.290E-02	0.790E-04	0.509E-04	0.404E-04	0.839E-04
R MAR	0.660E-04	0.660E-04	0.553E-04	0.140E-03	0.121E-03	0.177E-03	0.891E-03	0.562E-04	0.132E-03	0.604E-04	0.415E-03
Y MAR	0.544E-04	0.544E-04	0.440E-04	0.506E-04	0.553E-04	.697E- 4	.154E-03	0.878E-04	0.626E-04	0.603E-04	0.503E-03
ENDOST	0.521E-04	0.521E-04	0.316E-04	0.427E-04	0.387E-04	0.562E-04	0.233E-02	0.790E-04	0.509E-04	0.404E-04	0.284E-03
SPLEEN	0.997E-04	0.997E-04	0.442E-03	0.589E-04	0.596E-04	0.379E-04	0.325E-04	0.427E-04	0.386E-03	0.886E-01	0.625E-04
TESTES	0.777E-06	0.777E-06	0.225E-05	0.157E-04	0.176E-04	0.896E-04	0.268E-04	0.436E-05	0.569E-05	0.343E-05	0.506E-03
THYMUS	0.175E-03	0.175E-03	0.119E-04	0.522E-05	0.590E-05	0.203E-05	0.265E-04	0.405E-04	0.121E-04	0.182E-04	0.620E-03
THYROID	0.442E-04	0.442E-04	0.575E-05	0.131E-05	0.142E-05	0.563E-06	0.432E-04	0.681E-05	0.340E-05	0.556E-05	0.507E-03
UTERUS	0.424E-05	0.424E-05	0.374E-04	0.410E-03	0.211E-03	0.209E-04	0.269E-04	0.180E-04	0.423E-04	0.189E-04	0.622E-03

CASE 1.. INHALATION

AMAD (MICRON).. 1.00 D3 =0.310 D4 =8.000E-02 D5 =0.249

	SOLUBILITY CLASS	G.I. UPTAKE FRACTIONS STOMACH	S INT	U L INT	L L INT
PB-214	W	0.0	8.000E-02	0.0	0.0
BI-214	W	0.0	5.000E-02	0.0	0.0
PO-214	W	0.0	1.000E-01	0.0	0.0
PB-210	W	0.0	8.000E-02	0.0	0.0
BI-210	W	0.0	5.000E-02	0.0	0.0
PO-210	W	0.0	1.000E-01	0.0	0.0

DOSE EQUIVALENT (REM/MICROCURIE)

SOURCE	LUNGS	RES LYM	S CONT	SI CONT	ULI CONT	LLI CONT	BONE	LIVER	KIDNEYS	SPLEEN	OTHER
TARGET											
LUNGS	5.946E-02	5.185E-08	1.753E-07	2.631E-08	5.791E-09	1.352E-10	8.094E-08	1.625E-08	7.821E-08	1.978E-09	2.204E-07
RES LYM	7.684E-04	1.857E-04	1.753E-07	2.631E-08	5.791E-09	1.352E-10	8.094E-08	1.625E-08	7.821E-08	1.978E-09	2.204E-07
S WALL	8.248E-06	1.167E-10	6.499E-05	2.567E-07	4.767E-08	1.286E-09	4.709E-08	1.319E-08	2.555E-07	8.875E-09	2.369E-07
SI WALL	1.345E-06	1.913E-11	2.516E-07	3.021E-05	2.127E-07	6.688E-09	6.488E-08	1.073E-08	2.247E-07	1.332E-09	2.632E-07
ULI WALL	1.744E-06	2.481E-11	3.244E-07	1.645E-06	1.015E-05	3.111E-09	6.140E-08	1.561E-08	2.254E-07	1.363E-09	2.698E-07
LLI WALL	3.488E-07	4.799E-12	1.353E-07	5.042E-07	4.139E-08	9.896E-07	8.043E-08	2.235E-09	7.820E-08	6.417E-10	2.921E-07
T BODY	8.548E-04	3.989E-08	3.033E-07	3.992E-07	5.503E-08	3.613E-09	1.007E-04	1.659E-06	1.963E-05	2.239E-07	4.117E-05
ADREN	8.536E-06	1.186E-10	2.656E-07	9.497E-08	1.556E-08	3.858E-10	1.391E-07	3.222E-08	9.445E-07	6.015E-09	8.497E-05
BL WALL	3.903E-07	5.578E-12	4.343E-08	2.158E-07	2.804E-08	4.410E-09	5.081E-08	1.811E-09	3.578E-08	2.653E-10	4.269E-05
KIDNEYS	4.173E-06	5.858E-11	3.194E-07	2.235E-07	3.803E-08	7.554E-10	8.048E-08	2.476E-08	4.419E-03	7.635E-09	2.525E-07
LIVER	9.816E-06	1.381E-10	1.999E-07	1.374E-07	3.463E-08	3.162E-10	6.069E-08	6.433E-05	3.056E-07	1.019E-09	1.917E-07
OVARIES	7.285E-07	1.033E-11	9.671E-08	6.431E-07	1.270E-07	1.254E-08	7.674E-08	4.955E-09	1.060E-07	5.503E-10	8.505E-05
PANCREAS	9.983E-06	1.394E-10	1.626E-06	1.427E-07	2.937E-08	5.664E-10	8.674E-08	2.699E-08	5.004E-07	1.645E-08	8.507E-05
BONE	4.216E-06	5.989E-11	5.981E-08	5.872E-08	9.369E-09	7.828E-10	1.406E-03	4.930E-09	7.756E-08	7.186E-10	2.818E-07
R MAR	5.338E-06	7.569E-11	9.989E-08	1.807E-07	2.881E-08	2.304E-09	1.978E-04	7.062E-09	1.932E-07	1.047E-09	8.469E-05
Y MAR	4.396E-06	6.258E-11	8.396E-08	8.045E-08	1.392E-08	9.692E-10	2.457E-07	7.260E-09	9.546E-08	1.065E-09	8.490E-05
ENDOST	4.216E-06	5.989E-11	5.981E-08	5.872E-08	9.369E-09	7.828E-10	1.436E-03	4.930E-09	7.756E-08	7.186E-10	6.993E-07
SPLEEN	8.636E-06	1.211E-10	9.087E-07	1.212E-07	1.908E-08	7.802E-10	6.238E-08	6.993E-09	6.396E-07	8.668E-05	2.492E-07
TESTES	1.573E-07	2.276E-12	1.444E-08	4.143E-08	7.218E-09	1.365E-09	6.534E-08	1.177E-09	1.474E-08	1.139E-10	8.496E-05
THYMUS	1.701E-05	2.402E-10	5.865E-08	1.239E-08	2.518E-09	6.133E-11	5.546E-08	6.049E-09	2.015E-08	4.726E-10	8.528E-05
THYROID	4.626E-06	6.500E-11	1.769E-08	4.414E-09	8.798E-10	2.418E-11	6.158E-08	1.431E-09	1.007E-08	1.645E-10	8.495E-05
UTERUS	7.245E-07	1.044E-11	9.487E-08	6.072E-07	6.654E-08	4.275E-09	5.492E-08	3.574E-09	7.324E-08	4.378E-10	8.540E-05

DOSE EQUIVALENT (REM/MICROCURIE)

SOURCE	TOTAL
TARGET	
LUNGS	5.946E-02
RES LYM	9.546E-04
S WALL	7.411E-05
SI WALL	3.259E-05
ULI WALL	1.444E-05
LLI WALL	2.473E-06
T BODY	1.019E-03
ADREN	9.500E-05
BL WALL	4.346E-05
KIDNEYS	4.424E-03
LIVER	7.508E-05
OVARIES	8.684E-05
PANCREAS	9.748E-05
BONE	1.411E-03
R MAR	2.883E-04
Y MAR	8.983E-05
ENDOST	1.441E-03
SPLEEN	9.732E-05
TESTES	8.526E-05
THYMUS	1.024E-04
THYROID	8.967E-05
UTERUS	8.702E-05

PERCENT DOSE EQUIVALENT..

NUCLIDE	PB-214	BI-214	PO-214	PB-210	BI-210	PO-210
TARGET						
LUNGS	0.4	0.9	98.7	0.0	0.0	0.0
RES LYM	25.3	55.3	6.1	0.0	0.3	12.9
S WALL	13.1	48.7	38.3	0.0	0.0	0.0
SI WALL	9.5	48.3	42.2	0.0	0.0	0.0
ULI WALL	8.3	58.4	33.0	0.0	0.2	0.0
LLI WALL	8.8	69.8	17.5	0.3	3.4	0.2
T BODY	0.4	1.3	96.6	0.0	0.0	1.7
ADREN	2.0	9.7	85.5	0.0	0.1	2.7
BL WALL	0.3	3.1	93.5	0.0	0.1	3.0
KIDNEYS	0.0	1.0	98.8	0.0	0.0	0.2
LIVER	2.4	12.9	80.6	0.0	0.1	4.1
OVARIES	0.4	3.0	93.6	0.0	0.1	3.0
PANCREAS	2.2	11.7	83.3	0.0	0.1	2.6
BONE	0.1	0.4	83.9	0.0	0.1	15.5
R MAR	0.5	2.2	96.1	0.0	0.1	1.1
Y MAR	1.1	5.4	90.4	0.0	0.1	2.9
ENDOST	0.1	0.4	98.0	0.0	0.1	1.4
SPLEEN	1.9	10.0	83.5	0.0	0.1	4.5
TESTES	0.2	1.4	95.3	0.0	0.1	3.0
THYMUS	2.8	15.3	79.3	0.0	0.1	2.5
THYROID	0.9	5.5	90.6	0.0	0.1	2.9
UTERUS	0.4	3.2	93.4	0.0	0.1	3.0

CASE 2.. INGESTION

INGESTION TRANSFER FRACTIONS (G. I. TRACT TO BLOOD)

	PB-214	BI-214	PO-214	PB-210	BI-210	PO-210
STOMACH	0.0	0.0	0.0	0.0	0.0	0.0
S INT	8.000E-02	5.000E-02	1.000E-01	8.000E-02	5.000E-02	1.000E-01
U L INT	0.0	0.0	0.0	0.0	0.0	0.0
L L INT	0.0	0.0	0.0	0.0	0.0	0.0

DOSE EQUIVALENT (REM/MICROCURIE)

SOURCE	S CONT	SI CONT	ULI CONT	LLI CONT	BONE	LIVER	KIDNEYS	SPLEEN	OTHER	TOTAL
TARGET										
LUNGS	6.030E-06	1.219E-06	3.047E-07	7.571E-09	8.178E-09	1.583E-09	7.512E-09	1.942E-10	2.165E-08	7.600E-06
RES LYM	6.030E-06	1.219E-06	3.047E-07	7.571E-09	8.178E-09	1.583E-09	7.512E-09	1.942E-10	2.165E-08	7.600E-06
S WALL	2.258E-03	1.199E-05	2.521E-06	7.230E-08	4.743E-09	1.284E-09	2.454E-08	8.713E-10	2.325E-08	2.273E-03
SI WALL	8.681E-06	1.413E-03	1.125E-05	3.757E-07	6.546E-09	1.044E-09	2.158E-08	1.307E-10	2.584E-08	1.434E-03
ULI WALL	1.122E-05	7.692E-05	5.351E-04	1.747E-07	6.189E-09	1.520E-09	2.165E-08	1.337E-10	2.648E-08	6.235E-04
LLI WALL	4.618E-06	2.355E-05	2.187E-06	5.023E-05	8.137E-09	2.168E-10	7.511E-09	6.296E-11	2.867E-08	8.063E-05
T BODY	1.049E-05	1.867E-05	2.904E-06	1.907E-07	1.617E-05	1.922E-07	1.888E-06	2.211E-08	4.153E-06	5.468E-05
ADREN	8.993E-06	4.440E-06	8.201E-07	2.166E-08	1.402E-08	3.138E-09	9.072E-08	5.904E-10	8.570E-06	2.295E-05
BL WALL	1.450E-06	1.006E-05	1.481E-06	2.478E-07	5.104E-09	1.757E-10	3.437E-09	2.600E-11	4.305E-06	1.756E-05
KIDNEYS	1.106E-05	1.043E-05	2.009E-06	4.242E-08	8.112E-09	2.411E-09	4.251E-04	7.498E-10	2.478E-08	4.487E-04
LIVER	6.863E-06	6.404E-06	1.830E-06	1.773E-08	6.113E-09	7.456E-06	2.935E-08	1.000E-10	1.881E-08	2.263E-05
OVARIES	3.148E-06	3.015E-05	6.734E-06	7.046E-07	7.736E-09	4.810E-10	1.019E-08	5.403E-11	8.578E-06	4.933E-05
PANCREAS	5.650E-05	6.669E-06	1.552E-06	3.182E-08	8.739E-09	2.629E-09	4.807E-08	1.615E-09	8.580E-06	7.339E-05
BONE	2.095E-06	2.758E-06	5.229E-07	4.401E-08	2.262E-04	4.820E-10	7.450E-09	7.060E-11	2.821E-08	2.317E-04
R MAR	3.520E-06	8.505E-06	1.528E-06	1.295E-07	2.011E-05	6.894E-10	1.856E-08	1.028E-10	8.541E-06	4.235E-05
Y MAR	2.938E-06	3.781E-06	7.375E-07	5.448E-08	2.780E-08	7.101E-10	9.169E-09	1.046E-10	8.564E-06	1.611E-05
ENDOST	2.095E-06	2.758E-06	5.229E-07	4.401E-08	1.517E-04	4.820E-10	7.450E-09	7.060E-11	7.291E-08	1.572E-04
SPLEEN	3.151E-05	5.645E-06	1.007E-06	4.378E-08	6.305E-09	6.795E-10	6.144E-08	8.561E-06	2.446E-08	4.687E-05
TESTES	4.609E-07	1.909E-06	3.800E-07	7.676E-08	6.561E-09	1.141E-10	1.416E-09	1.117E-11	8.569E-06	1.140E-05
THYMUS	1.895E-06	5.723E-07	1.325E-07	3.436E-09	5.584E-09	5.874E-10	1.935E-09	4.635E-11	8.601E-06	1.121E-05
THYROID	5.898E-07	2.025E-07	4.615E-08	1.353E-09	6.215E-09	1.389E-10	9.674E-10	1.613E-11	8.568E-06	9.415E-06
UTERUS	3.217E-06	2.843E-05	3.514E-06	2.404E-07	5.520E-09	3.469E-10	7.035E-09	4.294E-11	8.612E-06	4.403E-05

PERCENT DOSE EQUIVALENT..

NUCLIDE	PB-214	BI-214	PO-214	PB-210	BI-210	PO-210
TARGET						
LUNGS	18.7	81.3	0.0	0.0	0.0	0.0
RES LYM	18.7	81.3	0.0	0.0	0.0	0.0
S WALL	23.1	38.7	38.2	0.0	0.0	0.0
SI WALL	12.7	44.0	43.3	0.0	0.0	0.0
ULI WALL	9.8	50.3	39.9	0.0	0.0	0.0
LLI WALL	9.6	60.4	29.9	0.0	0.0	0.0
T BODY	9.1	34.9	41.5	0.0	0.1	14.5
ADREN	10.0	53.1	34.7	0.0	0.1	2.2
BL WALL	8.8	67.1	22.7	0.0	0.0	1.4
KIDNEYS	0.9	5.3	93.6	0.0	0.0	0.3
LIVER	10.4	57.0	25.9	0.0	0.2	6.6
OVARIES	10.4	72.4	16.1	0.0	0.0	1.0
PANCREAS	19.2	69.3	10.8	0.0	0.0	0.7
BONE	0.4	2.0	51.0	0.0	0.2	46.2
R MAR	5.6	27.2	65.0	0.0	0.4	1.8
Y MAR	8.4	39.1	49.4	0.0	0.1	3.1
ENDOST	0.6	3.0	89.8	0.0	0.3	6.3
SPLEEN	16.9	65.0	17.0	0.0	0.0	1.1
TESTES	1.9	23.8	69.7	0.0	0.1	4.3
THYMUS	2.4	22.1	70.9	0.0	0.1	4.4
THYROID	1.3	8.8	84.5	0.0	0.1	5.3
UTERUS	10.5	70.3	18.1	0.0	0.0	1.1

RADIONUCLIDE: Bi-210

PHYSICAL AND METABOLIC PARAMETERS FOR DOSIMETRICALLY SIGNIFICANT PROGENY:

NUCLIDE	RADIOACTIVE HALF-LIFE (DAYS)
Bi-210	5.010
Po-210	138.0

BRANCHING RATIOS: FROM Bi-210 TO Po-210 FRACTION 1.000

ORGAN ABSORBED	NUCLIDE	BLOOD TRANSFER FRACTION F2-PRIME	COMPARTMENT DEPOSITION FRACTION	COMPARTMENT BIOLOGICAL HALF-TIME (DAYS)
	Bi-210	1.00	0.500	1.000E-01
			0.500	5.78
	Po-210	1.00	1.000E-02	0.500
			0.990	50.0
BONE	* Bi-210	7.340E-02	0.850	1.000E-01
			0.150	5.78
	* Po-210	5.000E-02	1.000E-02	0.500
			0.990	50.0
LIVER	* Bi-210	2.640E-02	0.850	1.000E-01
			0.150	5.78
	Po-210	1.000E-01	1.000E-02	0.500
			0.990	50.0
KIDNEYS	Bi-210	0.400	-2.000E-02	1.000E-01
			1.02	5.78
	Po-210	1.000E-01	1.000E-02	0.500
			0.990	50.0
SPLEEN	* Bi-210	2.640E-03	0.850	1.000E-01
			0.150	5.78
	Po-210	1.000E-01	1.000E-02	0.500
			0.990	50.0
OTHER	Bi-210	0.500	0.850	1.000E-01
			0.150	5.78
	Po-210	0.610	1.000E-02	0.500
			0.990	50.0

S FACTORS (REM/MICROCURIE-DAY) FOR Bi-210

TARGET ORGANS	SOURCE ORGANS										
	LUNGS	RES LYM	S CONT	SI CONT	ULI CONT	LLI CONT	BONE	LIVER	KIDNEYS	SPLEEN	OTHER
LUNGS	0.199E-01	0.199E-01	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
RES LYM	0.199E-01	0.133E-01	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
S WALL	0.0	0.0	0.398E-01	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
SI WALL	0.0	0.0	0.0	0.249E-01	0.0	0.0	0.0	0.0	0.0	0.0	0.0
ULI WALL	0.0	0.0	0.0	0.0	0.452E-01	0.0	0.0	0.0	0.0	0.0	0.0
LLI WALL	0.0	0.0	0.0	0.0	0.0	0.737E-01	0.0	0.0	0.0	0.0	0.0
T BODY	0.284E-03	0.284E-03	0.853E-04	0.227E-03	0.136E-03	0.104E-03	0.284E-03	0.284E-03	0.284E-03	0.284E-03	0.283E-03
ADREN	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.585E-03
BL WALL	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.293E-03
KIDNEYS	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.642E-01	0.0	0.0
LIVER	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.110E-01	0.0	0.0	0.0
OVARIES	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.586E-03
PANCREAS	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.586E-03
BONE	0.0	0.0	0.0	0.0	0.0	0.0	0.367E-02	0.0	0.0	0.0	0.452E-04
R MAR	0.0	0.0	0.0	0.0	0.0	0.0	0.114E-02	0.0	0.0	0.0	0.419E-03
Y MAR	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.585E-03
ENDOST	0.0	0.0	0.0	0.0	0.0	0.0	0.291E-02	0.0	0.0	0.0	0.311E-03
SPLEEN	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.111E 00	0.0
TESTES	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.586E-03
THYMUS	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.586E-03
THYROID	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.586E-03
UTERUS	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.586E-03

β^- decay (5.012 D 9)

*Retention data derived from "other tissues" compartment.

CASE 1.. INHALATION

AMAD (MICRON).. 1.00 D3 =0.310 D4 =8.000E-02 D5 =0.249

	SOLUBILITY CLASS	G.I. UPTAKE FRACTIONS STOMACH	S INT	U L INT	L L INT
BI-210	W	0.0	5.000E-02	0.0	0.0
PO-210	W	0.0	1.000E-01	0.0	0.0

DOSE EQUIVALENT (REM/MICROCURIE)

SOURCE	LUNGS	RES LYM	S CONT	SI CONT	ULI CONT	LLI CONT	BONE	LIVER	KIDNEYS	SPLEEN	OTHER
TARGET											
LUNGS	0.535	1.483E-04	5.142E-13	3.820E-13	1.659E-12	1.401E-12	1.136E-11	2.707E-11	6.579E-11	2.285E-11	9.670E-11
RES LYM	2.565E-02	2.40	5.142E-13	3.820E-13	1.658E-12	1.401E-12	1.136E-11	2.707E-11	6.579E-11	2.285E-11	9.670E-11
S WALL	4.983E-10	3.516E-11	6.462E-04	3.760E-12	1.517E-11	1.627E-11	6.360E-12	2.179E-11	2.213E-10	9.918E-11	1.041E-10
SI WALL	8.107E-11	5.720E-12	7.309E-13	1.504E-03	6.708E-11	8.681E-11	9.478E-12	1.776E-11	1.836E-10	1.484E-11	1.158E-10
ULI WALL	1.065E-10	7.516E-12	8.826E-13	2.441E-11	8.295E-03	3.958E-11	8.616E-12	2.753E-11	1.896E-10	1.491E-11	1.195E-10
LLI WALL	2.365E-11	1.669E-12	3.822E-13	7.338E-12	1.353E-11	2.214E-02	1.179E-11	3.804E-12	5.843E-11	7.024E-12	1.275E-10
T BODY	7.642E-03	5.155E-04	1.385E-06	1.371E-05	2.496E-05	5.048E-05	1.576E-03	3.130E-04	1.896E-03	2.961E-04	2.140E-03
ADREN	6.283E-10	4.433E-11	6.107E-13	1.318E-12	4.950E-12	4.949E-12	2.060E-11	5.429E-11	8.236E-10	7.163E-11	4.429E-03
BL WALL	2.257E-11	1.592E-12	1.393E-13	2.871E-12	8.729E-12	5.188E-11	5.898E-12	2.792E-12	2.968E-11	2.990E-12	2.215E-03
KIDNEYS	2.654E-10	1.873E-11	9.319E-13	3.451E-12	1.195E-11	8.886E-12	1.245E-11	4.141E-11	0.428	8.669E-11	1.103E-10
LIVER	6.211E-10	4.382E-11	5.674E-13	2.012E-12	1.052E-11	3.732E-12	8.225E-12	1.219E-02	2.572E-10	1.153E-11	8.395E-11
OVARIES	4.369E-11	3.083E-12	3.211E-13	1.062E-11	3.984E-11	1.627E-10	1.151E-11	5.956E-12	9.708E-11	7.935E-12	4.429E-03
PANCREAS	6.355E-10	4.484E-11	4.748E-12	2.230E-12	8.348E-12	7.382E-12	1.097E-11	4.971E-11	4.495E-10	1.969E-10	4.429E-03
BONE	2.582E-10	1.822E-11	1.684E-13	8.514E-13	2.958E-12	1.005E-11	2.211E-02	8.066E-12	6.441E-11	8.155E-12	1.475E-06
R MAR	3.250E-10	2.293E-11	2.876E-13	2.652E-12	8.670E-12	3.001E-11	6.249E-05	1.148E-11	1.619E-10	1.198E-11	4.424E-03
Y MAR	2.726E-10	1.923E-11	2.325E-13	1.175E-12	4.189E-12	1.237E-11	3.368E-11	1.194E-11	8.005E-11	1.212E-11	4.429E-03
ENDOST	2.582E-10	1.822E-11	1.684E-13	8.514E-13	2.959E-12	1.005E-11	2.066E-03	8.066E-12	6.441E-11	8.155E-12	1.015E-05
SPLEEN	5.637E-10	4.013E-11	2.679E-12	1.703E-12	5.624E-12	1.018E-11	1.003E-11	1.233E-11	5.521E-10	0.115	1.095E-10
TESTES	8.396E-12	5.923E-13	3.251E-14	5.168E-13	2.373E-12	1.716E-11	7.277E-12	2.511E-12	1.109E-11	1.168E-12	4.429E-03
THYMUS	1.040E-09	7.337E-11	1.753E-13	1.688E-13	7.113E-13	6.904E-13	9.400E-12	1.140E-11	1.445E-11	6.759E-12	4.429E-03
THYROID	3.503E-10	2.471E-11	4.807E-14	5.455E-14	2.250E-13	2.420E-13	8.460E-12	2.234E-12	7.269E-12	1.741E-12	4.429E-03
UTERUS	2.943E-11	2.076E-12	2.719E-13	9.267E-12	1.948E-11	5.475E-11	9.165E-12	4.638E-12	5.613E-11	6.105E-12	4.429E-03

DOSE EQUIVALENT (REM/MICROCURIE)

SOURCE	TOTAL
TARGET	
LUNGS	0.535
RES LYM	2.43
S WALL	6.462E-04
SI WALL	1.504E-03
ULI WALL	8.295E-03
LLI WALL	2.214E-02
T BODY	1.447E-02
ADREN	4.429E-03
BL WALL	2.215E-03
KIDNEYS	0.428
LIVER	1.219E-02
OVARIES	4.429E-03
PANCREAS	4.429E-03
BONE	2.211E-02
R MAR	4.486E-03
Y MAR	4.429E-03
ENDOST	2.076E-03
SPLEEN	0.115
TESTES	4.429E-03
THYMUS	4.429E-03
THYROID	4.429E-03
UTERUS	4.429E-03

PERCENT DOSE EQUIVALENT..

NUCLIDE	BI-210	PO-210
TARGET		
LUNGS	4.8	95.2
RES LYM	1.5	98.5
S WALL	98.3	1.7
SI WALL	98.3	1.7
ULI WALL	97.8	2.2
LLI WALL	96.9	3.1
T BODY	3.5	96.5
ADREN	0.4	99.6
BL WALL	0.4	99.6
KIDNEYS	2.2	97.8
LIVER	0.2	99.8
OVARIES	0.4	99.6
PANCREAS	0.4	99.6
BONE	0.1	99.9
R MAR	0.4	99.6
Y MAR	0.4	99.6
ENDOST	1.2	98.8
SPLEEN	0.0	100.0
TESTES	0.4	99.6
THYMUS	0.4	99.6
THYROID	0.4	99.6
UTERUS	0.4	99.6

CASE 2.. INGESTION

INGESTION TRANSFER FRACTIONS (G. I. TRACT TO BLOOD)

	BI-210	PO-210
STOMACH	0.0	0.0
S INT	5.000E-02	1.000E-01
U L INT	0.0	0.0
L L INT	0.0	0.0

DOSE EQUIVALENT (REM/MICROCURIE)

SOURCE	S CONT	SI CONT	ULI CONT	LLI CONT	BONE	LIVER	KIDNEYS	SPLEEN	OTHER	TOTAL
TARGET										
LUNGS	2.262E-14	7.461E-14	9.853E-13	1.429E-12	1.627E-12	2.622E-12	2.965E-11	1.673E-12	1.388E-11	5.197E-11
RES LYM	2.262E-14	7.461E-14	9.853E-13	1.429E-12	1.627E-12	2.622E-12	2.965E-11	1.673E-12	1.388E-11	5.197E-11
S WALL	1.649E-03	7.343E-13	9.017E-12	1.659E-11	9.111E-13	2.112E-12	9.974E-11	7.264E-12	1.495E-11	1.649E-03
SI WALL	3.216E-14	3.841E-03	3.986E-11	8.855E-11	1.358E-12	1.721E-12	8.274E-11	1.087E-12	1.663E-11	3.841E-03
ULI WALL	3.883E-14	4.768E-12	2.116E-02	4.037E-11	1.234E-12	2.668E-12	8.544E-11	1.092E-12	1.701E-11	2.116E-02
LLI WALL	1.682E-14	1.433E-12	8.042E-12	5.637E-02	1.683E-12	3.201E-13	2.634E-11	5.144E-13	1.831E-11	5.637E-02
T BODY	3.535E-06	3.502E-05	6.367E-05	1.285E-04	2.262E-04	3.054E-05	8.575E-04	2.171E-05	3.107E-04	1.677E-03
ADREN	2.687E-14	2.575E-13	2.942E-12	5.048E-12	2.951E-12	5.260E-12	3.712E-10	5.246E-12	6.431E-04	6.431E-04
BL WALL	6.129E-15	5.607E-13	5.187E-12	5.292E-11	8.449E-13	2.705E-13	1.338E-11	2.190E-13	3.215E-04	3.215E-04
KIDNEYS	4.100E-14	6.740E-13	7.102E-12	9.064E-12	1.784E-12	4.013E-12	0.194	6.349E-12	1.579E-11	0.194
LIVER	2.496E-14	3.929E-13	6.249E-12	3.807E-12	1.178E-12	1.190E-03	1.159E-10	8.448E-13	1.205E-11	1.190E-03
OVARIES	1.413E-14	2.075E-12	2.367E-11	1.659E-10	1.649E-12	5.771E-13	4.375E-11	5.811E-13	6.431E-04	6.431E-04
PANCREAS	2.089E-13	4.356E-13	4.961E-12	7.530E-12	1.571E-12	4.817E-12	2.026E-10	1.442E-11	6.431E-04	6.431E-04
BONE	7.411E-15	1.663E-13	1.758E-12	1.025E-11	3.173E-03	7.815E-13	2.903E-11	5.972E-13	7.707E-07	3.174E-03
R MAR	1.266E-14	5.180E-13	5.153E-12	3.061E-11	1.102E-05	1.112E-12	7.299E-11	8.770E-13	6.402E-04	6.513E-04
Y MAR	1.023E-14	2.296E-13	2.489E-12	1.262E-11	4.825E-12	1.157E-12	3.608E-11	8.878E-13	6.431E-04	6.431E-04
ENDOST	7.411E-15	1.663E-13	1.758E-12	1.025E-11	3.013E-04	7.815E-13	2.903E-11	5.972E-13	5.303E-06	3.066E-04
SPLEEN	1.179E-13	3.326E-13	3.342E-12	1.039E-11	1.436E-12	1.195E-12	2.488E-10	8.458E-03	1.571E-11	8.458E-03
TESTES	1.430E-15	1.010E-13	1.410E-12	1.750E-11	1.042E-12	2.239E-13	4.998E-12	8.555E-14	6.431E-04	6.431E-04
THYMUS	7.715E-15	3.296E-14	4.230E-13	7.042E-13	1.346E-12	1.105E-12	6.511E-12	4.950E-13	6.431E-04	6.431E-04
THYROID	2.115E-15	1.065E-14	1.337E-13	2.468E-13	1.212E-12	2.164E-13	3.276E-12	1.275E-13	6.431E-04	6.431E-04
UTERUS	1.196E-14	1.810E-12	1.158E-11	5.585E-11	1.313E-12	4.494E-13	2.530E-11	4.471E-13	6.431E-04	6.431E-04

PERCENT DOSE EQUIVALENT..

NUCLIDE	BI-210	PO-210
TARGET		
LUNGS	0.0	100.0
RES LYM	0.0	100.0
S WALL	100.0	0.0
SI WALL	99.9	0.1
ULI WALL	99.5	0.5
LLI WALL	98.8	1.2
T BODY	15.3	84.7
ADREN	1.6	98.4
BL WALL	1.6	98.4
KIDNEYS	2.5	97.5
LIVER	0.8	99.2
OVARIES	1.6	98.4
PANCREAS	1.6	98.4
BONE	0.3	99.7
R MAR	1.5	98.5
Y MAR	1.6	98.4
ENDOST	4.1	95.9
SPLEEN	0.1	99.9
TESTES	1.6	98.4
THYMUS	1.6	98.4
THYROID	1.6	98.4
UTERUS	1.6	98.4

RADIONUCLIDE: BI-211

PHYSICAL AND METABOLIC PARAMETERS FOR DOSIMETRICALLY SIGNIFICANT PROGENY:

NUCLIDE	RADIOACTIVE HALF-LIFE (DAYS)
BI-211	1.4800E-03
PO-211	6.4800E-06
TL-207	3.3100E-03

BRANCHING RATIOS:

FROM	TO	FRACTION
BI-211	PO-211	3.0000E-03
BI-211	TL-207	0.9970

ORGAN	NUCLIDE	BLOOD TRANSFER FRACTION F2-PRIME	COMPARTMENT DEPOSITION FRACTION	COMPARTMENT BIOLOGICAL HALF-TIME (DAYS)
ABSORBED	BI-211	1.00	0.500	1.000E-01
			0.500	5.78
	PO-211	1.00	1.000E-02	0.500
			0.990	50.0
	TL-207	1.00	1.00	4.00
BONE	*BI-211	7.340E-02	0.850	1.000E-01
			0.150	5.78
	*PO-211	9.000E-02	1.000E-02	0.500
			0.990	50.0
	*TL-207	0.118	1.00	4.00
LIVER	*BI-211	2.640E-02	0.850	1.000E-01
			0.150	5.78
	PO-211	1.000E-01	1.000E-02	0.500
			0.990	50.0
	*TL-207	4.240E-02	1.00	4.00
KIDNEYS	BI-211	0.400	-2.000E-02	1.000E-01
			1.02	5.78
	PO-211	1.000E-01	1.000E-02	0.500
			0.990	50.0
	TL-207	3.760E-02	1.00	4.00
SPLEEN	*BI-211	2.640E-03	0.850	1.000E-01
			0.150	5.78
	PO-211	1.000E-01	1.000E-02	0.500
			0.990	50.0
	*TL-207	4.240E-03	1.00	4.00
TESTES	*BI-211	5.140E-04	0.850	1.000E-01
			0.150	5.78
	*PO-211	6.300E-04	1.000E-02	0.500
			0.990	50.0
	*TL-207	8.240E-04	1.00	4.00
OVARIES	*BI-211	1.610E-04	0.850	1.000E-01
			0.150	5.78
	*PO-211	1.980E-04	1.000E-02	0.500
			0.990	50.0
	*TL-207	2.590E-04	1.00	4.00
OTHER	BI-211	0.500	0.850	1.000E-01
			0.150	5.78
	PO-211	0.610	1.000E-02	0.500
			0.990	50.0
	TL-207	0.814	1.00	4.00

α^- decay (2.13 M 2) 99.72%
β^- decay (2.13 M 2) 0.28%

*Retention data derived from "other tissues" compartment.

S FACTORS (REM/MICROCURIE-DAY) FOR BI-211

TARGET ORGANS	SOURCE ORGANS									
	LUNGS	RES LYM	S CONT	SI CONT	ULI CONT	LLI CONT	BONE	LIVER	KIDNEYS	SPLEEN
LUNGS	0.348E 01	0.589E-03	0.144E-04	0.232E-05	0.244E-05	0.747E-06	0.793E-05	0.199E-04	0.719E-05	0.180E-04
RES LYM	0.589E-03	0.232E 03	0.144E-04	0.232E-05	0.244E-05	0.747E-06	0.793E-05	0.199E-04	0.719E-05	0.180E-04
S WALL	0.150E-04	0.150E-04	0.683E-01	0.287E-04	0.298E-04	0.145E-04	0.468E-05	0.155E-04	0.273E-04	0.787E-04
SI WALL	0.189E-05	0.189E-05	0.212E-04	0.427E-01	0.134E-03	0.743E-04	0.631E-05	0.132E-04	0.227E-04	0.113E-04
ULI WALL	0.245E-05	0.245E-05	0.278E-04	0.189E-03	0.775E-01	0.343E-04	0.581E-05	0.203E-04	0.232E-04	0.106E-04
LLI WALL	0.751E-06	0.751E-06	0.103E-04	0.565E-04	0.242E-04	0.126E 00	0.813E-05	0.223E-05	0.687E-05	0.535E-05
T BODY	0.497E-01	0.497E-01	0.160E-03	0.404E-03	0.247E-03	0.303E-03	0.248E 00	0.497E-01	0.497E-01	0.497E-01
ADREN	0.199E-04	0.199E-04	0.184E-04	0.112E-04	0.770E-05	0.379E-05	0.118E-04	0.401E-04	0.904E-04	0.508E-04
BL WALL	0.488E-06	0.488E-06	0.268E-05	0.241E-04	0.163E-04	0.498E-04	0.453E-05	0.198E-05	0.274E-05	0.121E-05
KIDNEYS	0.771E-05	0.771E-05	0.277E-04	0.251E-04	0.221E-04	0.718E-05	0.733E-05	0.308E-04	0.112E 02	0.707E-04
LIVER	0.197E-04	0.197E-04	0.161E-04	0.148E-04	0.205E-04	0.249E-05	0.553E-05	0.193E 01	0.317E-04	0.840E-05
OVARIES	0.109E-05	0.109E-05	0.375E-05	0.790E-04	0.980E-04	0.146E-03	0.711E-05	0.283E-05	0.958E-05	0.643E-05
PANCREAS	0.215E-04	0.215E-04	0.144E-03	0.166E-04	0.171E-04	0.578E-05	0.798E-05	0.349E-04	0.525E-04	0.155E-03
BONE	0.913E-05	0.913E-05	0.557E-05	0.748E-05	0.680E-05	0.981E-05	0.349E 01	0.685E-05	0.895E-05	0.709E-05
R MAR	0.115E-04	0.115E-04	0.978E-05	0.244E-04	0.211E-04	0.299E-04	0.575E 00	0.994E-05	0.231E-04	0.107E-04
Y MAR	0.953E-05	0.953E-05	0.775E-05	0.104E-04	0.969E-05	0.121E-04	0.263E-04	0.101E-04	0.111E-04	0.106E-04
ENDOST	0.913E-05	0.913E-05	0.557E-05	0.748E-05	0.680E-05	0.981E-05	0.550E 01	0.685E-05	0.895E-05	0.709E-05
SPLEEN	0.179E-04	0.179E-04	0.755E-04	0.125E-04	0.107E-04	0.689E-05	0.597E-05	0.775E-05	0.694E-04	0.193E 02
TESTES	0.145E-06	0.145E-06	0.362E-06	0.284E-05	0.328E-05	0.165E-04	0.482E-05	0.776E-06	0.105E-05	0.639E-06
THYMUS	0.312E-04	0.312E-04	0.196E-05	0.970E-05	0.107E-05	0.377E-06	0.490E-05	0.779E-05	0.237E-05	0.333E-05
THYROID	0.811E-05	0.811E-05	0.107E-05	0.245E-06	0.265E-06	0.105E-06	0.814E-05	0.162E-05	0.633E-06	0.103E-05
UTERUS	0.770E-06	0.770E-06	0.684E-05	0.736E-04	0.377E-04	0.517E-04	0.480E-05	0.332E-05	0.767E-05	0.343E-05

S FACTORS (REM/MICROCURIE-DAY) FOR BI-211

TARGET ORGANS	SOURCE ORGANS		
	TESTES	OVARIES	OTHER
LUNGS	0.103E-06	0.722E-06	0.101E-04
RES LYM	0.103E-06	0.722E-06	0.101E-04
S WALL	0.643E-06	0.654E-05	0.108E-04
SI WALL	0.378E-05	0.963E-04	0.122E-04
ULI WALL	0.275E-05	0.907E-04	0.124E-04
LLI WALL	0.228E-04	0.116E-03	0.134E-04
T BODY	0.497E-01	0.497E-01	0.495E-01
ADREN	0.457E-06	0.388E-05	0.103E 00
BL WALL	0.400E-04	0.552E-04	0.513E-01
KIDNEYS	0.619E-06	0.840E-05	0.113E-04
LIVER	0.363E-06	0.478E-05	0.855E-05
OVARIES	0.0	0.316E 03	0.153E-04
PANCREAS	0.452E-06	0.416E-05	0.103E 00
BONE	0.589E-05	0.893E-05	0.106E-04
R MAR	0.475E-05	0.306E-04	0.103E 00
Y MAR	0.238E-05	0.120E-04	0.103E 00
ENDOST	0.589E-05	0.893E-05	0.173E-04
SPLEEN	0.588E-06	0.495E-05	0.113E-04
TESTES	0.994E 02	0.0	0.932E-05
THYMUS	0.601E-07	0.389E-06	0.103E 00
THYROID	0.168E-07	0.102E-06	0.103E 00
UTERUS	0.0	0.160E-03	0.103E 00

CASE 1.. INHALATION

AMAD (MICRON).. 1.00 D3 =0.310 D4 =8.000E-02 D5 =0.249

	SOLUBILITY CLASS	G.I. UPTAKE FRACTIONS STOMACH	S INT	U L INT	L L INT
BI-211	W	0.0	5.000E-02	0.0	0.0
PO-211	W	0.0	1.000E-01	0.0	0.0
TL-207	W	0.0	0.950	0.0	0.0

DOSE EQUIVALENT (REM/MICROCURIE)

SOURCE	LUNGS	RES LYM	S CONT	SI CONT	ULI CONT	LLI CONT	BONE	LIVER	KIDNEYS	SPLEEN	TESTES
TARGET											
LUNGS	4.720E-03	6.445E-11	4.382E-11	4.007E-13	7.263E-15	1.553E-17	1.331E-11	1.194E-11	5.957E-11	1.076E-12	1.418E-15
RES LYM	3.346E-05	1.875E-07	4.382E-11	4.007E-13	7.263E-15	1.553E-17	1.331E-11	1.194E-11	5.957E-11	1.076E-12	1.418E-15
S WALL	2.105E-08	1.359E-14	5.822E-07	4.734E-12	7.831E-14	2.065E-16	7.771E-12	9.355E-12	2.245E-10	4.693E-12	7.694E-15
SI WALL	2.689E-09	1.783E-15	6.426E-11	2.662E-08	3.490E-13	1.100E-15	1.069E-11	7.905E-12	1.867E-10	6.800E-13	4.539E-14
ULI WALL	3.487E-09	2.314E-15	8.342E-11	3.103E-11	1.310E-09	5.006E-16	9.846E-12	1.214E-11	1.909E-10	6.447E-13	3.314E-14
LLI WALL	1.053E-09	6.784E-16	3.161E-11	9.293E-12	6.614E-14	1.829E-11	1.372E-11	1.347E-12	5.665E-11	3.208E-13	2.603E-13
T BODY	6.741E-05	4.018E-11	1.290E-09	2.459E-10	3.971E-12	4.195E-14	3.546E-07	2.615E-08	3.932E-07	2.617E-09	5.091E-10
ADREN	2.785E-08	1.788E-14	5.562E-11	1.809E-12	2.243E-14	5.978E-17	2.057E-11	2.402E-11	7.482E-10	3.107E-12	5.809E-15
BL WALL	6.980E-10	4.677E-16	8.635E-12	3.845E-12	4.398E-14	6.865E-16	7.399E-12	1.169E-12	2.298E-11	8.624E-14	4.733E-13
KIDNEYS	1.083E-08	6.995E-15	8.379E-11	4.172E-12	5.943E-14	1.112E-16	1.280E-11	1.842E-11	8.861E-09	4.203E-12	8.228E-15
LIVER	2.757E-08	1.770E-14	4.892E-11	2.458E-12	5.403E-14	4.308E-17	9.351E-12	1.016E-06	2.606E-10	5.036E-13	5.019E-15
OVARIES	1.545E-09	1.017E-15	1.391E-11	1.315E-11	2.318E-13	2.122E-15	1.213E-11	1.919E-12	8.012E-11	3.755E-13	0.0
PANCREAS	2.996E-08	1.907E-14	4.341E-10	2.743E-12	4.477E-14	8.995E-17	1.335E-11	2.098E-11	4.333E-10	9.252E-12	5.858E-15
BONE	1.272E-08	8.095E-15	1.665E-11	1.204E-12	1.691E-14	1.352E-16	4.974E-06	4.019E-12	7.319E-11	4.181E-13	6.800E-14
R MAR	1.603E-08	1.020E-14	2.914E-11	3.895E-12	5.153E-14	4.072E-16	8.263E-07	5.813E-12	1.987E-10	6.287E-13	5.466E-14
Y MAR	1.328E-08	8.461E-15	2.316E-11	1.671E-12	2.408E-14	1.661E-16	4.342E-11	5.934E-12	9.078E-11	6.248E-13	2.776E-14
ENDOST	1.272E-08	8.095E-15	1.665E-11	1.204E-12	1.691E-14	1.352E-16	7.836E-06	4.019E-12	7.319E-11	4.181E-13	6.800E-14
SPLEEN	2.507E-08	1.612E-14	2.406E-10	2.073E-12	2.868E-14	1.198E-16	1.031E-11	4.793E-12	5.704E-10	1.016E-06	6.986E-15
TESTES	2.111E-10	1.462E-16	1.383E-12	5.084E-13	9.949E-15	2.220E-16	8.203E-12	5.707E-13	8.784E-12	4.107E-14	1.018E-06
THYMUS	4.382E-08	2.833E-14	7.394E-12	1.702E-13	3.140E-15	7.530E-18	8.698E-12	4.642E-12	1.905E-11	2.207E-13	8.551E-16
THYROID	1.154E-08	7.664E-15	3.373E-12	4.607E-14	8.795E-16	2.506E-18	1.283E-11	9.769E-13	5.330E-12	6.505E-14	2.630E-16
UTERUS	1.090E-09	7.155E-16	2.116E-11	1.202E-11	9.980E-14	7.255E-16	8.630E-12	1.991E-12	6.281E-11	2.201E-13	0.0

DOSE EQUIVALENT (REM/MICROCURIE)

SOURCE	OVARIES	OTHER	TOTAL
TARGET			
LUNGS	2.945E-15	1.154E-10	4.720E-03
RES LYM	2.945E-15	1.154E-10	3.364E-05
S WALL	2.387E-14	1.235E-10	6.036E-07
SI WALL	3.498E-13	1.391E-10	2.972E-08
ULI WALL	3.295E-13	1.416E-10	5.266E-09
LLI WALL	4.209E-13	1.528E-10	1.338E-09
T BODY	1.595E-10	4.934E-07	6.868E-05
ADREN	1.469E-14	1.027E-06	1.055E-06
BL WALL	2.031E-13	5.114E-07	5.121E-07
KIDNEYS	3.118E-14	1.294E-10	8.862E-05
LIVER	1.783E-14	9.808E-11	1.044E-06
OVARIES	1.014E-06	1.742E-10	1.016E-06
PANCREAS	1.694E-14	1.027E-06	1.057E-06
BONE	3.181E-14	2.471E-09	4.985E-06
R MAR	1.084E-13	1.018E-06	1.860E-06
Y MAR	4.267E-14	1.027E-06	1.040E-06
ENDOST	3.181E-14	1.588E-08	7.863E-06
SPLEEN	1.831E-14	1.294E-10	1.042E-06
TESTES	0.0	1.069E-10	1.019E-06
THYMUS	1.560E-15	1.027E-06	1.070E-06
THYROID	4.399E-16	1.027E-06	1.038E-06
UTERUS	5.729E-13	1.027E-06	1.026E-06

PERCENT DOSE EQUIVALENT..

NUCLIDE	BI-211	PO-211	TL-207
TARGET			
LUNGS	99.0	0.3	0.7
RES LYM	2.9	0.0	97.1
S WALL	33.8	0.1	66.1
SI WALL	29.3	0.1	70.6
ULI WALL	73.0	0.1	27.0
LLI WALL	92.3	0.0	7.2
T BODY	99.0	0.3	0.7
ADREN	96.8	0.3	2.9
BL WALL	96.8	0.3	2.8
KIDNEYS	98.3	0.3	0.8
LIVER	96.8	0.3	2.9
OVARIES	96.8	0.3	2.8
PANCREAS	96.8	0.3	2.9
BONE	99.1	0.3	0.6
R MAR	98.1	0.3	1.6
Y MAR	96.8	0.3	2.9
ENDOST	99.3	0.3	0.5
SPLEEN	96.8	0.4	2.9
TESTES	96.9	0.3	2.8
THYMUS	96.8	0.3	2.9
THYROID	96.8	0.3	2.9
UTERUS	96.8	0.3	2.8

CASE 2.. INGESTION

INGESTION TRANSFER FRACTIONS (G. I. TRACT TO BLOOD)

	BI-211	PO-211	TL-207
STOMACH	0.0	0.0	0.0
S INT	5.000E-02	1.000E-01	0.950
U L INT	0.0	0.0	0.0
L L INT	0.0	0.0	0.0

DOSE EQUIVALENT (REM/MICROCURIE)

SOURCE	S CONT	SI CONT	ULI CONT	LLI CONT	BONE	LIVER	KIDNEYS	SPLEEN	TESTES	OVARIES	OTHER
TARGET											
LUNGS	3.044E-08	2.639E-10	4.221E-12	7.532E-15	4.655E-12	4.036E-12	1.675E-12	3.550E-13	8.837E-16	1.569E-15	4.032E-11
RES LYM	3.044E-08	2.639E-10	4.221E-12	7.532E-15	4.655E-12	4.036E-12	1.675E-12	3.550E-13	8.837E-16	1.569E-15	4.032E-11
S WALL	2.309E-04	3.198E-09	4.805E-11	1.127E-13	2.559E-12	3.267E-12	5.636E-12	1.531E-12	2.944E-15	7.948E-15	4.340E-11
SI WALL	4.475E-08	1.062E-05	2.150E-10	5.921E-13	3.924E-12	2.643E-12	4.695E-12	2.335E-13	1.766E-14	1.135E-13	4.800E-11
ULI WALL	5.849E-08	2.101E-08	4.982E-07	2.708E-13	3.617E-12	4.023E-12	4.831E-12	2.343E-13	1.311E-14	1.070E-13	4.923E-11
LLI WALL	2.183E-08	6.287E-09	3.988E-11	6.793E-09	4.947E-12	4.733E-13	1.483E-12	1.080E-13	7.659E-14	1.357E-13	5.285E-11
T BODY	5.240E-07	9.869E-08	1.519E-09	1.562E-11	5.826E-09	1.735E-09	2.849E-09	1.735E-10	3.371E-11	1.060E-11	3.310E-08
ADREN	3.881E-08	1.236E-09	1.316E-11	3.150E-14	8.617E-12	8.045E-12	2.072E-11	1.162E-12	2.849E-15	5.887E-15	6.861E-08
BL WALL	5.776E-09	2.646E-09	2.667E-11	3.790E-13	2.203E-12	3.594E-13	7.631E-13	5.489E-14	1.714E-13	7.074E-14	3.430E-08
KIDNEYS	5.843E-08	2.806E-09	3.609E-11	5.897E-14	5.400E-12	6.115E-12	6.423E-07	1.348E-12	4.661E-15	1.139E-14	4.587E-11
LIVER	3.401E-08	1.654E-09	3.311E-11	2.204E-14	3.400E-12	6.728E-08	6.490E-12	1.806E-13	3.165E-15	6.676E-15	3.501E-11
OVARIES	8.505E-09	8.836E-09	1.493E-10	1.150E-12	4.613E-12	1.067E-12	2.563E-12	1.073E-13	0.0	6.722E-08	5.973E-11
PANCREAS	3.034E-07	1.851E-09	2.751E-11	4.761E-14	4.579E-12	7.170E-12	1.150E-11	3.035E-12	3.070E-15	8.979E-15	6.861E-08
BONE	1.170E-08	8.244E-10	1.064E-11	7.463E-14	7.636E-08	1.188E-12	1.663E-12	1.275E-13	2.146E-14	9.115E-15	5.301E-09
R MAR	2.053E-08	2.680E-09	3.270E-11	2.258E-13	2.255E-08	1.681E-12	4.194E-12	1.874E-13	1.690E-14	2.984E-14	4.866E-08
Y MAR	1.628E-08	1.145E-09	1.515E-11	9.183E-14	1.383E-11	1.768E-12	2.064E-12	1.901E-13	9.291E-15	1.210E-14	6.861E-08
ENDOST	1.170E-08	8.244E-10	1.064E-11	7.463E-14	7.396E-08	1.188E-12	1.663E-12	1.275E-13	2.146E-14	9.115E-15	3.516E-08
SPLEEN	1.677E-07	1.396E-09	1.744E-11	6.083E-14	4.151E-12	1.891E-12	1.416E-11	6.728E-08	2.579E-15	6.566E-15	4.569E-11
TESTES	8.304E-10	3.284E-10	5.737E-12	1.236E-13	3.080E-12	3.914E-13	2.820E-13	1.902E-14	6.734E-08	0.0	3.819E-11
THYMUS	4.474E-09	1.111E-10	1.836E-12	3.692E-15	3.930E-12	1.508E-12	2.922E-13	1.140E-13	5.776E-16	7.863E-16	6.861E-08
THYROID	2.289E-09	2.899E-11	4.891E-13	1.172E-15	2.932E-12	3.396E-13	1.851E-13	2.811E-14	2.148E-16	2.747E-16	6.861E-08
UTERUS	1.454E-08	8.164E-09	6.103E-11	3.980E-13	4.094E-12	6.711E-13	1.465E-12	1.013E-13	0.0	1.701E-13	6.869E-08

DOSE EQUIVALENT (REM/MICROCURIE)

SOURCE	TOTAL
TARGET	
LUNGS	3.076E-08
RES LYM	3.076E-08
S WALL	2.309E-04
SI WALL	1.066E-05
ULI WALL	5.777E-07
LLI WALL	3.501E-08
T BODY	6.680E-07
ADREN	1.087E-07
BL WALL	4.275E-08
KIDNEYS	7.036E-07
LIVER	1.030E-07
OVARIES	8.478E-08
PANCREAS	3.739E-07
BONE	9.420E-08
R MAR	9.446E-08
Y MAR	8.607E-08
ENDOST	1.217E-07
SPLEEN	2.365E-07
TESTES	6.855E-08
THYMUS	7.320E-08
THYROID	7.093E-08
UTERUS	9.146E-08

PERCENT DOSE EQUIVALENT..

NUCLIDE	BI-211	PO-211	TL-207
TARGET			
LUNGS	95.9	0.0	4.1
RES LYM	95.9	0.0	4.1
S WALL	60.1	0.2	39.7
SI WALL	41.5	0.1	58.3
ULI WALL	30.7	0.1	69.2
LLI WALL	78.3	0.0	21.7
T BODY	55.6	0.2	44.3
ADREN	38.7	0.0	61.3
BL WALL	22.7	0.0	77.3
KIDNEYS	52.5	0.2	47.4
LIVER	36.6	0.0	63.3
OVARIES	22.8	0.0	77.2
PANCREAS	79.6	0.0	20.3
BONE	31.4	0.1	68.6
R MAR	30.5	0.0	69.5
Y MAR	23.6	0.0	76.3
ENDOST	32.6	0.1	67.3
SPLEEN	70.3	0.0	29.7
TESTES	6.6	0.0	93.4
THYMUS	10.4	0.0	89.6
THYROID	8.1	0.0	91.9
UTERUS	27.4	0.0	72.6

RADIONUCLIDE: BI-212

PHYSICAL AND METABOLIC PARAMETERS FOR DOSIMETRICALLY SIGNIFICANT PROGENY:

NUCLIDE	RADIOACTIVE HALF-LIFE (DAYS)
BI-212	4.2000E-02
PO-212	3.5300E-12
TL-208	2.1300E-03

BRANCHING RATIOS:

FROM	TO	FRACTION
BI-212	PO-212	0.6400
BI-212	TL-208	0.3600

ORGAN ABSORBED	NUCLIDE	BLOOD TRANSFER FRACTION F2-PRIME	COMPARTMENT DEPOSITION FRACTION	COMPARTMENT BIOLOGICAL HALF-TIME (DAYS)
	BI-212	1.00	0.500	1.000E-01
			0.500	5.78
	PO-212	1.00	1.000E-02	0.500
			0.990	50.0
	TL-208	1.00	1.00	4.00
BONE	*BI-212	7.340E-02	0.850	1.000E-01
			0.150	5.78
	*PO-212	9.000E-02	1.000E-02	0.500
			0.990	50.0
	*TL-208	0.118	1.00	4.00
LIVER	*BI-212	2.640E-02	0.850	1.000E-01
			0.150	5.78
	PO-212	1.000E-01	1.000E-02	0.500
			0.990	50.0
	*TL-208	4.240E-02	1.00	4.00
KIDNEYS	BI-212	0.400	-2.000E-02	1.000E-01
			1.02	5.78
	PO-212	1.000E-01	1.000E-02	0.500
			0.990	50.0
	TL-208	3.760E-02	1.00	4.00
SPLEEN	*BI-212	2.640E-03	0.850	1.000E-01
			0.150	5.78
	PO-212	1.000E-01	1.000E-02	0.500
			0.990	50.0
	*TL-208	4.240E-03	1.00	4.00
TESTES	*BI-212	5.140E-04	0.850	1.000E-01
			0.150	5.78
	*PO-212	6.300E-04	1.000E-02	0.500
			0.990	50.0
	*TL-208	8.240E-04	1.00	4.00
OVARIES	*BI-212	1.610E-04	0.850	1.000E-01
			0.150	5.78
	*PO-212	1.980E-04	1.000E-02	0.500
			0.990	50.0
	*TL-208	2.590E-04	1.00	4.00
OTHER	BI-212	0.500	0.850	1.000E-01
			0.150	5.78
	PO-212	0.610	1.000E-02	0.500
			0.990	50.0
	TL-208	0.814	1.00	4.00

β^- decay (60.55 M 4) 64.07%
α decay (60.55 M 4) 35.93%
*Retention data derived from "other tissues" compartment.

S FACTORS (REM/MICROCURIE-DAY) FOR BI-212

TARGET ORGANS	SOURCE ORGANS									
	LUNGS	RES LYM	S CONT	SI CONT	ULI CONT	LLI CONT	BONE	LIVER	KIDNEYS	SPLEEN
LUNGS	0.118E 01	0.244E-01	0.550E-04	0.107E-04	0.124E-04	0.473E-05	0.306E-04	0.747E-04	0.299E-04	0.652E-04
RES LYM	0.244E-01	0.786E 02	0.550E-04	0.107E-04	0.124E-04	0.473E-05	0.306E-04	0.747E-04	0.299E-04	0.652E-04
S WALL	0.595E-04	0.595E-04	0.717E-01	0.106E-03	0.106E-03	0.506E-04	0.177E-04	0.597E-04	0.978E-04	0.294E-03
SI WALL	0.975E-05	0.975E-05	0.776E-04	0.448E-01	0.479E-03	0.269E-03	0.249E-04	0.491E-04	0.854E-04	0.436E-04
ULI WALL	0.129E-04	0.129E-04	0.100E-03	0.703E-03	0.811E-01	0.126E-03	0.232E-04	0.729E-04	0.976E-04	0.440E-04
LLI WALL	0.255E-05	0.255E-05	0.418E-04	0.208E-03	0.936E-04	0.132E 00	0.309E-04	0.994E-05	0.287E-04	0.207E-04
T BODY	0.169E-01	0.169E-01	0.265E-03	0.461E-03	0.299E-03	0.355E-03	0.828E-01	0.169E-01	0.169E-01	0.169E-01
ADREN	0.675E-04	0.675E-04	0.784E-04	0.376E-04	0.346E-04	0.153E-04	0.561E-04	0.146E-03	0.371E-03	0.201E-03
BL WALL	0.282E-05	0.282E-05	0.144E-04	0.891E-04	0.599E-04	0.173E-03	0.138E-04	0.317E-05	0.135E-04	0.832E-05
KIDNEYS	0.318E-04	0.318E-04	0.992E-04	0.939E-04	0.851E-04	0.284E-04	0.320E-04	0.114E-03	0.380E 01	0.253E-03
LIVER	0.723E-04	0.723E-04	0.613E-04	0.564E-04	0.760E-04	0.123E-04	0.226E-04	0.655E 00	0.118E-03	0.334E-04
OVARIES	0.530E-05	0.530E-05	0.312E-04	0.275E-03	0.279E-03	0.604E-03	0.303E-04	0.201E-04	0.416E-04	0.220E-04
PANCREAS	0.748E-04	0.748E-04	0.510E-03	0.596E-04	0.614E-04	0.223E-04	0.317E-04	0.131E-03	0.200E-03	0.555E-03
BONE	0.302E-04	0.302E-04	0.182E-04	0.239E-04	0.216E-04	0.313E-04	0.116E 01	0.224E-04	0.298E-04	0.236E-04
R MAR	0.382E-04	0.382E-04	0.305E-04	0.741E-04	0.630E-04	0.927E-04	0.192E 00	0.321E-04	0.749E-04	0.343E-04
Y MAR	0.315E-04	0.315E-04	0.254E-04	0.329E-04	0.305E-04	0.387E-04	0.945E-04	0.332E-04	0.369E-04	0.351E-04
ENDOST	0.302E-04	0.302E-04	0.182E-04	0.239E-04	0.216E-04	0.313E-04	0.285E 01	0.224E-04	0.298E-04	0.236E-04
SPLEEN	0.632E-04	0.632E-04	0.285E-03	0.492E-04	0.418E-04	0.311E-04	0.249E-04	0.323E-04	0.250E-03	0.655E 01
TESTES	0.111E-05	0.111E-05	0.398E-05	0.153E-04	0.160E-04	0.536E-04	0.218E-04	0.552E-05	0.530E-05	0.356E-05
THYMUS	0.124E-03	0.124E-03	0.184E-04	0.494E-05	0.534E-05	0.229E-05	0.222E-04	0.289E-04	0.912E-05	0.155E-04
THYROID	0.365E-04	0.365E-04	0.535E-05	0.169E-05	0.178E-05	0.356E-06	0.262E-04	0.630E-05	0.354E-05	0.521E-05
UTERUS	0.494E-05	0.494E-05	0.295E-04	0.255E-03	0.144E-03	0.171E-03	0.223E-04	0.150E-04	0.280E-04	0.145E-04

S FACTORS (REM/MICROCURIE-DAY) FOR BI-212

TARGET ORGANS	SOURCE ORGANS		
	TESTES	OVARIES	OTHER
LUNGS	0.947E-06	0.470E-05	0.388E-04
RES LYM	0.947E-06	0.470E-05	0.388E-04
S WALL	0.342E-05	0.269E-04	0.415E-04
SI WALL	0.170E-04	0.345E-03	0.459E-04
ULI WALL	0.124E-04	0.326E-03	0.473E-04
LLI WALL	0.780E-04	0.414E-03	0.507E-04
T BODY	0.169E-01	0.169E-01	0.168E-01
ADREN	0.275E-05	0.177E-04	0.348E-01
BL WALL	0.153E-03	0.206E-03	0.174E-01
KIDNEYS	0.435E-05	0.343E-04	0.441E-04
LIVER	0.301E-05	0.203E-04	0.335E-04
OVARIES	0.0	0.107E 03	0.579E-04
PANCREAS	0.312E-05	0.211E-04	0.348E-01
BONE	0.203E-04	0.277E-04	0.971E-04
R MAR	0.159E-04	0.902E-04	0.345E-01
Y MAR	0.900E-05	0.366E-04	0.348E-01
ENDOST	0.203E-04	0.277E-04	0.440E-03
SPLEEN	0.302E-05	0.196E-04	0.436E-04
TESTES	0.337E 02	0.0	0.372E-04
THYMUS	0.589E-06	0.242E-05	0.348E-01
THYROID	0.231E-06	0.875E-06	0.348E-01
UTERUS	0.0	0.516E-03	0.348E-01

CASE 1.. INHALATION

AMAD (MICRON).. 1.00 D3 =0.310 D4 =8.000E-02 D5 =0.249

	SOLUBILITY CLASS	G.I. UPTAKE FRACTIONS STOMACH	S INT	U L INT	L L INT
BI-212	W	0.0	5.000E-02	0.0	0.0
PO-212	W	0.0	1.000E-01	0.0	0.0
TL-208	W	0.0	0.950	0.0	0.0

DOSE EQUIVALENT (REM/MICROCURIE)

SOURCE	LUNGS	RES LYM	S CONT	SI CONT	ULI CONT	LLI CONT	BONE	LIVER	KIDNEYS	SPLEEN	TESTES
TARGET											
LUNGS	0.139	2.437E-08	3.202E-07	5.928E-08	2.669E-08	1.432E-08	5.716E-08	4.802E-08	2.972E-07	4.412E-09	1.567E-11
RES LYM	1.247E-03	1.762E-04	3.202E-07	5.928E-08	2.669E-08	1.432E-09	5.716E-09	4.802E-08	2.972E-07	4.412E-09	1.557E-11
S WALL	1.335E-05	2.695E-10	1.358E-04	5.168E-07	2.183E-07	1.248E-08	3.015E-08	4.122E-08	1.012E-06	1.856E-08	5.895E-11
SI WALL	2.565E-06	5.187E-11	4.785E-07	8.481E-05	9.399E-07	5.831E-08	4.665E-08	7.260E-08	8.258E-07	2.858E-09	2.394E-10
ULI WALL	3.362E-06	6.799E-11	5.632E-07	3.351E-06	5.219E-05	2.658E-08	4.282E-08	4.789E-08	7.930E-07	2.969E-09	2.389E-10
LLI WALL	5.974E-07	1.207E-11	2.399E-07	1.050E-06	1.800E-07	8.897E-06	5.461E-08	7.422E-09	2.915E-07	1.476E-09	1.044E-09
T BODY	1.991E-03	3.799E-08	5.932E-07	1.029E-06	2.679E-07	3.223E-08	5.684E-05	4.104E-06	8.380E-05	4.154E-07	8.080E-08
ADREN	1.225E-05	2.468E-10	4.479E-07	2.047E-07	7.346E-08	3.471E-09	3.399E-08	1.117E-07	3.385E-06	1.248E-08	4.281E-11
BL WALL	7.519E-07	1.521E-11	7.974E-08	4.243E-07	1.377E-07	3.671E-08	3.697E-08	6.507E-09	1.402E-07	6.049E-10	1.939E-09
KIDNEYS	6.524E-06	1.316E-10	5.750E-07	4.511E-07	1.656E-07	7.164E-09	5.122E-08	7.450E-08	1.886E-02	1.619E-08	6.353E-11
LIVER	1.601E-05	3.233E-10	3.772E-07	2.925E-07	1.587E-07	2.822E-09	4.551E-08	1.605E-04	1.138E-06	2.251E-09	4.778E-11
OVARIES	1.334E-06	2.697E-11	1.706E-07	1.332E-06	6.729E-07	1.068E-07	5.480E-08	1.217E-08	3.140E-07	7.317E-10	0.0
PANCREAS	1.598E-05	3.225E-10	2.859E-06	3.081E-07	1.490E-07	5.190E-09	5.747E-09	7.748E-08	1.754E-06	3.502E-08	6.721E-11
BONE	6.916E-06	1.397E-10	1.114E-07	1.200E-07	4.497E-08	6.928E-09	7.960E-04	1.516E-08	2.915E-07	1.546E-09	2.656E-10
R MAR	8.719E-06	1.761E-10	1.838E-07	3.635E-07	1.299E-07	1.999E-08	1.216E-04	2.181E-08	7.189E-07	2.268E-09	2.155E-10
Y MAR	7.276E-06	1.470E-10	1.557E-07	1.639E-07	6.262E-08	8.476E-09	1.604E-07	2.214E-08	3.572E-07	2.292E-09	1.305E-10
ENDOST	6.916E-06	1.397E-10	1.114E-07	1.200E-07	4.497E-08	6.928E-09	1.041E-03	1.516E-08	2.915E-07	1.546E-09	2.656E-10
SPLEEN	1.489E-05	3.008E-10	1.592E-06	2.485E-07	8.401E-08	6.934E-09	4.134E-08	2.082E-08	2.720E-06	1.603E-04	5.952E-11
TESTES	3.337E-07	6.756E-12	3.021E-08	8.857E-09	3.641E-08	1.305E-08	5.688E-08	3.760E-09	5.814E-08	2.756E-10	1.602E-04
THYMUS	2.688E-05	5.426E-10	9.689E-08	2.767E-08	1.237E-08	6.138E-10	4.623E-08	2.237E-08	7.687E-08	1.296E-09	1.138E-11
THYROID	7.677E-06	1.549E-10	3.575E-08	1.062E-08	4.658E-09	2.627E-10	2.756E-08	4.677E-09	4.047E-08	3.879E-10	5.252E-12
UTERUS	1.373E-06	2.777E-11	1.879E-07	1.217E-06	3.031E-07	3.630E-08	3.447E-08	1.116E-08	2.726E-07	1.256E-09	0.0

DOSE EQUIVALENT (REM/MICROCURIE)

SOURCE	OVARIES	OTHER	TOTAL
TARGET			
LUNGS	2.380E-11	4.803E-07	0.139
RES LYM	2.380E-11	4.803E-07	1.425E-03
S WALL	1.271E-10	5.180E-07	1.515E-04
SI WALL	1.352E-09	5.745E-07	9.033E-05
ULI WALL	1.260E-09	5.900E-07	6.097E-05
LLI WALL	1.667E-09	6.383E-07	1.196E-05
T BODY	2.537E-08	7.912E-05	2.216E-03
ADREN	7.184E-11	1.620E-04	1.785E-04
BL WALL	7.658E-10	8.120E-05	8.282E-05
KIDNEYS	1.481E-10	5.536E-07	1.886E-02
LIVER	8.942E-11	4.233E-07	1.789E-04
OVARIES	1.598E-04	7.203E-07	1.645E-04
PANCREAS	7.152E-11	1.621E-04	1.834E-04
BONE	1.112E-10	5.989E-07	8.041E-04
R MAR	3.500E-10	1.613E-04	3.031E-04
Y MAR	1.451E-10	1.618E-04	1.700E-04
ENDOST	1.112E-10	1.349E-06	1.050E-03
SPLEEN	9.726E-11	5.441E-07	1.800E-04
TESTES	0.0	5.159E-07	1.614E-04
THYMUS	1.199E-11	1.626E-04	1.899E-04
THYROID	4.984E-12	1.619E-04	1.697E-04
UTERUS	2.059E-09	1.629E-04	1.663E-04

PERCENT DOSE EQUIVALENT..

NUCLIDE	BI-212	PO-212	TL-208
TARGET			
LUNGS	28.2	71.5	0.3
RES LYM	60.3	8.8	30.8
S WALL	41.4	32.0	26.5
SI WALL	44.8	35.3	19.9
ULI WALL	40.8	31.1	28.2
LLI WALL	37.5	27.3	35.2
T BODY	23.2	71.1	0.7
ADREN	27.1	64.6	8.3
BL WALL	27.7	69.4	2.9
KIDNEYS	28.1	71.5	0.4
LIVER	26.8	63.9	9.4
OVARIES	27.8	69.4	2.9
PANCREAS	26.6	62.9	10.5
BONE	27.8	71.2	0.9
R MAR	27.5	69.2	3.3
Y MAR	27.4	67.8	4.8
ENDOST	52.2	47.1	0.7
SPLEEN	26.6	63.5	9.9
TESTES	23.1	70.8	1.1
THYMUS	26.1	60.8	13.1
THYROID	27.5	68.0	4.5
UTERUS	27.6	69.3	3.0

CASE 2.. INGESTION

INGESTION TRANSFER FRACTIONS (G. I. TRACT TO BLOOD)

	BI-212	PO-212	TL-208
STOMACH	0.0	0.0	0.0
S INT	5.000E-02	1.000E-01	0.950
U L INT	0.0	0.0	0.0
L L INT	0.0	0.0	0.0

DOSE EQUIVALENT (REM/MICROCURIE)

SOURCE	S CONT	SI CONT	ULI CONT	LLI CONT	BONE	LIVER	KIDNEYS	SPLEEN	TESTES	OVARIES	OTHER
TARGET											
LUNGS	8.601E-06	1.726E-06	7.811E-07	4.190E-08	1.598E-07	1.335E-07	8.936E-08	1.233E-08	4.440E-11	6.793E-11	1.349E-06
RES LYM	8.601E-06	1.726E-06	7.811E-07	4.190E-08	1.598E-07	1.335E-07	8.936E-08	1.233E-08	4.440E-11	6.793E-11	1.349E-06
S WALL	3.899E-03	1.505E-05	6.385E-06	3.653E-07	9.267E-08	1.155E-07	3.053E-07	5.148E-08	1.684E-10	3.606E-10	1.457E-06
SI WALL	1.284E-05	2.480E-03	2.751E-05	1.707E-06	1.273E-07	9.094E-08	2.477E-07	7.962E-09	6.731E-10	3.761E-09	1.616E-06
ULI WALL	1.513E-05	9.756E-05	1.527E-03	7.780E-07	1.195E-07	1.334E-07	2.364E-07	8.297E-09	6.895E-10	3.501E-09	1.659E-06
LLI WALL	6.446E-06	3.057E-05	5.268E-06	2.604E-04	1.517E-07	2.095E-08	8.779E-08	4.147E-09	2.920E-09	4.631E-09	1.797E-06
T BODY	1.647E-05	3.004E-05	7.842E-06	9.435E-07	8.427E-06	7.270E-07	1.204E-05	7.259E-08	1.389E-08	4.531E-09	1.344E-05
ADREN	1.203E-05	5.960E-06	2.150E-06	1.016E-07	2.284E-07	3.160E-07	1.010E-06	3.455E-08	1.216E-10	2.007E-10	2.659E-05
BL WALL	2.143E-06	1.235E-05	4.030E-06	1.075E-06	1.039E-07	1.848E-08	4.230E-08	1.704E-09	5.080E-09	2.118E-09	1.449E-05
KIDNEYS	1.545E-05	1.313E-05	4.847E-06	2.097E-07	1.406E-07	2.075E-07	2.694E-07	4.497E-08	1.792E-10	4.163E-10	1.558E-06
LIVER	1.012E-05	8.224E-06	4.643E-06	8.262E-08	1.282E-07	2.591E-05	3.411E-07	6.290E-09	1.358E-10	2.519E-10	1.192E-06
OVARIES	4.586E-06	3.879E-05	1.969E-05	3.125E-06	1.517E-07	3.667E-08	9.202E-08	1.817E-09	0.0	2.476E-05	2.025E-06
PANCREAS	7.683E-05	8.969E-06	4.360E-06	1.516E-07	1.601E-07	2.132E-07	5.212E-07	9.714E-08	1.851E-10	1.954E-10	2.717E-05
BONE	2.991E-06	3.494E-06	1.316E-06	2.028E-07	1.153E-04	4.238E-08	8.750E-08	4.306E-09	7.409E-10	3.103E-10	1.493E-06
R MAR	4.933E-06	1.058E-05	3.803E-06	5.852E-07	1.974E-05	6.099E-08	2.155E-07	6.324E-09	6.035E-10	9.728E-10	2.583E-05
Y MAR	4.178E-06	4.769E-06	1.833E-06	2.481E-07	4.433E-07	6.178E-08	1.071E-07	6.381E-09	3.681E-10	4.041E-10	2.616E-05
ENDOST	2.991E-06	3.494E-06	1.316E-06	2.028E-07	1.499E-04	4.238E-08	8.750E-08	4.306E-09	7.409E-10	3.103E-10	2.500E-06
SPLEEN	4.280E-05	7.236E-06	2.458E-06	2.030E-07	1.140E-07	5.797E-08	6.933E-07	2.525E-05	1.690E-10	2.771E-10	1.530E-06
TESTES	8.085E-07	2.578E-06	1.065E-06	3.819E-07	1.639E-07	9.278E-09	1.762E-08	7.809E-10	2.494E-05	0.0	1.467E-06
THYMUS	2.606E-06	8.056E-07	3.620E-07	1.797E-03	1.307E-07	6.331E-08	2.301E-08	3.696E-09	3.285E-11	3.414E-11	2.869E-05
THYROID	9.582E-07	3.092E-07	1.363E-07	7.689E-09	7.055E-08	1.289E-08	1.231E-08	1.094E-09	1.533E-11	1.436E-11	2.644E-05
UTERUS	5.041E-06	3.543E-05	8.869E-06	1.063E-06	9.404E-08	3.149E-08	8.180E-08	3.595E-09	0.0	5.740E-09	2.943E-05

DOSE EQUIVALENT (REM/MICROCURIE)

SOURCE	TOTAL
TARGET	
LUNGS	1.289E-05
RES LYM	1.289E-05
S WALL	3.923E-03
SI WALL	2.524E-03
ULI WALL	1.643E-03
LLI WALL	3.048E-04
T BODY	9.002E-05
ADREN	4.842E-05
BL WALL	3.427E-03
KIDNEYS	2.730E-03
LIVER	5.065E-05
OVARIES	9.326E-05
PANCREAS	1.185E-04
BONE	1.250E-04
R MAR	6.575E-05
Y MAR	3.781E-05
ENDOST	1.605E-04
SPLEEN	8.034E-05
TESTES	3.143E-05
THYMUS	3.270E-05
THYROID	2.795E-05
UTERUS	8.006E-05

PERCENT DOSE EQUIVALENT..

NUCLIDE	BI-212	PO-212	TL-208
TARGET			
LUNGS	13.7	0.0	86.3
RES LYM	13.7	0.0	86.3
S WALL	45.2	36.2	18.6
SI WALL	46.3	37.0	16.7
ULI WALL	43.2	33.7	23.1
LLI WALL	41.2	31.4	27.4
T BODY	32.0	40.1	27.9
ADREN	20.2	33.9	46.0
BL WALL	19.2	23.9	57.0
KIDNEYS	27.8	70.3	1.9
LIVER	19.9	32.1	48.0
OVARIES	18.4	17.4	64.2
PANCREAS	17.9	13.8	68.3
BONE	26.3	65.2	8.5
R MAR	22.7	45.4	31.9
Y MAR	21.8	43.4	34.8
ENDOST	49.3	43.8	6.9
SPLEEN	18.9	20.2	60.9
TESTES	22.7	51.7	25.6
THYMUS	21.7	50.2	28.1
THYROID	23.8	58.7	17.5
UTERUS	19.0	20.5	60.5

RADIONUCLIDE: BI-213

PHYSICAL AND METABOLIC PARAMETERS FOR DOSIMETRICALLY SIGNIFICANT PROGENY:

NUCLIDE	RADIOACTIVE HALF-LIFE (DAYS)
BI-213	3.1700E-02
PO-213	4.8600E-11
PB-209	0.1380
TL-209	1.5300E-03

BRANCHING RATIOS:

FROM	TO	FRACTION
BI-213	PO-213	2.1600E-02
BI-213	TL-209	0.9780
PO-213	PB-209	1.000
TL-209	PB-209	1.000

ORGAN	NUCLIDE	BLOOD TRANSFER FRACTION F2-PRIME	COMPARTMENT DEPOSITION FRACTION	COMPARTMENT BIOLOGICAL HALF-TIME (DAYS)
ABSORBED	BI-213	1.00	0.500	1.000E-01
			0.500	5.78
	PO-213	1.00	1.000E-02	0.500
			0.990	50.0
	PB-209	1.00	1.000E-01	1.00
			0.200	10.0
			0.300	320.
			0.200	2.000E 03
			0.200	8.000E 03
	TL-209	1.00	1.00	4.00
BONE	*BI-213	7.340E-02	0.850	1.000E-01
			0.150	5.78
	*PO-213	9.000E-02	1.000E-02	0.500
			0.990	50.0
	PB-209	0.562	0.375	320.
			0.310	2.000E 03
			0.315	8.000E 03
	*TL-209	0.118	1.00	4.00
LIVER	*BI-213	2.640E-02	0.850	1.000E-01
			0.150	5.78
	PO-213	1.000E-01	1.000E-02	0.500
			0.990	50.0
	PB-209	0.106	0.843	10.0
			7.870E-02	320.
			4.010E-02	2.000E 03
			3.820E-02	8.000E 03
	*TL-209	4.240E-02	1.00	4.00
KIDNEYS	BI-213	0.400	-2.000E-02	1.000E-01
			1.02	5.78
	PO-213	1.000E-01	1.000E-02	0.500
			0.990	50.0
	PB-209	5.090E-02	0.962	10.0
			2.000E-02	320.
			9.600E-03	2.000E 03
			8.290E-03	8.000E 03
	TL-209	3.760E-02	1.00	4.00
SPLEEN	*BI-213	2.640E-03	0.850	1.000E-01
			0.150	5.78
	PO-213	1.000E-01	1.000E-02	0.500
			0.990	50.0
	*PB-209	2.960E-04	0.375	320.
			0.310	2.000E 03
			0.315	8.000E 03
	*TL-209	4.240E-03	1.00	4.00
THYROID	*BI-213	2.930E-04	0.850	1.000E-01
			0.150	5.78
	*PO-213	3.600E-04	1.000E-02	0.500
			0.990	50.0
	*PB-209	3.290E-05	0.375	320.
			0.310	2.000E 03
			0.315	8.000E 03
	*TL-209	4.700E-04	1.00	4.00

β^- decay (45.65 M 5) 97.84%
α decay (45.65 M 5) 2.16%
*Retention data derived from "other tissues" compartment.

ORGAN	NUCLIDE	BLOOD TRANSFER FRACTION F2-PRIME	COMPARTMENT DEPOSITION FRACTION	COMPARTMENT BIOLOGICAL HALF-TIME (DAYS)
TESTES	*BI-213	5.140E-04	0.850	1.000E-01
			0.150	5.78
	*PO-213	6.300E-04	1.000E-02	0.500
			0.990	50.0
	*PB-209	5.760E-05	0.375	320.
			0.310	2.000E 03
			0.315	8.000E 03
	* TL-209	8.240E-04	1.00	4.00
OVARIES	*BI-213	1.610E-04	0.850	1.000E-01
			0.150	5.78
	*PO-213	1.980E-04	1.000E-02	0.500
			0.990	50.0
	*PB-209	1.810E-05	0.375	320.
			0.310	2.000E 03
			0.315	8.000E 03
	* TL-209	2.590E-04	1.00	4.00
OTHER	BI-213	0.500	0.850	1.000E-01
			0.150	5.78
	PO-213	0.610	1.000E-02	0.500
			0.990	50.0
	PB-209	5.580E-02	0.375	320.
			0.310	2.000E 03
			0.315	8.000E 03
	TL-209	0.914	1.00	4.00

S FACTORS (REM/MICROCURIE-DAY) FOR BI-213

TARGET ORGANS	SOURCE ORGANS									
	LUNGS	RES LYM	S CONT	SI CONT	ULI CONT	LLI CONT	BONE	LIVER	KIDNEYS	SPLEEN
LUNGS	0.903E-01	0.232E-01	0.430E-04	0.745E-05	0.773E-05	0.237E-05	0.232E-04	0.571E-04	0.219E-04	0.520E-04
RES LYM	0.232E-01	0.600E-01	0.430E-04	0.745E-05	0.773E-05	0.237E-05	0.232E-04	0.571E-04	0.219E-04	0.520E-04
S WALL	0.436E-04	0.436E-04	0.483E-01	0.815E-04	0.959E-04	0.423E-04	0.137E-04	0.449E-04	0.794E-04	0.231E-03
SI WALL	0.616E-05	0.616E-05	0.620E-04	0.302E-01	0.387E-03	0.213E-03	0.188E-04	0.378E-04	0.654E-04	0.329E-04
ULI WALL	0.829E-05	0.829E-05	0.789E-04	0.544E-03	0.545E-01	0.996E-04	0.168E-04	0.598E-04	0.678E-04	0.322E-04
LLI WALL	0.199E-05	0.199E-05	0.301E-04	0.162E-03	0.709E-04	0.864E-01	0.230E-04	0.714E-05	0.204E-04	0.161E-04
T BODY	0.132E-02	0.132E-02	0.143E-03	0.316E-03	0.206E-03	0.244E-03	0.515E-02	0.133E-02	0.133E-02	0.133E-02
ADREN	0.577E-04	0.577E-04	0.519E-04	0.305E-04	0.234E-04	0.114E-04	0.379E-04	0.116E-03	0.291E-03	0.146E-03
BL WALL	0.163E-05	0.163E-05	0.960E-05	0.751E-04	0.462E-04	0.138E-03	0.144E-04	0.704E-05	0.868E-05	0.350E-05
KIDNEYS	0.238E-04	0.238E-04	0.798E-04	0.741E-04	0.644E-04	0.202E-04	0.217E-04	0.892E-04	0.292E 00	0.203E-03
LIVER	0.567E-04	0.567E-04	0.476E-04	0.428E-04	0.587E-04	0.784E-05	0.165E-04	0.506E-01	0.933E-04	0.250E-04
OVARIES	0.345E-05	0.345E-05	0.124E-04	0.219E-03	0.289E-03	0.399E-03	0.234E-04	0.670E-05	0.279E-04	0.219E-04
PANCREAS	0.640E-04	0.640E-04	0.415E-03	0.488E-04	0.453E-04	0.175E-04	0.222E-04	0.109E-03	0.154E-03	0.455E-03
BONE	0.250E-04	0.250E-04	0.152E-04	0.200E-04	0.183E-04	0.204E-04	0.714E-01	0.185E-04	0.246E-04	0.193E-04
R MAR	0.316E-04	0.316E-04	0.264E-04	0.644E-04	0.557E-04	0.799E-04	0.224E-01	0.270E-04	0.627E-04	0.287E-04
Y MAR	0.263E-04	0.263E-04	0.211E-04	0.278E-04	0.261E-04	0.327E-04	0.737E-04	0.273E-04	0.304E-04	0.290E-04
ENDOST	0.250E-04	0.250E-04	0.152E-04	0.200E-04	0.183E-04	0.204E-04	0.689E-01	0.185E-04	0.246E-04	0.193E-04
SPLEEN	0.511E-04	0.511E-04	0.227E-03	0.369E-04	0.305E-04	0.215E-04	0.188E-04	0.233E-04	0.198E-03	0.503E 00
TESTES	0.524E-06	0.524E-06	0.918E-06	0.860E-05	0.111E-04	0.479E-04	0.139E-04	0.264E-05	0.336E-05	0.211E-05
THYMUS	0.889E-04	0.889E-04	0.616E-05	0.312E-05	0.343E-05	0.128E-05	0.165E-04	0.273E-04	0.820E-05	0.109E-04
THYROID	0.266E-04	0.266E-04	0.341E-05	0.862E-06	0.923E-06	0.387E-06	0.247E-04	0.450E-05	0.209E-05	0.331E-05
UTERUS	0.230E-05	0.230E-05	0.207E-04	0.209E-03	0.108E-03	0.139E-03	0.141E-04	0.101E-04	0.208E-04	0.107E-04

S FACTORS (REM/MICROCURIE-DAY) FOR BI-213

TARGET ORGANS	SOURCE ORGANS			
	THYROID	TESTES	OVARIES	OTHER
LUNGS	0.246E-04	0.340E-06	0.248E-05	0.297E-04
RES LYM	0.246E-04	0.340E-06	0.248E-05	0.297E-04
S WALL	0.250E-05	0.237E-05	0.195E-04	0.316E-04
SI WALL	0.247E-06	0.120E-04	0.279E-03	0.355E-04
ULI WALL	0.290E-06	0.784E-05	0.362E-03	0.363E-04
LLI WALL	0.322E-06	0.564E-04	0.336E-03	0.391E-04
T BODY	0.132E-02	0.132E-02	0.133E-02	0.131E-02
ADREN	0.447E-05	0.155E-05	0.130E-04	0.269E-02
BL WALL	0.202E-06	0.119E-03	0.159E-03	0.137E-02
KIDNEYS	0.118E-05	0.220E-05	0.258E-04	0.333E-04
LIVER	0.356E-05	0.121E-05	0.143E-04	0.253E-04
OVARIES	0.383E-06	0.0	0.920E 01	0.448E-04
PANCREAS	0.183E-05	0.114E-05	0.130E-04	0.271E-02
BONE	0.196E-04	0.163E-04	0.237E-04	0.817E-04
R MAR	0.204E-04	0.131E-04	0.802E-04	0.249E-02
Y MAR	0.980E-05	0.683E-05	0.717E-04	0.268E-02
ENDOST	0.186E-04	0.163E-04	0.237E-04	0.392E-03
SPLEEN	0.304E-05	0.245E-05	0.155E-04	0.331E-04
TESTES	0.713E-07	0.258E 01	0.0	0.276E-04
THYMUS	0.103E-03	0.234E-06	0.133E-05	0.273E-02
THYROID	0.451E 01	0.713E-07	0.383E-06	0.297E-04
UTERUS	0.362E-06	0.0	0.440E-03	0.274E-02

CASE 1.. INHALATION

AMAD (MICRON).. 1.00 D3 =0.310 D4 =3.000E-02 D5 =0.249

	SOLUBILITY CLASS	G.I. UPTAKE FRACTIONS			
		STOMACH	S INT	U L INT	L L INT
BI-213	W	0.0	5.000E-02	0.0	0.0
PO-213	W	0.0	1.000E-01	0.0	0.0
PB-209	W	0.0	8.000E-02	0.0	0.0
TL-209	W	0.0	0.950	0.0	0.0

DOSE EQUIVALENT (REM/MICROCURIE)

SOURCE	LUNGS	RES LYM	S CONT	SI CONT	ULI CONT	LLI CONT	BONE	LIVER	KIDNEYS	SPLEEN	THYROID
TARGET											
LUNGS	5.754E-03	2.357E-08	3.839E-07	5.041E-08	1.911E-08	5.963E-10	6.701E-08	6.040E-08	3.429E-07	5.124E-09	2.898E-10
RES LYM	1.583E-03	5.371E-06	3.839E-07	5.041E-08	1.911E-08	5.963E-10	6.701E-08	6.040E-08	3.429E-07	5.124E-09	2.898E-10
S WALL	1.785E-05	2.667E-10	7.977E-05	5.237E-07	1.531E-07	6.252E-09	4.092E-08	4.744E-08	1.090E-06	2.443E-08	4.542E-11
SI WALL	2.845E-06	4.251E-11	5.342E-07	3.763E-05	7.098E-07	3.307E-08	5.271E-08	3.987E-08	1.030E-06	3.584E-09	1.209E-11
ULI WALL	3.860E-06	5.770E-11	7.659E-07	3.338E-06	1.963E-05	1.621E-08	5.036E-08	5.802E-08	1.049E-06	3.608E-09	1.429E-11
LLI WALL	6.647E-07	9.922E-12	2.957E-07	1.015E-06	1.337E-07	2.823E-06	6.523E-08	8.854E-08	3.630E-07	1.679E-09	7.081E-12
T BODY	9.342E-05	1.345E-09	5.245E-07	5.956E-07	1.408E-07	1.315E-08	1.927E-06	2.141E-07	3.741E-06	2.134E-08	2.265E-09
ADREN	1.866E-05	2.784E-10	6.745E-07	1.847E-07	4.967E-08	1.862E-09	1.251E-07	1.131E-07	4.247E-06	1.530E-08	5.987E-11
BL WALL	8.527E-07	1.275E-11	9.443E-08	5.004E-07	3.275E-08	2.379E-08	5.057E-08	6.923E-08	1.550E-07	5.894E-10	9.151E-12
KIDNEYS	9.828E-06	1.468E-10	6.903E-07	4.435E-07	1.276E-07	3.574E-09	6.548E-08	9.149E-08	7.323E-04	2.051E-08	3.833E-11
LIVER	2.142E-05	3.199E-10	4.318E-07	2.762E-07	1.156E-07	1.610E-09	5.013E-08	7.320E-06	1.379E-06	2.682E-09	5.711E-11
OVARIES	1.582E-06	2.364E-11	1.751E-07	1.224E-06	4.002E-07	6.173E-08	6.330E-08	1.981E-08	4.382E-07	1.736E-09	8.363E-12
PANCREAS	2.284E-05	3.410E-10	3.586E-06	2.743E-07	9.477E-08	2.630E-09	7.511E-08	1.006E-07	2.284E-06	4.296E-08	8.920E-11
BONE	9.193E-06	1.373E-10	1.325E-07	1.227E-07	3.442E-08	4.016E-09	2.568E-05	1.887E-08	3.682E-07	1.959E-09	2.124E-10
R MAR	1.170E-05	1.748E-10	2.203E-07	3.815E-07	1.012E-07	1.190E-08	4.564E-06	2.732E-08	9.256E-07	2.829E-09	2.336E-10
Y MAR	9.448E-06	1.411E-10	1.870E-07	1.680E-07	4.877E-08	4.994E-09	2.016E-07	2.801E-08	4.525E-07	2.911E-09	1.177E-10
ENDOST	9.193E-06	1.373E-10	1.325E-07	1.227E-07	3.442E-08	4.016E-09	1.695E-05	1.887E-08	3.682E-07	1.959E-09	2.124E-10
SPLEEN	1.740E-05	2.598E-10	1.978E-06	2.499E-07	6.625E-08	3.669E-09	4.765E-08	2.383E-08	2.898E-06	6.994E-06	4.687E-11
TESTES	3.462E-07	5.179E-12	2.982E-08	8.081E-09	2.066E-08	6.627E-09	5.144E-08	7.328E-09	6.286E-08	2.897E-10	2.394E-12
THYMUS	3.802E-05	5.680E-10	1.186E-07	2.431E-08	9.140E-09	2.893E-10	3.796E-08	2.108E-08	1.240E-07	6.924E-10	1.187E-09
THYROID	8.914E-06	1.331E-10	3.741E-08	8.566E-09	2.800E-09	1.128E-10	7.266E-08	5.102E-09	4.235E-08	4.185E-10	6.819E-06
UTERUS	2.014E-06	3.014E-11	2.095E-07	1.239E-06	2.277E-07	2.195E-08	4.173E-08	1.433E-08	7.752E-07	7.693E-10	8.052E-12

DOSE EQUIVALENT (REM/MICROCURIE)

SOURCE	TESTES	OVARIES	OTHER	TOTAL
TARGET				
LUNGS	1.803E-11	2.330E-11	5.819E-07	5.756E-03
RES LYM	1.803E-11	2.330E-11	5.819E-07	1.593E-03
S WALL	5.808E-11	1.462E-10	6.235E-07	1.001E-04
SI WALL	2.624E-10	1.670E-09	6.938E-07	4.357E-05
ULI WALL	1.861E-10	1.578E-09	7.113E-07	2.948E-05
LLI WALL	1.265E-09	2.008E-09	7.677E-07	6.142E-06
T BODY	4.034E-09	1.342E-09	3.891E-06	1.045E-04
ADREN	4.389E-11	8.216E-11	7.498E-06	3.157E-05
BL WALL	2.230E-09	9.869E-10	4.281E-06	6.051E-06
KIDNEYS	6.983E-11	1.626E-10	6.648E-07	7.442E-04
LIVER	5.049E-11	9.983E-11	5.047E-07	3.150E-05
OVARIES	0.0	6.794E-06	8.834E-07	1.164E-05
PANCREAS	5.631E-11	8.052E-11	7.760E-06	3.706E-05
BONE	3.231E-10	1.418E-10	7.321E-07	3.628E-05
R MAR	2.504E-10	4.608E-10	6.839E-06	2.478E-05
Y MAR	1.445E-10	1.863E-10	7.321E-06	1.786E-05
ENDOST	3.231E-10	1.418E-10	1.682E-06	2.851E-05
SPLEEN	4.480E-11	8.788E-11	6.556E-07	3.032E-05
TESTES	6.859E-06	0.0	5.645E-07	8.025E-06
THYMUS	1.010E-11	1.217E-11	8.484E-06	4.684E-05
THYROID	4.186E-12	4.599E-12	5.794E-07	1.648E-03
UTERUS	0.0	2.514E-09	8.378E-06	1.253E-05

PERCENT DOSE EQUIVALENT..

NUCLIDE	BI-213	PO-213	PB-209	TL-209
TARGET				
LUNGS	40.1	42.7	0.1	17.2
RES LYM	37.4	0.1	0.3	62.2
S WALL	29.0	1.1	0.3	69.6
SI WALL	34.8	1.3	1.0	62.9
ULI WALL	25.1	0.9	2.6	71.4
LLI WALL	18.0	0.6	6.4	75.1
T BODY	35.3	37.2	0.1	26.9
ADREN	14.1	8.8	0.0	77.0
BL WALL	24.0	23.0	0.1	52.9
KIDNEYS	38.9	41.4	0.1	19.6
LIVER	13.5	8.8	0.1	77.6
OVARIES	25.0	23.8	0.1	51.1
PANCREAS	12.8	7.5	0.0	79.7
BONE	30.5	38.3	0.2	31.0
R MAR	20.2	20.5	0.1	59.3
Y MAR	13.9	15.6	0.0	65.5
ENDOST	11.0	48.0	0.2	40.8
SPLEEN	14.2	9.1	0.0	76.6
TESTES	33.2	34.6	0.1	32.2
THYMUS	10.6	5.9	0.0	83.4
THYROID	20.1	16.9	0.0	63.0
UTERUS	23.2	22.2	0.1	54.5

CASE 2.. INGESTION

INGESTION TRANSFER FRACTIONS (G. I. TRACT TO BLOOD)

	BI-213	PO-213	PB-209	TL-209
STOMACH	0.0	0.0	0.0	0.0
S INT	5.000E-02	1.000E-01	8.000E-02	0.950
U L INT	0.0	0.0	0.0	0.0
L L INT	0.0	0.0	0.0	0.0

DOSE EQUIVALENT (REM/MICROCURIE)

SOURCE	S CONT	SI CONT	ULI CONT	LLI CONT	BONE	LIVER	KIDNEYS	SPLEEN	THYROID	TESTES	OVARIES
TARGET											
LUNGS	1.345E-05	1.902E-06	7.242E-07	2.260E-08	1.590E-07	1.433E-07	8.363E-08	1.212E-08	6.873E-10	4.403E-11	5.621E-11
RES LYM	1.345E-05	1.902E-06	7.242E-07	2.260E-08	1.590E-07	1.433E-07	8.363E-08	1.212E-08	6.873E-10	4.403E-11	5.621E-11
S WALL	2.859E-03	1.976E-05	5.801E-06	2.369E-07	9.726E-08	1.126E-07	2.646E-07	5.797E-08	1.094E-10	1.387E-10	3.499E-10
SI WALL	1.873E-05	1.409E-03	2.690E-05	1.253E-06	1.249E-07	9.460E-08	2.514E-07	8.519E-09	2.975E-11	6.237E-10	3.952E-09
ULI WALL	2.683E-05	1.260E-04	7.231E-04	6.144E-07	1.197E-07	1.316E-07	2.559E-07	8.585E-09	3.514E-11	4.440E-10	3.737E-09
LLI WALL	1.036E-05	3.828E-05	5.067E-06	9.666E-05	1.571E-07	2.117E-08	8.894E-08	3.983E-09	1.717E-11	2.986E-09	4.753E-09
T BODY	1.852E-05	2.237E-05	5.275E-06	4.749E-07	6.566E-07	1.968E-07	5.589E-07	1.963E-08	1.954E-09	3.544E-09	1.301E-09
ADREN	2.361E-05	6.967E-06	1.882E-06	7.055E-08	2.987E-07	2.672E-07	1.034E-06	3.630E-08	1.428E-10	1.054E-10	1.950E-10
BL WALL	3.308E-06	1.888E-05	3.136E-06	9.017E-07	1.211E-07	1.637E-08	3.797E-08	1.422E-09	1.254E-11	5.259E-09	2.340E-09
KIDNEYS	2.420E-05	1.673E-05	4.836E-06	1.354E-07	1.557E-07	2.168E-07	9.882E-05	4.857E-08	9.375E-11	1.684E-10	7.859E-10
LIVER	1.513E-05	1.042E-05	4.379E-06	6.102E-08	1.192E-07	5.301E-06	3.356E-07	6.368E-09	1.372E-10	1.227E-10	2.381E-10
OVARIES	6.123E-06	4.616E-05	1.516E-05	2.339E-06	1.497E-07	4.849E-08	1.069E-07	4.053E-09	2.028E-11	0.0	4.116E-06
PANCREAS	1.257E-04	1.035E-05	3.591E-06	9.967E-08	1.795E-07	2.370E-07	5.559E-07	1.014E-07	2.194E-10	1.373E-10	1.909E-10
BONE	4.645E-06	4.629E-06	1.304E-06	1.522E-07	6.204E-06	4.470E-08	8.964E-08	4.638E-09	5.030E-10	7.643E-10	3.357E-10
R MAR	7.724E-06	1.439E-05	3.835E-06	4.511E-07	2.025E-06	6.470E-08	2.252E-07	6.689E-09	5.533E-10	5.912E-10	1.083E-09
Y MAR	6.555E-06	6.340E-06	1.847E-06	1.893E-07	4.771E-07	6.638E-08	1.102E-07	6.890E-09	2.794E-10	3.429E-10	4.404E-10
ENDOST	4.645E-06	4.629E-06	1.304E-06	1.522E-07	4.597E-06	4.470E-08	8.964E-08	4.638E-09	5.030E-10	7.643E-10	3.357E-10
SPLEEN	6.935E-05	9.428E-06	2.510E-06	1.391E-07	1.123E-07	5.646E-08	7.048E-07	4.575E-06	1.124E-10	1.055E-10	2.074E-10
TESTES	1.041E-06	3.049E-06	7.830E-07	2.511E-07	1.234E-07	7.962E-09	1.542E-08	6.953E-10	5.859E-12	4.234E-06	0.0
THYMUS	4.144E-06	9.170E-07	3.085E-07	1.097E-08	8.891E-08	4.911E-08	3.021E-08	1.590E-09	2.813E-09	2.456E-11	2.933E-11
THYROID	1.310E-06	3.231E-07	1.061E-07	4.276E-09	1.726E-07	1.215E-08	1.042E-08	1.001E-09	4.152E-06	1.024E-11	1.118E-11
UTERUS	7.336E-06	4.676E-05	8.628E-06	8.319E-07	9.914E-08	3.443E-08	9.197E-08	1.783E-09	1.954E-11	0.0	5.934E-09

DOSE EQUIVALENT (REM/MICROCURIE)

SOURCE	OTHER	TOTAL
TARGET		
LUNGS	1.393E-06	1.789E-05
RES LYM	1.393E-06	1.789E-05
S WALL	1.493E-06	2.887E-03
SI WALL	1.661E-06	1.458E-03
ULI WALL	1.703E-06	8.787E-04
LLI WALL	1.838E-06	1.525E-04
T BODY	3.442E-06	5.152E-05
ADREN	5.769E-06	3.994E-05
BL WALL	4.158E-06	3.057E-05
KIDNEYS	1.593E-06	1.467E-04
LIVER	1.209E-06	3.696E-05
OVARIES	2.115E-06	7.633E-05
PANCREAS	6.383E-06	1.472E-04
BONE	1.646E-06	1.872E-05
R MAR	4.589E-06	3.332E-05
Y MAR	5.350E-06	2.094E-05
ENDOST	3.292E-06	1.876E-05
SPLEEN	1.570E-06	8.844E-05
TESTES	1.354E-06	1.086E-05
THYMUS	8.154E-06	1.371E-05
THYROID	1.387E-06	7.478E-06
UTERUS	7.866E-06	7.165E-05

PERCENT DOSE EQUIVALENT..

NUCLIDE	BI-213	PO-213	PB-209	TL-209
TARGET				
LUNGS	6.3	0.0	0.0	93.7
RES LYM	6.3	0.0	0.0	93.7
S WALL	36.5	1.4	0.1	62.0
SI WALL	38.7	1.5	0.3	59.5
ULI WALL	30.5	1.1	1.0	67.4
LLI WALL	24.6	0.9	3.0	71.5
T BODY	20.2	1.4	0.2	78.2
ADREN	3.3	0.8	0.0	93.9
BL WALL	6.6	0.5	0.0	92.9
KIDNEYS	23.7	22.7	0.1	53.5
LIVER	6.5	0.8	0.1	92.6
OVARIES	8.0	0.4	0.0	91.6
PANCREAS	7.1	0.2	0.0	92.7
BONE	10.3	8.0	0.2	81.5
R MAR	7.5	1.7	0.0	90.8
Y MAR	6.7	1.4	0.0	91.9
ENDOST	5.7	7.9	0.2	86.2
SPLEEN	6.9	0.3	0.0	92.8
TESTES	4.9	2.8	0.0	92.3
THYMUS	3.7	2.2	0.0	94.1
THYROID	5.1	4.0	0.0	90.9
UTERUS	7.2	0.4	0.0	92.3

RADIONUCLIDE: BI-214

PHYSICAL AND METABOLIC PARAMETERS FOR DOSIMETRICALLY SIGNIFICANT PROGENY:

NUCLIDE	RADIOACTIVE HALF-LIFE (DAYS)
BI-214	1.3800E-02
PO-214	1.8900E-09
PB-210	8140.
BI-210	5.010
PO-210	138.0

BRANCHING RATIOS:

FROM	TO	FRACTION
BI-214	PO-214	1.000
PO-214	PB-210	1.000
PB-210	BI-210	1.000
BI-210	PO-210	1.000

ORGAN ABSORBED	NUCLIDE	BLOOD TRANSFER FRACTION F2-PRIME	COMPARTMENT DEPOSITION FRACTION	COMPARTMENT BIOLOGICAL HALF-TIME (DAYS)
	BI-214	1.00	0.500	1.000E-01
			0.500	5.78
	PO-214	1.00	1.000E-02	0.500
			0.990	50.0
	PB-210	1.00	1.000E-01	1.00
			0.200	10.0
			0.300	320.
			0.200	2.000E 03
			0.200	8.000E 03
	BI-210	1.00	-1.720E-02	1.000E-01
			1.02	5.78
	PO-210	1.00	1.000E-02	0.500
			0.990	50.0
BONE	*BI-214	7.340E-02	0.850	1.000E-01
			0.150	5.78
	*PO-214	9.000E-02	1.000E-02	0.500
			0.990	50.0
	PB-210	0.562	0.375	320.
			0.310	2.000E 03
			0.315	8.000E 03
	*BI-210	7.340E-02	-1.000E-01	1.000E-01
			1.10	5.78
	*PO-210	9.000E-02	1.000E-02	0.500
			0.990	50.0
LIVER	*BI-214	2.640E-02	0.850	1.000E-01
			0.150	5.78
	PO-214	1.000E-01	1.000E-02	0.500
			0.990	50.0
	PB-210	0.106	0.843	10.0
			7.870E-02	320.
			4.010E-02	2.000E 03
			3.820E-02	8.000E 03
	*BI-210	2.640E-02	-1.000E-01	1.000E-01
			1.10	5.78
	PO-210	1.000E-01	1.000E-02	0.500
			0.990	50.0
KIDNEYS	BI-214	0.400	-2.000E-02	1.000E-01
			1.02	5.78
	PO-214	1.000E-01	1.000E-02	0.500
			0.990	50.0
	PB-210	5.090E-02	0.962	10.0
			2.000E-02	320.
			9.600E-03	2.000E 03
			8.290E-03	8.000E 03
	BI-210	0.400	1.00	5.78
	PO-210	1.000E-01	1.000E-02	0.500
			0.990	50.0

β^- decay (19.9 M 4)

*Retention data derived from "other tissues" compartment.

BISMUTH-214 CONTINUED

ORGAN	NUCLIDE	BLOOD TRANSFER FRACTION F2-PRIME	COMPARTMENT DEPOSITION FRACTION	COMPARTMENT BIOLOGICAL HALF-TIME (DAYS)
SPLEEN	*BI-214	2.640E-03	0.850	1.000E-01
			0.150	5.78
	PO-214	1.000E-01	1.000E-02	0.500
			0.990	50.0
	*PB-210	2.960E-04	0.375	320.
			0.310	2.000E 03
			0.315	8.000E 03
	*BI-210	2.640E-03	-1.000E-01	1.000E-01
			1.10	5.78
	PO-210	1.000E-01	1.000E-02	0.500
			0.990	50.0
OTHER	BI-214	0.500	0.850	1.000E-01
			0.150	5.78
	PO-214	0.610	1.000E-02	0.500
			0.990	50.0
	PB-210	5.580E-02	0.375	320.
			0.310	2.000E 03
			0.315	8.000E 03
	BI-210	0.500	-1.000E-01	1.000E-01
			1.10	5.78
	PO-210	0.610	1.000E-02	0.500
			0.990	50.0

S FACTORS (REM/MICROCURIE-DAY) FOR BI-214

TARGET ORGANS	SOURCE ORGANS									
	LUNGS	RES LYM	S CONT	SI CONT	ULI CONT	LLI CONT	BONE	LIVER	KIDNEYS	SPLEEN
LUNGS	0.366E-01	0.366E-01	0.429E-03	0.876E-04	0.103E-03	0.442E-04	0.244E-03	0.590E-03	0.236E-03	0.514E-03
RES LYM	0.366E-01	0.222E 01	0.429E-03	0.876E-04	0.103E-03	0.442E-04	0.244E-03	0.590E-03	0.236E-03	0.514E-03
S WALL	0.484E-03	0.484E-03	0.764E-01	0.836E-03	0.825E-03	0.406E-03	0.142E-03	0.480E-03	0.771E-03	0.231E-02
SI WALL	0.825E-04	0.825E-04	0.613E-03	0.486E-01	0.368E-02	0.211E-02	0.196E-03	0.390E-03	0.678E-03	0.349E-03
ULI WALL	0.107E-03	0.107E-03	0.788E-03	0.533E-02	0.855E-01	0.982E-03	0.186E-03	0.566E-03	0.680E-03	0.358E-03
LLI WALL	0.198E-04	0.198E-04	0.334E-03	0.164E-02	0.720E-03	0.135E 00	0.241E-03	0.818E-04	0.236E-03	0.168E-03
T BODY	0.820E-03	0.820E-03	0.568E-03	0.845E-03	0.684E-03	0.736E-03	0.823E-03	0.882E-03	0.883E-03	0.880E-03
ADREN	0.475E-03	0.475E-03	0.662E-03	0.308E-03	0.274E-03	0.123E-03	0.428E-03	0.117E-02	0.285E-02	0.157E-02
BL WALL	0.243E-04	0.243E-04	0.110E-03	0.705E-03	0.488E-03	0.139E-02	0.156E-03	0.662E-04	0.108E-03	0.714E-04
KIDNEYS	0.245E-03	0.245E-03	0.775E-03	0.728E-03	0.662E-03	0.241E-03	0.245E-03	0.899E-03	0.124E 00	0.198E-02
LIVER	0.565E-03	0.565E-03	0.490E-03	0.449E-03	0.602E-03	0.102E-03	0.185E-03	0.244E-01	0.922E-03	0.267E-03
OVARIES	0.443E-04	0.443E-04	0.252E-03	0.207E-02	0.216E-02	0.394E-02	0.234E-03	0.183E-03	0.320E-03	0.141E-03
PANCREAS	0.568E-03	0.568E-03	0.393E-02	0.463E-03	0.511E-03	0.180E-03	0.264E-03	0.979E-03	0.151E-02	0.426E-02
BONE	0.237E-03	0.237E-03	0.143E-03	0.188E-03	0.159E-03	0.244E-03	0.691E-02	0.178E-03	0.234E-03	0.185E-03
R MAR	0.300E-03	0.300E-03	0.237E-03	0.574E-03	0.490E-03	0.715E-03	0.292E-02	0.255E-03	0.583E-03	0.269E-03
Y MAR	0.247E-03	0.247E-03	0.201E-03	0.257E-03	0.238E-03	0.302E-03	0.699E-03	0.262E-03	0.288E-03	0.274E-03
ENDOST	0.237E-03	0.237E-03	0.143E-03	0.188E-03	0.169E-03	0.244E-03	0.528E-02	0.178E-03	0.234E-03	0.185E-03
SPLEEN	0.493E-03	0.493E-03	0.220E-02	0.398E-03	0.333E-03	0.250E-03	0.189E-03	0.255E-03	0.193E-02	0.215E 00
TESTES	0.101E-04	0.101E-04	0.384E-04	0.140E-03	0.128E-03	0.429E-03	0.204E-03	0.434E-04	0.445E-04	0.305E-04
THYMUS	0.994E-03	0.994E-03	0.154E-03	0.416E-04	0.448E-04	0.200E-04	0.170E-03	0.220E-03	0.608E-04	0.125E-03
THYROID	0.274E-03	0.274E-03	0.449E-04	0.151E-04	0.159E-04	0.797E-05	0.178E-03	0.522E-04	0.304E-04	0.438E-04
UTERUS	0.458E-04	0.458E-04	0.236E-03	0.196E-02	0.116E-02	0.134E-02	0.168E-03	0.131E-03	0.221E-03	0.115E-03

CASE 1.. INHALATION

AMAD (MICRON).. 1.00 D3 =0.310 D4 =9.000E-02 D5 =0.249

	SOLUBILITY CLASS	G.I. UPTAKE FRACTIONS STOMACH	S INT	U L INT	L L INT
BI-214	W	0.0	5.000E-02	0.0	0.0
PO-214	W	0.0	1.000E-01	0.0	0.0
PB-210	W	0.0	8.000E-02	0.0	0.0
BI-210	W	0.0	5.000E-02	0.0	0.0
PO-210	W	0.0	1.000E-01	0.0	0.0

DOSE EQUIVALENT (REM/MICROCURIE)

SOURCE	LUNGS	RES LYM	S CONT	SI CONT	ULI CONT	LLI CONT	BONE	LIVER	KIDNEYS	SPLEEN	OTHER
TARGET											
LUNGS	4.803E-02	3.390E-08	6.921E-08	5.999E-09	8.127E-10	1.258E-11	1.333E-08	1.147E-08	7.744E-08	9.988E-10	1.119E-07
RES LYM	4.272E-04	1.132E-04	6.921E-08	5.999E-09	8.127E-10	1.258E-11	1.333E-08	1.147E-08	7.744E-08	9.988E-10	1.119E-07
S WALL	5.647E-06	3.456E-11	2.533E-05	5.725E-09	6.510E-09	1.160E-10	7.731E-09	9.328E-09	2.530E-07	4.489E-09	1.203E-07
SI WALL	9.625E-07	5.689E-12	9.890E-08	6.694E-06	2.904E-08	6.050E-10	1.069E-08	7.578E-09	2.225E-07	6.759E-10	1.336E-07
ULI WALL	1.248E-06	7.384E-12	1.271E-07	3.650E-07	1.405E-06	2.822E-10	1.014E-08	1.109E-08	2.231E-07	6.954E-10	1.369E-07
LLI WALL	2.310E-07	1.365E-12	5.389E-08	1.123E-07	5.682E-09	1.535E-07	1.319E-08	1.588E-09	7.744E-08	3.263E-10	1.483E-07
T BODY	6.898E-04	2.430E-08	1.189E-07	8.865E-08	7.586E-09	4.740E-10	2.751E-05	1.215E-06	1.944E-05	1.226E-07	2.241E-05
ADREN	5.542E-06	3.430E-11	1.068E-07	2.109E-08	2.162E-09	3.502E-11	2.332E-08	2.274E-08	9.352E-07	3.050E-09	4.625E-05
BL WALL	2.835E-07	1.669E-12	1.775E-08	4.828E-08	3.851E-09	3.976E-10	8.468E-09	1.285E-09	3.544E-08	1.386E-10	2.323E-05
KIDNEYS	2.858E-06	1.715E-11	1.250E-07	4.985E-08	5.224E-09	6.870E-11	1.335E-08	1.747E-08	4.378E-03	3.848E-09	1.284E-07
LIVER	6.592E-06	4.063E-11	7.906E-08	3.075E-08	4.750E-09	2.903E-11	1.007E-08	4.712E-05	3.025E-07	5.186E-10	9.751E-08
OVARIES	5.168E-07	3.059E-12	4.066E-08	1.418E-07	1.705E-08	1.134E-09	1.275E-08	3.554E-09	1.050E-07	2.738E-10	4.629E-05
PANCREAS	6.627E-06	4.062E-11	6.341E-07	3.171E-08	4.032E-09	5.129E-11	1.438E-08	1.903E-08	4.955E-07	8.280E-09	4.630E-05
BONE	2.765E-06	1.792E-11	2.307E-08	1.287E-08	1.334E-09	7.037E-11	3.848E-04	3.463E-09	7.678E-08	3.597E-10	1.417E-07
R MAR	3.500E-06	2.259E-11	3.824E-08	3.931E-08	3.867E-09	2.070E-10	3.727E-05	4.959E-09	1.913E-07	5.229E-10	4.611E-05
Y MAR	2.882E-06	1.879E-11	3.243E-08	1.760E-08	1.878E-09	8.720E-11	4.385E-08	5.098E-09	9.450E-08	5.327E-10	4.622E-05
ENDOST	2.765E-06	1.792E-11	2.307E-08	1.287E-08	1.334E-09	7.037E-11	2.790E-04	3.463E-09	7.678E-08	3.597E-10	3.428E-07
SPLEEN	5.752E-06	3.550E-11	3.549E-07	2.726E-08	2.628E-09	7.129E-11	1.033E-08	4.953E-09	6.333E-07	4.747E-05	1.266E-07
TESTES	1.178E-07	6.916E-13	6.195E-09	9.587E-09	1.010E-09	1.226E-10	1.107E-08	8.427E-10	1.460E-08	5.922E-11	4.625E-05
THYMUS	1.160E-05	7.099E-11	2.485E-08	2.849E-09	3.535E-10	5.688E-12	9.253E-09	4.273E-09	1.995E-08	2.427E-10	4.640E-05
THYROID	3.197E-06	1.904E-11	7.244E-09	1.034E-09	1.255E-10	2.266E-12	9.715E-09	1.014E-09	9.975E-09	8.504E-11	4.624E-05
UTERUS	5.343E-07	3.156E-12	3.808E-08	1.342E-07	9.154E-09	3.835E-10	9.125E-09	2.544E-09	7.251E-08	2.233E-10	4.647E-05

DOSE EQUIVALENT (REM/MICROCURIE)

SOURCE	TOTAL
TARGET	
LUNGS	4.803E-02
RES LYM	5.408E-04
S WALL	3.144E-05
SI WALL	8.160E-06
ULI WALL	3.527E-06
LLI WALL	7.972E-07
T BODY	7.607E-04
ADREN	5.291E-05
BL WALL	2.353E-05
KIDNEYS	4.381E-03
LIVER	5.424E-05
OVARIES	4.713E-05
PANCREAS	5.414E-05
BONE	3.878E-04
R MAR	8.717E-05
Y MAR	4.929E-05
ENDOST	2.822E-04
SPLEEN	5.438E-05
TESTES	4.641E-05
THYMUS	5.806E-05
THYROID	4.946E-05
UTERUS	4.727E-05

PERCENT DOSE EQUIVALENT..

NUCLIDE	BI-214	PO-214	PB-210	BI-210	PO-210
TARGET					
LUNGS	0.9	99.1	0.0	0.0	0.0
RES LYM	79.0	3.4	0.0	0.4	17.1
S WALL	59.7	40.3	0.0	0.0	0.0
SI WALL	58.7	41.2	0.0	0.0	0.0
ULI WALL	79.3	20.0	0.1	0.6	0.0
LLI WALL	85.5	5.2	0.7	8.0	0.5
T BODY	1.4	97.0	0.0	0.0	1.7
ADREN	13.5	83.4	0.0	0.1	3.0
BL WALL	3.2	93.4	0.0	0.1	3.3
KIDNEYS	1.0	98.9	0.0	0.0	0.1
LIVER	14.0	81.3	0.0	0.1	4.6
OVARIES	2.9	93.6	0.0	0.1	3.3
PANCREAS	15.5	81.5	0.0	0.1	2.9
BONE	0.9	56.8	0.0	0.2	42.1
R MAR	5.0	92.4	0.0	0.3	2.3
Y MAR	7.2	89.5	0.0	0.1	3.2
ENDOST	1.2	93.1	0.0	0.2	5.4
SPLEEN	13.5	81.0	0.0	0.1	5.4
TESTES	1.4	95.1	0.0	0.1	3.4
THYMUS	21.2	76.0	0.0	0.1	2.7
THYROID	7.5	89.2	0.0	0.1	3.2
UTERUS	3.2	93.3	0.0	0.1	3.3

CASE 2.. INGESTION

INGESTION TRANSFER FRACTIONS (G. I. TRACT TO BLOOD)

	BI-214	PO-214	PB-210	BI-210	PO-210
STOMACH	0.0	0.0	0.0	0.0	0.0
S INT	5.000E-02	1.000E-01	8.000E-02	5.000E-02	1.000E-01
U L INT	0.0	0.0	0.0	0.0	0.0
L L INT	0.0	0.0	0.0	0.0	0.0

DOSE EQUIVALENT (REM/MICROCURIE)

SOURCE	S CONT	SI CONT	ULI CONT	LLI CONT	BONE	LIVER	KIDNEYS	SPLEEN	OTHER	TOTAL
TARGET										
LUNGS	5.780E-06	5.009E-07	6.787E-08	1.050E-09	6.609E-10	5.095E-10	3.394E-09	4.390E-11	4.926E-09	6.359E-06
RES LYM	5.780E-06	5.009E-07	6.787E-08	1.050E-09	6.609E-10	5.095E-10	3.394E-09	4.390E-11	4.926E-09	6.359E-06
S WALL	2.115E-03	4.781E-06	5.436E-07	9.642E-09	3.702E-10	4.126E-10	1.109E-08	1.973E-10	5.286E-09	2.120E-03
SI WALL	8.259E-06	5.587E-04	2.425E-06	5.011E-08	5.213E-10	3.347E-10	9.751E-09	2.967E-11	5.868E-09	5.694E-04
ULI WALL	1.062E-05	3.048E-05	1.152E-04	2.332E-08	4.903E-10	4.871E-10	9.780E-09	3.053E-11	6.023E-09	1.564E-04
LLI WALL	4.500E-06	9.379E-06	4.744E-07	6.706E-06	6.632E-10	6.974E-11	3.394E-09	1.432E-11	6.514E-09	2.107E-05
T BODY	9.929E-06	7.399E-06	6.272E-07	2.546E-08	6.770E-06	8.193E-08	8.553E-07	5.816E-09	1.094E-06	2.679E-05
ADREN	8.919E-06	1.761E-06	1.805E-07	2.921E-09	1.126E-09	1.008E-09	4.099E-08	1.340E-10	2.259E-06	1.317E-05
BL WALL	1.482E-06	4.032E-06	3.215E-07	3.301E-08	3.934E-10	5.642E-11	1.553E-09	6.078E-12	1.134E-06	7.004E-06
KIDNEYS	1.044E-05	4.163E-06	4.362E-07	5.723E-09	6.444E-10	7.746E-10	1.926E-04	1.693E-10	5.645E-09	2.076E-04
LIVER	6.602E-06	2.568E-06	3.967E-07	2.422E-09	4.832E-10	3.182E-06	1.326E-08	2.275E-11	4.284E-09	1.277E-05
OVARIES	3.395E-06	1.184E-05	1.423E-06	9.358E-09	6.163E-10	1.563E-10	4.602E-09	1.201E-11	2.261E-06	1.902E-05
PANCREAS	5.295E-05	2.648E-06	3.367E-07	4.274E-09	6.900E-10	8.441E-10	2.172E-08	3.642E-10	2.261E-06	5.822E-05
BONE	1.927E-06	1.075E-06	1.114E-07	5.796E-09	9.490E-05	1.551E-10	3.366E-09	1.584E-11	6.714E-09	9.803E-05
R MAR	3.193E-06	3.282E-06	3.229E-07	1.699E-08	1.958E-06	2.212E-10	8.386E-09	2.301E-11	2.251E-06	1.103E-05
Y MAR	2.708E-06	1.470E-06	1.568E-07	7.174E-09	4.858E-09	2.287E-10	4.143E-09	2.346E-11	2.257E-06	6.608E-06
ENDOST	1.927E-06	1.075E-06	1.114E-07	5.796E-09	1.976E-05	1.551E-10	3.366E-09	1.584E-11	1.887E-08	2.291E-05
SPLEEN	2.964E-05	2.276E-06	2.194E-07	5.937E-09	5.147E-10	2.182E-10	2.776E-08	2.254E-06	5.565E-09	3.443E-05
TESTES	5.174E-07	8.006E-07	8.434E-08	1.019E-08	5.122E-10	3.695E-11	6.400E-10	2.596E-12	2.259E-06	3.672E-06
THYMUS	2.075E-06	2.379E-07	2.952E-08	4.749E-10	4.417E-10	1.879E-10	8.744E-10	1.064E-11	2.266E-06	4.610E-06
THYROID	6.049E-07	8.635E-08	1.048E-08	1.892E-10	4.762E-10	4.446E-11	4.372E-10	3.728E-12	2.258E-06	2.961E-06
UTERUS	3.180E-06	1.121E-05	7.643E-07	3.182E-08	4.267E-10	1.118E-10	3.178E-09	9.793E-12	2.268E-06	1.746E-05

PERCENT DOSE EQUIVALENT..

NUCLIDE	BI-214	PO-214	PB-210	BI-210	PO-210
TARGET					
LUNGS	100.0	0.0	0.0	0.0	0.0
RES LYM	100.0	0.0	0.0	0.0	0.0
S WALL	50.1	49.9	0.0	0.0	0.0
SI WALL	50.7	49.3	0.0	0.0	0.0
ULI WALL	62.3	37.7	0.0	0.0	0.0
LLI WALL	83.4	16.5	0.0	0.1	0.0
T BODY	48.5	28.2	0.0	0.1	23.2
ADREN	83.0	14.7	0.0	0.1	2.2
BL WALL	84.0	13.8	0.0	0.1	2.1
KIDNEYS	8.1	91.4	0.0	0.0	0.4
LIVER	75.2	15.1	0.0	0.2	9.3
OVARIES	88.2	10.2	0.0	0.0	1.5
PANCREAS	96.2	3.3	0.0	0.0	0.5
BONE	3.2	9.8	0.1	0.4	86.4
R MAR	62.1	32.0	0.1	1.2	4.6
Y MAR	66.1	29.3	0.1	0.1	4.4
ENDOST	13.7	50.3	0.1	1.5	34.4
SPLEEN	93.5	5.6	0.0	0.0	0.9
TESTES	39.1	52.7	0.0	0.2	8.0
THYMUS	51.5	42.0	0.0	0.2	6.4
THYROID	24.5	65.3	0.0	0.3	9.9
UTERUS	87.2	11.1	0.0	0.0	1.7

RADICNUCLIDE: PO-210

PHYSICAL AND METABOLIC PARAMETERS FOR DOSIMETRICALLY SIGNIFICANT PROGENY:

NUCLIDE	RADIOACTIVE HALF-LIFE (DAYS)
PO-210	138.0

ORGAN ABSORBED	NUCLIDE	BLOOD TRANSFER FRACTION F2-PRIME	COMPARTMENT DEPOSITION FRACTION	COMPARTMENT BIOLOGICAL HALF-TIME (DAYS)
	PO-210	1.00	1.000E-02	0.500
			0.990	50.0
BONE	*PO-210	9.000E-02	1.000E-02	0.500
			0.990	50.0
LIVER	PO-210	1.000E-01	1.000E-02	0.500
			0.990	50.0
KIDNEYS	PO-210	1.000E-01	1.000E-02	0.500
			0.990	50.0
SPLEEN	PO-210	1.000E-01	1.000E-02	0.500
			0.990	50.0
OTHER	PO-210	0.610	1.000E-02	0.500
			0.990	50.0

S FACTORS (REM/MICROCURIE-DAY) FOR PO-210

TARGET ORGANS	SOURCE ORGANS									
	LUNGS	RES LYM	S CONT	SI CONT	ULI CONT	LLI CONT	BONE	LIVER	KIDNEYS	SPLEEN
LUNGS	0.282E 01	0.206E-07	0.261E-08	0.507E-09	0.566E-09	0.205E-09	0.145E-08	0.349E-08	0.143E-08	0.311E-08
RES LYM	0.206E-07	0.188E 03	0.261E-08	0.507E-09	0.566E-09	0.205E-09	0.145E-08	0.349E-08	0.143E-08	0.311E-08
S WALL	0.276E-08	0.276E-08	0.543E-01	0.499E-08	0.518E-08	0.238E-08	0.812E-09	0.281E-08	0.481E-08	0.135E-07
SI WALL	0.449E-09	0.449E-09	0.371E-08	0.339E-01	0.229E-07	0.127E-07	0.121E-08	0.229E-08	0.399E-08	0.202E-08
ULI WALL	0.590E-09	0.590E-09	0.448E-08	0.324E-07	0.617E-01	0.579E-08	0.110E-08	0.355E-08	0.412E-08	0.203E-08
LLI WALL	0.131E-09	0.131E-09	0.194E-08	0.974E-08	0.462E-08	0.100E 00	0.150E-08	0.426E-09	0.127E-08	0.956E-09
T BODY	0.403E-01	0.403E-01	0.116E-03	0.310E-03	0.185E-03	0.230E-03	0.201E 00	0.403E-01	0.403E-01	0.403E-01
ADREN	0.348E-08	0.348E-08	0.310E-08	0.175E-08	0.169E-08	0.724E-09	0.263E-08	0.700E-08	0.179E-07	0.975E-08
BL WALL	0.125E-09	0.125E-09	0.707E-09	0.381E-08	0.298E-08	0.759E-08	0.753E-09	0.360E-09	0.645E-09	0.407E-09
KIDNEYS	0.147E-08	0.147E-08	0.473E-08	0.458E-08	0.408E-08	0.130E-08	0.159E-08	0.534E-08	0.910E 01	0.118E-07
LIVER	0.344E-08	0.344E-08	0.288E-08	0.267E-08	0.359E-08	0.546E-09	0.105E-08	0.157E 01	0.559E-08	0.157E-08
OVARIES	0.242E-09	0.242E-09	0.163E-08	0.141E-07	0.136E-07	0.238E-07	0.147E-08	0.768E-09	0.211E-08	0.108E-08
PANCREAS	0.352E-08	0.352E-08	0.241E-07	0.296E-08	0.285E-08	0.108E-08	0.140E-08	0.641E-08	0.977E-08	0.268E-07
BONE	0.143E-08	0.143E-08	0.855E-09	0.113E-08	0.101E-08	0.147E-08	0.282E 01	0.104E-08	0.140E-08	0.111E-08
R MAR	0.180E-08	0.180E-08	0.146E-08	0.352E-08	0.296E-08	0.439E-08	0.728E-02	0.148E-08	0.352E-08	0.163E-08
Y MAR	0.151E-08	0.151E-08	0.118E-08	0.156E-08	0.143E-08	0.181E-08	0.430E-08	0.154E-08	0.174E-08	0.165E-08
ENDOST	0.143E-08	0.143E-08	0.855E-09	0.113E-08	0.101E-08	0.147E-08	0.262E 00	0.104E-08	0.140E-08	0.111E-08
SPLEEN	0.315E-08	0.315E-08	0.136E-07	0.226E-08	0.192E-08	0.149E-08	0.128E-08	0.159E-08	0.120E-07	0.157E 02
TESTES	0.465E-10	0.465E-10	0.165E-09	0.686E-09	0.810E-09	0.251E-08	0.929E-09	0.298E-09	0.241E-09	0.159E-09
THYMUS	0.576E-08	0.576E-08	0.890E-09	0.224E-09	0.243E-09	0.101E-09	0.120E-08	0.147E-08	0.314E-09	0.920E-09
THYROID	0.194E-08	0.194E-08	0.244E-09	0.724E-10	0.768E-10	0.354E-10	0.108E-08	0.288E-09	0.158E-09	0.237E-09
UTERUS	0.163E-09	0.163E-09	0.138E-08	0.123E-07	0.665E-08	0.801E-08	0.117E-08	0.598E-09	0.122E-08	0.831E-09

α decay (138.378 D 7)

Case 1 represents inhalation of sulfates, carbonates, phosphates, and nitrates; case 2 inhalation of oxides, hydroxides, and chlorides; and case 3 ingestion of any of these compounds.

*Retention data derived from "other tissues" compartment.

CASE 1.. INHALATION

AMAD (MICRON).. 1.00 D3 =0.310 D4 =8.000E-02 D5 =0.249

	SOLUBILITY CLASS	G.I. UPTAKE FRACTIONS STOMACH	S INT	U L INT	L L INT
PO-210	W	0.0	1.000E-01	0.0	0.0

DOSE EQUIVALENT (REM/MICROCURIE)

SOURCE	LUNGS	RES LYM	S CONT	SI CONT	ULI CONT	LLI CONT	BONE	LIVER	KIDNEYS	SPLEEN	OTHER
TARGET											
LUNGS	23.4	9.974E-09	5.327E-11	3.723E-11	1.347E-10	8.962E-11	1.054E-09	2.819E-09	1.155E-09	2.512E-09	8.969E-09
RES LYM	1.706E-07	91.0	5.327E-11	3.723E-11	1.347E-10	8.962E-11	1.054E-09	2.819E-09	1.155E-09	2.512E-09	8.969E-09
S WALL	2.286E-08	1.336E-09	1.108E-03	3.664E-10	1.233E-09	1.040E-09	5.904E-10	2.270E-09	3.886E-09	1.091E-08	9.659E-09
SI WALL	3.718E-09	2.174E-10	7.572E-11	2.489E-03	5.450E-09	5.552E-09	8.797E-10	1.850E-09	3.223E-09	1.632E-09	1.074E-08
ULI WALL	4.886E-09	2.857E-10	9.144E-11	2.379E-09	1.468E-02	2.531E-09	7.998E-10	2.868E-09	3.328E-09	1.640E-09	1.099E-08
LLI WALL	1.085E-09	6.343E-11	3.960E-11	7.151E-10	1.099E-09	4.372E-02	1.091E-09	3.441E-10	1.026E-09	7.723E-10	1.183E-08
T BODY	0.334	1.951E-02	2.368E-06	2.276E-05	4.403E-05	1.005E-04	0.146	3.256E-02	3.256E-02	3.256E-02	0.198
ADREN	2.882E-08	1.685E-09	6.327E-11	1.285E-10	4.022E-10	3.165E-10	1.912E-09	5.655E-09	1.446E-08	7.876E-09	0.409
BL WALL	1.035E-09	6.052E-11	1.443E-11	2.797E-10	7.092E-10	3.318E-09	5.475E-10	2.908E-10	5.211E-10	3.238E-10	0.205
KIDNEYS	1.217E-08	7.118E-10	9.654E-11	3.363E-10	9.710E-10	5.683E-10	1.156E-09	4.314E-09	7.35	9.533E-09	1.020E-08
LIVER	2.849E-08	1.666E-09	5.878E-11	1.960E-10	8.544E-10	2.387E-10	7.634E-10	1.27	4.516E-09	1.268E-09	7.786E-09
OVARIES	2.004E-09	1.172E-10	3.327E-11	1.035E-09	3.237E-09	1.040E-08	1.069E-09	6.204E-10	1.705E-09	8.725E-10	0.409
PANCREAS	2.915E-08	1.704E-09	4.919E-10	2.173E-10	6.783E-10	4.721E-10	1.018E-09	5.178E-09	7.893E-09	2.165E-08	0.409
BONE	1.184E-08	6.924E-10	1.745E-11	8.297E-11	2.404E-10	6.426E-10	2.05	8.402E-10	1.131E-09	8.967E-10	8.624E-09
R MAR	1.491E-08	8.715E-10	2.980E-11	2.585E-10	7.044E-10	1.919E-09	5.293E-03	1.196E-09	2.844E-09	1.317E-09	0.409
Y MAR	1.250E-08	7.311E-10	2.408E-11	1.145E-10	3.403E-10	7.912E-10	3.126E-09	1.244E-09	1.406E-09	1.333E-09	0.409
ENDOST	1.184E-08	6.924E-10	1.745E-11	8.297E-11	2.404E-10	6.426E-10	0.190	8.402E-10	1.131E-09	8.967E-10	8.969E-09
SPLEEN	2.608E-08	1.525E-09	2.776E-10	1.659E-10	4.569E-10	6.514E-10	9.306E-10	1.284E-09	9.694E-09	12.7	1.015E-08
TESTES	3.851E-10	2.251E-11	3.368E-12	5.037E-11	1.928E-10	1.097E-09	6.754E-10	2.407E-10	1.947E-10	1.234E-10	0.409
THYMUS	4.770E-08	2.789E-09	1.817E-11	1.645E-11	5.783E-11	4.415E-11	8.725E-10	1.188E-09	2.537E-10	7.432E-10	0.409
THYROID	1.606E-08	9.393E-10	4.980E-12	5.316E-12	1.828E-11	1.548E-11	7.852E-10	2.327E-10	1.276E-10	1.915E-10	0.409
UTERUS	1.350E-09	7.892E-11	2.817E-11	9.031E-10	1.583E-09	3.502E-09	8.507E-10	4.831E-10	9.856E-10	6.713E-10	0.409

DOSE EQUIVALENT (REM/MICROCURIE)

SOURCE	TOTAL
TARGET	
LUNGS	23.4
RES LYM	91.0
S WALL	1.108E-03
SI WALL	2.489E-03
ULI WALL	1.468E-02
LLI WALL	4.372E-02
T BODY	0.795
ADREN	0.409
BL WALL	0.205
KIDNEYS	7.35
LIVER	1.27
OVARIES	0.409
PANCREAS	0.409
BONE	2.05
R MAR	0.414
Y MAR	0.409
ENDOST	0.190
SPLEEN	12.7
TESTES	0.409
THYMUS	0.409
THYROID	0.409
UTERUS	0.409

CASE 2.. INHALATION

AMAD (MICRON).. 1.00 D3 =0.310 D4 =8.000E-02 D5 =0.249

	SOLUBILITY CLASS	G.I. UPTAKE FRACTIONS STOMACH	S INT	U L INT	L L INT
PO-210	D	0.0	1.000E-01	0.0	0.0

DOSE EQUIVALENT (REM/MICROCURIE)

SOURCE	LUNGS	RES LYM	S CONT	SI CONT	ULI CONT	LLI CONT	BONE	LIVER	KIDNEYS	SPLEEN	OTHER
TARGET											
LUNGS	0.524	7.351E-10	1.728E-11	1.208E-11	4.370E-11	2.908E-11	3.386E-09	9.056E-09	3.711E-09	8.070E-09	2.881E-08
RES LYM	3.827E-09	6.71	1.728E-11	1.208E-11	4.370E-11	2.908E-11	3.386E-09	9.056E-09	3.711E-09	8.070E-09	2.881E-08
S WALL	5.128E-10	9.849E-11	3.596E-04	1.189E-10	4.000E-10	3.376E-10	1.896E-09	7.291E-09	1.248E-08	3.503E-08	3.102E-08
SI WALL	8.342E-11	1.602E-11	2.457E-11	8.076E-04	1.758E-09	1.801E-09	2.826E-09	5.942E-09	1.035E-08	5.241E-09	3.451E-08
ULI WALL	1.096E-10	2.105E-11	2.967E-11	7.719E-10	4.764E-03	8.212E-10	2.569E-09	9.211E-09	1.069E-08	5.267E-09	3.530E-08
LLI WALL	2.434E-11	4.675E-12	1.295E-11	2.320E-10	3.567E-10	1.418E-02	7.503E-09	1.105E-09	3.295E-09	2.481E-09	3.799E-08
T BODY	7.488E-03	1.438E-03	7.682E-07	7.385E-06	1.429E-05	3.262E-05	0.469	0.105	0.105	0.105	0.635
ADREN	6.466E-10	1.242E-10	2.053E-11	4.169E-11	1.305E-10	1.027E-10	6.142E-09	1.816E-08	4.645E-08	2.530E-08	1.31
BL WALL	2.322E-11	4.461E-12	4.682E-12	9.076E-11	2.301E-10	1.077E-09	1.758E-09	9.341E-10	1.674E-09	1.056E-09	0.657
KIDNEYS	2.731E-10	5.246E-11	3.132E-11	1.091E-10	3.150E-10	1.844E-10	3.713E-09	1.386E-08	23.6	3.062E-08	3.276E-08
LIVER	6.391E-10	1.228E-10	1.907E-11	6.361E-11	2.772E-10	7.744E-11	2.452E-09	4.07	1.450E-08	4.074E-09	2.501E-08
OVARIES	4.496E-11	8.636E-12	1.079E-11	3.359E-10	1.050E-09	3.376E-09	3.433E-09	1.993E-09	5.475E-09	2.802E-09	1.31
PANCREAS	6.540E-10	1.256E-10	1.596E-10	7.052E-11	2.201E-10	1.532E-10	3.269E-09	1.663E-08	2.535E-08	6.954E-08	1.31
BONE	2.657E-10	5.103E-11	5.662E-12	2.692E-11	7.799E-11	2.085E-10	6.59	2.699E-09	3.633E-09	2.880E-09	2.770E-08
R MAR	3.344E-10	6.423E-11	9.669E-12	8.386E-11	2.286E-10	6.227E-10	1.700E-02	3.840E-09	9.134E-09	4.229E-09	1.31
Y MAR	2.806E-10	5.389E-11	7.814E-12	3.716E-11	1.104E-10	2.567E-10	1.004E-08	3.996E-09	4.515E-09	4.281E-09	1.31
ENDOST	2.657E-10	5.103E-11	5.662E-12	2.692E-11	7.799E-11	2.085E-10	0.612	2.699E-09	3.633E-09	2.880E-09	2.881E-08
SPLEEN	5.853E-10	1.124E-10	9.006E-11	5.384E-11	1.483E-10	2.113E-10	2.989E-09	4.126E-09	3.114E-08	40.7	3.261E-08
TESTES	8.639E-12	1.659E-12	1.093E-12	1.634E-11	6.254E-11	3.560E-10	2.169E-09	7.732E-10	6.253E-10	4.126E-10	1.31
THYMUS	1.070E-09	2.055E-10	5.894E-12	5.336E-12	1.876E-11	1.433E-11	2.802E-09	3.814E-09	8.148E-10	2.387E-09	1.31
THYROID	3.604E-10	6.923E-11	1.616E-12	1.725E-12	5.930E-12	5.021E-12	2.522E-09	7.473E-10	4.100E-10	6.150E-10	1.31
UTERUS	3.028E-11	5.817E-12	9.139E-12	2.930E-10	5.135E-10	1.136E-09	2.732E-09	1.552E-09	3.166E-09	2.156E-09	1.31

DOSE EQUIVALENT (REM/MICROCURIE)

SOURCE	TOTAL
TARGET	
LUNGS	0.524
RES LYM	6.71
S WALL	3.597E-04
SI WALL	8.077E-04
ULI WALL	4.764E-03
LLI WALL	1.418E-02
T BODY	1.43
ADREN	1.31
BL WALL	0.657
KIDNEYS	23.6
LIVER	4.07
OVARIES	1.31
PANCREAS	1.31
BONE	6.59
R MAR	1.33
Y MAR	1.31
ENDOST	0.612
SPLEEN	40.7
TESTES	1.31
THYMUS	1.31
THYROID	1.31
UTERUS	1.31

CASE 3.. INGESTION

INGESTION TRANSFER FRACTIONS (G. I. TRACT TO BLOOD)

	PO-210
STOMACH	0.0
S INT	1.000E-01
U L INT	0.0
L L INT	0.0

DOSE EQUIVALENT (REM/MICROCURIE)

SOURCE	S CONT	SI CONT	ULI CONT	LLI CONT	BONE	LIVER	KIDNEYS	SPLEEN	OTHER	TOTAL
TARGET										
LUNGS	1.087E-10	7.598E-11	2.749E-10	1.829E-10	6.835E-10	1.828E-09	7.490E-10	1.629E-09	5.815E-09	1.135E-08
RES LYM	1.087E-10	7.598E-11	2.749E-10	1.829E-10	6.835E-10	1.828E-09	7.490E-10	1.629E-09	5.815E-09	1.135E-08
S WALL	2.262E-03	7.478E-10	2.516E-09	2.123E-09	3.828E-10	1.472E-09	2.519E-09	7.071E-09	6.262E-09	2.262E-03
SI WALL	1.546E-10	5.080E-03	1.112E-08	1.133E-08	5.704E-10	1.199E-09	2.090E-09	1.058E-09	6.965E-09	5.080E-03
ULI WALL	1.866E-10	4.855E-09	2.997E-02	5.166E-09	5.185E-10	1.859E-09	2.158E-09	1.063E-09	7.125E-09	2.997E-02
LLI WALL	8.082E-11	1.460E-09	2.244E-09	8.922E-02	7.071E-10	2.231E-10	6.652E-10	5.007E-10	7.668E-09	8.922E-02
T BODY	4.832E-06	4.646E-05	8.986E-05	2.052E-04	9.475E-02	2.111E-02	2.111E-02	2.111E-02	0.128	0.287
ADREN	1.291E-10	2.622E-10	8.209E-10	6.460E-10	1.240E-09	3.666E-09	9.376E-09	5.107E-09	0.265	0.265
BL WALL	2.945E-11	5.709E-10	1.447E-09	6.772E-09	3.550E-10	1.886E-10	3.378E-10	2.132E-10	0.133	0.133
KIDNEYS	1.970E-10	6.863E-10	1.982E-09	1.160E-09	7.495E-10	2.797E-09	4.77	6.180E-09	6.614E-09	4.77
LIVER	1.200E-10	4.001E-10	1.744E-09	4.871E-10	4.950E-10	0.822	2.928E-09	8.223E-10	5.048E-09	0.822
OVARIES	6.790E-11	2.113E-09	6.606E-09	2.123E-08	6.929E-10	4.023E-10	1.105E-09	5.657E-10	0.265	0.265
PANCREAS	1.004E-09	4.436E-10	1.384E-09	9.636E-10	6.600E-10	3.357E-09	5.117E-09	1.404E-08	0.265	0.265
BONE	3.562E-11	1.693E-10	4.906E-10	1.312E-09	1.33	5.447E-10	7.333E-10	5.814E-10	5.591E-09	1.33
R MAR	6.082E-11	5.275E-10	1.438E-09	3.917E-09	3.432E-03	7.752E-10	1.844E-09	8.537E-10	0.265	0.269
Y MAR	4.916E-11	2.338E-10	6.946E-10	1.615E-09	2.027E-09	8.066E-10	9.114E-10	9.642E-10	0.265	0.265
ENDOST	3.562E-11	1.693E-10	4.906E-10	1.312E-09	0.124	5.447E-10	7.333E-10	5.814E-10	5.815E-09	0.124
SPLEEN	5.665E-10	3.387E-10	9.326E-10	1.329E-09	6.034E-10	8.328E-10	6.285E-09	8.22	6.582E-09	8.22
TESTES	6.874E-12	1.028E-10	3.934E-10	2.239E-09	4.379E-10	1.561E-10	1.262E-10	8.328E-11	0.265	0.265
THYMUS	3.708E-11	3.357E-11	1.180E-10	9.011E-11	5.657E-10	7.699E-10	1.645E-10	4.819E-10	0.265	0.265
THYROID	1.016E-11	1.085E-11	3.730E-11	3.158E-11	5.091E-10	1.508E-10	8.276E-11	1.241E-10	0.265	0.265
UTERUS	5.749E-11	1.843E-09	3.230E-09	7.147E-09	5.515E-10	3.132E-10	6.390E-10	4.353E-10	0.265	0.265

RADIONUCLIDE: PO-211

PHYSICAL AND METABOLIC PARAMETERS FOR DOSIMETRICALLY SIGNIFICANT PROGENY:

NUCLIDE	RADIOACTIVE HALF-LIFE (DAYS)
PO-211	6.480OE-06

ORGAN ABSORBED	NUCLIDE	BLOOD TRANSFER FRACTION F2-PRIME	COMPARTMENT DEPOSITION FRACTION	COMPARTMENT BIOLOGICAL HALF-TIME (DAYS)
	PO-211	1.00	1.000E-02	0.500
			0.990	50.0
BONE	*PO-211	9.000E-02	1.000E-02	0.500
			0.990	50.0
LIVER	PO-211	1.000E-01	1.000E-02	0.500
			0.990	50.0
KIDNEYS	PO-211	1.000E-01	1.000E-02	0.500
			0.990	50.0
SPLEEN	PO-211	1.000E-01	1.000E-02	0.500
			0.990	50.0
TESTES	*PO-211	6.300E-04	1.000E-02	0.500
			0.990	50.0
OVARIES	*PO-211	1.980E-04	1.000E-02	0.500
			0.990	50.0
OTHER	PO-211	0.610	1.000E-02	0.500
			0.990	50.0

S FACTORS (REM/MICROCURIE-DAY) FOR PO-211

TARGET ORGANS	SOURCE ORGANS												
	LUNGS	RES LYM	S CONT	SI CONT	ULI CONT	LLI CONT	BONE	LIVER	KIDNEYS	SPLEEN	TESTES	OVARIES	OTHER
LUNGS	0.395E 01	0.192E-04	0.244E-05	0.470E-06	0.519E-06	0.184E-06	0.175E-05	0.325E-05	0.133E-05	0.290E-05	0.310E-07	0.189E-06	0.170E-05
RES LYM	0.192E-04	0.264E 03	0.244E-05	0.470E-06	0.519E-06	0.184E-06	0.135E-05	0.325E-05	0.133E-05	0.290E-05	0.310E-07	0.189E-06	0.170E-05
S WALL	0.256E-05	0.256E-05	0.762E-01	0.464E-05	0.483E-05	0.225E-05	0.761E-06	0.261E-05	0.448E-05	0.127E-04	0.135E-06	0.108E-05	0.1E2E-05
SI WALL	0.413E-06	0.413E-06	0.347E-05	0.476E-01	0.214E-04	0.119E-04	0.112E-05	0.213E-05	0.372E-05	0.189E-05	0.732E-06	0.154E-04	0.203E-05
ULI WALL	0.546E-06	0.546E-06	0.420E-05	0.303E-04	0.866E-01	0.543E-05	0.101E-05	0.332E-05	0.384E-05	0.189E-05	0.509E-06	0.144E-04	0.208E-05
LLI WALL	0.120E-06	0.120E-06	0.180E-05	0.908E-05	0.427E-05	0.141E 00	0.138E-05	0.402E-06	0.118E-05	0.898E-06	0.341E-05	0.183E-04	0.223E-05
T BODY	0.565E-01	0.565E-01	0.165E-03	0.437E-03	0.262E-03	0.325E-03	0.282E 00	0.565E-01	0.565E-01	0.565E-01	0.565E-01	0.565E-01	0.562E-01
ADREN	0.324E-05	0.324E-05	0.288E-05	0.163E-05	0.155E-05	0.673E-06	0.243E-05	0.653E-05	0.167E-04	0.896E-05	0.111E-06	0.795E-06	0.116E 00
BL WALL	0.114E-06	0.114E-06	0.654E-06	0.368E-05	0.275E-05	0.713E-05	0.725E-06	0.752E-06	0.590E-06	0.355E-06	0.703E-05	0.923E-05	0.582E-01
KIDNEYS	0.137E-05	0.137E-05	0.441E-05	0.427E-05	0.378E-05	0.120E-05	0.145E-05	0.498E-05	0.128E 02	0.111E-04	0.176E-06	0.152E-05	0.193E-05
LIVER	0.320E-05	0.320E-05	0.269E-05	0.248E-05	0.334E-05	0.503E-06	0.977E-06	0.220E 01	0.523E-05	0.146E-05	0.111E-06	0.865E-06	0.147E-05
OVARIES	0.223E-06	0.223E-06	0.142E-05	0.129E-04	0.132E-04	0.220E-04	0.179E-05	0.660E-06	0.192E-05	0.106E-05	0.0	0.359E 03	0.253E-05
PANCREAS	0.334E-05	0.334E-05	0.226E-04	0.276E-05	0.263E-05	0.101E-05	0.130E-05	0.604E-05	0.906E-05	0.251E-04	0.102E-06	0.104E-05	0.116E 00
BONE	0.133E-05	0.133E-05	0.799E-06	0.105E-05	0.945E-06	0.137E-05	0.395E 01	0.971E-06	0.131E-05	0.103E-05	0.893E-06	0.122E-05	0.163E-05
R MAR	0.168E-05	0.168E-05	0.136E-05	0.329E-05	0.278E-05	0.410E-05	0.650E 00	0.139E-05	0.329E-05	0.152E-05	0.706E-06	0.401E-05	0.116E 00
Y MAR	0.141E-05	0.141E-05	0.111E-05	0.145E-05	0.134E-05	0.169E-05	0.401E-05	0.144E-05	0.162E-05	0.154E-05	0.387E-06	0.162E-05	0.116E 00
ENDOST	0.133E-05	0.133E-05	0.799E-06	0.105E-05	0.945E-06	0.137E-05	0.501E 01	0.971E-06	0.131E-05	0.103E-05	0.893E-06	0.122E-05	0.170E-05
SPLEEN	0.292E-05	0.292E-05	0.127E-04	0.211E-05	0.177E-05	0.138E-05	0.118E-05	0.147E-05	0.112E-04	0.220E 02	0.131E-06	0.893E-06	0.152E-05
TESTES	0.421E-07	0.421E-07	0.139E-06	0.620E-06	0.747E-06	0.239E-05	0.855E-06	0.263E-06	0.222E-06	0.146E-06	0.113E 03	0.0	0.160E-05
THYMUS	0.532E-05	0.532E-05	0.765E-06	0.206E-06	0.224E-06	0.920E-07	0.111E-05	0.142E-05	0.324E-06	0.931E-06	0.211E-07	0.970E-07	0.116E 00
THYROID	0.179E-05	0.179E-05	0.224E-06	0.658E-07	0.699E-07	0.319E-07	0.107E-05	0.266E-06	0.145E-06	0.219E-06	0.759E-08	0.324E-07	0.116E 00
UTERUS	0.149E-06	0.149E-06	0.127E-05	0.115E-04	0.618E-05	0.746E-05	0.105E-05	0.561E-06	0.114E-05	0.757E-06	0.0	0.231E-04	0.116E 00

α decay (0.56 S 4)

Case 1 represents inhalation of sulfates, carbonates, phosphates, and nitrates; case 2 inhalation of oxides, hydroxides, and chlorides; and case 3 ingestion of any of these compounds.

*Retention data derived from "other tissues" compartment.

CASE 1.. INHALATION

AMAD (MICRON).. 1.00 D3 =0.310 D4 =8.000E-02 D5 =0.249

	SOLUBILITY CLASS	G.I. UPTAKE FRACTIONS STOMACH	S INT	U L INT	L L INT
PO-211	W	0.0	1.000E-01	0.0	0.0

DOSE EQUIVALENT (REM/MICROCURIE)

SOURCE	LUNGS	RES LYM	S CONT	SI CONT	ULI CONT	LLI CONT	BONE	LIVER	KIDNEYS	SPLEEN	TESTES
TARGET											
LUNGS	2.360E-05	2.898E-19	1.326E-16	5.731E-21	3.550E-25	2.172E-30	5.223E-17	1.397E-16	5.717E-17	1.247E-16	8.395E-21
RES LYM	1.147E-10	3.985E-12	1.326E-16	5.731E-21	3.550E-25	2.172E-30	5.223E-17	1.397E-16	5.717E-17	1.247E-16	8.395E-21
S WALL	1.529E-11	3.864E-20	4.142E-12	5.658E-20	3.304E-24	2.656E-29	2.944E-17	1.122E-16	1.926E-16	5.459E-16	3.656E-20
SI WALL	2.467E-12	6.234E-21	1.886E-16	5.805E-16	1.464E-23	1.405E-28	4.333E-17	9.156E-17	1.599E-16	8.081E-17	1.982E-19
ULI WALL	3.262E-12	8.241E-21	2.283E-16	3.695E-19	5.923E-20	6.410E-29	3.907E-17	1.427E-16	1.651E-16	8.124E-17	1.378E-19
LLI WALL	7.169E-13	1.811E-21	9.784E-17	1.107E-19	2.921E-24	1.665E-24	5.339E-17	1.728E-17	5.072E-17	3.860E-17	9.235E-19
T BODY	3.376E-07	8.528E-16	8.968E-15	5.329E-18	1.792E-22	3.837E-27	1.091E-11	2.429E-12	2.429E-12	2.429E-12	1.530E-14
ADREN	1.936E-11	4.890E-20	1.565E-16	1.988E-20	1.060E-24	7.945E-30	9.401E-17	2.807E-16	7.179E-16	3.852E-16	3.006E-20
BL WALL	6.811E-13	1.721E-21	3.555E-17	4.488E-20	1.881E-24	8.417E-29	2.805E-17	1.513E-17	2.536E-17	1.526E-17	1.904E-18
KIDNEYS	8.185E-12	2.068E-20	2.397E-16	5.207E-20	2.586E-24	1.417E-29	5.610E-17	2.141E-16	5.502E-10	4.772E-16	4.766E-20
LIVER	1.912E-11	4.830E-20	1.462E-16	3.024E-20	2.285E-24	5.938E-30	3.780E-17	9.457E-11	2.248E-16	6.276E-17	3.006E-20
OVARIES	1.332E-12	3.366E-21	7.718E-17	1.573E-19	9.029E-24	2.597E-28	5.378E-17	2.837E-17	8.253E-17	4.557E-17	0.0
PANCREAS	1.995E-11	5.041E-20	1.228E-15	3.366E-20	1.799E-24	1.192E-29	5.029E-17	2.596E-16	3.895E-16	1.079E-15	2.762E-20
BONE	7.946E-12	2.007E-20	4.343E-17	1.280E-20	6.464E-25	1.617E-29	1.528E-10	4.174E-17	5.631E-17	4.428E-17	2.418E-19
R MAR	1.004E-11	2.536E-20	7.392E-17	4.012E-20	1.902E-24	4.840E-29	2.515E-11	5.975E-17	1.414E-16	6.534E-17	1.912E-19
Y MAR	8.424E-12	2.128E-20	6.033E-17	1.768E-20	9.166E-25	1.995E-29	1.551E-16	6.190E-17	6.964E-17	6.630E-17	1.048E-19
ENDOST	7.946E-12	2.007E-20	4.343E-17	1.280E-20	6.464E-25	1.617E-29	1.938E-10	4.174E-17	5.631E-17	4.428E-17	2.418E-19
SPLEEN	1.745E-11	4.407E-20	6.903E-16	2.573E-20	1.211E-24	1.629E-29	4.565E-17	6.319E-17	4.814E-16	9.457E-10	3.548E-20
TESTES	2.515E-13	6.354E-22	7.555E-18	7.561E-21	5.109E-25	2.821E-29	3.308E-17	1.131E-17	9.543E-18	6.276E-18	3.060E-11
THYMUS	3.178E-11	8.030E-20	4.158E-17	2.512E-21	1.532E-25	1.086E-30	4.294E-17	6.104E-17	1.393E-17	3.572E-17	5.714E-21
THYROID	1.069E-11	2.702E-20	1.218E-17	8.024E-22	4.781E-26	3.766E-31	4.140E-17	1.143E-17	6.233E-18	9.414E-18	2.031E-21
UTERUS	8.902E-13	2.249E-21	6.903E-17	1.402E-19	4.227E-24	8.807E-29	4.062E-17	2.412E-17	4.900E-17	3.254E-17	0.0

DOSE EQUIVALENT (REM/MICROCURIE)

SOURCE	OVARIES	OTHER	TOTAL
TARGET			
LUNGS	1.609E-20	4.458E-16	2.360E-05
RES LYM	1.609E-20	4.458E-16	1.187E-10
S WALL	9.192E-20	4.772E-16	1.944E-11
SI WALL	1.311E-18	5.323E-16	2.469E-12
ULI WALL	1.226E-18	5.454E-16	3.263E-12
LLI WALL	1.558E-18	5.847E-16	7.178E-13
T BODY	4.809E-15	1.474E-11	3.376E-07
ADREN	6.767E-20	3.042E-11	4.978E-11
BL WALL	7.856E-19	1.526E-11	1.594E-11
KIDNEYS	1.294E-19	5.061E-16	5.584E-10
LIVER	7.362E-20	3.855E-16	1.137E-10
OVARIES	3.056E-11	6.634E-16	3.189E-11
PANCREAS	8.852E-20	3.042E-11	5.037E-11
BONE	1.038E-19	4.274E-16	1.608E-10
R MAR	3.413E-19	3.042E-11	6.560E-11
Y MAR	1.379E-19	3.042E-11	3.884E-11
ENDOST	1.038E-19	4.458E-16	2.018E-10
SPLEEN	7.601E-20	5.035E-16	9.632E-10
TESTES	0.0	4.195E-16	3.085E-11
THYMUS	8.256E-21	3.042E-11	6.220E-11
THYROID	2.758E-21	3.042E-11	4.111E-11
UTERUS	1.966E-18	3.042E-11	3.131E-11

CASE 2.. INHALATION

AMAD (MICRON).. 1.00 D3 =0.310 D4 =8.000E-02 D5 =0.240

	SOLUBILITY CLASS	G.I. UPTAKE FRACTIONS STOMACH	S INT	U L INT	L L INT
PO-211	D	0.0	1.000E-01	0.0	0.0

DOSE EQUIVALENT (REM/MICROCURIE)

SOURCE	LUNGS	RES LYM	S CONT	SI CONT	ULI CONT	LLI CONT	BONE	LIVER	KIDNEYS	SPLEEN	TESTES
TARGET											
LUNGS	2.359E-05	1.159E-16	2.292E-15	9.905E-20	6.135E-24	3.754E-29	1.728E-16	4.623E-16	1.892E-16	4.125E-16	2.778E-20
RES LYM	1.147E-10	1.594E-09	2.292E-15	9.905E-20	6.135E-24	3.754E-29	1.728E-16	4.623E-16	1.892E-16	4.125E-16	2.778E-20
S WALL	1.529E-11	1.546E-17	7.157E-11	9.778E-19	5.709E-23	4.590E-28	9.743E-17	3.713E-16	6.373E-16	1.807E-15	1.210E-19
SI WALL	2.467E-12	2.493E-18	3.259E-15	1.003E-14	2.530E-22	2.428E-27	1.434E-16	3.030E-16	5.292E-16	2.674E-16	6.560E-19
ULI WALL	3.261E-12	3.296E-18	3.945E-15	6.365E-18	1.024E-18	1.108E-27	1.293E-16	4.723E-16	5.463E-16	2.689E-16	4.562E-19
LLI WALL	7.167E-13	7.245E-19	1.691E-15	1.913E-18	5.047E-23	2.876E-23	1.767E-16	5.719E-17	1.679E-16	1.277E-16	3.056E-18
T BODY	3.375E-07	3.411E-13	1.550E-13	9.209E-17	3.097E-21	6.630E-26	3.610E-11	8.037E-12	8.037E-12	8.037E-12	5.064E-14
ADREN	1.935E-11	1.956E-17	2.705E-15	3.435E-19	1.832E-23	1.373E-28	3.111E-16	9.289E-16	2.376E-15	1.275E-15	9.948E-20
BL WALL	6.809E-13	6.882E-19	6.143E-16	7.755E-19	3.251E-23	1.455E-27	9.282E-17	5.007E-17	8.393E-17	5.050E-17	6.300E-18
KIDNEYS	8.182E-12	8.271E-18	4.142E-15	8.998E-19	4.468E-23	2.448E-28	1.856E-16	7.084E-16	1.821E-09	1.579E-15	1.577E-19
LIVER	1.911E-11	1.932E-17	2.527E-15	5.226E-19	3.948E-23	1.026E-28	1.251E-16	3.130E-10	7.440E-16	2.077E-16	9.948E-20
OVARIES	1.332E-12	1.346E-18	1.334E-15	2.718E-18	1.560E-22	4.488E-27	1.780E-16	9.389E-17	2.731E-16	1.508E-16	0.0
PANCREAS	1.995E-11	2.016E-17	2.123E-14	5.816E-19	3.109E-23	2.060E-28	1.664E-16	8.592E-16	1.289E-15	3.571E-15	9.141E-20
BONE	7.944E-12	8.029E-18	7.505E-16	2.213E-19	1.117E-23	2.795E-28	5.057E-10	1.391E-16	1.864E-16	1.465E-16	8.003E-19
R MAR	1.003E-11	1.014E-17	1.277E-15	6.933E-19	3.286E-23	8.364E-28	8.322E-11	1.977E-16	4.680E-16	2.162E-16	6.327E-19
Y MAR	8.421E-12	8.512E-18	1.043E-15	3.056E-19	1.584E-23	3.448E-28	5.134E-16	2.048E-16	2.305E-16	2.191E-16	3.468E-19
ENDOST	7.944E-12	8.029E-18	7.505E-16	2.213E-19	1.117E-23	2.795E-28	6.414E-10	1.381E-16	1.864E-16	1.465E-16	8.003E-19
SPLEEN	1.744E-11	1.763E-17	1.193E-14	4.447E-19	2.092E-23	2.815E-28	1.511E-16	2.091E-16	1.593E-15	3.130E-09	1.174E-19
TESTES	2.514E-13	2.542E-19	1.306E-16	1.307E-19	8.830E-24	4.876E-28	1.095E-16	3.741E-17	3.158E-17	2.077E-17	1.013E-10
THYMUS	3.177E-11	3.212E-17	2.186E-16	4.341E-20	2.648E-24	1.877E-29	1.421E-16	2.020E-16	4.609E-17	1.182E-16	1.891E-20
THYROID	1.069E-11	1.081E-17	2.104E-16	1.387E-20	9.262E-25	6.508E-30	1.370E-16	3.784E-17	2.063E-17	3.115E-17	6.722E-21
UTERUS	8.899E-13	8.995E-19	1.193E-15	2.423E-18	7.305E-23	1.522E-27	1.344E-16	7.931E-17	1.622E-16	1.077E-16	0.0

DOSE EQUIVALENT (REM/MICROCURIE)

SOURCE	OVARIES	OTHER	TOTAL
TARGET			
LUNGS	5.323E-20	1.475E-15	2.359E-05
RES LYM	5.323E-20	1.475E-15	1.708E-09
S WALL	3.042E-19	1.579E-15	8.687E-11
SI WALL	4.338E-18	1.762E-15	2.483E-12
ULI WALL	4.056E-18	1.805E-15	3.268E-12
LLI WALL	5.154E-18	1.935E-15	7.209E-13
T BODY	1.591E-14	4.877E-11	3.376E-07
ADREN	2.239E-19	1.007E-10	1.200E-10
BL WALL	2.600E-18	5.050E-11	5.119E-11
KIDNEYS	4.281E-19	1.675E-15	1.829E-09
LIVER	2.436E-19	1.276E-15	3.321E-10
OVARIES	1.011E-10	2.195E-15	1.025E-10
PANCREAS	2.929E-19	1.007E-10	1.206E-10
BONE	3.436E-19	1.414E-15	5.137E-10
R MAR	1.129E-18	1.007E-10	1.939E-10
Y MAR	4.563E-19	1.007E-10	1.091E-10
ENDOST	3.436E-19	1.475E-15	6.494E-10
SPLEEN	2.515E-19	1.666E-15	3.147E-09
TESTES	0.0	1.388E-15	1.015E-10
THYMUS	2.732E-20	1.007E-10	1.324E-10
THYROID	9.126E-21	1.007E-10	1.114E-10
UTERUS	6.506E-18	1.007E-10	1.016E-10

CASE 3.. INGESTION

INGESTION TRANSFER FRACTIONS (G. I. TRACT TO BLOOD)

	PO-211
STOMACH	0.0
S INT	1.000E-01
U L INT	0.0
L L INT	0.0

DOSE EQUIVALENT (REM/MICROCURIE)

SOURCE	S CONT	SI CONT	ULI CONT	LLI CONT	BONE	LIVER	KIDNEYS	SPLEEN	TESTES	OVARIES	OTHER
TARGET											
LUNGS	2.281E-11	9.856E-16	6.104E-20	3.735E-25	1.588E-21	4.247E-21	1.738E-21	3.790E-21	2.552E-25	4.891E-25	1.355E-20
RES LYM	2.281E-11	9.856E-16	6.104E-20	3.735E-25	1.588E-21	4.247E-21	1.738E-21	3.790E-21	2.552E-25	4.891E-25	1.355E-20
S WALL	7.122E-07	9.730E-15	5.681E-19	4.567E-24	8.951E-22	3.411E-21	5.855E-21	1.660E-20	1.112E-24	2.795E-24	1.451E-20
SI WALL	3.243E-11	9.981E-11	2.517E-18	2.416E-23	1.317E-21	2.784E-21	4.862E-21	2.457E-21	6.027E-24	3.985E-23	1.618E-20
ULI WALL	3.926E-11	6.354E-14	1.019E-14	1.102E-23	1.188E-21	4.339E-21	5.019E-21	2.470E-21	4.191E-24	3.726E-23	1.658E-20
LLI WALL	1.682E-11	1.904E-14	5.022E-19	2.862E-19	1.623E-21	5.254E-22	1.542E-21	1.174E-21	2.808E-23	4.735E-23	1.778E-20
T BODY	1.542E-09	9.164E-13	3.082E-17	6.597E-22	3.317E-16	7.384E-17	7.384E-17	7.384E-17	4.652E-19	1.462E-19	4.480E-16
ADREN	2.692E-11	3.418E-15	1.823E-19	1.366E-24	2.858E-21	8.534E-21	2.183E-20	1.171E-20	9.139E-25	2.057E-24	9.248E-16
BL WALL	6.113E-12	7.717E-15	3.235E-19	1.447E-23	8.528E-22	4.600E-22	7.711E-22	4.640E-22	5.788E-23	2.388E-23	4.640E-16
KIDNEYS	4.122E-11	8.954E-15	4.446E-19	2.436E-24	1.706E-21	6.508E-21	1.673E-14	1.451E-20	1.449E-24	3.933E-24	1.539E-20
LIVER	2.514E-11	5.200E-15	3.928E-19	1.021E-24	1.149E-21	2.875E-15	6.835E-21	1.908E-21	9.139E-25	2.238E-24	1.172E-20
OVARIES	1.327E-11	2.705E-14	1.553E-18	4.466E-23	1.635E-21	8.626E-22	2.509E-21	1.385E-21	0.0	9.290E-16	2.017E-20
PANCREAS	2.112E-10	5.788E-15	3.093E-19	2.050E-24	1.529E-21	7.894E-21	1.184E-20	3.280E-20	8.398E-25	2.691E-24	9.248E-16
BONE	7.468E-12	2.202E-15	1.112E-19	2.781E-24	4.646E-15	1.269E-21	1.712E-21	1.346E-21	7.353E-24	3.157E-24	1.299E-20
R MAR	1.271E-11	6.899E-15	3.270E-19	8.323E-24	7.645E-16	1.817E-21	4.300E-21	1.986E-21	5.813E-24	1.038E-23	9.248E-16
Y MAR	1.037E-11	3.041E-15	1.576E-19	3.431E-24	4.717E-21	1.882E-21	2.117E-21	2.013E-21	3.186E-24	4.192E-24	9.248E-16
ENDOST	7.468E-12	2.202E-15	1.112E-19	2.781E-24	5.893E-15	1.269E-21	1.712E-21	1.346E-21	7.353E-24	3.157E-24	1.355E-20
SPLEEN	1.187E-10	4.425E-15	2.082E-19	2.801E-24	1.388E-21	1.921E-21	1.464E-20	2.875E-14	1.079E-24	2.311E-24	1.531E-20
TESTES	1.299E-12	1.300E-15	8.786E-20	4.852E-24	1.006E-21	3.437E-22	2.901E-22	1.908E-22	9.304E-16	0.0	1.276E-20
THYMUS	7.150E-12	4.320E-16	2.635E-20	1.868E-25	1.306E-21	1.856E-21	4.234E-22	1.086E-21	1.737E-25	2.510E-25	9.248E-16
THYROID	2.094E-12	1.380E-16	8.222E-21	6.476E-26	1.259E-21	3.476E-22	1.895E-22	2.862E-22	6.175E-26	8.394E-26	9.248E-16
UTERUS	1.187E-11	2.411E-14	7.269E-19	1.514E-23	1.235E-21	7.332E-22	1.490E-21	9.893E-22	0.0	5.978E-23	9.248E-16

DOSE EQUIVALENT (REM/MICROCURIE)

SOURCE	TOTAL
TARGET	
LUNGS	2.281E-11
RES LYM	2.281E-11
S WALL	7.122E-07
SI WALL	1.322E-10
ULI WALL	3.933E-11
LLI WALL	1.684E-11
T BODY	1.543E-09
ADREN	2.692E-11
BL WALL	6.121E-12
KIDNEYS	4.124E-11
LIVER	2.515E-11
OVARIES	1.330E-11
PANCREAS	2.112E-10
BONE	7.475E-12
R MAR	1.272E-11
Y MAR	1.038E-11
ENDOST	7.476E-12
SPLEEN	1.187E-10
TESTES	1.301E-12
THYMUS	7.151E-12
THYROID	2.095E-12
UTERUS	1.190E-11

RADIONUCLIDE: PO-212

PHYSICAL AND METABOLIC PARAMETERS FOR DOSIMETRICALLY SIGNIFICANT PROGENY:

NUCLIDE	RADIOACTIVE HALF-LIFE (DAYS)
PO-212	3.530E-12

ORGAN	NUCLIDE	BLOOD TRANSFER FRACTION F2-PRIME	COMPARTMENT DEPOSITION FRACTION	COMPARTMENT BIOLOGICAL HALF-TIME (DAYS)
ABSORBED	PO-212	1.00	1.000E-02	0.500
			0.990	50.0
BONE	*PO-212	5.000E-02	1.000E-02	0.500
			0.990	50.0
LIVER	PO-212	1.000E-01	1.000E-02	0.500
			0.990	50.0
KIDNEYS	PO-212	1.000E-01	1.000E-02	0.500
			0.990	50.0
SPLEEN	PO-212	1.000E-01	1.000E-02	0.500
			0.990	50.0
TESTES	*PO-212	6.300E-04	1.000E-02	0.500
			0.990	50.0
OVARIES	*PO-212	1.980E-04	1.000E-02	0.500
			0.990	50.0
OTHER	PO-212	0.610	1.000E-02	0.500
			0.990	50.0

S FACTORS (REM/MICROCURIE-DAY) FOR PO-212

TARGET ORGANS	SOURCE ORGANS												
	LUNGS	RES LYM	S CONT	SI CONT	ULI CONT	LLI CONT	BONE	LIVER	KIDNEYS	SPLEEN	TESTES	OVARIES	OTHER
LUNGS	3.467E 01	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
RES LYM	0.0	0.311E 03	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
S WALL	0.0	0.0	0.899E-01	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
SI WALL	0.0	0.0	0.0	0.562E-01	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
ULI WALL	0.0	0.0	0.0	0.0	0.102E 00	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
LLI WALL	0.0	0.0	0.0	0.0	0.0	0.167E 00	0.0	0.0	0.0	0.0	0.0	0.0	0.0
T BODY	0.667E-01	0.667E-01	0.193E-03	0.514E-03	0.306E-03	0.381E-03	0.333E 00	0.667E-01	0.667E-01	0.667E-01	0.667E-01	0.667E-01	0.663E-01
ADREN	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.138E 00
BL WALL	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.668E-01
KIDNEYS	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.151E 02	0.0	0.0	0.0	0.0
LIVER	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.259E 01	0.0	0.0	0.0	0.0	0.0
OVARIES	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.424E 03	0.0
PANCREAS	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.138E 00
BONE	0.0	0.0	0.0	0.0	0.0	0.0	0.367E 01	0.0	0.0	0.0	0.0	0.0	0.0
R MAR	0.0	0.0	0.0	0.0	0.0	0.0	0.770E 00	0.0	0.0	0.0	0.0	0.0	0.138E 00
Y MAR	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.138E 00
ENDOST	0.0	0.0	0.0	0.0	0.0	0.0	0.403E 01	0.0	0.0	0.0	0.0	0.0	0.0
SPLEEN	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.259E 02	0.0	0.0	0.0
TESTES	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.133E 03	0.0	0.0
THYMUS	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.138E 00
THYROID	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.138E 00
UTERUS	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.138E 00

α decay (3.05E-7 S 5)

Case 1 represents inhalation of sulfates, carbonates, phosphates, and nitrates; case 2 inhalation of oxides, hydroxides, and chlorides; and case 3 ingestion of any of these compounds.

*Retention data derived from "other tissues" compartment.

CASE 1.. INHALATION

AMAD (MICRON).. 1.00 D3 =0.310 D4 =8.000E-02 D5 =0.249

	SOLUBILITY CLASS	G.I. UPTAKE FRACTIONS STOMACH	S INT	U L INT	L L INT
PO-212	W	0.0	1.000E-01	0.0	0.0

DOSE EQUIVALENT (REM/MICROCURIE)

SOURCE	LUNGS	RES LYM	S CONT	SI CONT	ULI CONT	LLI CONT	BONE	LIVER	KIDNEYS	SPLEEN	TESTES
TARGET											
LUNGS	1.520E-11	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
RES LYM	0.0	1.393E-24	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
S WALL	0.0	0.0	1.450E-24	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
SI WALL	0.0	0.0	0.0	1.108E-34	0.0	0.0	0.0	0.0	0.0	0.0	0.0
ULI WALL	0.0	0.0	0.0	0.0	6.146E-45	0.0	0.0	0.0	0.0	0.0	0.0
LLI WALL	0.0	0.0	0.0	0.0	0.0	9.461E-56	0.0	0.0	0.0	0.0	0.0
T BODY	2.171E-13	2.988E-28	3.114E-27	1.014E-36	1.944E-47	2.158E-58	3.826E-24	8.514E-25	8.514E-25	8.514E-25	5.364E-27
ADREN	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
BL WALL	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
KIDNEYS	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.927E-22	0.0	0.0
LIVER	0.0	0.0	0.0	0.0	0.0	0.0	0.0	3.306E-23	0.0	0.0	0.0
OVARIES	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
PANCREAS	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
BONE	0.0	0.0	0.0	0.0	0.0	0.0	5.365E-23	0.0	0.0	0.0	0.0
R MAR	0.0	0.0	0.0	0.0	0.0	0.0	8.846E-24	0.0	0.0	0.0	0.0
Y MAR	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
ENDOST	0.0	0.0	0.0	0.0	0.0	0.0	4.630E-23	0.0	0.0	0.0	0.0
SPLEEN	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	3.306E-22	0.0
TESTES	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.070E-23
THYMUS	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
THYROID	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
UTERUS	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

DOSE EQUIVALENT (REM/MICROCURIE)

SOURCE	OVARIES	OTHER	TOTAL
TARGET			
LUNGS	0.0	0.0	1.520E-11
RES LYM	0.0	0.0	1.393E-24
S WALL	0.0	0.0	1.450E-24
SI WALL	0.0	0.0	1.108E-34
ULI WALL	0.0	0.0	6.146E-45
LLI WALL	0.0	0.0	9.461E-56
T BODY	1.686E-27	5.162E-24	2.171E-13
ADREN	0.0	1.075E-23	1.075E-23
BL WALL	0.0	5.357E-24	5.357E-24
KIDNEYS	0.0	0.0	1.927E-22
LIVER	0.0	0.0	3.306E-23
OVARIES	1.072E-23	0.0	1.072E-23
PANCREAS	0.0	1.075E-23	1.075E-23
BONE	0.0	0.0	5.365E-23
R MAR	0.0	1.075E-23	1.959E-23
Y MAR	0.0	1.075E-23	1.075E-23
ENDOST	0.0	0.0	4.630E-23
SPLEEN	0.0	0.0	3.306E-22
TESTES	0.0	0.0	1.070E-23
THYMUS	0.0	1.075E-23	1.075E-23
THYROID	0.0	1.075E-23	1.075E-23
UTERUS	0.0	1.075E-23	1.075E-23

CASE 2.. INHALATION

AMAD (MICRON).. 1.00 D3 =0.310 D4 =9.000E-02 D5 =0.249

	SOLUBILITY CLASS	G.I. UPTAKE FRACTIONS			
		STOMACH	S INT	U L INT	L L INT
PO-212	D	0.0	1.000E-01	0.0	0.0

DOSE EQUIVALENT (REM/MICROCURIE)

SOURCE	LUNGS	RES LYM	S CONT	SI CONT	ULI CONT	LLI CONT	BONE	LIVER	KIDNEYS	SPLEEN	TESTES
TARGET											
LUNGS	1.520E-11	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
RES LYM	0.0	5.572E-22	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
S WALL	0.0	0.0	2.508E-23	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
SI WALL	0.0	0.0	0.0	1.916E-33	0.0	0.0	0.0	0.0	0.0	0.0	0.0
ULI WALL	0.0	0.0	0.0	0.0	1.063E-43	0.0	0.0	0.0	0.0	0.0	0.0
LLI WALL	0.0	0.0	0.0	0.0	0.0	1.636E-54	0.0	0.0	0.0	0.0	0.0
T BODY	2.171E-13	1.195E-25	5.384E-26	1.753E-35	3.189E-46	3.732E-57	1.266E-23	2.818E-24	2.818E-24	2.818E-24	1.775E-26
ADREN	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
BL WALL	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
KIDNEYS	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	6.379E-22	0.0	0.0
LIVER	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.094E-22	0.0	0.0	0.0
OVARIES	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
PANCREAS	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
BONE	0.0	0.0	0.0	0.0	0.0	0.0	1.775E-22	0.0	0.0	0.0	0.0
R MAR	0.0	0.0	0.0	0.0	0.0	0.0	2.927E-23	0.0	0.0	0.0	0.0
Y MAR	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
ENDOST	0.0	0.0	0.0	0.0	0.0	0.0	1.532E-22	0.0	0.0	0.0	0.0
SPLEEN	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.094E-21	0.0
TESTES	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	3.539E-23
THYMUS	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
THYROID	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
UTERUS	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

DOSE EQUIVALENT (REM/MICROCURIE)

SOURCE	OVARIES	OTHER	TOTAL
TARGET			
LUNGS	0.0	0.0	1.520E-11
RES LYM	0.0	0.0	5.572E-22
S WALL	0.0	0.0	2.508E-23
SI WALL	0.0	0.0	1.916E-33
ULI WALL	0.0	0.0	1.063E-43
LLI WALL	0.0	0.0	1.636E-54
T BODY	5.579E-27	1.708E-23	2.171E-13
ADREN	0.0	3.556E-23	3.556E-23
BL WALL	0.0	1.773E-23	1.773E-23
KIDNEYS	0.0	0.0	6.379E-22
LIVER	0.0	0.0	1.094E-22
OVARIES	3.546E-23	0.0	3.546E-23
PANCREAS	0.0	3.556E-23	3.556E-23
BONE	0.0	0.0	1.775E-22
R MAR	0.0	3.556E-23	6.483E-23
Y MAR	0.0	3.556E-23	3.556E-23
ENDOST	0.0	0.0	1.532E-22
SPLEEN	0.0	0.0	1.094E-21
TESTES	0.0	0.0	3.539E-23
THYMUS	0.0	3.556E-23	3.556E-23
THYROID	0.0	3.556E-23	3.556E-23
UTERUS	0.0	3.556E-23	3.556E-23

CASE 3.. INGESTION

INGESTION TRANSFER FRACTIONS (G. I. TRACT TO BLOOD)

	PC-212
STOMACH	0.0
S INT	1.000E-01
U L INT	0.0
L L INT	0.0

DOSE EQUIVALENT (REM/MICROCURIE)

SOURCE	S CONT	SI CONT	ULI CONT	LLI CONT	BONE	LIVER	KIDNEYS	SPLEEN	TESTES	OVARIES	OTHER
TARGET											
LUNGS	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
RES LYM	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
S WALL	4.578E-13	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
SI WALL	0.0	3.498E-23	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
ULI WALL	0.0	0.0	1.940E-33	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
LLI WALL	0.0	0.0	0.0	2.986E-44	0.0	0.0	0.0	0.0	0.0	0.0	0.0
T BODY	9.829E-16	3.199E-25	5.820E-36	6.813E-47	6.334E-35	1.410E-35	1.410E-35	1.410E-35	8.880E-38	2.791E-38	8.547E-35
ADREN	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.779E-34
BL WALL	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	8.869E-35
KIDNEYS	0.0	0.0	0.0	0.0	0.0	0.0	3.191E-33	0.0	0.0	0.0	0.0
LIVER	0.0	0.0	0.0	0.0	0.0	5.474E-34	0.0	0.0	0.0	0.0	0.0
OVARIES	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.774E-34	0.0
PANCREAS	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.779E-34
BONE	0.0	0.0	0.0	0.0	8.882E-34	0.0	0.0	0.0	0.0	0.0	0.0
R MAR	0.0	0.0	0.0	0.0	1.465E-34	0.0	0.0	0.0	0.0	0.0	1.779E-34
Y MAR	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.779E-34
ENDOST	0.0	0.0	0.0	0.0	7.665E-34	0.0	0.0	0.0	0.0	0.0	0.0
SPLEEN	0.0	0.0	0.0	0.0	0.0	0.0	0.0	5.474E-33	0.0	0.0	0.0
TESTES	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.771E-34	0.0	0.0
THYMUS	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.779E-34
THYROID	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.779E-34
UTERUS	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.779E-34

DOSE EQUIVALENT (REM/MICROCURIE)

SOURCE	TOTAL
TARGET	
LUNGS	0.0
RES LYM	0.0
S WALL	4.578E-13
SI WALL	3.498E-23
ULI WALL	1.940E-33
LLI WALL	2.986E-44
T BODY	9.829E-16
ADREN	1.779E-34
BL WALL	8.869E-35
KIDNEYS	3.191E-33
LIVER	5.474E-34
OVARIES	1.774E-34
PANCREAS	1.779E-34
BONE	8.882E-34
R MAR	3.244E-34
Y MAR	1.779E-34
ENDOST	7.665E-34
SPLEEN	5.474E-33
TESTES	1.771E-34
THYMUS	1.779E-34
THYROID	1.779E-34
UTERUS	1.779E-34

RADIONUCLIDE: PO-213

PHYSICAL AND METABOLIC PARAMETERS FOR DOSIMETRICALLY SIGNIFICANT PROGENY:

NUCLIDE	RADIOACTIVE HALF-LIFE (DAYS)
PO-213	4.8600E-11
PB-209	0.1380

BRANCHING RATIOS: FROM PO-213 TO PB-209 FRACTION 1.000

ORGAN ABSORBED	NUCLIDE	BLOOD TRANSFER FRACTION F2-PRIME	COMPARTMENT DEPOSITION FRACTION	COMPARTMENT BIOLOGICAL HALF-TIME (DAYS)
	PO-213	1.00	1.000E-02	0.500
			0.990	50.0
	PB-209	1.00	1.000E-01	1.00
			0.200	10.0
			0.300	320.
			0.200	2.000E 03
			0.200	8.000E 03
BONE	*PO-213	9.000E-02	1.000E-02	0.500
			0.990	50.0
	PB-209	0.562	0.375	320.
			0.310	2.000E 03
			0.315	8.000E 03
LIVER	PO-213	1.000E-01	1.000E-02	0.500
			0.990	50.0
	PB-209	0.106	0.843	10.0
			7.870E-02	320.
			4.010E-02	2.000E 03
			3.820E-02	8.000E 03
KIDNEYS	PO-213	1.000E-01	1.000E-02	0.500
			0.990	50.0
	PB-209	5.090E-02	0.962	10.0
			2.000E-02	320.
			9.600E-03	2.000E 03
			8.290E-03	8.000E 03
SPLEEN	PO-213	1.000E-01	1.000E-02	0.500
			0.990	50.0
	*PB-209	2.960E-04	0.375	320.
			0.310	2.000E 03
			0.315	8.000E 03
THYROID	*PO-213	3.600E-04	1.000E-02	0.500
			0.990	50.0
	*PB-209	3.290E-05	0.375	320.
			0.310	2.000E 03
			0.315	8.000E 03
TESTES	*PO-213	6.300E-04	1.000E-02	0.500
			0.990	50.0
	*PB-209	5.760E-05	0.375	320.
			0.310	2.000E 03
			0.315	8.000E 03
OVARIES	*PO-213	1.980E-04	1.000E-02	0.500
			0.990	50.0
	*PB-209	1.810E-05	0.375	320.
			0.310	2.000E 03
			0.315	8.000E 03
OTHER	PO-213	0.610	1.000E-02	0.500
			0.990	50.0
	PB-209	5.580E-02	0.375	320.
			0.310	2.000E 03
			0.315	8.000E 03

α decay (4.2E-6 S 8)

Case 1 represents inhalation of sulfates, carbonates, phosphates, and nitrates; case 2 inhalation of oxides, hydroxides, and chlorides; and case 3 ingestion of any of these compounds.

*Retention data derived from "other tissues" compartment.

S FACTORS (REM/MICROCURIE-DAY) FOR PO-213

TARGET ORGANS	SOURCE ORGANS									
	LUNGS	RES LYM	S CONT	SI CONT	ULI CONT	LLI CONT	BONE	LIVER	KIDNEYS	SPLEEN
LUNGS	0.445E 01	0.738E-07	0.936E-08	0.181E-08	0.200E-08	0.715E-09	0.517E-08	0.125E-07	0.511E-08	0.112E-07
RES LYM	0.738E-07	0.297E 03	0.936E-08	0.181E-08	0.200E-08	0.715E-09	0.517E-08	0.125E-07	0.511E-08	0.112E-07
S WALL	0.984E-08	0.984E-08	0.857E-01	0.178E-07	0.186E-07	0.869E-08	0.292E-08	0.101E-07	0.172E-07	0.487E-07
SI WALL	0.159E-08	0.159E-08	0.133E-07	0.536E-01	0.823E-07	0.457E-07	0.432E-08	0.921E-08	0.143E-07	0.724E-08
ULI WALL	0.210E-08	0.210E-08	0.161E-07	0.116E-06	0.974E-01	0.908E-07	0.391E-08	0.123E-07	0.148E-07	0.728E-08
LLI WALL	0.463E-09	0.463E-09	0.692E-08	0.349E-07	0.165E-07	0.159E 00	0.533E-08	0.154E-08	0.455E-09	0.344E-08
T BODY	0.636E-01	0.636E-01	0.184E-03	0.490E-03	0.292E-03	0.367E-03	0.318E 00	0.636E-01	0.636E-01	0.636E-01
ADREN	0.125E-07	0.125E-07	0.111E-07	0.627E-08	0.598E-08	0.259E-08	0.938E-08	0.251E-07	0.642E-07	0.346E-07
BL WALL	0.442E-09	0.442E-09	0.252E-08	0.140E-07	0.106E-07	0.274E-07	0.276E-08	0.133E-08	0.228E-08	0.139E-08
KIDNEYS	0.527E-08	0.527E-08	0.169E-07	0.164E-07	0.145E-07	0.462E-08	0.563E-08	0.191E-07	0.144E 02	0.425E-07
LIVER	0.123E-07	0.123E-07	0.103E-07	0.955E-08	0.128E-07	0.194E-08	0.376E-08	0.247E 01	0.201E-07	0.560E-08
OVARIES	0.859E-09	0.859E-09	0.557E-08	0.499E-07	0.502E-07	0.849E-07	0.531E-08	0.260E-08	0.742E-08	0.402E-08
PANCREAS	0.128E-07	0.128E-07	0.868E-07	0.106E-07	0.101E-07	0.388E-08	0.499E-08	0.231E-07	0.349E-07	0.964E-07
BONE	0.512E-08	0.512E-08	0.307E-08	0.405E-08	0.363E-08	0.528E-08	0.445E 01	0.373E-08	0.502E-08	0.397E-08
R MAR	0.647E-08	0.647E-08	0.523E-08	0.126E-07	0.107E-07	0.157E-07	0.735E 00	0.534E-08	0.126E-07	0.583E-08
Y MAR	0.541E-08	0.541E-08	0.425E-08	0.553E-08	0.515E-08	0.650E-09	0.154E-07	0.552E-08	0.623E-08	0.593E-08
ENDOST	0.512E-08	0.512E-08	0.307E-08	0.405E-08	0.363E-08	0.528E-08	0.439E 01	0.373E-08	0.502E-08	0.397E-08
SPLEEN	0.113E-07	0.113E-07	0.488E-07	0.810E-08	0.684E-08	0.531E-08	0.456E-08	0.567E-08	0.430E-07	0.247E 02
TESTES	0.163E-09	0.163E-09	0.550E-09	0.241E-08	0.238E-08	0.913E-08	0.330E-08	0.103E-08	0.855E-09	0.563E-09
THYMUS	0.205E-07	0.205E-07	0.301E-08	0.796E-09	0.865E-09	0.356E-09	0.427E-08	0.540E-08	0.121E-08	0.322E-08
THYROID	0.689E-08	0.689E-08	0.865E-09	0.255E-09	0.271E-09	0.124E-09	0.405E-08	0.102E-08	0.560E-09	0.343E-09
UTERUS	0.577E-09	0.577E-09	0.490E-08	0.441E-07	0.238E-07	0.287E-07	0.408E-08	0.215E-08	0.437E-08	0.293E-08

S FACTORS (REM/MICROCURIE-DAY) FOR PO-213

TARGET ORGANS	SOURCE ORGANS			
	THYROID	TESTES	OVARIES	OTHER
LUNGS	0.584E-08	0.121E-09	0.735E-09	0.654E-08
RES LYM	0.584E-08	0.121E-09	0.735E-09	0.654E-08
S WALL	0.705E-09	0.515E-09	0.414E-08	0.701E-08
SI WALL	0.136E-09	0.282E-08	0.589E-07	0.779E-08
ULI WALL	0.156E-09	0.197E-08	0.554E-07	0.799E-08
LLI WALL	0.106E-09	0.130E-07	0.704E-07	0.859E-08
T BODY	0.636E-01	0.636E-01	0.636E-01	0.632E-01
ADREN	0.110E-08	0.429E-09	0.305E-08	0.131E 00
BL WALL	0.720E-10	0.271E-07	0.355E-07	0.656E-01
KIDNEYS	0.472E-09	0.681E-09	0.564E-08	0.742E-08
LIVER	0.944E-09	0.434E-09	0.333E-08	0.566E-08
OVARIES	0.126E-09	0.0	0.405E 03	0.974E-08
PANCREAS	0.324E-09	0.400E-09	0.406E-08	0.131E 00
BONE	0.387E-08	0.343E-08	0.468E-08	0.628E-08
R MAR	0.421E-08	0.271E-08	0.154E-07	0.131E 00
Y MAR	0.207E-08	0.149E-08	0.622E-08	0.131E 00
ENDOST	0.387E-08	0.343E-08	0.468E-08	0.652E-08
SPLEEN	0.926E-09	0.498E-09	0.343E-08	0.737E-08
TESTES	0.293E-10	0.127E 03	0.0	0.617E-08
THYMUS	0.211E-07	0.919E-10	0.375E-09	0.131E 00
THYROID	0.223E 03	0.293E-10	0.126E-09	0.653E-08
UTERUS	0.120E-09	0.0	0.866E-07	0.131E 00

CASE 1.. INHALATION

AMAD (MICRON).. 1.00 D3 =0.310 D4 =8.000E-02 D5 =0.249

	SOLUBILITY CLASS	G.I. UPTAKE FRACTIONS STOMACH	S INT	U L INT	L L INT
PO-213	W	0.0	1.000E-01	0.0	0.0
PB-209	W	0.0	8.000E-02	0.0	0.0

DOSE EQUIVALENT (REM/MICROCURIE)

SOURCE	LUNGS	RES LYM	S CONT	SI CONT	ULI CONT	LLI CONT	BONE	LIVER	KIDNEYS	SPLEEN	THYROID
TARGET											
LUNGS	1.998E-10	2.421E-17	2.862E-29	9.314E-39	4.330E-48	2.004E-58	1.126E-29	3.024E-29	1.236E-29	2.710E-29	5.087E-32
RES LYM	3.398E-13	1.616E-15	2.862E-29	9.314E-39	4.330E-48	2.004E-58	1.126E-29	3.024E-29	1.236E-29	2.710E-29	5.087E-32
S WALL	4.409E-19	8.354E-33	2.278E-14	9.160E-38	4.027E-47	2.410E-57	6.359E-30	2.444E-29	4.162E-29	1.178E-28	6.141E-33
SI WALL	7.125E-20	1.350E-33	4.067E-29	2.954E-14	1.782E-46	1.281E-56	9.407E-30	1.986E-29	3.460E-29	1.752E-29	1.185E-33
ULI WALL	9.410E-20	1.783E-33	4.924E-29	5.969E-37	4.710E-14	5.829E-57	8.514E-30	3.097E-29	3.581E-29	1.761E-29	1.359E-33
LLI WALL	2.075E-20	3.931E-34	2.116E-29	1.796E-37	3.572E-47	2.348E-14	1.161E-29	2.726E-30	1.101E-29	8.323E-30	9.233E-34
T BODY	2.855E-12	3.452E-19	4.883E-17	2.720E-16	1.411E-16	5.373E-17	3.959E-16	7.382E-17	3.539E-17	2.096E-19	2.317E-20
ADREN	5.601E-19	1.061E-32	3.394E-29	3.227E-38	1.395E-47	7.258E-58	2.043E-29	6.073E-29	1.553E-28	8.372E-29	9.581E-33
BL WALL	1.981E-20	3.752E-34	7.706E-30	7.204E-38	2.295E-47	7.678E-57	6.010E-30	3.218E-30	5.517E-30	3.363E-30	6.271E-34
KIDNEYS	2.362E-19	4.474E-33	5.168E-29	8.440E-38	3.139E-47	1.295E-57	1.226E-29	4.621E-29	8.011E-15	1.028E-28	4.111E-33
LIVER	5.512E-19	1.044E-32	3.150E-29	4.914E-38	2.771E-47	5.436E-58	8.188E-30	2.876E-15	4.863E-29	1.355E-29	8.223E-33
OVARIES	3.849E-20	7.293E-34	1.703E-29	2.568E-37	1.087E-46	2.379E-56	1.156E-29	6.291E-30	1.795E-29	9.737E-30	1.099E-33
PANCREAS	5.736E-19	1.087E-32	2.654E-28	5.455E-38	2.187E-47	1.087E-57	1.087E-29	5.589E-29	9.444E-29	2.332E-28	2.822E-33
BONE	2.294E-19	4.347E-33	9.388E-30	2.084E-38	7.859E-48	1.480E-57	5.168E-15	9.025E-30	1.215E-29	9.606E-30	3.371E-32
R MAR	2.899E-19	5.493E-33	1.595E-29	6.484E-38	2.316E-47	4.400E-57	1.361E-15	1.292E-29	3.049E-29	1.411E-29	3.667E-32
Y MAR	2.424E-19	4.593E-33	1.300E-29	2.871E-38	1.115E-47	1.821E-57	3.353E-29	1.336E-29	1.507E-29	1.435E-29	1.803E-32
ENDOST	2.294E-19	4.347E-33	9.388E-30	2.084E-33	7.859E-48	1.480E-57	4.096E-15	9.025E-30	1.215E-29	9.606E-30	3.371E-32
SPLEEN	5.064E-19	9.593E-33	1.492E-28	4.168E-38	1.481E-47	1.498E-57	9.930E-30	1.372E-29	1.040E-28	8.143E-17	8.066E-33
TESTES	7.304E-21	1.384E-34	1.682E-30	1.240E-38	6.235E-48	2.558E-57	7.186E-30	2.492E-30	2.069E-30	1.362E-30	2.552E-34
THYMUS	9.186E-19	1.740E-32	9.205E-30	4.096E-39	1.873E-48	9.976E-59	9.298E-30	1.307E-29	2.928E-30	7.791E-30	1.838E-31
THYROID	3.088E-19	5.849E-33	2.645E-30	1.312E-39	5.867E-49	3.475E-59	8.819E-30	2.468E-30	1.355E-30	2.040E-30	8.127E-17
UTERUS	2.586E-20	4.899E-34	1.498E-29	2.269E-37	5.152E-47	8.043E-57	8.985E-30	5.202E-30	1.057E-29	7.089E-30	1.045E-33

DOSE EQUIVALENT (REM/MICROCURIE)

SOURCE	TESTES	OVARIES	OTHER	TOTAL
TARGET				
LUNGS	1.844E-33	3.521E-33	9.652E-29	1.998E-10
RES LYM	1.844E-33	3.521E-33	9.652E-29	3.414E-13
S WALL	7.850E-33	1.983E-32	1.035E-28	2.278E-14
SI WALL	4.299E-32	2.822E-31	1.150E-28	2.954E-14
ULI WALL	3.003E-32	2.654E-31	1.179E-28	4.710E-14
LLI WALL	1.982E-31	3.373E-31	1.266E-28	2.349E-14
T BODY	4.057E-20	1.275E-20	3.930E-17	2.856E-12
ADREN	6.539E-33	1.461E-32	8.134E-17	8.190E-17
BL WALL	4.131E-31	1.701E-31	4.067E-17	4.069E-17
KIDNEYS	1.038E-32	2.798E-32	1.095E-28	8.011E-15
LIVER	6.615E-33	1.595E-32	8.354E-29	2.876E-15
OVARIES	0.0	8.137E-17	1.438E-28	8.140E-17
PANCREAS	6.097E-33	1.945E-32	8.134E-17	8.191E-17
BONE	5.228E-32	2.242E-32	5.677E-18	5.174E-15
R MAR	4.131E-32	7.378E-32	6.141E-17	1.422E-16
Y MAR	2.271E-32	2.980E-32	8.134E-17	8.158E-17
ENDOST	5.228E-32	2.242E-32	4.203E-17	4.138E-15
SPLEEN	7.591E-33	1.643E-32	1.088E-28	8.194E-17
TESTES	8.143E-17	0.0	9.106E-29	8.143E-17
THYMUS	1.248E-33	1.797E-33	8.134E-17	8.226E-17
THYROID	4.466E-34	6.036E-34	9.638E-29	8.159E-17
UTERUS	0.0	4.245E-31	8.134E-17	8.136E-17

PERCENT DOSE EQUIVALENT..

NUCLIDE	PO-213	PB-209
TARGET		
LUNGS	99.8	0.2
RES LYM	0.0	100.0
S WALL	0.0	100.0
SI WALL	0.0	100.0
ULI WALL	0.0	100.0
LLI WALL	0.0	100.0
T BODY	99.8	0.2
ADREN	0.7	99.3
BL WALL	0.1	99.9
KIDNEYS	0.0	100.0
LIVER	0.0	100.0
OVARIES	0.0	100.0
PANCREAS	0.7	99.3
BONE	0.0	100.0
R MAR	0.0	100.0
Y MAR	0.3	99.7
ENDOST	0.0	100.0
SPLEEN	0.7	99.3
TESTES	0.0	100.0
THYMUS	1.1	98.9
THYROID	0.4	99.6
UTERUS	0.0	100.0

CASE 2.. INHALATION

AMAD (MICRON).. 1.00 D3 =0.310 D4 =3.000E-02 D5 =0.249

	SOLUBILITY CLASS	G.I. UPTAKE FRACTIONS STOMACH	S INT	U L INT	L L INT
PO-213	D	0.0	1.000E-01	0.0	0.0
PB-209	W	0.0	8.000E-02	0.0	0.0

DOSE EQUIVALENT (REM/MICROCURIE)

SOURCE	LUNGS	RES LYM	S CONT	SI CONT	ULI CONT	LLI CONT	BONE	LIVER	KIDNEYS	SPLEEN	THYROID
TARGET											
LUNGS	1.998E-10	2.421E-17	4.950E-28	1.611E-37	7.487E-47	3.465E-57	3.726E-29	1.001E-28	4.092E-29	8.968E-29	1.683E-31
RES LYM	3.398E-13	1.615E-15	4.950E-28	1.611E-37	7.487E-47	3.465E-57	3.726E-29	1.001E-28	4.092E-29	8.968E-29	1.633E-31
S WALL	4.410E-19	3.342E-30	2.278E-14	1.584E-36	6.963E-46	4.167E-56	2.104E-29	8.087E-29	1.377E-28	3.899E-28	2.032E-32
SI WALL	7.125E-20	5.399E-31	7.033E-28	2.954E-14	3.081E-45	2.215E-55	3.113E-29	6.574E-29	1.145E-28	5.797E-29	3.920E-33
ULI WALL	9.411E-20	7.131E-31	8.514E-28	1.032E-35	4.710E-14	1.008E-55	2.818E-29	1.025E-28	1.185E-28	5.829E-29	4.497E-33
LLI WALL	2.075E-20	1.572E-31	3.659E-28	3.106E-36	6.177E-46	2.348E-14	3.841E-29	1.233E-29	3.643E-29	2.754E-29	3.055E-33
T BODY	2.855E-12	3.453E-19	4.883E-17	2.720E-16	1.411E-16	5.373E-17	3.959E-16	7.382E-17	3.539E-17	2.090E-19	2.318E-20
ADREN	5.602E-19	4.245E-30	5.870E-28	5.579E-37	2.239E-46	1.255E-56	6.759E-29	2.010E-28	5.140E-28	2.770E-28	3.171E-32
BL WALL	1.981E-20	1.501E-31	1.333E-28	1.246E-36	3.968E-46	1.328E-55	1.989E-29	1.065E-29	1.826E-29	1.113E-29	2.075E-33
KIDNEYS	2.362E-19	1.790E-30	8.937E-28	1.459E-36	5.428E-46	2.239E-56	4.057E-29	1.529E-28	8.011E-15	3.403E-28	1.361E-32
LIVER	5.512E-19	4.177E-30	5.447E-28	8.498E-37	4.792E-46	9.401E-57	2.710E-29	2.876E-15	1.609E-28	4.484E-29	2.721E-32
OVARIES	3.849E-20	2.917E-31	2.945E-28	4.440E-36	1.879E-45	4.114E-55	3.826E-29	2.082E-29	5.941E-29	3.219E-29	3.632E-33
PANCREAS	5.736E-19	4.347E-30	4.590E-27	9.433E-37	3.781E-46	1.880E-56	3.596E-29	1.850E-28	2.794E-28	7.719E-28	9.339E-33
BONE	2.294E-19	1.739E-30	1.623E-28	3.604E-37	1.359E-46	2.559E-56	5.168E-15	2.987E-29	4.019E-29	3.179E-29	1.116E-31
R MAR	2.899E-19	2.197E-30	2.766E-28	1.121E-36	4.006E-46	7.608E-56	1.361E-15	4.276E-29	1.009E-28	4.668E-29	1.214E-31
Y MAR	2.424E-19	1.837E-30	2.247E-28	4.965E-37	1.928E-46	3.150E-56	1.110E-28	4.420E-29	4.988E-29	4.748E-29	5.967E-32
ENDOST	2.294E-19	1.739E-30	1.623E-28	3.604E-37	1.359E-46	2.559E-56	4.096E-15	2.987E-29	4.019E-29	3.179E-29	1.116E-31
SPLEEN	5.064E-19	3.837E-30	2.581E-27	7.208E-37	2.561E-46	2.573E-56	3.286E-29	4.540E-29	3.443E-28	8.157E-17	2.669E-32
TESTES	7.304E-21	5.535E-32	2.908E-29	2.145E-37	1.078E-46	4.424E-56	2.378E-29	8.247E-30	6.846E-30	4.508E-30	8.446E-34
THYMUS	9.186E-19	6.962E-30	1.592E-28	7.083E-38	3.238E-47	1.725E-57	3.077E-29	4.324E-29	9.688E-30	2.578E-29	6.082E-31
THYROID	3.088E-19	2.340E-30	4.574E-29	2.269E-38	1.015E-47	6.009E-58	2.919E-29	8.167E-30	4.484E-30	6.750E-30	8.128E-17
UTERUS	2.586E-20	1.959E-31	2.591E-28	3.924E-36	8.910E-46	1.391E-55	2.940E-29	1.721E-29	3.499E-29	2.346E-29	3.459E-33

DOSE EQUIVALENT (REM/MICROCURIE)

SOURCE	TESTES	OVARIES	OTHER	TOTAL
TARGET				
LUNGS	6.104E-33	1.165E-32	3.194E-28	1.998E-10
RES LYM	6.104E-33	1.165E-32	3.194E-28	3.414E-13
S WALL	2.598E-32	6.563E-32	3.424E-28	2.278E-14
SI WALL	1.423E-31	9.338E-31	3.809E-28	2.954E-14
ULI WALL	9.937E-32	8.783E-31	3.902E-28	4.710E-14
LLI WALL	6.558E-31	1.116E-30	4.191E-28	2.348E-14
T BODY	4.057E-20	1.275E-20	3.931E-17	2.856E-12
ADREN	2.164E-32	4.835E-32	8.134E-17	8.190E-17
BL WALL	1.367E-30	5.628E-31	4.067E-17	4.069E-17
KIDNEYS	3.435E-32	9.259E-32	3.624E-28	8.011E-15
LIVER	2.189E-32	5.279E-32	2.764E-28	2.876E-15
OVARIES	0.0	8.137E-17	4.757E-28	8.141E-17
PANCREAS	2.018E-32	6.437E-32	8.134E-17	8.192E-17
BONE	1.730E-31	7.419E-32	5.677E-18	5.174E-15
R MAR	1.367E-31	2.441E-31	6.142E-17	1.422E-15
Y MAR	7.516E-32	9.861E-32	8.134E-17	8.159E-17
ENDOST	1.730E-31	7.419E-32	4.203E-17	4.138E-15
SPLEEN	2.512E-32	5.438E-32	3.600E-28	8.207E-17
TESTES	8.143E-17	0.0	3.014E-28	8.144E-17
THYMUS	4.131E-33	5.945E-33	8.134E-17	8.226E-17
THYROID	1.478E-33	1.998E-33	3.189E-28	8.158E-17
UTERUS	0.0	1.405E-30	8.134E-17	8.137E-17

PERCENT DOSE EQUIVALENT..

NUCLIDE	PO-213	PB-209
TARGET		
LUNGS	99.8	0.2
RES LYM	0.0	100.0
S WALL	0.0	100.0
SI WALL	0.0	100.0
ULI WALL	0.0	100.0
LLI WALL	0.0	100.0
T BODY	99.8	0.2
ADREN	0.7	99.3
BL WALL	0.1	99.9
KIDNEYS	0.0	100.0
LIVER	0.0	100.0
OVARIES	0.1	99.9
PANCREAS	0.7	99.3
BONE	0.0	100.0
R MAR	0.0	100.0
Y MAR	0.3	99.7
ENDOST	0.0	100.0
SPLEEN	0.9	99.1
TESTES	0.0	100.0
THYMUS	1.1	98.9
THYROID	0.4	99.6
UTERUS	0.0	100.0

CASE 3.. INGESTION

INGESTION TRANSFER FRACTIONS (G. I. TRACT TO BLOOD)

	PO-213	PB-209
STOMACH	0.0	0.0
S INT	1.000E-01	8.000E-02
U L INT	0.0	0.0
L L INT	0.0	0.0

DOSE EQUIVALENT (REM/MICROCURIE)

SOURCE	S CONT	SI CONT	ULI CONT	LLI CONT	BONE	LIVER	KIDNEYS	SPLEEN	THYROID	TESTES	OVARIES
TARGET											
LUNGS	6.563E-19	2.136E-28	9.927E-38	4.594E-48	2.566E-39	6.894E-39	2.818E-39	6.177E-39	1.159E-41	4.204E-43	8.026E-43
RES LYM	6.563E-19	2.136E-28	9.927E-38	4.594E-48	2.566E-39	6.894E-39	2.818E-39	6.177E-39	1.159E-41	4.204E-43	8.026E-43
S WALL	6.254E-12	2.100E-27	9.232E-37	5.525E-47	1.449E-39	5.570E-39	9.486E-39	2.686E-38	1.400E-42	1.789E-42	4.521E-42
SI WALL	9.325E-19	3.179E-13	4.085E-36	2.936E-46	2.144E-39	4.528E-39	7.886E-39	3.993E-39	2.700E-43	9.798E-42	6.432E-41
ULI WALL	1.129E-18	1.369E-26	5.068E-13	1.336E-46	1.941E-39	7.059E-39	8.162E-39	4.015E-39	3.097E-43	6.845E-42	6.050E-41
LLI WALL	4.852E-19	4.118E-27	8.190E-37	2.526E-13	2.646E-39	8.493E-40	2.509E-39	1.897E-39	2.105E-43	4.517E-41	7.688E-41
T BODY	1.343E-14	2.926E-15	1.518E-15	5.782E-16	2.120E-16	3.954E-17	1.895E-17	1.117E-19	1.241E-20	2.173E-20	6.828E-21
ADREN	7.783E-19	7.398E-28	2.968E-37	1.664E-47	4.659E-39	1.384E-38	3.541E-38	1.908E-38	2.184E-42	1.491E-42	3.331E-42
BL WALL	1.767E-19	1.652E-27	5.261E-37	1.760E-46	1.370E-39	7.335E-40	1.257E-39	7.666E-40	1.429E-43	9.416E-41	3.877E-41
KIDNEYS	1.185E-18	1.935E-27	7.197E-37	2.968E-47	2.794E-39	1.053E-38	4.291E-15	2.344E-38	9.371E-43	2.366E-42	6.377E-42
LIVER	7.222E-19	1.127E-27	6.353E-37	1.246E-47	1.866E-39	1.540E-15	1.109E-38	3.088E-39	1.874E-42	1.508E-42	3.636E-42
OVARIES	3.905E-19	5.888E-27	2.492E-36	5.455E-46	2.636E-39	1.434E-39	4.092E-39	2.217E-39	2.502E-43	0.0	4.358E-17
PANCREAS	6.086E-18	1.251E-27	5.013E-37	2.493E-47	2.477E-39	1.274E-38	1.925E-38	5.316E-38	6.433E-43	1.390E-42	4.433E-42
BONE	2.153E-19	4.778E-28	1.802E-37	3.392E-47	2.768E-15	2.057E-39	2.769E-39	2.189E-39	7.684E-42	1.192E-41	5.110E-42
R MAR	3.667E-19	1.487E-27	5.311E-37	1.009E-46	7.288E-16	2.945E-39	6.949E-39	3.215E-39	8.359E-42	9.416E-42	1.682E-41
Y MAR	2.980E-19	6.584E-28	2.556E-37	4.176E-47	7.644E-39	3.044E-39	3.436E-39	3.270E-39	4.110E-42	5.177E-42	6.792E-42
ENDOST	2.153E-19	4.778E-28	1.802E-37	3.392E-47	2.194E-15	2.057E-39	2.769E-39	2.189E-39	7.684E-42	1.192E-41	5.110E-42
SPLEEN	3.422E-18	9.557E-28	3.395E-37	3.412E-47	2.263E-39	3.127E-39	2.371E-38	4.358E-17	1.838E-42	1.730E-42	3.745E-42
TESTES	3.856E-20	2.843E-28	1.430E-37	5.866E-47	1.638E-39	5.680E-40	4.715E-40	3.105E-40	5.817E-44	4.361E-17	0.0
THYMUS	2.110E-19	9.392E-29	4.293E-38	2.287E-48	2.119E-39	2.978E-39	6.673E-40	1.776E-39	4.189E-41	2.846E-43	4.095E-43
THYROID	6.065E-20	3.009E-29	1.345E-38	7.967E-49	2.010E-39	5.625E-40	3.088E-40	4.649E-40	4.353E-17	1.018E-43	1.376E-43
UTERUS	3.436E-19	5.203E-27	1.181E-36	1.844E-46	2.025E-39	1.186E-39	2.410E-39	1.616E-39	2.382E-43	0.0	9.675E-41

DOSE EQUIVALENT (REM/MICROCURIE)

SOURCE	OTHER	TOTAL
TARGET		
LUNGS	2.200E-38	6.563E-19
RES LYM	2.200E-38	6.563E-19
S WALL	2.358E-38	6.254E-12
SI WALL	2.621E-38	3.179E-13
ULI WALL	2.688E-38	5.068E-13
LLI WALL	2.886E-38	2.526E-13
T BODY	2.105E-17	1.874E-14
ADREN	4.356E-17	4.434E-17
BL WALL	2.178E-17	2.196E-17
KIDNEYS	2.496E-38	4.292E-15
LIVER	1.904E-38	1.541E-15
OVARIES	3.277E-38	4.397E-17
PANCREAS	4.356E-17	4.965E-17
BONE	3.041E-18	2.771E-15
R MAR	3.289E-17	7.621E-16
Y MAR	4.356E-17	4.386E-17
ENDOST	2.251E-17	2.217E-15
SPLEEN	2.479E-38	4.700E-17
TESTES	2.076E-38	4.365E-17
THYMUS	4.356E-17	4.377E-17
THYROID	2.197E-38	4.359E-17
UTERUS	4.356E-17	4.391E-17

PERCENT DOSE EQUIVALENT..

NUCLIDE	PO-213	PB-209
TARGET		
LUNGS	100.0	0.0
RES LYM	100.0	0.0
S WALL	96.1	3.9
SI WALL	0.0	100.0
ULI WALL	0.0	100.0
LLI WALL	0.0	100.0
T BODY	68.8	31.2
ADREN	1.8	98.2
BL WALL	0.8	99.2
KIDNEYS	0.0	100.0
LIVER	0.0	100.0
OVARIES	0.9	99.1
PANCREAS	12.3	87.7
BONE	0.0	100.0
R MAR	0.0	100.0
Y MAR	0.7	99.3
ENDOST	0.0	100.0
SPLEEN	7.3	92.7
TESTES	0.1	99.9
THYMUS	0.5	99.5
THYROID	0.1	99.9
UTERUS	0.8	99.2

RADIONUCLIDE: PO-214

PHYSICAL AND METABOLIC PARAMETERS FOR DOSIMETRICALLY SIGNIFICANT PROGENY:

NUCLIDE	RADIOACTIVE HALF-LIFE (DAYS)
PO-214	1.8900E-09
PB-210	8140.
BI-210	5.010
PO-210	138.0

BRANCHING RATIOS:

FROM	TO	FRACTION
PO-214	PB-210	1.000
PB-210	BI-210	1.000
BI-210	PO-210	1.000

ORGAN ABSORBED	NUCLIDE	BLOOD TRANSFER FRACTION F2-PRIME	COMPARTMENT DEPOSITION FRACTION	COMPARTMENT BIOLOGICAL HALF-TIME (DAYS)
	PO-214	1.00	1.000E-02	0.500
			0.990	50.0
	PB-210	1.00	1.000E-01	1.00
			0.200	10.0
			0.300	320.
			0.200	2.000E 03
			0.200	8.000E 03
	BI-210	1.00	-1.720E-02	1.000E-01
			1.02	5.78
	PO-210	1.00	1.000E-02	0.500
			0.990	50.0
BONE	*PO-214	9.000E-02	1.000E-02	0.500
			0.990	50.0
	PB-210	0.562	0.375	320.
			0.310	2.000E 03
			0.315	8.000E 03
	*BI-210	7.340E-02	-1.000E-01	1.000E-01
			1.10	5.78
	*PO-210	9.000E-02	1.000E-02	0.500
			0.990	50.0
LIVER	PO-214	1.000E-01	1.000E-02	0.500
			0.990	50.0
	PB-210	0.106	0.843	10.0
			7.870E-02	320.
			4.010E-02	2.000E 03
			3.820E-02	8.000E 03
	*BI-210	2.640E-02	-1.000E-01	1.000E-01
			1.10	5.78
	PO-210	1.000E-01	1.000E-02	0.500
			0.990	50.0
KIDNEYS	PO-214	1.000E-01	1.000E-02	0.500
			0.990	50.0
	PB-210	5.090E-02	0.962	10.0
			2.000E-02	320.
			9.600E-03	2.000E 03
			8.290E-03	8.000E 03
	BI-210	0.400	1.00	5.78
	PO-210	1.000E-01	1.000E-02	0.500
			0.990	50.0
SPLEEN	PO-214	1.000E-01	1.000E-02	0.500
			0.990	50.0
	*PB-210	2.960E-04	0.375	320.
			0.310	2.000E 03
			0.315	8.000E 03
	*BI-210	2.640E-03	-1.000E-01	1.000E-01
			1.10	5.78
	PO-210	1.000E-01	1.000E-02	0.500
			0.990	50.0
OTHER	PO-214	0.610	1.000E-02	0.500
			0.990	50.0
	PB-210	5.580E-02	0.375	320.
			0.310	2.000E 03
			0.315	8.000E 03
	BI-210	0.500	-1.000E-01	1.000E-01
			1.10	5.78
	PO-210	0.610	1.000E-02	0.500
			0.990	50.0

α decay (1.637E-4 S 2)

Case 1 represents inhalation of sulfates, carbonates, phosphates, and nitrates; case 2 inhalation of oxides, hydroxides, and chlorides; and case 3 ingestion of any of these compounds.

*Retention data derived from "other tissues" compartment.

S FACTORS (REM/MICROCURIE-DAY) FOR PO-214

TARGET ORGANS	SOURCE ORGANS									
	LUNGS	RES LYM	S CONT	SI CONT	ULI CONT	LLI CONT	BONE	LIVER	KIDNEYS	SPLEEN
LUNGS	0.408E 01	0.266E-06	0.337E-07	0.653E-08	0.727E-08	0.261E-08	0.187E-07	0.451E-07	0.185E-07	0.402E-07
RES LYM	0.266E-06	0.272E 03	0.337E-07	0.653E-08	0.727E-08	0.261E-08	0.187E-07	0.451E-07	0.185E-07	0.402E-07
S WALL	0.355E-07	0.355E-07	0.786E-01	0.644E-07	0.670E-07	0.309E-07	0.105E-07	0.363E-07	0.621E-07	0.175E-06
SI WALL	0.578E-08	0.578E-08	0.479E-07	0.491E-01	0.296E-06	0.165E-06	0.156E-07	0.296E-07	0.515E-07	0.261E-07
ULI WALL	0.760E-08	0.760E-08	0.580E-07	0.419E-06	0.894E-01	0.750E-07	0.142E-07	0.459E-07	0.533E-07	0.262E-07
LLI WALL	0.168E-08	0.168E-08	0.250E-07	0.126E-06	0.595E-07	0.146E 00	0.193E-07	0.553E-08	0.164E-07	0.124E-07
T BODY	0.583E-01	0.583E-01	0.169E-03	0.449E-03	0.268E-03	0.333E-03	0.292E 00	0.583E-01	0.583E-01	0.583E-01
ADREN	0.449E-07	0.449E-07	0.400E-07	0.226E-07	0.217E-07	0.934E-08	0.339E-07	0.904E-07	0.231E-06	0.125E-06
BL WALL	0.161E-08	0.161E-08	0.911E-08	0.497E-07	0.394E-07	0.983E-07	0.983E-08	0.472E-09	0.828E-08	0.515E-08
KIDNEYS	0.190E-07	0.190E-07	0.611E-07	0.592E-07	0.526E-07	0.167E-07	0.205E-07	0.690E-07	0.132E 02	0.153E-06
LIVER	0.444E-07	0.444E-07	0.372E-07	0.345E-07	0.463E-07	0.703E-08	0.136E-07	0.227E 01	0.723E-07	0.202E-07
OVARIES	0.311E-08	0.311E-08	0.206E-07	0.181E-06	0.178E-06	0.307E-06	0.191E-07	0.968E-08	0.270E-07	0.142E-07
PANCREAS	0.457E-07	0.457E-07	0.312E-06	0.382E-07	0.367E-07	0.140E-07	0.180E-07	0.831E-07	0.126E-06	0.347E-06
BONE	0.185E-07	0.185E-07	0.111E-07	0.146E-07	0.131E-07	0.190E-07	0.408E 01	0.134E-07	0.181E-07	0.143E-07
R MAR	0.233E-07	0.233E-07	0.188E-07	0.455E-07	0.384E-07	0.567E-07	0.675E 00	0.192E-07	0.455E-07	0.210E-07
Y MAR	0.195E-07	0.195E-07	0.153E-07	0.201E-07	0.185E-07	0.234E-07	0.555E-07	0.199E-07	0.224E-07	0.214E-07
ENDOST	0.185E-07	0.185E-07	0.111E-07	0.146E-07	0.131E-07	0.190E-07	0.487E 01	0.134E-07	0.181E-07	0.143E-07
SPLEEN	0.406E-07	0.406E-07	0.176E-06	0.292E-07	0.247E-07	0.192E-07	0.165E-07	0.205E-07	0.153E-06	0.227E 02
TESTES	0.595E-09	0.595E-09	0.206E-08	0.878E-08	0.104E-07	0.326E-07	0.119E-07	0.378E-08	0.310E-08	0.204E-08
THYMUS	0.742E-07	0.742E-07	0.112E-07	0.288E-08	0.313E-08	0.129E-08	0.155E-07	0.192E-07	0.419E-08	0.119E-07
THYROID	0.250E-07	0.250E-07	0.313E-08	0.928E-09	0.985E-09	0.452E-09	0.143E-07	0.371E-08	0.203E-03	0.305E-08
UTERUS	0.209E-08	0.209E-08	0.177E-07	0.159E-06	0.858E-07	0.103E-06	0.149E-07	0.774E-08	0.158E-07	0.107E-07

S FACTORS (REM/MICROCURIE-DAY) FOR PO-214

TARGET ORGANS	SOURCE ORGANS
	OTHER
LUNGS	0.236E-07
RES LYM	0.236E-07
S WALL	0.253E-07
SI WALL	0.281E-07
ULI WALL	0.288E-07
LLI WALL	0.310E-07
T BODY	0.580E-01
ADREN	0.120E 00
BL WALL	0.600E-01
KIDNEYS	0.267E-07
LIVER	0.204E-07
OVARIES	0.120E 00
PANCREAS	0.120E 00
BONE	0.226E-07
R MAR	0.120E 00
Y MAR	0.120E 00
ENDOST	0.235E-07
SPLEEN	0.266E-07
TESTES	0.120E 00
THYMUS	0.120E 00
THYROID	0.120E 00
UTERUS	0.120E 00

CASE 1.. INHALATION

AMAD (MICRON).. 1.00 D3 =0.310 D4 =8.000E-02 D5 =0.249

	SOLUBILITY CLASS	G.I. UPTAKE FRACTIONS STOMACH	S INT	U L INT	L L INT
PO-214	W	0.0	1.000E-01	0.0	0.0
PB-210	W	0.0	8.000E-02	0.0	0.0
BI-210	W	0.0	5.000E-02	0.0	0.0
PO-210	W	0.0	1.000E-01	0.0	0.0

DOSE EQUIVALENT (REM/MICROCURIE)

SOURCE	LUNGS	RES LYM	S CONT	SI CONT	ULI CONT	LLI CONT	BONE	LIVER	KIDNEYS	SPLEEN	OTHER
TARGET											
LUNGS	7.111E-09	4.323E-15	4.623E-21	6.952E-22	2.996E-21	1.021E-21	2.397E-17	2.108E-18	4.974E-20	3.762E-20	6.364E-18
RES LYM	3.679E-14	1.301E-11	4.623E-21	6.952E-22	2.996E-21	1.021E-21	2.397E-17	2.108E-18	4.974E-20	3.762E-20	6.364E-18
S WALL	6.435E-17	1.989E-19	2.472E-16	3.226E-20	1.384E-19	7.962E-20	9.814E-18	1.169E-18	2.443E-19	1.669E-19	3.847E-18
SI WALL	1.015E-17	6.090E-21	5.560E-21	5.843E-16	7.427E-19	7.176E-19	1.650E-17	8.167E-19	1.902E-19	1.262E-20	4.312E-18
ULI WALL	1.335E-17	8.696E-21	9.516E-21	1.406E-18	3.429E-15	4.323E-19	1.439E-17	1.560E-18	1.797E-19	1.491E-20	6.586E-18
LLI WALL	2.945E-18	1.398E-21	2.059E-21	1.611E-19	1.120E-19	1.026E-14	2.665E-17	3.803E-20	2.707E-20	4.947E-21	4.467E-18
T BODY	1.016E-10	2.789E-15	5.434E-19	5.364E-18	1.047E-17	2.372E-17	1.745E-12	9.543E-15	1.769E-15	6.891E-16	3.874E-14
ADREN	8.134E-17	2.476E-19	5.109E-21	4.130E-21	1.642E-20	6.306E-21	3.251E-17	3.542E-18	1.392E-18	9.731E-20	8.017E-14
BL WALL	2.816E-18	8.638E-22	2.145E-22	1.679E-20	3.912E-20	3.461E-19	6.971E-18	2.326E-20	4.455E-21	5.410E-22	4.009E-14
KIDNEYS	3.377E-17	5.307E-20	7.263E-21	2.101E-20	6.529E-20	2.444E-20	1.857E-17	2.726E-18	3.995E-13	1.866E-19	4.804E-18
LIVER	8.078E-17	2.723E-19	3.782E-21	1.296E-20	6.529E-20	4.105E-21	1.305E-17	3.717E-13	3.280E-19	7.158E-21	3.133E-18
OVARIES	5.467E-18	3.788E-21	9.620E-22	1.517E-19	5.157E-19	1.924E-18	1.795E-17	1.716E-19	5.291E-20	2.833E-21	8.018E-14
PANCREAS	8.265E-17	2.414E-19	6.211E-20	1.237E-20	4.127E-20	1.593E-20	1.873E-17	3.134E-18	5.181E-19	4.143E-19	8.019E-14
BONE	3.518E-17	2.351E-19	2.479E-21	1.445E-20	4.133E-20	1.426E-19	2.447E-11	1.034E-18	1.712E-19	2.247E-20	1.596E-16
R MAR	4.416E-17	2.845E-19	3.736E-21	5.437E-20	1.503E-19	5.252E-19	1.017E-13	1.203E-18	4.569E-19	2.782E-20	7.962E-14
Y MAR	3.723E-17	2.598E-19	3.631E-21	2.046E-20	6.050E-20	1.913E-19	9.194E-16	1.630E-18	2.075E-19	3.525E-20	8.017E-14
ENDOST	3.518E-17	2.351E-19	2.479E-21	1.445E-20	4.133E-20	1.426E-19	2.363E-12	1.034E-18	1.712E-19	2.247E-20	1.213E-15
SPLEEN	7.379E-17	2.434E-19	2.830E-20	8.313E-21	3.049E-20	2.920E-20	1.935E-17	3.473E-19	1.090E-18	2.684E-13	4.987E-18
TESTES	1.038E-18	8.559E-23	2.198E-23	7.304E-22	2.470E-21	8.371E-20	8.477E-18	3.890E-21	7.390E-22	5.142E-23	8.017E-14
THYMUS	1.344E-16	4.105E-19	6.313E-22	7.004E-23	2.762E-22	9.115E-23	1.132E-17	1.900E-19	4.894E-21	6.114E-22	8.018E-14
THYROID	4.407E-17	4.053E-20	2.331E-23	5.166E-24	1.999E-23	7.730E-24	1.578E-17	9.928E-21	2.927E-22	1.244E-22	8.018E-14
UTERUS	3.680E-18	3.061E-21	5.913E-22	1.049E-19	1.480E-19	3.627E-19	8.368E-18	1.034E-19	2.655E-20	1.637E-21	8.018E-14

DOSE EQUIVALENT (REM/MICROCURIE)

SOURCE	TOTAL
TARGET	
LUNGS	7.111E-09
RES LYM	1.304E-11
S WALL	3.272E-16
SI WALL	6.178E-16
ULI WALL	3.467E-15
LLI WALL	1.030E-14
T BODY	1.034E-10
ADREN	8.029E-14
BL WALL	4.010E-14
KIDNEYS	3.996E-13
LIVER	3.718E-13
OVARIES	8.021E-14
PANCREAS	8.030E-14
BONE	2.447E-11
R MAR	1.814E-13
Y MAR	8.112E-14
ENDOST	2.364E-12
SPLEEN	2.685E-13
TESTES	8.018E-14
THYMUS	8.033E-14
THYROID	8.024E-14
UTERUS	8.020E-14

PERCENT DOSE EQUIVALENT..

NUCLIDE	PO-214	PB-210	BI-210	PO-210
TARGET				
LUNGS	100.0	0.0	0.0	0.0
RES LYM	0.0	0.2	2.3	97.5
S WALL	19.0	11.1	66.0	3.9
SI WALL	1.6	10.7	83.0	4.7
ULI WALL	0.4	7.8	86.6	5.2
LLI WALL	0.0	7.5	86.7	5.8
T BODY	98.3	0.0	0.0	1.7
ADREN	0.1	0.4	2.4	97.1
BL WALL	0.0	0.4	2.4	97.2
KIDNEYS	0.0	0.3	1.9	97.8
LIVER	0.0	0.4	2.4	97.1
OVARIES	0.0	0.4	2.4	97.2
PANCREAS	0.1	0.4	2.4	97.1
BONE	0.0	0.1	0.5	99.4
R MAR	0.0	1.0	21.3	77.6
Y MAR	0.0	1.5	2.4	96.1
ENDOST	0.0	0.3	4.1	95.6
SPLEEN	0.1	0.1	0.7	99.1
TESTES	0.0	0.4	2.4	97.2
THYMUS	0.2	0.4	2.4	97.0
THYROID	0.1	0.4	2.4	97.1
UTERUS	0.0	0.4	2.4	97.2

CASE 2.. INHALATION

AMAD (MICRON).. 1.00 D3 =0.310 D4 =8.000E-02 D5 =0.249

	SOLUBILITY CLASS	G.I. UPTAKE FRACTIONS STOMACH	S INT	U L INT	L L INT
PO-214	D	0.0	1.000E-01	0.0	0.0
PB-210	W	0.0	8.000E-02	0.0	0.0
BI-210	W	0.0	5.000E-02	0.0	0.0
PO-210	D	0.0	1.000E-01	0.0	0.0

DOSE EQUIVALENT (REM/MICROCURIE)

SOURCE	LUNGS	RES LYM	S CONT	SI CONT	ULI CONT	LLI CONT	BONE	LIVER	KIDNEYS	SPLEEN	OTHER
TARGET											
LUNGS	7.110E-09	4.323E-15	4.625E-21	6.948E-22	2.995E-21	1.020E-21	2.397E-17	2.108E-18	4.979E-20	3.773E-20	6.364E-18
RES LYM	3.679E-14	6.304E-13	4.625E-21	6.948E-22	2.995E-21	1.020E-21	2.397E-17	2.108E-18	4.979E-20	3.773E-20	6.364E-18
S WALL	6.435E-17	1.987E-19	2.410E-16	3.225E-20	1.384E-19	7.961E-20	9.814E-18	1.170E-18	2.444E-19	1.674E-19	3.847E-18
SI WALL	1.015E-17	6.060E-21	5.563E-21	5.572E-16	7.427E-19	7.176E-19	1.650E-17	8.168E-19	1.903E-19	1.269E-20	4.312E-18
ULI WALL	1.335E-17	8.657E-21	9.520E-21	1.406E-18	3.268E-15	4.323E-19	1.439E-17	1.560E-18	1.799E-19	1.498E-20	6.586E-18
LLI WALL	2.945E-18	1.389E-21	2.060E-21	1.611E-19	1.120E-19	9.787E-15	2.665E-17	3.804E-20	2.712E-20	4.979E-21	4.467E-18
T BODY	1.016E-10	1.355E-16	5.303E-19	5.115E-18	9.993E-18	2.262E-17	1.751E-12	1.089E-14	3.119E-15	2.039E-15	4.693E-14
ADREN	8.134E-17	2.473E-19	5.111E-21	4.128E-21	1.641E-20	6.303E-21	3.251E-17	3.542E-18	1.392E-18	9.764E-20	9.713E-14
BL WALL	2.816E-18	8.556E-22	2.151E-22	1.679E-20	3.911E-20	3.461E-19	6.972E-18	2.327E-20	4.477E-21	5.548E-22	4.856E-14
KIDNEYS	3.377E-17	5.297E-20	7.267E-21	2.101E-20	6.528E-20	2.444E-20	1.857E-17	2.727E-18	7.043E-13	1.870E-19	4.804E-18
LIVER	8.078E-17	2.721E-19	3.784E-21	1.296E-20	6.528E-20	4.102E-21	1.305E-17	4.243E-13	3.282E-19	7.211E-21	3.133E-18
OVARIES	5.467E-18	3.772E-21	9.632E-22	1.517E-19	5.157E-19	1.924E-18	1.795E-17	1.716E-19	5.298E-20	2.869E-21	9.714E-14
PANCREAS	8.265E-17	2.411E-19	6.212E-20	1.237E-20	4.127E-20	1.592E-20	1.873E-17	3.134E-18	5.185E-19	4.152E-19	9.715E-14
BONE	3.518E-17	2.350E-19	2.480E-21	1.445E-20	4.133E-20	1.426E-19	2.455E-11	1.034E-18	1.713E-19	2.251E-20	1.596E-16
R MAR	4.416E-17	2.844E-19	3.737E-21	5.437E-20	1.503E-19	5.252E-19	1.019E-13	1.203E-18	4.570E-19	2.788E-20	9.657E-14
Y MAR	3.723E-17	2.597E-19	3.632E-21	2.046E-20	6.049E-20	1.913E-19	9.194E-16	1.630E-18	2.076E-19	3.530E-20	9.712E-14
ENDOST	3.518E-17	2.350E-19	2.480E-21	1.445E-20	4.133E-20	1.426E-19	2.371E-12	1.034E-18	1.713E-19	2.251E-20	1.213E-15
SPLEEN	7.379E-17	2.432E-19	2.831E-20	8.312E-21	3.049E-20	2.919E-20	1.935E-17	3.474E-19	1.090E-18	7.943E-13	4.987E-18
TESTES	1.038E-18	8.253E-23	2.210E-23	7.298E-22	2.468E-21	8.370E-20	8.477E-18	3.900E-21	7.471E-22	5.676E-23	9.713E-14
THYMUS	1.344E-16	4.102E-19	6.315E-22	6.986E-23	2.756E-22	9.067E-23	1.132E-17	1.900E-19	4.905E-21	6.423E-22	9.714E-14
THYROID	4.407E-17	4.040E-20	2.349E-23	5.108E-24	1.979E-23	7.561E-24	1.578E-17	9.937E-21	2.980E-22	1.323E-22	9.713E-14
UTERUS	3.680E-18	3.051E-21	5.924E-22	1.049E-19	1.479E-19	3.626E-19	8.368E-18	1.034E-19	2.659E-20	1.665E-21	9.714E-14

DOSE EQUIVALENT (REM/MICROCURIE)

SOURCE	TOTAL
TARGET	
LUNGS	7.110E-09
RES LYM	6.672E-13
S WALL	3.211E-16
SI WALL	5.906E-16
ULI WALL	3.306E-15
LLI WALL	9.822E-15
T BODY	1.034E-10
ADREN	9.725E-14
BL WALL	4.858E-14
KIDNEYS	7.043E-13
LIVER	4.244E-13
OVARIES	9.717E-14
PANCREAS	9.725E-14
BONE	2.455E-11
R MAR	1.986E-13
Y MAR	9.808E-14
ENDOST	2.372E-12
SPLEEN	7.944E-13
TESTES	9.714E-14
THYMUS	9.729E-14
THYROID	9.719E-14
UTERUS	9.715E-14

PERCENT DOSE EQUIVALENT..

NUCLIDE	PO-214	PB-210	BI-210	PO-210
TARGET				
LUNGS	100.0	0.0	0.0	0.0
RES LYM	0.1	4.4	44.1	51.4
S WALL	21.2	11.3	67.3	0.2
SI WALL	1.7	11.2	86.8	0.3
ULI WALL	0.4	8.2	90.8	0.6
LLI WALL	0.0	7.8	90.9	1.2
T BODY	98.2	0.0	0.0	1.7
ADREN	0.1	0.4	2.0	97.6
BL WALL	0.0	0.3	2.0	97.7
KIDNEYS	0.0	0.2	1.1	98.8
LIVER	0.0	0.4	2.1	97.5
OVARIES	0.0	0.3	2.0	97.7
PANCREAS	0.1	0.4	2.0	97.6
BONE	0.0	0.1	0.5	99.4
R MAR	0.0	1.0	19.5	79.5
Y MAR	0.0	1.3	2.0	96.7
ENDOST	0.0	0.3	4.1	95.6
SPLEEN	0.0	0.0	0.2	99.7
TESTES	0.0	0.3	2.0	97.7
THYMUS	0.1	0.3	2.0	97.5
THYROID	0.1	0.3	2.0	97.6
UTERUS	0.0	0.3	2.0	97.7

CASE 3.. INGESTION

INGESTION TRANSFER FRACTIONS (G. I. TRACT TO BLOOD)

	PO-214	PB-210	BI-210	PO-210
STOMACH	0.0	0.0	0.0	0.0
S INT	1.000E-01	8.000E-02	5.000E-02	1.000E-01
U L INT	0.0	0.0	0.0	0.0
L L INT	0.0	0.0	0.0	0.0

DOSE EQUIVALENT (REM/MICROCURIE)

SOURCE	S CONT	SI CONT	ULI CONT	LLI CONT	BONE	LIVER	KIDNEYS	SPLEEN	OTHER	TOTAL
TARGET										
LUNGS	9.190E-17	1.343E-21	5.785E-21	1.969E-21	1.185E-17	1.042E-18	2.457E-20	1.857E-20	3.145E-18	1.090E-16
RES LYM	9.190E-17	1.343E-21	5.785E-21	1.969E-21	1.185E-17	1.042E-18	2.457E-20	1.857E-20	3.145E-18	1.090E-16
S WALL	2.143E-10	6.231E-20	2.673E-19	1.538E-19	4.850E-18	5.780E-19	1.207E-19	8.242E-20	1.901E-18	2.143E-10
SI WALL	1.306E-16	1.159E-16	1.435E-18	1.386E-19	8.157E-18	4.036E-19	9.396E-20	6.227E-21	2.131E-18	2.601E-16
ULI WALL	1.582E-16	2.716E-18	9.734E-16	8.351E-19	7.110E-18	7.711E-19	8.879E-20	7.359E-21	3.255E-18	1.146E-15
LLI WALL	6.817E-17	3.112E-19	2.164E-19	4.678E-15	1.317E-17	1.879E-20	1.337E-20	2.439E-21	2.208E-18	4.762E-15
T BODY	4.608E-13	1.126E-18	3.237E-18	1.127E-17	8.612E-13	4.462E-15	5.105E-16	9.735E-17	1.749E-14	1.345E-12
ADREN	1.091E-16	7.979E-21	3.170E-20	1.217E-20	1.607E-17	1.750E-18	6.878E-19	4.803E-20	3.620E-14	3.632E-14
BL WALL	2.484E-17	3.244E-20	7.555E-20	6.685E-19	3.446E-18	1.149E-20	2.196E-21	2.649E-22	1.810E-14	1.813E-14
KIDNEYS	1.666E-16	4.060E-20	1.261E-19	4.720E-20	9.177E-18	1.348E-18	1.153E-13	9.213E-20	2.374E-18	1.154E-13
LIVER	1.014E-16	2.503E-20	1.261E-19	7.924E-21	6.449E-18	1.738E-17	1.620E-19	3.528E-21	1.548E-18	1.739E-13
OVARIES	5.617E-17	2.930E-19	9.962E-19	3.716E-18	8.874E-18	8.479E-20	2.613E-20	1.393E-21	3.620E-14	3.627E-14
PANCREAS	8.508E-16	2.390E-20	7.972E-20	3.076E-20	9.259E-18	1.549E-18	2.560E-19	2.046E-19	3.621E-14	3.707E-14
BONE	3.027E-17	2.791E-20	7.983E-20	2.755E-19	1.208E-11	5.111E-19	8.462E-20	1.110E-20	7.822E-17	1.208E-11
R MAR	5.127E-17	1.050E-19	2.904E-19	1.015E-18	5.022E-14	5.945E-19	2.258E-19	1.374E-20	3.593E-14	8.620E-14
Y MAR	4.173E-17	3.952E-20	1.169E-19	3.695E-19	4.544E-16	8.056E-19	1.025E-19	1.741E-20	3.619E-14	3.669E-14
ENDOST	3.027E-17	2.791E-20	7.983E-20	2.755E-19	1.166E-12	5.111E-19	8.462E-20	1.110E-20	5.950E-16	1.167E-12
SPLEEN	4.800E-16	1.606E-20	5.889E-20	5.639E-20	9.562E-18	1.717E-19	5.386E-19	3.636E-14	2.465E-18	3.686E-14
TESTES	5.617E-18	1.411E-21	4.767E-21	1.617E-19	4.190E-18	1.921E-21	3.631E-22	2.444E-23	3.620E-14	3.621E-14
THYMUS	3.054E-17	1.354E-22	5.322E-22	1.750E-22	5.596E-18	9.389E-20	2.416E-21	2.965E-22	3.620E-14	3.624E-14
THYROID	8.535E-18	1.003E-23	3.818E-23	1.453E-23	7.798E-18	4.905E-21	1.432E-22	6.000E-23	3.620E-14	3.622E-14
UTERUS	4.826E-17	2.026E-19	2.858E-19	7.005E-19	4.136E-18	5.110E-20	1.311E-20	8.040E-22	3.620E-14	3.626E-14

PERCENT DOSE EQUIVALENT..

NUCLIDE	PO-214	PB-210	BI-210	PO-210
TARGET				
LUNGS	85.1	14.9	0.0	0.0
RES LYM	85.1	14.9	0.0	0.0
S WALL	100.0	0.0	0.0	0.0
SI WALL	53.6	37.1	9.3	0.0
ULI WALL	13.8	42.7	43.4	0.2
LLI WALL	1.4	30.2	67.8	0.6
T BODY	34.3	0.1	0.4	65.3
ADREN	0.3	0.5	2.6	96.6
BL WALL	0.1	0.4	2.6	96.8
KIDNEYS	0.1	0.5	2.6	96.8
LIVER	0.1	0.4	2.6	96.9
OVARIES	0.2	0.5	2.6	96.8
PANCREAS	2.3	0.5	2.5	94.7
BONE	0.0	0.1	0.5	99.4
R MAR	0.1	1.1	22.2	76.7
Y MAR	0.1	1.7	2.6	95.7
ENDOST	0.0	0.3	4.1	95.6
SPLEEN	1.3	0.5	2.6	95.7
TESTES	0.0	0.4	2.6	96.9
THYMUS	0.1	0.5	2.6	96.9
THYROID	0.0	0.4	2.6	96.9
UTERUS	0.1	0.5	2.6	96.8

RADIONUCLIDE: PO-215

PHYSICAL AND METABOLIC PARAMETERS FOR DOSIMETRICALLY SIGNIFICANT PROGENY:

NUCLIDE	RADIOACTIVE HALF-LIFE (DAYS)
PO-215	2.0600E-08
PB-211	2.5100E-02
BI-211	1.4800E-03
PO-211	6.4800E-06
TL-207	3.3100E-03

BRANCHING RATIOS:

FROM	TO	FRACTION
PO-215	PB-211	1.000
PB-211	BI-211	1.000
BI-211	PO-211	3.0000E-03
BI-211	TL-207	0.9970

ORGAN ABSORBED	NUCLIDE	BLOOD TRANSFER FRACTION F2-PRIME	COMPARTMENT DEPOSITION FRACTION	COMPARTMENT BIOLOGICAL HALF-TIME (DAYS)
	PO-215	1.00	1.000E-02	0.500
			0.990	50.0
	PB-211	1.00	1.000E-01	1.00
			0.200	10.0
			0.300	320.
			0.200	2.000E 03
			0.200	8.000E 03
	BI-211	1.00	-1.720E-02	1.000E-01
			1.02	5.78
	PO-211	1.00	1.000E-02	0.500
			0.990	50.0
	TL-207	1.00	1.00	4.00
BONE	•PO-215	9.000E-02	1.000E-02	0.500
			0.990	50.0
	PB-211	0.562	0.375	320.
			0.310	2.000E 03
			0.315	8.000E 03
	•BI-211	7.340E-02	-1.000E-01	1.000E-01
			1.10	5.78
	•PO-211	9.000E-02	1.000E-02	0.500
			0.990	50.0
	•TL-207	0.118	1.00	4.00
LIVER	PO-215	1.000E-01	1.000E-02	0.500
			0.990	50.0
	PB-211	0.106	0.843	10.0
			7.870E-02	320.
			4.010E-02	2.000E 03
			3.800E-02	8.000E 03
	•BI-211	3.640E-02	-1.000E-01	1.000E-01
			1.10	5.78
	PO-211	1.000E-01	1.000E-02	0.500
			0.990	50.0
	•TL-207	4.240E-02	1.00	4.00
KIDNEYS	PO-215	1.000E-01	1.000E-02	0.500
			0.990	50.0
	PB-211	5.090E-02	0.962	10.0
			2.000E-02	320.
			9.600E-03	2.000E 03
			8.290E-03	8.000E 03
	BI-211	0.400	1.00	5.78
	PO-211	1.000E-01	1.000E-02	0.500
			0.990	50.0
	TL-207	3.760E-02	1.00	4.00
SPLEEN	PO-215	1.000E-01	1.000E-02	0.500
			0.990	50.0
	•PB-211	2.960E-04	0.375	320.
			0.310	2.000E 03
			0.315	8.000E 03
	•BI-211	2.640E-03	-1.000E-01	1.000E-01
			1.10	5.78
	PO-211	1.000E-01	1.000E-02	0.500
			0.990	50.0
	•TL-207	4.240E-03	1.00	4.00

α decay (0.001780 S 4)

Case 1 represents inhalation of sulfates, carbonates, phosphates, and nitrates; case 2 inhalation of oxides, hydroxides, and chlorides; and case 3 ingestion of any of these compounds.

•Retention data derived from "other tissues" compartment.

ORGAN	NUCLIDE	BLOOD TRANSFER FRACTION F2-PRIME	COMPARTMENT DEPOSITION FRACTION	COMPARTMENT BIOLOGICAL HALF-TIME (DAYS)
TESTES	*PO-215	6.300E-04	1.000E-02	0.500
			0.990	50.0
	*PB-211	5.760E-05	0.375	320.
			0.310	2.000E 03
			0.315	8.000E 03
	*BI-211	5.140E-04	-1.000E-01	1.000E-01
			1.10	5.78
	*PO-211	5.300E-04	1.000E-02	0.500
			0.990	50.0
	*TL-207	8.240E-04	1.00	4.00
OVARIES	*PO-215	1.980E-04	1.000E-02	0.500
			0.990	50.0
	*PB-211	1.810E-05	0.375	0.0
			0.310	2.000E 03
			0.315	8.000E 03
	*BI-211	1.610E-04	-1.000E-01	1.000E-01
			1.10	5.78
	*PO-211	1.990E-04	1.000E-02	0.500
			0.990	50.0
	*TL-207	2.590E-04	1.00	4.00
OTHER	PO-215	0.610	1.000E-02	0.500
			0.990	50.0
	PB-211	5.580E-02	0.375	0.0
			0.310	2.000E 03
			0.315	8.000E 03
	BI-211	0.500	-1.000E-01	1.000E-01
			1.10	5.78
	PO-211	0.610	1.000E-02	0.500
			0.990	50.0
	TL-207	0.814	1.00	4.00

S FACTORS (REM/MICROCURIE-DAY) FOR PO-215

TARGET ORGANS	SOURCE ORGANS												
	LUNGS	RES LYM	S CONT	SI CONT	ULI CONT	LLI CONT	BONE	LIVER	KIDNEYS	SPLEEN	TESTES	OVARIES	OTHER
LUNGS	0.392E 01	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
RES LYM	0.0	0.261E 03	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
S WALL	0.0	0.0	0.756E-01	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
SI WALL	0.0	0.0	0.0	0.472E-01	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
ULI WALL	0.0	0.0	0.0	0.0	0.859E-01	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
LLI WALL	0.0	0.0	0.0	0.0	0.0	0.140E 00	0.0	0.0	0.0	0.0	0.0	0.0	0.0
T BODY	0.560E-01	0.560E-01	0.162E-03	0.432E-03	0.258E-03	0.320E-03	0.280E 00	0.560E-01	0.560E-01	0.560E-01	0.560E-01	0.560E-01	0.557E-01
ADREN	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.116E 00
BL WALL	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.578E-01
KIDNEYS	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.126E 02	0.0	0.0	0.0	0.0
LIVER	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.218E 01	0.0	0.0	0.0	0.0	0.0
OVARIES	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.356E 03	0.0
PANCREAS	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.116E 00
BONE	0.0	0.0	0.0	0.0	0.0	0.0	0.392E 01	0.0	0.0	0.0	0.0	0.0	0.0
R MAR	0.0	0.0	0.0	0.0	0.0	0.0	0.645E 00	0.0	0.0	0.0	0.0	0.0	0.116E 00
Y MAR	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.116E 00
ENDOST	0.0	0.0	0.0	0.0	0.0	0.0	0.504E 01	0.0	0.0	0.0	0.0	0.0	0.0
SPLEEN	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.218E 02	0.0	0.0	0.0
TESTES	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.112E 03	0.0	0.0
THYMUS	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.116E 00
THYROID	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.116E 00
UTERUS	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.116E 00

CASE 1.. INHALATION

AMAD (MICRON).. 1.00 D3 =0.310 D4 =8.000E-02 D5 =0.249

	SOLUBILITY CLASS	G.I. UPTAKE FRACTIONS STOMACH	S INT	U L INT	L L INT
PO-215	W	0.0	1.000E-01	0.0	0.0
PB-211	W	0.0	8.000E-02	0.0	0.0
BI-211	W	0.0	5.000E-02	0.0	0.0
PO-211	W	0.0	1.000E-01	0.0	0.0
TL-207	W	0.0	0.950	0.0	0.0

DOSE EQUIVALENT (REM/MICROCURIE)

SOURCE	LUNGS	RES LYM	S CONT	SI CONT	ULI CONT	LLI CONT	BONE	LIVER	KIDNEYS	SPLEEN	TESTES
TARGET											
LUNGS	1.333E-07	1.001E-14	1.060E-14	1.298E-15	2.866E-16	6.051E-18	1.457E-14	6.833E-15	1.818E-15	2.805E-17	4.017E-20
RES LYM	8.112E-10	4.640E-11	1.060E-14	1.298E-15	2.866E-16	6.051E-18	1.457E-14	6.833E-15	1.818E-15	2.805E-17	4.017E-20
S WALL	5.372E-13	6.148E-18	5.901E-11	1.462E-14	3.124E-15	9.662E-17	8.467E-15	5.386E-15	6.661E-15	1.227E-16	2.123E-19
SI WALL	7.563E-14	8.632E-19	1.543E-14	2.365E-11	1.396E-14	5.005E-16	1.183E-14	4.516E-15	5.531E-15	1.783E-17	1.220E-18
ULI WALL	9.916E-14	1.131E-18	1.964E-14	9.606E-14	9.779E-12	2.302E-16	1.080E-14	6.995E-15	5.675E-15	1.711E-17	8.762E-19
LLI WALL	2.614E-14	2.994E-19	7.689E-15	2.875E-14	2.622E-15	1.042E-12	1.493E-14	8.011E-16	1.701E-15	8.448E-18	6.750E-18
T BODY	1.905E-09	9.943E-15	1.364E-13	2.232E-13	3.086E-14	2.481E-15	2.161E-10	8.372E-12	7.791E-12	4.922E-14	9.569E-15
ADREN	7.007E-13	8.021E-18	1.314E-14	5.510E-15	8.808E-16	2.664E-17	2.361E-14	1.376E-14	2.288E-14	8.177E-17	1.613E-19
BL WALL	2.021E-14	2.305E-19	2.330E-15	1.209E-14	1.734E-15	3.218E-16	8.184E-15	7.103E-16	7.283E-16	2.406E-18	1.249E-17
KIDNEYS	2.821E-13	3.226E-18	1.990E-14	1.306E-14	2.366E-15	4.909E-17	1.437E-14	1.055E-14	1.756E-09	1.093E-16	2.336E-19
LIVER	6.939E-13	7.943E-18	1.180E-14	7.647E-15	2.151E-15	1.847E-17	1.034E-14	3.250E-10	7.748E-15	1.342E-17	1.427E-19
OVARIES	4.223E-14	4.824E-19	4.083E-15	4.038E-14	9.647E-15	9.612E-16	1.390E-14	1.120E-15	2.484E-15	1.004E-17	0.0
PANCREAS	7.454E-13	8.533E-18	1.032E-13	8.563E-15	1.750E-15	4.032E-17	1.439E-14	1.231E-14	1.300E-14	2.419E-16	1.562E-19
BONE	3.076E-13	3.526E-18	3.851E-15	3.620E-15	6.726E-16	6.281E-17	3.032E-09	2.228E-15	2.114E-15	1.072E-17	1.754E-18
R MAR	3.873E-13	4.439E-18	6.693E-15	1.162E-14	2.046E-15	1.897E-16	5.023E-10	3.220E-15	5.418E-15	1.606E-17	1.406E-18
Y MAR	3.225E-13	3.696E-18	5.346E-15	5.020E-15	9.567E-16	7.728E-17	4.632E-14	3.287E-15	2.619E-15	1.602E-17	7.242E-19
ENDOST	3.076E-13	3.526E-18	3.851E-15	3.620E-15	6.726E-16	6.281E-17	4.783E-09	2.228E-15	2.114E-15	1.072E-17	1.754E-18
SPLEEN	6.308E-13	7.222E-18	5.724E-14	6.479E-15	1.127E-15	5.082E-17	1.173E-14	2.830E-15	1.684E-14	1.911E-11	1.983E-19
TESTES	6.695E-15	7.622E-20	3.939E-16	1.637E-15	3.983E-16	1.073E-16	9.009E-15	3.764E-16	2.775E-16	1.130E-18	1.913E-11
THYMUS	1.118E-12	1.279E-17	2.171E-15	5.539E-16	1.251E-16	3.050E-18	1.024E-14	2.824E-15	5.533E-16	6.123E-18	2.514E-20
THYROID	3.251E-13	3.710E-18	8.656E-16	1.564E-16	3.451E-17	9.512E-19	1.369E-14	5.571E-16	1.719E-16	1.771E-18	8.030E-21
UTERUS	2.911E-14	3.328E-19	5.244E-15	3.701E-14	3.961E-15	3.345E-16	9.823E-15	1.159E-15	1.820E-15	5.994E-18	0.0

DOSE EQUIVALENT (REM/MICROCURIE)

SOURCE	OVARIES	OTHER	TOTAL
TARGET			
LUNGS	8.280E-20	3.019E-15	1.333E-07
RES LYM	8.280E-20	3.019E-15	8.576E-10
S WALL	6.271E-19	3.225E-15	5.959E-11
SI WALL	9.142E-18	3.627E-15	2.378E-11
ULI WALL	8.597E-18	3.696E-15	1.002E-11
LLI WALL	1.096E-17	3.985E-15	1.128E-12
T BODY	3.002E-15	9.255E-12	2.147E-09
ADREN	4.006E-19	1.925E-11	2.003E-11
BL WALL	5.323E-18	9.592E-12	9.638E-12
KIDNEYS	8.305E-19	3.391E-15	1.756E-09
LIVER	4.735E-19	2.574E-15	3.258E-10
OVARIES	1.908E-11	4.543E-15	1.920E-11
PANCREAS	4.686E-19	1.925E-11	2.015E-11
BONE	8.092E-19	4.106E-14	3.032E-09
R MAR	2.742E-18	1.911E-11	5.218E-10
Y MAR	1.083E-18	1.925E-11	1.964E-11
ENDOST	8.092E-19	2.583E-13	4.783E-09
SPLEEN	4.888E-19	3.381E-15	1.984E-11
TESTES	0.0	2.805E-15	1.916E-11
THYMUS	4.357E-20	1.926E-11	2.039E-11
THYROID	1.275E-20	1.925E-11	1.955E-11
UTERUS	1.472E-17	1.926E-11	1.936E-11

PERCENT DOSE EQUIVALENT..

NUCLIDE	PO-215	PB-211	BI-211	PO-211	TL-207
TARGET					
LUNGS	55.8	0.3	43.4	0.1	0.3
RES LYM	0.0	46.0	6.5	0.0	47.5
S WALL	0.0	27.1	40.8	0.1	32.0
SI WALL	0.0	29.6	45.5	0.2	24.8
ULI WALL	0.0	26.9	40.8	0.1	32.1
LLI WALL	0.0	27.7	40.7	0.1	31.5
T BODY	49.6	0.3	49.7	0.2	0.3
ADREN	0.0	2.3	95.3	0.3	2.1
BL WALL	0.0	0.6	96.9	0.3	2.2
KIDNEYS	0.0	0.3	98.5	0.3	0.8
LIVER	0.0	0.8	98.1	0.3	0.8
OVARIES	0.0	0.6	96.9	0.3	2.1
PANCREAS	0.0	2.5	95.0	0.3	2.1
BONE	0.0	0.1	99.4	0.3	0.1
R MAR	0.0	0.3	99.1	0.3	0.3
Y MAR	0.0	1.3	96.3	0.3	2.1
ENDOST	0.0	0.1	99.6	0.3	0.1
SPLEEN	0.0	2.1	95.3	0.4	2.1
TESTES	0.0	0.4	97.2	0.3	2.1
THYMUS	0.0	3.2	94.4	0.3	2.1
THYROID	0.0	1.3	96.3	0.3	2.1
UTERUS	0.0	0.5	97.0	0.3	2.1

CASE 2.. INHALATION

AMAD (MICRON).. 1.00 D3 =0.310 D4 =8.000E-02 D5 =0.249

	SOLUBILITY CLASS	G.I. UPTAKE FRACTIONS STOMACH	S INT	U L INT	L L INT
PO-215	D	0.0	1.000E-01	0.0	0.0
PB-211	W	0.0	8.000E-02	0.0	0.0
BI-211	W	0.0	5.000E-02	0.0	0.0
PO-211	D	0.0	1.000E-01	0.0	0.0
TL-207	W	0.0	0.950	0.0	0.0

DOSE EQUIVALENT (REM/MICROCURIE)

SOURCE	LUNGS	RES LYM	S CONT	SI CONT	ULI CONT	LLI CONT	BONE	LIVER	KIDNEYS	SPLEEN	TESTES
TARGET											
LUNGS	1.333E-07	1.001E-14	1.060E-14	1.298E-15	2.866E-16	6.051E-18	1.457E-14	6.833E-15	1.818E-15	2.809E-17	4.017E-20
RES LYM	8.112E-10	4.645E-11	1.060E-14	1.298E-15	2.866E-16	6.051E-18	1.457E-14	6.833E-15	1.818E-15	2.809E-17	4.017E-20
S WALL	5.372E-13	6.150E-18	5.902E-11	1.462E-14	3.124E-15	9.662E-17	8.467E-15	5.386E-15	6.661E-15	1.228E-16	2.128E-19
SI WALL	7.563E-14	8.635E-19	1.543E-14	2.365E-11	1.396E-14	5.005E-16	1.183E-14	4.516E-15	5.531E-15	1.785E-17	1.220E-18
ULI WALL	9.916E-14	1.132E-18	1.964E-14	9.606E-14	9.779E-12	2.302E-16	1.080E-14	6.995E-15	5.675E-15	1.714E-17	8.763E-19
LLI WALL	2.614E-14	2.995E-19	7.689E-15	2.875E-14	2.622E-15	1.042E-12	1.493E-14	8.011E-16	1.701E-15	8.460E-18	6.750E-18
T BODY	1.905E-09	9.953E-15	1.364E-13	2.232E-13	3.086E-14	2.481E-15	2.161E-10	8.372E-12	7.791E-12	4.937E-14	9.570E-15
ADREN	7.007E-13	8.023E-18	1.314E-14	5.510E-15	8.808E-16	2.664E-17	2.361E-14	1.376E-14	2.288E-14	8.189E-17	1.613E-19
BL WALL	2.021E-14	2.306E-19	2.330E-15	1.209E-14	1.734E-15	3.218E-16	8.184E-15	7.103E-16	7.284E-16	2.410E-18	1.249E-17
KIDNEYS	2.821E-13	3.227E-18	1.990E-14	1.306E-14	2.366E-15	4.909E-17	1.437E-14	1.055E-14	1.756E-09	1.094E-16	2.336E-19
LIVER	6.939E-13	7.946E-18	1.180E-14	7.648E-15	2.151E-15	1.847E-17	1.034E-14	3.251E-10	7.748E-15	1.344E-17	1.427E-19
OVARIES	4.223E-14	4.825E-19	4.083E-15	4.038E-14	9.647E-15	9.612E-16	1.390E-14	1.120E-15	2.484E-15	1.006E-17	0.0
PANCREAS	7.454E-13	8.536E-18	1.032E-13	8.563E-15	1.750E-15	4.032E-17	1.439E-14	1.231E-14	1.300E-14	2.423E-16	1.562E-19
BONE	3.076E-13	3.527E-18	3.851E-15	3.620E-15	6.726E-16	6.281E-17	3.032E-09	2.228E-15	2.114E-15	1.074E-17	1.754E-18
R MAR	3.873E-13	4.441E-18	6.693E-15	1.162E-14	2.046E-15	1.897E-16	5.023E-10	3.220E-15	5.418E-15	1.608E-17	1.406E-18
Y MAR	3.225E-13	3.697E-18	5.347E-15	5.020E-15	9.567E-16	7.728E-17	4.632E-14	3.287E-15	2.619E-15	1.605E-17	7.242E-19
ENDOST	3.076E-13	3.527E-18	3.851E-15	3.620E-15	6.726E-16	6.281E-17	4.783E-09	2.228E-15	2.114E-15	1.074E-17	1.754E-18
SPLEEN	6.308E-13	7.224E-18	5.724E-14	6.479E-15	1.127E-15	5.082E-17	1.173E-14	2.830E-15	1.684E-14	1.917E-11	1.983E-19
TESTES	6.695E-15	7.625E-20	3.939E-16	1.637E-15	3.983E-16	1.073E-16	9.009E-15	3.764E-16	2.775E-16	1.132E-18	1.914E-11
THYMUS	1.118E-12	1.280E-17	2.171E-15	5.539E-16	1.251E-16	3.050E-18	1.024E-14	2.824E-15	5.533E-16	6.132E-18	2.514E-20
THYROID	3.251E-13	3.712E-18	8.656E-16	1.564E-16	3.451E-17	9.512E-19	1.369E-14	5.571E-16	1.719E-16	1.773E-18	8.031E-21
UTERUS	2.911E-14	3.329E-19	5.244E-15	3.701E-14	3.961E-15	3.345E-16	9.823E-15	1.159E-15	1.820E-15	6.003E-18	0.0

DOSE EQUIVALENT (REM/MICROCURIE)

SOURCE	OVARIES	OTHER	TOTAL
TARGET			
LUNGS	8.280E-20	3.019E-15	1.333E-07
RES LYM	8.280E-20	3.019E-15	8.577E-10
S WALL	6.271E-19	3.225E-15	5.960E-11
SI WALL	9.142E-18	3.627E-15	2.378E-11
ULI WALL	8.597E-18	3.696E-15	1.002E-11
LLI WALL	1.096E-17	3.985E-15	1.128E-12
T BODY	3.002E-15	9.256E-12	2.147E-09
ADREN	4.006E-19	1.926E-11	2.004E-11
BL WALL	5.323E-18	9.593E-12	9.639E-12
KIDNEYS	8.306E-19	3.391E-15	1.756E-09
LIVER	4.735E-19	2.574E-15	3.256E-10
OVARIES	1.908E-11	4.543E-15	1.920E-11
PANCREAS	4.686E-19	1.926E-11	2.016E-11
BONE	8.093E-19	4.106E-14	3.032E-09
R MAR	2.742E-18	1.911E-11	5.218E-10
Y MAR	1.083E-18	1.926E-11	1.964E-11
ENDOST	8.093E-19	2.583E-13	4.783E-09
SPLEEN	4.888E-19	3.381E-15	1.990E-11
TESTES	0.0	2.805E-15	1.916E-11
THYMUS	4.358E-20	1.926E-11	2.039E-11
THYROID	1.275E-20	1.926E-11	1.960E-11
UTERUS	1.472E-17	1.926E-11	1.935E-11

PERCENT DOSE EQUIVALENT..

NUCLIDE	PO-215	PB-211	BI-211	PO-211	TL-207
TARGET					
LUNGS	55.8	0.3	43.4	0.1	0.3
RES LYM	0.0	46.0	6.5	0.0	47.5
S WALL	0.0	27.1	40.8	0.1	32.0
SI WALL	0.0	29.6	45.5	0.2	24.8
ULI WALL	0.0	26.9	40.8	0.1	32.1
LLI WALL	0.0	27.7	40.7	0.1	31.5
T BODY	49.6	0.3	49.7	0.2	0.3
ADREN	0.0	2.3	95.3	0.3	2.1
BL WALL	0.0	0.6	96.9	0.3	2.2
KIDNEYS	0.0	0.3	98.5	0.3	0.8
LIVER	0.0	0.8	98.1	0.3	0.8
OVARIES	0.0	0.6	96.9	0.3	2.1
PANCREAS	0.0	2.5	95.0	0.3	2.1
BONE	0.0	0.1	99.4	0.3	0.1
R MAR	0.0	0.3	99.1	0.3	0.3
Y MAR	0.0	1.3	96.3	0.3	2.1
ENDOST	0.0	0.1	99.6	0.3	0.1
SPLEEN	0.2	2.1	95.2	0.4	2.1
TESTES	0.0	0.4	97.2	0.3	2.1
THYMUS	0.0	3.2	94.4	0.3	2.1
THYROID	0.0	1.3	96.3	0.3	2.1
UTERUS	0.0	0.5	97.0	0.3	2.1

CASE 3.. INGESTION

INGESTION TRANSFER FRACTIONS (G. I. TRACT TO BLOOD)

	PO-215	PB-211	BI-211	PO-211	TL-207
STOMACH	0.0	0.0	0.0	0.0	0.0
S INT	1.000E-01	8.000E-02	5.000E-02	1.000E-01	0.950
U L INT	0.0	0.0	0.0	0.0	0.0
L L INT	0.0	0.0	0.0	0.0	0.0

DOSE EQUIVALENT (REM/MICROCURIE)

SOURCE	S CONT	SI CONT	ULI CONT	LLI CONT	BONE	LIVER	KIDNEYS	SPLEEN	TESTES	OVARIES	OTHER
TARGET											
LUNGS	4.763E-13	6.100E-14	1.351E-14	2.853E-16	2.215E-15	1.112E-15	2.578E-16	1.782E-17	4.166E-20	7.509E-20	2.008E-15
RES LYM	4.763E-13	6.100E-14	1.351E-14	2.853E-16	2.216E-15	1.112E-15	2.578E-16	1.782E-17	4.166E-20	7.509E-20	2.008E-15
S WALL	4.714E-09	6.869E-13	1.472E-13	4.555E-15	1.281E-15	8.800E-16	9.160E-16	7.703E-17	1.464E-19	3.991E-19	2.159E-15
SI WALL	6.926E-13	1.101E-09	6.579E-13	2.360E-14	1.806E-15	7.337E-16	7.610E-16	1.166E-17	8.715E-19	5.715E-18	2.394E-15
ULI WALL	8.808E-13	4.512E-12	4.604E-10	1.085E-14	1.649E-15	1.134E-15	7.822E-16	1.164E-17	6.434E-19	5.386E-18	2.453E-15
LLI WALL	3.454E-13	1.350E-12	1.236E-13	4.910E-11	2.278E-15	1.304E-16	2.366E-16	5.417E-18	3.910E-18	6.834E-18	2.635E-15
T BODY	1.055E-11	1.039E-11	1.453E-12	1.170E-13	3.000E-11	1.212E-12	7.644E-13	1.127E-14	2.191E-15	6.883E-16	2.138E-12
ADREN	5.895E-13	2.588E-13	4.152E-14	1.256E-15	3.637E-15	2.236E-15	3.231E-15	5.739E-17	1.374E-19	2.901E-19	4.438E-12
BL WALL	1.052E-13	5.678E-13	8.175E-14	1.517E-14	1.227E-15	1.131E-16	1.082E-16	2.577E-18	8.510E-18	3.527E-18	2.216E-12
KIDNEYS	8.931E-13	6.134E-13	1.115E-13	2.315E-15	2.221E-15	1.711E-15	1.722E-10	6.789E-17	2.219E-19	5.659E-19	2.281E-15
LIVER	5.300E-13	3.592E-13	1.014E-13	8.706E-16	1.577E-15	4.705E-11	1.063E-15	8.989E-18	1.491E-19	3.303E-19	1.740E-15
OVARIES	1.850E-13	1.896E-12	4.547E-13	4.532E-14	2.122E-15	1.995E-16	3.654E-16	5.547E-18	0.0	4.370E-12	2.982E-15
PANCREAS	4.629E-12	4.022E-13	8.247E-14	1.901E-15	2.187E-15	1.999E-15	1.815E-15	1.526E-16	1.460E-19	4.289E-19	4.438E-12
BONE	1.725E-13	1.700E-13	3.170E-14	2.961E-15	4.206E-10	3.569E-16	2.831E-16	6.453E-18	1.082E-18	4.652E-19	2.289E-13
R MAR	2.998E-13	5.457E-13	9.645E-14	8.946E-15	7.009E-11	5.143E-16	7.216E-16	9.509E-18	8.543E-19	1.531E-18	3.578E-12
Y MAR	2.396E-13	2.358E-13	4.509E-14	3.643E-15	7.002E-15	5.272E-16	3.509E-16	9.624E-18	4.655E-19	6.182E-19	4.438E-12
ENDOST	1.725E-13	1.700E-13	3.170E-14	2.961E-15	6.614E-10	3.569E-16	2.831E-16	6.453E-18	1.082E-18	4.652E-19	1.517E-12
SPLEEN	2.569E-12	3.043E-13	5.314E-14	2.396E-15	1.802E-15	4.700E-16	2.309E-15	4.371E-12	1.297E-19	3.273E-19	2.272E-15
TESTES	1.782E-14	7.689E-14	1.877E-14	5.060E-15	1.379E-15	6.855E-17	4.081E-17	9.217E-19	4.377E-12	0.0	1.898E-15
THYMUS	9.835E-14	2.602E-14	5.896E-15	1.438E-16	1.586E-15	4.530E-16	6.814E-17	5.464E-18	2.716E-20	3.782E-20	4.438E-12
THYROID	3.899E-14	7.348E-15	1.626E-15	4.484E-17	2.021E-15	9.108E-17	2.586E-17	1.371E-18	9.981E-21	1.299E-20	4.438E-12
UTERUS	2.358E-13	1.738E-12	1.867E-13	1.577E-14	1.535E-15	1.881E-16	2.454E-16	4.904E-18	0.0	8.653E-18	4.442E-12

DOSE EQUIVALENT (REM/MICRCCURIE)

SOURCE	TOTAL
TARGET	
LUNGS	5.567E-13
RES LYM	5.567E-13
S WALL	4.715E-09
SI WALL	1.102E-09
ULI WALL	4.658E-10
LLI WALL	5.093E-11
T BODY	5.663E-11
ADREN	5.338E-12
BL WALL	2.987E-12
KIDNEYS	1.739E-10
LIVER	4.805E-11
OVARIES	6.957E-12
PANCREAS	9.560E-12
BONE	4.212E-10
R MAR	7.462E-11
Y MAR	4.970E-12
ENDOST	6.633E-10
SPLEEN	7.307E-12
TESTES	4.499E-12
THYMUS	4.571E-12
THYRCID	4.488E-12
UTERUS	6.621E-12

PERCENT DOSE EQUIVALENT..

NUCLIDE	PO-215	PB-211	BI-211	PO-211	TL-207
TARGET					
LUNGS	0.0	52.3	45.4	0.0	2.2
RES LYM	0.0	52.3	45.4	0.0	2.2
S WALL	47.7	15.9	21.9	0.1	14.5
SI WALL	0.0	29.9	45.8	0.2	24.2
ULI WALL	0.0	26.6	40.8	0.1	32.4
LLI WALL	0.0	26.8	40.3	0.1	32.7
T BODY	8.5	9.7	70.7	0.2	10.9
ADREN	0.0	8.6	38.6	0.1	52.8
BL WALL	0.0	13.1	39.6	0.1	47.3
KIDNEYS	0.0	0.9	90.0	0.3	8.8
LIVER	0.0	1.7	91.6	0.3	6.4
OVARIES	0.0	18.6	41.2	0.1	40.1
PANCREAS	0.0	27.4	42.3	0.1	30.2
BONE	0.0	0.2	98.7	0.3	0.8
R MAR	0.0	0.8	94.9	0.3	4.0
Y MAR	0.0	5.3	38.1	0.1	56.5
ENDOST	0.0	0.1	99.0	0.3	0.6
SPLEEN	0.0	20.7	41.0	0.1	38.3
TESTES	0.0	1.7	37.1	0.1	61.1
THYMUS	0.0	2.0	36.5	0.1	61.3
THYROID	0.0	0.8	36.7	0.1	62.4
UTERUS	0.0	16.3	40.7	0.1	42.9

RADIONUCLIDE: PO-216

PHYSICAL AND METABOLIC PARAMETERS FOR DOSIMETRICALLY SIGNIFICANT PROGENY:

NUCLIDE	RADIOACTIVE HALF-LIFE (DAYS)
PO-216	1.7400E-06
PB-212	0.4430
BI-212	4.2000E-02
PO-212	3.5300E-12
TL-208	2.1300E-03

BRANCHING RATIOS:

FROM	TO	FRACTION
PO-216	PB-212	1.000
PB-212	BI-212	1.000
BI-212	PO-212	0.6400
BI-212	TL-208	0.3600

ORGAN ABSORBED	NUCLIDE	BLOOD TRANSFER FRACTION F2-PRIME	COMPARTMENT DEPOSITION FRACTION	COMPARTMENT BIOLOGICAL HALF-TIME (DAYS)
	PO-216	1.00	1.000E-02	0.500
			0.990	50.0
	PB-212	1.00	1.000E-01	1.00
			0.200	10.0
			0.300	320.
			0.200	2.000E 03
			0.200	8.000E 03
	BI-212	1.00	-1.720E-02	1.000E-01
			1.02	5.78
	PO-212	1.00	1.000E-02	0.500
			0.990	50.0
	TL-208	1.00	1.00	4.00
BONE	* PO-216	9.000E-02	1.000E-02	0.500
			0.990	50.0
	PB-212	0.562	0.375	320.
			0.310	2.000E 03
			0.315	8.000E 03
	BI-212	7.340E-02	-1.000E-01	1.000E-01
			1.10	5.78
	* PO-212	9.000E-02	1.000E-02	0.500
			0.990	50.0
	* TL-208	0.118	1.00	4.00
LIVER	PO-216	1.000E-01	1.000E-02	0.500
			0.990	50.0
	PB-212	0.106	0.843	10.0
			7.870E-02	320.
			4.010E-02	2.000E 03
			3.820E-02	8.000E 03
	* BI-212	2.640E-02	-1.000E-01	1.000E-01
			1.10	5.78
	PO-212	1.000E-01	1.000E-02	0.500
			0.990	50.0
	* TL-208	4.240E-02	1.00	4.00
KIDNEYS	PO-216	1.000E-01	1.000E-02	0.500
			0.990	50.0
	PB-212	5.090E-02	0.962	10.0
			2.000E-02	320.
			9.600E-03	2.000E 03
			8.290E-03	8.000E 03
	BI-212	0.400	1.00	5.78
	PO-212	1.000E-01	1.000E-02	0.500
			0.990	50.0
	TL-208	3.760E-02	1.00	4.00
SPLEEN	PO-216	1.000E-01	1.000E-02	0.500
			0.990	50.0
	* PB-212	2.960E-04	0.375	320.
			0.310	2.000E 03
			0.315	8.000E 03
	* BI-212	2.640E-03	-1.000E-01	1.000E-01
			1.10	5.78
	PO-212	1.000E-01	1.000E-02	0.500
			0.990	50.0
	* TL-208	4.240E-03	1.00	4.00

α decay (0.15 S 1)

Case 1 represents inhalation of sulfates, carbonates, phosphates, and nitrates; case 2 inhalation of oxides, hydroxides, and chlorides; and case 3 ingestion of any of these compounds.

tention data derived from "other tissues" compartment.

POLONIUM-216 CONTINUED

ORGAN	NUCLIDE	BLOOD TRANSFER FRACTION F2-PRIME	COMPARTMENT DEPOSITION FRACTION	COMPARTMENT BIOLOGICAL HALF-TIME (DAYS)
TESTES	*PO-216	6.300E-04	1.000E-02	0.500
			0.990	50.0
	*PB-212	5.760E-05	0.375	320.
			0.310	2.000E 03
			0.315	8.000E 03
	*BI-212	5.140E-04	-1.000E-01	1.000E-01
			1.10	5.78
	*PO-212	6.300E-04	1.000E-02	0.500
			0.990	50.0
	*TL-208	8.240E-04	1.00	4.00
OVARIES	*PO-216	1.980E-04	1.000E-02	0.500
			0.990	50.0
	*PB-212	1.810E-05	0.375	320.
			0.310	2.000E 03
			0.315	8.000E 03
	*BI-212	1.610E-04	-1.000E-01	1.000E-01
			1.10	5.78
	*PO-212	1.980E-04	1.000E-02	0.500
			0.990	50.0
	*TL-208	2.590E-04	1.00	4.00
OTHER	PO-216	0.610	1.000E-02	0.500
			0.990	50.0
	PB-212	5.580E-02	0.375	320.
			0.310	2.000E 03
			0.315	8.000E 03
	BI-212	0.500	-1.000E-01	1.000E-01
			1.10	5.78
	PO-212	0.610	1.000E-02	0.500
			0.990	50.0
	TL-208	0.814	1.00	4.00

S FACTORS (REM/MICROCURIE-DAY) FOR PO-216

TARGET ORGANS	SOURCE ORGANS												
	LUNGS	RES LYM	S CONT	SI CONT	ULI CONT	LLI CONT	BONE	LIVER	KIDNEYS	SPLEEN	TESTES	OVARIES	OTHER
LUNGS	0.360E 01	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
RES LYM	0.0	0.240E 03	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
S WALL	0.0	0.0	0.693E-01	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
SI WALL	0.0	0.0	0.0	0.433E-01	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
ULI WALL	0.0	0.0	0.0	0.0	0.788E-01	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
LLI WALL	0.0	0.0	0.0	0.0	0.0	0.128E 00	0.0	0.0	0.0	0.0	0.0	0.0	0.0
T BODY	0.514E-01	0.514E-01	0.149E-03	0.396E-03	0.236E-03	0.294E-03	0.257E 00	0.514E-01	0.514E-01	0.514E-01	0.514E-01	0.514E-01	0.511E-01
ADREN	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.106E 00
BL WALL	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.530E-01
KIDNEYS	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.116E 02	0.0	0.0	0.0	0.0
LIVER	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.200E 01	0.0	0.0	0.0	0.0	0.0
OVARIES	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.327E 03	0.0
PANCREAS	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.106E 00
BONE	0.0	0.0	0.0	0.0	0.0	0.0	0.360E 01	0.0	0.0	0.0	0.0	0.0	0.0
R MAR	0.0	0.0	0.0	0.0	0.0	0.0	0.595E 00	0.0	0.0	0.0	0.0	0.0	0.106E 00
Y MAR	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.106E 00
ENDOST	0.0	0.0	0.0	0.0	0.0	0.0	0.536E 01	0.0	0.0	0.0	0.0	0.0	0.0
SPLEEN	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.200E 02	0.0	0.0	0.0
TESTES	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.103E 03	0.0	0.0
THYMUS	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.106E 00
THYROID	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.106E 00
UTERUS	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.106E 00

CASE 1.. INHALATION

AMAD (MICRON).. 1.00 D3 =0.310 D4 =8.000E-02 D5 =0.249

	SOLUBILITY CLASS	G.I. UPTAKE FRACTIONS STOMACH	S INT	U L INT	L L INT
PO-216	W	0.0	1.000E-01	0.0	0.0
PB-212	W	0.0	8.000E-02	0.0	0.0
BI-212	W	0.0	5.000E-02	0.0	0.0
PO-212	W	0.0	1.000E-01	0.0	0.0
TL-208	W	0.0	0.950	0.0	0.0

DOSE EQUIVALENT (REM/MICROCURIE)

SOURCE	LUNGS	RES LYM	S CONT	SI CONT	ULI CONT	LLI CONT	BONE	LIVER	KIDNEYS	SPLEEN	TESTES
TARGET											
LUNGS	9.379E-06	1.371E-11	1.152E-11	6.587E-12	1.648E-11	5.852E-12	2.969E-11	1.336E-11	6.042E-12	1.384E-13	4.740E-16
RES LYM	4.114E-08	8.224E-08	1.152E-11	6.587E-12	1.648E-11	5.852E-12	2.969E-11	1.336E-11	6.042E-12	1.384E-13	4.740E-16
S WALL	3.965E-10	1.348E-13	4.963E-09	6.136E-11	1.419E-10	5.440E-11	1.719E-11	1.129E-11	2.073E-11	5.821E-13	1.796E-15
SI WALL	7.193E-11	2.468E-14	1.722E-11	9.941E-09	6.145E-10	2.582E-10	2.366E-11	9.009E-12	1.692E-11	8.944E-14	7.350E-15
ULI WALL	9.389E-11	3.224E-14	2.067E-11	4.013E-10	3.406E-08	1.176E-10	2.221E-11	1.329E-11	1.628E-11	9.269E-14	7.343E-15
LLI WALL	1.795E-11	6.094E-15	8.581E-12	1.244E-10	1.167E-10	3.935E-08	2.976E-11	1.961E-12	5.914E-12	4.607E-14	3.237E-14
T BODY	1.342E-07	1.774E-11	2.156E-11	1.208E-10	1.742E-10	1.435E-10	3.580E-08	1.358E-09	1.609E-09	1.100E-11	2.072E-12
ADREN	3.841E-10	1.296E-13	1.612E-11	2.404E-11	4.611E-11	1.490E-11	4.353E-11	7.031E-11	6.911E-11	3.910E-13	1.307E-15
BL WALL	2.082E-11	7.158E-15	2.712E-12	4.950E-11	9.811E-11	1.644E-10	1.871E-11	1.696E-12	2.821E-12	1.870E-14	5.689E-14
KIDNEYS	1.926E-10	6.554E-14	2.099E-11	5.322E-11	1.072E-10	3.083E-11	2.680E-11	2.068E-11	3.619E-07	5.087E-13	1.933E-15
LIVER	4.821E-10	1.636E-13	1.348E-11	3.311E-11	1.023E-10	1.188E-11	2.321E-11	5.249E-08	2.330E-11	7.029E-14	1.456E-15
OVARIES	3.774E-11	1.293E-14	5.747E-12	1.614E-10	4.374E-10	4.792E-10	2.774E-11	3.512E-12	6.464E-12	2.289E-14	0.0
PANCREAS	4.835E-10	1.640E-13	1.053E-10	3.615E-11	9.544E-11	2.240E-11	2.992E-11	2.162E-11	3.606E-11	1.100E-12	1.936E-15
BONE	2.152E-10	7.271E-14	4.164E-12	1.488E-11	3.016E-11	3.174E-11	5.015E-07	4.328E-12	6.055E-12	4.888E-14	8.262E-15
R MAR	2.714E-10	9.169E-14	6.934E-12	4.600E-11	8.857E-11	9.282E-11	8.289E-08	6.209E-12	1.499E-11	7.175E-14	6.706E-15
Y MAR	2.261E-10	7.640E-14	5.822E-12	2.041E-11	4.217E-11	3.896E-11	3.762E-11	6.340E-12	7.421E-12	7.248E-14	4.039E-15
ENDOST	2.152E-10	7.271E-14	4.164E-12	1.488E-11	3.016E-11	3.174E-11	6.560E-07	4.328E-12	6.055E-12	4.888E-14	8.262E-15
SPLEEN	4.476E-10	1.520E-13	5.859E-11	2.888E-11	5.427E-11	2.963E-11	2.141E-11	5.680E-12	4.781E-11	4.237E-09	1.783E-15
TESTES	9.018E-12	3.113E-15	9.929E-13	9.753E-12	2.226E-11	5.722E-11	2.807E-11	8.777E-13	1.166E-12	8.519E-15	4.103E-09
THYMUS	8.071E-10	2.740E-13	3.264E-12	3.037E-12	7.577E-12	2.510E-12	2.303E-11	5.903E-12	1.559E-12	4.017E-14	3.460E-16
THYROID	2.224E-10	7.590E-14	1.212E-12	1.125E-12	2.773E-12	1.053E-12	1.605E-11	1.236E-12	8.081E-13	1.200E-14	1.597E-16
UTERUS	3.811E-11	1.310E-14	6.546E-12	1.469E-10	1.956E-10	1.641E-10	1.802E-11	2.967E-12	5.594E-12	3.907E-14	0.0

DOSE EQUIVALENT (REM/MICROCURIE)

SOURCE	OVARIES	OTHER	TOTAL
TARGET			
LUNGS	7.271E-16	1.487E-11	9.379E-06
RES LYM	7.271E-16	1.487E-11	1.235E-07
S WALL	3.922E-15	1.603E-11	5.683E-09
SI WALL	4.198E-14	1.779E-11	1.097E-08
ULI WALL	3.913E-14	1.826E-11	3.476E-08
LLI WALL	5.175E-14	1.976E-11	4.017E-08
T BODY	6.516E-13	2.000E-09	1.754E-07
ADREN	2.204E-15	4.145E-09	4.773E-09
BL WALL	2.378E-14	2.080E-09	2.429E-09
KIDNEYS	4.565E-15	1.712E-11	3.623E-07
LIVER	2.756E-15	1.309E-11	5.319E-08
OVARIES	4.096E-09	2.231E-11	5.278E-09
PANCREAS	2.197E-15	4.150E-09	4.982E-09
BONE	3.491E-15	1.824E-11	5.018E-07
R MAR	1.104E-14	4.127E-09	8.754E-08
Y MAR	4.560E-15	4.140E-09	4.575E-09
ENDOST	3.491E-15	4.037E-11	6.563E-07
SPLEEN	2.996E-15	1.684E-11	4.948E-09
TESTES	0.0	1.593E-11	4.249E-09
THYMUS	3.661E-16	4.166E-09	5.022E-09
THYROID	1.518E-16	4.143E-09	4.390E-09
UTERUS	6.423E-14	4.173E-09	4.751E-09

PERCENT DOSE EQUIVALENT..

NUCLIDE	PO-216	PB-212	BI-212	PO-212	TL-208
TARGET					
LUNGS	61.6	0.1	10.8	27.4	0.1
RES LYM	0.0	7.2	35.8	47.5	9.5
S WALL	0.0	11.6	36.3	27.8	24.3
SI WALL	0.0	10.8	39.4	30.6	19.1
ULI WALL	0.0	9.9	40.4	32.3	17.5
LLI WALL	0.0	9.7	41.1	33.2	16.0
T BODY	47.0	0.1	14.9	37.7	0.4
ADREN	0.0	1.9	26.2	61.7	10.2
BL WALL	0.0	1.7	25.8	60.4	12.1
KIDNEYS	0.0	0.1	28.1	71.4	0.5
LIVER	0.0	0.4	27.9	70.2	1.5
OVARIES	0.0	2.8	24.6	55.3	17.2
PANCREAS	0.0	2.2	25.5	59.1	13.2
BONE	0.0	0.1	27.9	71.9	0.1
R MAR	0.0	0.2	27.9	71.3	0.6
Y MAR	0.0	1.5	26.5	64.3	7.6
ENDOST	0.0	0.0	52.4	47.4	0.1
SPLEEN	1.3	1.8	25.5	60.1	11.3
TESTES	0.0	0.3	27.6	68.7	3.3
THYMUS	0.0	2.3	25.3	58.6	13.7
THYROID	0.0	0.7	27.2	67.0	5.0
UTERUS	0.0	1.6	26.1	61.9	10.3

CASE 2.. INHALATION

AMAD (MICRON).. 1.00 D3 =0.310 D4 =8.000E-02 D5 =0.249

	SOLUBILITY CLASS	G.I. UPTAKE FRACTIONS STOMACH	S INT	U L INT	L L INT
PO-216	D	0.0	1.000E-01	0.0	0.0
PB-212	W	0.0	8.000E-02	0.0	0.0
BI-212	W	0.0	5.000E-02	0.0	0.0
PO-212	D	0.0	1.000E-01	0.0	0.0
TL-208	W	0.0	0.950	0.0	0.0

DOSE EQUIVALENT (REM/MICROCURIE)

SOURCE	LUNGS	RES LYM	S CONT	SI CONT	ULI CONT	LLI CONT	BONE	LIVER	KIDNEYS	SPLEEN	TESTES
TARGET											
LUNGS	9.378E-06	1.373E-11	1.152E-11	6.587E-12	1.648E-11	5.852E-12	2.969E-11	1.337E-11	6.043E-12	1.422E-13	4.743E-16
RES LYM	4.114E-08	8.247E-08	1.152E-11	6.587E-12	1.648E-11	5.852E-12	2.969E-11	1.337E-11	6.043E-12	1.422E-13	4.743E-16
S WALL	3.965E-10	1.350E-13	4.967E-09	6.136E-11	1.419E-10	5.440E-11	1.719E-11	1.130E-11	2.073E-11	5.982E-13	1.797E-15
SI WALL	7.192E-11	2.472E-14	1.722E-11	9.941E-09	6.145E-10	2.582E-10	2.366E-11	9.011E-12	1.693E-11	9.190E-14	7.355E-15
ULI WALL	9.388E-11	3.228E-14	2.067E-11	4.013E-10	3.406E-08	1.176E-10	2.221E-11	1.329E-11	1.628E-11	9.520E-14	7.348E-15
LLI WALL	1.795E-11	6.103E-15	8.581E-12	1.244E-10	1.167E-10	7.985E-08	2.876E-11	1.961E-12	5.915E-12	4.731E-14	3.239E-14
T BODY	1.342E-07	1.779E-11	2.156E-11	1.208E-10	1.742E-10	1.435E-10	3.580E-08	1.358E-09	1.609E-09	1.180E-11	2.077E-12
ADREN	3.841E-10	1.298E-13	1.612E-11	2.404E-11	4.611E-11	1.490E-11	4.353E-11	3.072E-11	6.912E-11	4.013E-13	1.309E-15
BL WALL	2.082E-11	7.168E-15	2.712E-12	4.950E-11	8.811E-11	1.644E-10	1.971E-11	1.696E-12	2.821E-12	1.919E-14	5.694E-14
KIDNEYS	1.926E-10	6.563E-14	2.099E-11	5.322E-11	1.072E-10	3.083E-11	2.680E-11	2.069E-11	3.619E-07	5.228E-13	1.936E-15
LIVER	4.821E-10	1.639E-13	1.348E-11	3.311E-11	1.023E-10	1.198E-11	2.320E-11	5.252E-08	2.331E-11	7.220E-14	1.457E-15
OVARIES	3.774E-11	1.295E-14	5.747E-12	1.614E-10	4.374E-10	4.792E-10	2.774E-11	3.512E-12	6.465E-12	2.358E-14	0.0
PANCREAS	4.835E-10	1.642E-13	1.053E-10	3.615E-11	9.544E-11	2.240E-11	2.991E-11	2.162E-11	3.606E-11	1.130E-12	1.937E-15
BONE	2.152E-10	7.281E-14	4.164E-12	1.488E-11	3.016E-11	3.174E-11	5.015E-07	4.329E-12	6.056E-12	5.026E-14	8.269E-15
R MAR	2.714E-10	9.183E-14	6.934E-12	4.600E-11	8.957E-11	9.282E-11	8.289E-08	6.211E-12	1.499E-11	7.378E-14	6.711E-15
Y MAR	2.261E-10	7.652E-14	5.822E-12	2.040E-11	4.217E-11	3.896E-11	8.761E-11	6.342E-12	7.423E-12	7.453E-14	4.042E-15
ENDOST	2.152E-10	7.281E-14	4.164E-12	1.488E-11	3.016E-11	3.174E-11	6.560E-07	4.329E-12	6.056E-12	5.026E-14	8.269E-15
SPLEEN	4.475E-10	1.522E-13	5.858E-11	2.888E-11	5.427E-11	2.963E-11	2.141E-11	5.682E-12	4.782E-11	4.550E-09	1.784E-15
TESTES	9.017E-12	3.117E-15	9.928E-13	9.753E-12	2.226E-11	5.722E-11	2.807E-11	8.778E-13	1.166E-12	8.740E-15	4.113E-09
THYMUS	8.071E-10	2.744E-13	3.263E-12	3.037E-12	7.577E-12	2.510E-12	2.303E-11	5.995E-12	1.560E-12	4.122E-14	3.463E-16
THYROID	2.224E-10	7.601E-14	1.212E-12	1.125E-12	2.773E-12	1.053E-12	1.605E-11	1.237E-12	8.082E-13	1.231E-14	1.598E-16
UTERUS	3.811E-11	1.312E-14	6.548E-12	1.469E-10	1.956E-10	1.641E-10	1.802E-11	2.967E-12	5.594E-12	4.009E-14	0.0

DOSE EQUIVALENT (REM/MICROCURIE)

SOURCE	OVARIES	OTHER	TOTAL
TARGET			
LUNGS	7.276E-16	1.488E-11	9.378E-06
RES LYM	7.276E-16	1.488E-11	1.237E-07
S WALL	3.925E-15	1.604E-11	5.687E-09
SI WALL	4.202E-14	1.780E-11	1.097E-08
ULI WALL	3.916E-14	1.828E-11	3.476E-08
LLI WALL	5.179E-14	1.977E-11	4.017E-08
T BODY	6.531E-13	2.005E-09	1.754E-07
ADREN	2.205E-15	4.154E-09	4.783E-09
BL WALL	2.380E-14	2.085E-09	2.434E-09
KIDNEYS	4.568E-15	1.713E-11	3.624E-07
LIVER	2.758E-15	1.310E-11	5.332E-08
OVARIES	4.106E-09	2.233E-11	5.286E-09
PANCREAS	2.199E-15	4.160E-09	4.992E-09
BONE	3.494E-15	1.826E-11	5.018E-07
R MAR	1.105E-14	4.137E-09	8.755E-08
Y MAR	4.564E-15	4.150E-09	4.585E-09
ENDOST	3.494E-15	4.041E-11	6.563E-07
SPLEEN	2.998E-15	1.685E-11	5.261E-09
TESTES	0.0	1.594E-11	4.258E-09
THYMUS	3.664E-16	4.176E-09	5.030E-09
THYROID	1.519E-16	4.153E-09	4.399E-09
UTERUS	6.429E-14	4.183E-09	4.761E-09

PERCENT DOSE EQUIVALENT..

NUCLIDE	PO-216	PB-212	BI-212	PO-212	TL-208
TARGET					
LUNGS	61.6	0.1	10.8	27.4	0.1
RES LYM	0.1	7.2	35.7	47.5	9.5
S WALL	0.1	11.6	36.2	27.8	24.3
SI WALL	0.0	10.8	39.4	30.6	19.1
ULI WALL	0.0	9.9	40.4	32.3	17.5
LLI WALL	0.0	9.7	41.1	33.2	16.0
T BODY	47.0	0.1	14.9	37.7	0.4
ADREN	0.1	1.9	26.2	61.6	10.2
BL WALL	0.1	1.7	25.7	60.3	12.1
KIDNEYS	0.0	0.1	28.1	71.3	0.5
LIVER	0.0	0.4	27.9	70.2	1.5
OVARIES	0.1	2.8	24.6	55.3	17.2
PANCREAS	0.1	2.2	25.5	59.0	13.2
BONE	0.0	0.1	27.9	71.9	0.1
R MAR	0.0	0.2	27.9	71.3	0.6
Y MAR	0.1	1.5	26.5	64.3	7.6
ENDOST	0.0	0.0	52.4	47.4	0.1
SPLEEN	3.9	1.7	24.9	58.8	10.7
TESTES	0.2	0.3	27.6	69.7	3.3
THYMUS	0.1	2.3	25.3	58.6	13.7
THYROID	0.2	0.7	27.2	67.0	5.0
UTERUS	0.1	1.6	26.0	61.9	10.3

CASE 3.. INGESTION

INGESTION TRANSFER FRACTIONS (G. I. TRACT TO BLOOD)

	PO-216	PB-212	BI-212	PO-212	TL-208
STOMACH	0.0	0.0	0.0	0.0	0.0
S INT	1.000E-01	8.000E-02	5.000E-02	1.000E-01	0.950
U L INT	0.0	0.0	0.0	0.0	0.0
L L INT	0.0	0.0	0.0	0.0	0.0

DOSE EQUIVALENT (REM/MICROCURIE)

SOURCE	S CONT	SI CONT	ULI CONT	LLI CONT	BONE	LIVER	KIDNEYS	SPLEEN	TESTES	OVARIES	OTHER
TARGET											
LUNGS	2.921E-11	2.818E-11	8.170E-11	2.975E-11	2.338E-11	1.104E-11	3.036E-12	2.052E-13	7.286E-16	1.116E-15	2.240E-11
RES LYM	2.921E-11	2.818E-11	8.170E-11	2.975E-11	2.338E-11	1.104E-11	3.036E-12	2.052E-13	7.286E-16	1.116E-15	2.240E-11
S WALL	1.868E-07	2.658E-10	7.046E-10	2.766E-10	1.354E-11	9.353E-12	1.047E-11	8.582E-13	2.765E-15	5.963E-15	2.418E-11
SI WALL	4.370E-11	4.297E-08	3.051E-09	1.313E-09	1.863E-11	7.449E-12	8.531E-12	1.324E-13	1.113E-14	6.271E-14	2.693E-11
ULI WALL	5.350E-11	1.741E-09	1.691E-07	5.981E-10	1.749E-11	1.098E-11	8.195E-12	1.377E-13	1.133E-14	5.839E-14	2.754E-11
LLI WALL	2.164E-11	5.388E-10	5.794E-10	2.027E-07	2.262E-11	1.632E-12	2.971E-12	6.876E-14	4.857E-14	7.748E-14	2.982E-11
T BODY	4.294E-10	5.224E-10	8.649E-10	7.300E-10	2.604E-08	9.703E-10	6.261E-10	4.191E-12	8.118E-13	2.578E-13	7.829E-10
ADREN	4.091E-11	1.039E-10	2.287E-10	7.574E-11	3.420E-11	2.516E-11	3.471E-11	5.759E-13	1.996E-15	3.322E-15	1.605E-09
BL WALL	6.478E-12	2.137E-10	4.372E-10	8.363E-10	1.476E-11	1.415E-12	1.412E-12	2.810E-14	8.470E-14	3.536E-14	8.210E-10
KIDNEYS	5.402E-11	2.303E-10	5.320E-10	1.567E-10	2.106E-11	1.709E-11	1.406E-07	7.501E-13	2.949E-15	6.897E-15	2.584E-11
LIVER	3.399E-11	1.431E-10	5.080E-10	6.042E-11	1.830E-11	3.749E-08	1.174E-11	1.044E-13	2.231E-15	4.171E-15	1.977E-11
OVARIES	1.358E-11	7.018E-10	2.172E-09	2.437E-09	2.186E-11	2.914E-12	3.234E-12	3.114E-14	0.0	1.571E-09	3.362E-11
PANCREAS	2.733E-10	1.563E-10	4.736E-10	1.139E-10	2.355E-11	1.782E-11	1.814E-11	1.620E-12	3.002E-15	3.256E-15	1.615E-09
BONE	1.096E-11	6.496E-11	1.499E-10	1.615E-10	3.648E-07	3.568E-12	3.072E-12	7.199E-14	1.235E-14	5.197E-15	2.537E-11
R MAR	1.842E-11	2.015E-10	4.403E-10	4.721E-10	6.030E-08	9.121E-12	7.613E-12	1.057E-13	1.005E-14	1.635E-14	1.590E-09
Y MAR	1.534E-11	8.912E-11	2.096E-10	1.982E-10	6.873E-11	5.224E-12	3.765E-12	1.067E-13	6.104E-15	6.776E-15	1.598E-09
ENDOST	1.096E-11	6.496E-11	1.499E-10	1.615E-10	4.771E-07	3.568E-12	3.072E-12	7.199E-14	1.235E-14	5.197E-15	4.593E-11
SPLEEN	1.520E-10	1.246E-10	2.694E-10	1.506E-10	1.684E-11	4.701E-12	2.413E-11	1.579E-09	2.765E-15	4.573E-15	2.539E-11
TESTES	2.277E-12	4.165E-11	1.103E-10	2.910E-10	2.223E-11	7.288E-13	5.836E-13	1.286E-14	1.574E-09	0.0	2.425E-11
THYMUS	7.710E-12	1.296E-11	3.755E-11	1.276E-11	1.820E-11	4.916E-12	7.816E-13	6.086E-14	5.371E-16	5.613E-16	1.640E-09
THYROID	2.883E-12	4.769E-12	1.373E-11	5.354E-12	1.248E-11	1.026E-12	4.042E-13	1.804E-14	2.499E-16	2.351E-16	1.603E-09
UTERUS	1.605E-11	6.383E-10	9.711E-10	8.345E-10	1.415E-11	2.467E-12	2.822E-12	5.923E-14	0.0	9.587E-14	1.652E-09

DOSE EQUIVALENT (REM/MICROCURIE)

SOURCE	TOTAL
TARGET	
LUNGS	2.289E-10
RES LYM	2.289E-10
S WALL	1.881E-07
SI WALL	4.743E-08
ULI WALL	1.716E-07
LLI WALL	2.039E-07
T BODY	3.097E-08
ADREN	2.149E-09
BL WALL	2.332E-09
KIDNEYS	1.416E-07
LIVER	3.828E-08
OVARIES	6.957E-09
PANCREAS	2.693E-09
BONE	3.652E-07
R MAR	6.303E-08
Y MAR	2.188E-09
ENDOST	4.775E-07
SPLEEN	2.347E-09
TESTES	2.067E-09
THYMUS	1.735E-09
THYROID	1.644E-09
UTERUS	4.131E-09

PERCENT DOSE EQUIVALENT..

NUCLIDE	PO-216	PB-212	BI-212	PO-212	TL-208
TARGET					
LUNGS	0.0	9.4	11.3	0.0	79.3
RES LYM	0.0	9.4	11.3	0.0	79.3
S WALL	92.5	1.7	2.5	1.9	1.5
SI WALL	0.0	12.7	38.6	30.0	18.7
ULI WALL	0.0	10.2	40.4	32.4	17.0
LLI WALL	0.0	9.8	41.1	33.2	15.8
T BODY	1.2	0.9	27.8	67.3	2.9
ADREN	0.0	3.0	23.5	51.5	22.0
BL WALL	0.0	8.1	17.9	23.7	50.4
KIDNEYS	0.0	0.3	27.9	70.8	1.0
LIVER	0.0	0.5	27.8	69.6	2.1
OVARIES	0.0	10.3	15.9	15.8	58.0
PANCREAS	0.0	6.4	21.0	41.1	31.5
BONE	0.0	0.1	27.9	71.9	0.2
R MAR	0.0	0.4	27.7	70.4	1.5
Y MAR	0.0	4.5	23.3	50.6	21.6
ENDOST	0.0	0.0	52.4	47.4	0.1
SPLEEN	0.0	4.8	22.7	46.9	25.6
TESTES	0.0	2.2	23.8	53.2	20.7
THYMUS	0.0	0.6	25.8	63.8	9.8
THYROID	0.0	0.4	26.9	67.3	5.4
UTERUS	0.0	8.5	18.7	26.8	46.0

RADIONUCLIDE: PO-218

PHYSICAL AND METABOLIC PARAMETERS FOR DOSIMETRICALLY SIGNIFICANT PROGENY:

NUCLIDE	RADIOACTIVE HALF-LIFE (DAYS)
PO-218	2.12C0E-03
PB-214	1.66C0E-02
BI-214	1.38C0E-02
PO-214	1.89C0E-09
PB-210	8140.
BI-210	5.01C
PO-210	138.0

BRANCHING RATIOS:

FROM	TO	FRACTION
PO-218	PB-214	1.000
PB-214	BI-214	1.000
BI-214	PO-214	1.000
PO-214	PB-210	1.000
PB-210	BI-210	1.000
BI-210	PO-210	1.000

ORGAN ABSORBED	NUCLIDE	BLOOD TRANSFER FRACTION F2-PRIME	COMPARTMENT DEPOSITION FRACTION	COMPARTMENT BIOLOGICAL HALF-TIME (DAYS)
	PO-218	1.00	1.000E-02	0.500
			0.990	50.0
	PB-214	1.00	1.000E-01	1.00
			0.200	10.0
			0.300	320.
			0.200	2.000E 04
			0.200	8.000E 04
	BI-214	1.00	-1.720E-02	1.000E-01
			1.02	5.78
	PO-214	1.00	1.000E-02	0.500
			0.990	50.0
	PB-210	1.00	1.000E-01	1.00
			0.200	10.0
			0.300	320.
			0.200	2.000E 04
			0.200	8.000E 04
	BI-210	1.00	-1.720E-02	1.000E-01
			1.02	5.78
	PO-210	1.00	1.000E-02	0.500
			0.990	50.0
BONE	* PO-218	9.000E-02	1.000E-02	0.500
			0.990	50.0
	PB-214	0.562	0.375	320.
			0.310	2.000E 04
			0.315	8.000E 04
	* BI-214	7.340E-02	-1.000E-01	1.000E-01
			1.10	5.78
	* PO-214	9.000E-02	1.000E-02	0.500
			0.990	50.0
	PB-210	0.562	0.375	320.
			0.310	2.000E 04
			0.315	8.000E 04
	* BI-210	7.340E-02	-1.000E-01	1.000E-01
			1.10	5.78
	* PO-210	9.000E-02	1.000E-02	0.500
			0.990	50.0
LIVER	PO-218	1.000E-01	1.000E-02	0.500
			0.990	50.0
	PB-214	0.106	0.843	10.0
			7.870E-02	320.
			4.010E-02	2.000E 04
			3.820E-02	8.000E 04
	* BI-214	2.640E-02	-1.000E-01	1.000E-01
			1.10	5.78
	PO-214	1.000E-01	1.000E-02	0.500
			0.990	50.0
	PB-210	0.106	0.843	10.0
			7.870E-02	320.
			4.010E-02	2.000E 04
			3.820E-02	8.000E 04
	* BI-210	2.640E-02	-1.000E-01	1.000E-01
			1.10	5.78
	PO-210	1.000E-01	1.000E-02	0.500
			0.990	50.0

α decay (3.05 M)
Case 1 represents inhalation of sulfates, carbonates, phosphates, and nitrates; case 2 inhalation of oxides, hyroxides, and chlorides; and case 3 ingestion of any of these compounds.

*Retention data derived from "other tissues" compartment.

POLONIUM-218 CONTINUED

ORGAN	NUCLIDE	BLOOD TRANSFER FRACTION F2-PRIME	COMPARTMENT DEPOSITION FRACTION	COMPARTMENT BIOLOGICAL HALF-TIME (DAYS)
KIDNEYS	PO-218	1.000E-01	1.000E-02	0.500
			0.990	50.0
	PB-214	5.090E-02	0.962	10.0
			2.000E-02	320.
			9.600E-03	2.000E 03
			8.290E-03	8.000E 03
	BI-214	0.400	1.00	5.78
	PO-214	1.000E-01	1.000E-02	0.500
			0.990	50.0
	PB-210	5.090E-02	0.962	10.0
			2.000E-02	320.
			9.600E-03	2.000E 03
			8.290E-03	8.000E 03
	BI-210	0.400	1.00	5.78
	PO-210	1.000E-01	1.000E-02	0.500
			0.990	50.0
SPLEEN	PO-218	1.000E-01	1.000E-02	0.500
			0.990	50.0
	*PB-214	2.960E-04	0.375	320.
			0.310	2.000E 03
			0.315	8.000E 03
	*BI-214	2.640E-03	-1.000E-01	1.000E-01
			1.10	5.78
	PO-214	1.000E-01	1.000E-02	0.500
			0.990	50.0
	*PB-210	2.960E-04	0.375	320.
			0.310	2.000E 03
			0.315	8.000E 03
	*BI-210	2.640E-03	-1.000E-01	1.000E-01
			1.10	5.78
	PO-210	1.000E-01	1.000E-02	0.500
			0.990	50.0
OTHER	PO-218	0.610	1.000E-02	0.500
			0.990	50.0
	PB-214	5.580E-02	0.375	320.
			0.310	2.000E 03
			0.315	8.000E 03
	BI-214	0.500	-1.000E-01	1.000E-01
			1.10	5.78
	PO-214	0.610	1.000E-02	0.500
			0.990	50.0
	PB-210	5.580E-02	0.375	320.
			0.310	2.000E 03
			0.315	8.000E 03
	BI-210	0.500	-1.000E-01	1.000E-01
			1.10	5.78
	PO-210	0.610	1.000E-02	0.500
			0.990	50.0

S FACTORS (REM/MICROCURIE-DAY) FOR PO-218

TARGET ORGANS	SOURCE ORGANS									
	LUNGS	RES LYM	S CONT	SI CONT	ULI CONT	LLI CONT	BONE	LIVER	KIDNEYS	SPLEEN
LUNGS	0.318E 01	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
RES LYM	0.0	0.212E 03	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
S WALL	0.0	0.0	0.614E-01	0.0	0.0	0.0	0.0	0.0	0.0	0.0
SI WALL	0.0	0.0	0.0	0.384E-01	0.0	0.0	0.0	0.0	0.0	0.0
ULI WALL	0.0	0.0	0.0	0.0	0.698E-01	0.0	0.0	0.0	0.0	0.0
LLI WALL	0.0	0.0	0.0	0.0	0.0	0.114E 00	0.0	0.0	0.0	0.0
T BODY	0.455E-01	0.455E-01	0.132E-03	0.351E-03	0.209E-03	0.260E-03	0.227E 00	0.455E-01	0.455E-01	0.455E-01
ADREN	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
BL WALL	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
KIDNEYS	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.103E 02	0.0
LIVER	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.177E 01	0.0	0.0
OVARIES	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
PANCREAS	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
BONE	0.0	0.0	0.0	0.0	0.0	0.0	0.318E 01	0.0	0.0	0.0
R MAR	0.0	0.0	0.0	0.0	0.0	0.0	0.525E 00	0.0	0.0	0.0
Y MAR	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
ENDOST	0.0	0.0	0.0	0.0	0.0	0.0	0.573E 01	0.0	0.0	0.0
SPLEEN	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.177E 02
TESTES	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
THYMUS	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
THYROID	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
UTERUS	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

CASE 1.. INHALATION

AMAD (MICRON).. 1.00 D3 =0.310 D4 =8.000E-02 D5 =0.249

	SOLUBILITY CLASS	G.I. UPTAKE FRACTIONS STOMACH	S INT	U L INT	L L INT
PO-218	W	0.0	1.000E-01	0.0	0.0
PB-214	W	0.0	8.000E-02	0.0	0.0
BI-214	W	0.0	5.000E-02	0.0	0.0
PO-214	W	0.0	1.000E-01	0.0	0.0
PB-210	W	0.0	8.000E-02	0.0	0.0
BI-210	W	0.0	5.000E-02	0.0	0.0
PO-210	W	0.0	1.000E-01	0.0	0.0

DOSE EQUIVALENT (REM/MICROCURIE)

SOURCE	LUNGS	RES LYM	S CONT	SI CONT	ULI CONT	LLI CONT	BONE	LIVER	KIDNEYS	SPLEEN	OTHER
TARGET											
LUNGS	1.274E-02	5.989E-09	2.052E-08	3.169E-09	7.080E-10	1.666E-11	2.428E-08	1.401E-08	1.128E-08	2.497E-09	2.479E-08
RES LYM	8.607E-05	2.193E-05	2.052E-08	3.169E-09	7.080E-10	1.666E-11	2.428E-08	1.401E-08	1.128E-08	2.497E-09	2.479E-08
S WALL	9.242E-07	1.420E-11	7.940E-06	3.095E-09	5.832E-09	1.586E-10	1.413E-08	1.132E-08	3.709E-08	1.118E-08	2.663E-08
SI WALL	1.507E-07	2.328E-12	2.944E-08	3.657E-06	2.602E-08	8.245E-10	1.946E-08	9.250E-09	3.255E-08	1.671E-09	2.959E-08
ULI WALL	1.954E-07	3.019E-12	3.796E-08	1.983E-07	1.242E-06	3.835E-10	1.841E-08	1.054E-08	3.266E-08	1.698E-09	3.033E-08
LLI WALL	3.908E-08	5.851E-13	1.582E-08	6.079E-08	5.063E-09	1.211E-07	2.414E-08	1.880E-09	1.126E-08	8.026E-10	3.284E-08
T BODY	1.828E-04	4.712E-09	3.621E-08	4.827E-08	6.732E-09	4.433E-10	2.792E-05	1.397E-06	2.905E-06	4.239E-07	5.660E-06
ADREN	9.565E-07	1.445E-11	3.105E-08	1.145E-08	1.903E-09	4.755E-11	4.160E-08	2.780E-08	1.365E-07	7.549E-09	1.169E-05
BL WALL	4.374E-08	6.787E-13	5.073E-09	2.601E-08	3.430E-09	5.436E-10	1.522E-08	1.532E-09	5.131E-09	3.203E-10	5.867E-06
KIDNEYS	4.676E-07	7.135E-12	3.739E-08	2.694E-08	4.652E-09	9.312E-11	2.412E-08	2.138E-08	6.540E-04	9.656E-09	2.838E-08
LIVER	1.100E-06	1.681E-11	2.339E-08	1.655E-08	4.236E-09	3.897E-11	1.818E-08	5.415E-05	4.430E-08	1.275E-09	2.154E-08
OVARIES	8.164E-08	1.257E-12	1.128E-08	7.756E-08	1.554E-08	1.546E-09	2.299E-08	4.033E-09	1.530E-08	7.069E-10	1.169E-05
PANCREAS	1.119E-06	1.698E-11	1.904E-07	1.720E-08	3.592E-09	6.932E-11	2.600E-08	2.337E-08	7.260E-08	2.082E-08	1.170E-05
BONE	4.724E-07	7.287E-12	7.006E-09	7.083E-09	1.208E-09	9.652E-11	3.898E-04	4.326E-09	1.131E-08	9.165E-10	3.170E-08
R MAR	5.981E-07	9.211E-12	1.170E-08	2.180E-08	3.525E-09	2.840E-10	5.986E-05	6.203E-09	2.824E-08	1.339E-09	1.165E-05
Y MAR	4.925E-07	7.613E-12	9.834E-09	9.704E-09	1.703E-09	1.195E-10	7.273E-08	6.375E-09	1.392E-08	1.359E-09	1.168E-05
ENDOST	4.724E-07	7.287E-12	7.006E-09	7.083E-09	1.208E-09	9.652E-11	4.389E-04	4.326E-09	1.131E-08	9.165E-10	7.880E-08
SPLEEN	9.676E-07	1.475E-11	1.064E-07	1.461E-08	2.334E-09	9.617E-11	1.870E-08	5.961E-09	9.294E-08	1.644E-04	2.801E-08
TESTES	1.763E-08	2.768E-13	1.682E-09	4.988E-09	8.825E-10	1.683E-10	1.952E-08	9.626E-10	2.109E-09	1.386E-10	1.169E-05
THYMUS	1.906E-06	2.924E-11	6.839E-09	1.492E-09	3.079E-10	7.557E-12	1.660E-08	5.208E-09	2.927E-09	5.839E-10	1.172E-05
THYROID	5.184E-07	7.916E-12	2.067E-09	5.311E-10	1.075E-10	2.979E-12	1.859E-08	1.221E-09	1.436E-09	2.014E-10	1.169E-05
UTERUS	8.120E-08	1.269E-12	1.109E-08	7.322E-08	9.138E-09	5.270E-10	1.645E-08	2.992E-09	1.062E-08	5.455E-10	1.173E-05

DOSE EQUIVALENT (REM/MICROCURIE)

SOURCE	TOTAL
TARGET	
LUNGS	1.274E-02
RES LYM	1.081E-04
S WALL	9.001E-06
SI WALL	3.957E-06
ULI WALL	1.771E-06
LLI WALL	3.127E-07
T BODY	2.212E-04
ADREN	1.290E-05
BL WALL	5.968E-06
KIDNEYS	6.546E-04
LIVER	5.538E-05
OVARIES	1.193E-05
PANCREAS	1.317E-05
BONE	3.903E-04
R MAR	7.219E-05
Y MAR	1.229E-05
ENDOST	4.394E-04
SPLEEN	1.656E-04
TESTES	1.173E-05
THYMUS	1.366E-05
THYROID	1.223E-05
UTERUS	1.194E-05

PERCENT DOSE EQUIVALENT..

NUCLIDE	PO-218	PB-214	BI-214	PO-214	PB-210	BI-210	PO-210
TARGET							
LUNGS	47.7	0.2	0.5	51.6	0.0	0.0	0.0
RES LYM	0.3	25.0	54.7	6.6	0.0	0.3	13.0
S WALL	3.7	13.1	46.6	36.6	0.0	0.0	0.0
SI WALL	0.4	9.8	48.1	41.7	0.0	0.0	0.0
ULI WALL	0.0	8.6	58.2	32.9	0.0	0.2	0.0
LLI WALL	0.0	9.3	70.1	17.0	0.3	3.1	0.2
T BODY	40.4	0.2	0.7	57.6	0.0	0.0	1.0
ADREN	16.8	1.8	8.6	70.5	0.0	0.1	2.2
BL WALL	18.2	0.3	2.8	76.2	0.0	0.1	2.4
KIDNEYS	6.0	0.1	1.0	92.8	0.0	0.0	0.1
LIVER	12.1	0.7	2.8	80.6	0.0	0.0	0.8
OVARIES	18.2	0.3	2.7	76.3	0.0	0.1	2.4
PANCREAS	16.5	2.0	10.2	69.1	0.0	0.1	2.2
BONE	2.8	0.1	0.3	89.2	0.0	0.0	7.6
R MAR	5.5	0.3	1.2	92.4	0.0	0.1	0.5
Y MAR	17.7	1.0	4.8	74.0	0.0	0.1	2.3
ENDOST	4.5	0.1	0.2	94.6	0.0	0.0	0.6
SPLEEN	40.6	0.3	1.2	56.4	0.0	0.0	1.5
TESTES	18.5	0.2	1.3	77.5	0.0	0.1	2.5
THYMUS	15.9	2.4	13.0	66.6	0.0	0.1	2.1
THYROID	17.8	0.8	4.6	74.4	0.0	0.1	2.4
UTERUS	13.2	0.3	2.8	76.2	0.0	0.1	2.4

CASE 2.. INHALATION

AMAD (MICRON).. 1.00 D3 =0.310 D4 =8.000E-02 D5 =0.249

	SOLUBILITY CLASS	G.I. UPTAKE FRACTIONS STOMACH	S INT	U L INT	L L INT
PO-218	D	0.0	1.000E-01	0.0	0.0
PB-214	W	0.0	8.000E-02	0.0	0.0
BI-214	W	0.0	5.000E-02	0.0	0.0
PO-214	D	0.0	1.000E-01	0.0	0.0
PB-210	W	0.0	8.000E-02	0.0	0.0
BI-210	W	0.0	5.000E-02	0.0	0.0
PO-210	D	0.0	1.000E-01	0.0	0.0

DOSE EQUIVALENT (REM/MICROCURIE)

SOURCE	LUNGS	RES LYM	S CONT	SI CONT	ULI CONT	LLI CONT	BONE	LIVER	KIDNEYS	SPLEEN	OTHER
TARGET											
LUNGS	1.168E-02	3.939E-08	3.395E-08	6.427E-09	1.568E-09	3.855E-11	2.395E-08	1.895E-08	1.249E-08	7.935E-09	4.238E-08
RES LYM	7.910E-05	3.195E-04	3.395E-08	6.427E-09	1.568E-09	3.855E-11	2.395E-08	1.895E-08	1.249E-08	7.935E-09	4.238E-08
S WALL	8.498E-07	3.764E-10	1.740E-05	6.308E-08	1.296E-08	3.679E-10	1.394E-08	1.530E-08	4.123E-08	3.552E-08	4.551E-08
SI WALL	1.386E-07	6.154E-11	4.880E-08	7.648E-06	5.785E-08	1.912E-09	1.920E-08	1.251E-08	3.613E-08	5.308E-09	5.062E-08
ULI WALL	1.797E-07	7.979E-11	6.299E-08	4.047E-07	2.762E-06	8.893E-10	1.816E-08	1.832E-08	3.626E-08	5.391E-09	5.186E-08
LLI WALL	3.593E-08	1.587E-11	2.610E-08	1.239E-07	1.125E-08	2.658E-07	2.382E-08	2.539E-09	1.245E-08	2.549E-09	5.615E-08
T BODY	1.675E-04	6.879E-08	6.912E-08	1.002E-07	1.497E-08	9.937E-10	2.927E-05	2.217E-06	3.534E-06	1.367E-06	1.102E-05
ADREN	8.793E-07	3.881E-10	5.103E-08	2.336E-08	4.220E-09	1.102E-10	4.103E-08	3.760E-08	1.513E-07	2.398E-08	2.275E-05
BL WALL	4.023E-08	1.788E-11	8.285E-09	5.297E-08	7.619E-09	1.261E-09	1.501E-08	2.069E-09	5.660E-09	1.015E-09	1.142E-05
KIDNEYS	4.300E-07	1.904E-10	6.206E-08	5.491E-08	1.033E-08	2.159E-10	2.379E-08	2.892E-08	7.960E-04	3.069E-08	4.846E-08
LIVER	1.011E-06	4.473E-10	3.866E-08	3.372E-08	9.411E-09	9.027E-11	1.794E-08	8.600E-05	4.920E-08	4.048E-09	3.679E-08
OVARIES	7.507E-08	3.331E-11	1.821E-08	1.585E-07	3.461E-08	3.586E-09	2.268E-08	5.437E-09	1.694E-08	2.249E-09	2.276E-05
PANCREAS	1.028E-06	4.545E-10	3.166E-07	3.509E-08	7.980E-09	1.619E-10	2.564E-08	2.161E-08	8.065E-08	6.619E-08	2.277E-05
BONE	4.343E-07	1.919E-10	1.169E-08	1.449E-08	2.688E-09	2.240E-10	4.088E-04	5.856E-09	1.261E-08	2.915E-09	5.453E-08
R MAR	5.498E-07	2.430E-10	1.959E-08	4.467E-08	7.853E-09	6.592E-10	6.318E-05	8.396E-09	3.151E-08	4.258E-09	2.269E-05
Y MAR	4.528E-07	2.001E-10	1.641E-08	1.986E-08	3.791E-09	2.773E-10	7.174E-08	8.629E-09	1.552E-08	4.323E-09	2.274E-05
ENDOST	4.343E-07	1.919E-10	1.169E-08	1.449E-08	2.688E-09	2.240E-10	4.781E-04	5.856E-09	1.261E-08	2.915E-09	1.376E-07
SPLEEN	8.897E-07	3.933E-10	1.767E-07	2.973E-08	5.182E-09	2.229E-10	1.844E-08	8.057E-09	1.033E-07	5.300E-04	4.788E-08
TESTES	1.622E-08	7.224E-12	2.693E-09	1.008E-08	1.955E-09	3.906E-10	1.925E-08	1.298E-09	2.322E-09	4.393E-10	2.275E-05
THYMUS	1.752E-06	7.759E-10	1.101E-08	3.020E-09	6.819E-10	1.749E-11	1.638E-08	7.043E-09	3.255E-09	1.853E-09	2.281E-05
THYROID	4.767E-07	2.112E-10	3.372E-09	1.071E-09	2.377E-10	6.890E-12	1.834E-08	1.651E-09	1.578E-09	6.339E-10	2.274E-05
UTERUS	7.468E-08	3.323E-11	1.824E-08	1.495E-07	1.807E-08	1.223E-09	1.623E-08	4.040E-09	1.180E-08	1.732E-09	2.283E-05

DOSE EQUIVALENT (REM/MICROCURIE)

SOURCE	TOTAL
TARGET	
LUNGS	1.168E-02
RES LYM	3.987E-04
S WALL	1.848E-05
SI WALL	8.019E-06
ULI WALL	3.540E-06
LLI WALL	5.605E-07
T BODY	2.152E-04
ADREN	2.396E-05
BL WALL	1.155E-05
KIDNEYS	7.967E-04
LIVER	8.720E-05
OVARIES	2.310E-05
PANCREAS	2.436E-05
BONE	4.093E-04
R MAR	8.654E-05
Y MAR	2.333E-05
ENDOST	4.787E-04
SPLEEN	5.313E-04
TESTES	2.280E-05
THYMUS	2.461E-05
THYROID	2.325E-05
UTERUS	2.313E-05

PERCENT DOSE EQUIVALENT..

NUCLIDE	PO-218	PB-214	BI-214	PO-214	PB-210	BI-210	PO-210
TARGET							
LUNGS	47.5	0.2	0.5	51.8	0.0	0.0	0.0
RES LYM	34.1	6.4	14.0	45.4	0.0	0.1	0.1
S WALL	25.7	13.3	33.0	28.0	0.0	0.0	0.0
SI WALL	2.7	11.5	44.7	41.1	0.0	0.0	0.0
ULI WALL	0.2	9.5	54.0	36.2	0.0	0.1	0.0
LLI WALL	0.0	9.9	66.3	21.9	0.1	1.7	0.0
T BODY	40.5	0.2	0.7	57.4	0.0	0.0	1.1
ADREN	30.1	1.0	4.9	62.1	0.0	0.0	1.8
BL WALL	31.2	0.3	2.1	64.4	0.0	0.0	1.9
KIDNEYS	16.3	0.1	0.8	82.6	0.0	0.0	0.2
LIVER	25.6	0.5	1.9	71.3	0.0	0.0	0.6
OVARIES	31.2	0.4	2.1	64.4	0.0	0.0	1.9
PANCREAS	29.6	1.3	6.2	61.0	0.0	0.0	1.8
BONE	8.8	0.1	0.2	83.9	0.0	0.0	7.0
R MAR	15.2	0.3	1.1	82.8	0.0	0.1	0.6
Y MAR	30.9	0.6	2.8	63.7	0.0	0.0	1.9
ENDOST	13.6	0.1	0.2	85.6	0.0	0.0	0.6
SPLEEN	42.0	0.3	0.7	55.5	0.0	0.0	1.5
TESTES	31.6	0.2	1.0	65.2	0.0	0.0	1.9
THYMUS	29.3	1.4	7.1	60.4	0.0	0.0	1.8
THYROID	31.0	0.5	2.6	64.0	0.0	0.0	1.9
UTERUS	31.2	0.4	2.2	64.3	0.0	0.0	1.9

CASE 3.. INGESTION

INGESTION TRANSFER FRACTIONS (G. I. TRACT TO BLOOD)

	PO-218	PB-214	BI-214	PO-214	PB-210	BI-210	PO-210
STOMACH	0.0	0.0	0.0	0.0	0.0	0.0	0.0
S INT	1.000E-01	8.000E-02	5.000E-02	1.000E-01	8.000E-02	5.000E-02	1.000E-01
U L INT	0.0	0.0	0.0	0.0	0.0	0.0	0.0
L L INT	0.0	0.0	0.0	0.0	0.0	0.0	0.0

DOSE EQUIVALENT (REM/MICROCURIE)

SOURCE	S CONT	SI CONT	ULI CONT	LLI CONT	BONE	LIVER	KIDNEYS	SPLEEN	OTHER	TOTAL
TARGET										
LUNGS	6.403E-07	1.452E-07	3.761E-08	9.494E-10	2.760E-09	1.356E-09	1.118E-09	4.166E-11	1.860E-09	8.311E-07
RES LYM	6.403E-07	1.452E-07	3.761E-08	9.494E-10	2.760E-09	1.356E-09	1.118E-09	4.166E-11	1.860E-09	8.311E-07
S WALL	4.147E-04	1.430E-06	3.116E-07	9.075E-09	1.605E-09	1.095E-09	3.670E-09	1.867E-10	1.998E-09	4.165E-04
SI WALL	9.218E-07	1.766E-04	1.391E-06	4.716E-08	2.212E-09	8.948E-10	3.221E-09	2.796E-11	2.219E-09	1.789E-04
ULI WALL	1.191E-06	9.181E-06	6.641E-05	2.193E-08	2.092E-09	1.310E-09	3.232E-09	2.851E-11	2.275E-09	7.681E-05
LLI WALL	4.904E-07	2.810E-06	2.702E-07	6.308E-06	2.746E-09	1.819E-10	1.116E-09	1.345E-11	2.462E-09	9.885E-06
T BODY	1.490E-06	2.300E-06	3.597E-07	2.394E-08	3.752E-06	1.240E-07	2.747E-07	6.369E-09	3.841E-07	8.715E-06
ADREN	9.549E-07	5.299E-07	1.013E-07	2.719E-09	4.726E-09	2.690E-09	1.351E-08	1.263E-10	7.928E-07	2.403E-06
BL WALL	1.540E-07	1.200E-06	1.831E-07	3.111E-08	1.727E-09	1.482E-10	5.088E-10	5.463E-12	3.981E-07	1.969E-06
KIDNEYS	1.174E-06	1.245E-06	2.482E-07	5.323E-09	2.740E-09	2.069E-09	6.185E-05	1.610E-10	2.131E-09	6.453E-05
LIVER	7.288E-07	7.639E-07	2.261E-07	2.225E-09	2.065E-09	4.806E-06	4.384E-09	2.136E-11	1.618E-09	6.535E-06
OVARIES	3.342E-07	3.600E-06	8.330E-07	8.844E-08	2.612E-09	3.903E-10	1.515E-09	1.169E-11	7.934E-07	5.653E-06
PANCREAS	5.999E-06	7.959E-07	1.917E-07	3.993E-09	2.953E-09	2.261E-09	7.183E-09	3.469E-10	7.936E-07	7.797E-06
BONE	2.225E-07	3.294E-07	6.466E-08	5.526E-09	5.242E-05	4.187E-10	1.118E-09	1.521E-11	2.426E-09	5.305E-05
R MAR	3.738E-07	1.017E-06	1.890E-07	1.626E-08	6.634E-06	6.002E-10	2.790E-09	2.220E-11	7.902E-07	9.023E-06
Y MAR	3.120E-07	4.517E-07	9.120E-08	6.840E-09	8.596E-09	6.170E-10	1.376E-09	2.256E-11	7.922E-07	1.665E-06
ENDOST	2.225E-07	3.294E-07	6.466E-08	5.526E-09	4.859E-05	4.187E-10	1.118E-09	1.521E-11	6.273E-09	4.922E-05
SPLEEN	3.346E-06	6.732E-07	1.245E-07	5.494E-09	2.126E-09	5.767E-10	9.193E-09	2.469E-06	2.102E-09	6.633E-06
TESTES	4.894E-08	2.272E-07	4.691E-08	9.636E-09	2.215E-09	9.316E-11	2.092E-10	2.355E-12	7.927E-07	1.128E-06
THYMUS	2.012E-07	6.813E-08	1.635E-08	4.309E-10	1.886E-09	5.037E-10	2.895E-10	9.843E-12	7.954E-07	1.084E-06
THYROID	6.263E-08	2.407E-08	5.692E-09	1.696E-10	2.113E-09	1.181E-10	1.425E-10	3.411E-12	7.926E-07	8.875E-07
UTERUS	3.416E-07	3.395E-06	4.342E-07	3.018E-08	1.867E-09	2.895E-10	1.051E-09	9.157E-12	7.964E-07	5.000E-06

PERCENT DOSE EQUIVALENT..

NUCLIDE	PO-218	PB-214	BI-214	PO-214	PB-210	BI-210	PO-210
TARGET							
LUNGS	0.0	18.6	81.4	0.0	0.0	0.0	0.0
RES LYM	0.0	18.6	81.4	0.0	0.0	0.0	0.0
S WALL	42.0	13.4	22.4	22.1	0.0	0.0	0.0
SI WALL	4.4	12.8	41.8	41.1	0.0	0.0	0.0
ULI WALL	0.3	10.1	49.7	39.8	0.0	0.0	0.0
LLI WALL	0.0	9.8	59.6	30.5	0.0	0.0	0.0
T BODY	5.4	6.6	25.2	51.9	0.0	0.1	10.7
ADREN	1.0	10.7	56.7	29.4	0.0	0.1	2.1
BL WALL	0.6	9.6	70.5	18.0	0.0	0.0	1.3
KIDNEYS	0.7	0.8	4.3	94.0	0.0	0.0	0.2
LIVER	1.1	4.3	23.1	68.6	0.0	0.1	2.7
OVARIES	0.4	11.4	74.8	12.5	0.0	0.0	0.9
PANCREAS	0.3	19.4	70.6	9.1	0.0	0.0	0.7
BONE	0.2	0.3	1.1	74.3	0.0	0.1	23.9
R MAR	0.5	3.2	15.0	80.2	0.0	0.2	0.9
Y MAR	1.4	9.4	43.5	42.5	0.0	0.1	3.1
ENDOST	0.4	0.3	1.2	95.6	0.0	0.1	2.4
SPLEEN	11.2	13.0	50.1	24.6	0.0	0.0	1.1
TESTES	2.1	2.3	28.2	62.7	0.0	0.1	4.6
THYMUS	2.2	2.6	25.0	65.2	0.0	0.1	4.7
THYROID	2.7	1.4	10.2	79.7	0.0	0.2	5.8
UTERUS	0.5	11.3	73.0	14.1	0.0	0.0	1.0

RADIONUCLIDE: AT-217

PHYSICAL AND METABOLIC PARAMETERS FOR DOSIMETRICALLY SIGNIFICANT PROGENY:

NUCLIDE	RADIOACTIVE HALF-LIFE (DAYS)
AT-217	3.7400E-07
BI-213	3.1700E-02
PO-213	4.8600E-11
PB-209	0.1380
TL-209	1.5300E-03

BRANCHING RATIOS:

FROM	TO	FRACTION
AT-217	BI-213	1.000
BI-213	PO-213	2.1600E-02
BI-213	TL-209	0.9780
PO-213	PB-209	1.000
TL-209	PB-209	1.000

ORGAN ABSORBED	NUCLIDE	BLOOD TRANSFER FRACTION F2-PRIME	COMPARTMENT DEPOSITION FRACTION	COMPARTMENT BIOLOGICAL HALF-TIME (DAYS)
	AT-217	1.00	0.284	0.200
			0.716	30.0
	BI-213	1.00	-1.720E-02	1.000E-01
			1.02	5.78
	PO-213	1.00	1.000E-02	0.500
			0.990	50.0
	PB-209	1.00	1.000E-01	1.00
			0.200	10.0
			0.300	320.
			0.200	2.000E 03
			0.200	8.000E 03
	TL-209	1.00	1.00	4.00
BONE	*AT-217	9.000E-02	0.444	0.200
			0.556	30.0
	*BI-213	7.340E-02	-1.000E-01	1.000E-01
			1.10	5.78
	*PO-213	9.000E-02	1.000E-02	0.500
			0.990	50.0
	PB-209	0.562	0.375	320.
			0.310	2.000E 03
			0.315	8.000E 03
	*TL-209	0.118	1.00	4.00
LIVER	*AT-217	4.780E-02	0.293	0.200
			0.707	30.0
	*BI-213	2.640E-02	-1.000E-01	1.000E-01
			1.10	5.78
	PO-213	1.000E-01	1.000E-02	0.500
			0.990	50.0
	PB-209	0.106	0.843	10.0
			7.870E-02	320.
			4.010E-02	2.000E 03
			3.820E-02	8.000E 03
	*TL-209	4.240E-02	1.00	4.00
KIDNEYS	*AT-217	8.220E-03	0.293	0.200
			0.707	30.0
	BI-213	0.400	1.00	5.78
	PO-213	1.000E-01	1.000E-02	0.500
			0.990	50.0
	PB-209	5.090E-02	0.962	10.0
			2.000E-02	320.
			9.600E-03	2.000E 03
			8.290E-03	8.000E 03
	TL-209	3.760E-02	1.00	4.00
SPLEEN	*AT-217	4.780E-03	0.293	0.200
			0.707	30.0
	*BI-213	2.640E-03	-1.000E-01	1.000E-01
			1.10	5.78
	PO-213	1.000E-01	1.000E-02	0.500
			0.990	50.0
	*PB-209	2.960E-04	0.375	320.
			0.310	2.000E 03
			0.315	8.000E 03
	*TL-209	4.240E-03	1.00	4.00

α decay (0.0323 S 4)

*Retention data derived from "other tissues" compartment.

ASTATINE-217 CONTINUED

ORGAN	NUCLIDE	BLOOD TRANSFER FRACTION F2-PRIME	COMPARTMENT DEPOSITION FRACTION	COMPARTMENT BIOLOGICAL HALF-TIME (DAYS)
THYROID	AT-217	1.030E-02	-1.94	0.200
			2.94	30.0
	* BI-213	2.930E-04	-1.000E-01	1.000E-01
			1.10	5.78
	* PO-213	3.600E-04	1.000E-02	0.300
			0.990	50.0
	* PB-209	3.290E-05	0.375	320.
			0.310	2.000E 03
			0.315	8.000E 03
	* TL-209	4.700E-04	1.00	4.00
TESTES	* AT-217	9.290E-04	0.293	0.200
			0.707	30.0
	* BI-213	5.140E-04	-1.000E-01	1.000E-01
			1.10	5.78
	* PO-213	6.300E-04	1.000E-02	0.300
			0.990	50.0
	* PB-209	5.760E-05	0.375	320.
			0.310	2.000E 03
			0.315	8.000E 03
	* TL-209	8.240E-04	1.00	4.00
OVARIES	* AT-217	2.920E-04	0.293	0.200
			0.707	30.0
	* BI-213	1.610E-04	-1.000E-01	1.000E-01
			1.10	5.78
	* PO-213	1.980E-04	1.000E-02	0.300
			0.990	50.0
	* PB-209	1.810E-05	0.375	320.
			0.310	2.000E 03
			0.315	8.000E 03
	* TL-209	2.590E-04	1.00	4.00
OTHER	AT-217	0.898	0.293	0.200
			0.707	30.0
	BI-213	0.500	-1.000E-01	1.000E-01
			1.10	5.78
	PO-213	0.610	1.000E-02	0.300
			0.990	50.0
	PB-209	5.580E-03	0.375	320.
			0.310	2.000E 03
			0.315	8.000E 03
	TL-209	0.914	1.00	4.00

S FACTORS (REM/MICROCURIE-DAY) FOR AT-217

TARGET ORGANS	SOURCE ORGANS									
	LUNGS	RES LYM	S CONT	SI CONT	ULI CONT	LLI CONT	BONE	LIVER	KIDNEYS	SPLEEN
LUNGS	0.375E 01	0.761E-06	0.967E-07	0.172E-07	0.175E-07	0.526E-08	0.516E-07	0.126E-06	0.494E-07	0.115E-06
RES LYM	0.761E-06	0.250E 03	0.967E-07	0.172E-07	0.175E-07	0.526E-08	0.516E-07	0.126E-06	0.494E-07	0.115E-06
S WALL	0.964E-07	0.964E-07	0.723E-01	0.179E-06	0.190E-06	0.949E-07	0.308E-07	0.995E-07	0.176E-06	0.514E-06
SI WALL	0.143E-07	0.142E-07	0.138E-06	0.452E-01	0.857E-06	0.470E-06	0.421E-07	0.856E-07	0.144E-06	0.729E-07
ULI WALL	0.194E-07	0.194E-07	0.174E-06	0.120E-05	0.822E-01	0.222E-06	0.369E-07	0.134E-06	0.151E-06	0.724E-07
LLI WALL	0.428E-08	0.428E-08	0.666E-07	0.355E-06	0.157E-06	0.134E 00	0.501E-07	0.167E-07	0.461E-07	0.365E-07
T BODY	0.536E-01	0.536E-01	0.155E-03	0.413E-03	0.246E-03	0.306E-03	0.268E 00	0.536E-01	0.536E-01	0.536E-01
ADREN	0.128E-06	0.128E-06	0.113E-06	0.669E-07	0.522E-07	0.259E-07	0.869E-07	0.257E-06	0.639E-06	0.318E-06
BL WALL	0.377E-08	0.377E-08	0.229E-07	0.175E-06	0.101E-06	0.300E-06	0.339E-07	0.174E-07	0.197E-07	0.712E-08
KIDNEYS	0.543E-07	0.543E-07	0.174E-06	0.166E-06	0.142E-06	0.440E-07	0.477E-07	0.198E-06	0.121E 02	0.448E-06
LIVER	0.125E-06	0.125E-06	0.107E-06	0.948E-07	0.130E-06	0.179E-07	0.370E-07	0.208E 01	0.209E-06	0.561E-07
OVARIES	0.790E-08	0.790E-08	0.256E-07	0.466E-06	0.663E-06	0.849E-06	0.551E-07	0.116E-07	0.608E-07	0.539E-07
PANCREAS	0.145E-06	0.145E-06	0.920E-06	0.109E-05	0.966E-07	0.391E-07	0.484E-07	0.248E-06	0.343E-06	0.102E-05
BONE	0.534E-07	0.534E-07	0.324E-07	0.422E-07	0.389E-07	0.559E-07	0.375E 01	0.394E-07	0.525E-07	0.411E-07
R MAR	0.673E-07	0.673E-07	0.563E-07	0.135E-06	0.117E-06	0.167E-06	0.620E 00	0.579E-07	0.133E-06	0.609E-07
Y MAR	0.561E-07	0.561E-07	0.450E-07	0.585E-07	0.552E-07	0.691E-07	0.158E-06	0.577E-07	0.652E-07	0.618E-07
ENDOST	0.534E-07	0.534E-07	0.324E-07	0.422E-07	0.389E-07	0.559E-07	0.518E 01	0.394E-07	0.525E-07	0.411E-07
SPLEEN	0.112E-06	0.112E-06	0.501E-06	0.824E-07	0.652E-07	0.485E-07	0.433E-07	0.521E-07	0.437E-06	0.208E 02
TESTES	0.123E-08	0.123E-08	0.146E-08	0.189E-07	0.261E-07	0.109E-06	0.304E-07	0.583E-08	0.774E-08	0.489E-08
THYMUS	0.193E-06	0.193E-06	0.120E-07	0.719E-08	0.788E-08	0.296E-08	0.387E-07	0.671E-07	0.204E-07	0.246E-07
THYROID	0.614E-07	0.614E-07	0.786E-08	0.202E-08	0.216E-08	0.907E-09	0.579E-07	0.989E-08	0.485E-08	0.762E-08
UTERUS	0.503E-08	0.503E-08	0.466E-07	0.459E-06	0.235E-06	0.299E-06	0.304E-07	0.229E-07	0.451E-07	0.242E-07

S FACTORS (REM/MICROCURIE-DAY) FOR AT-217

TARGET ORGANS	SOURCE ORGANS			
	THYROID	TESTES	OVARIES	OTHER
LUNGS	0.553E-07	0.743E-09	0.571E-08	0.662E-07
RES LYM	0.553E-07	0.743E-09	0.571E-08	0.662E-07
S WALL	0.632E-08	0.585E-08	0.439E-07	0.703E-07
SI WALL	0.424E-09	0.276E-07	0.621E-06	0.792E-07
ULI WALL	0.557E-09	0.171E-07	0.583E-06	0.807E-07
LLI WALL	0.755E-09	0.150E-06	0.745E-06	0.872E-07
T BODY	0.536E-01	0.536E-01	0.536E-01	0.533E-01
ADREN	0.102E-07	0.360E-08	0.309E-07	0.111E 00
BL WALL	0.473E-09	0.265E-06	0.350E-06	0.553E-01
KIDNEYS	0.253E-08	0.513E-08	0.590E-07	0.745E-07
LIVER	0.817E-08	0.265E-08	0.321E-07	0.567E-07
OVARIES	0.898E-09	0.0	0.341E 03	0.996E-07
PANCREAS	0.379E-08	0.216E-08	0.287E-07	0.111E 00
BONE	0.402E-07	0.353E-07	0.497E-07	0.630E-07
R MAR	0.445E-07	0.282E-07	0.167E-06	0.111E 00
Y MAR	0.213E-07	0.150E-07	0.665E-07	0.111E 00
ENDOST	0.402E-07	0.353E-07	0.497E-07	0.655E-07
SPLEEN	0.668E-08	0.638E-08	0.359E-07	0.737E-07
TESTES	0.166E-09	0.107E 03	0.0	0.617E-07
THYMUS	0.231E-06	0.549E-09	0.310E-08	0.111E 00
THYROID	0.188E 03	0.166E-09	0.899E-09	0.662E-07
UTERUS	0.851E-09	0.0	0.959E-06	0.111E 00

CASE 1.. INHALATION

AMAD (MICRON).. 1.00 D3 =0.310 D4 =8.000E-02 D5 =0.249

	SOLUBILITY CLASS	G.I. UPTAKE FRACTIONS STOMACH	S INT	U L INT	L L INT
AT-217	D	0.0	0.950	0.0	0.0
BI-213	W	0.0	5.000E-02	0.0	0.0
PO-213	W	0.0	1.000E-01	0.0	0.0
PB-209	W	0.0	8.000E-02	0.0	0.0
TL-209	W	0.0	0.950	0.0	0.0

DOSE EQUIVALENT (REM/MICROCURIE)

SOURCE	LUNGS	RES LYM	S CONT	SI CONT	ULI CONT	LLI CONT	BONE	LIVER	KIDNEYS	SPLEEN	THYROID
TARGET											
LUNGS	1.361E-06	2.793E-13	4.529E-12	5.949E-13	2.255E-13	7.036E-15	9.612E-13	8.663E-13	4.027E-12	7.352E-14	4.176E-15
RES LYM	1.868E-08	6.869E-11	4.529E-12	5.949E-13	2.255E-13	7.036E-15	9.612E-13	8.663E-13	4.027E-12	7.352E-14	4.176E-15
S WALL	2.107E-10	3.161E-15	9.415E-10	6.180E-12	1.807E-12	7.377E-14	5.869E-13	6.805E-13	1.280E-11	3.504E-13	6.538E-16
SI WALL	3.356E-11	5.038E-16	6.304E-12	4.440E-10	8.376E-12	3.903E-13	7.561E-13	5.719E-13	1.210E-11	5.141E-14	1.739E-16
ULI WALL	4.555E-11	6.838E-16	9.038E-12	3.939E-11	2.316E-10	1.913E-13	7.222E-13	8.011E-13	1.232E-11	5.174E-14	2.054E-16
LLI WALL	7.843E-12	1.176E-16	3.489E-12	1.197E-11	1.578E-12	3.331E-11	9.500E-13	1.270E-12	4.263E-12	2.409E-14	1.019E-16
T BODY	1.959E-08	1.703E-14	6.190E-12	7.028E-12	1.662E-12	1.552E-13	2.909E-11	3.187E-12	4.393E-11	3.179E-13	3.645E-14
ADREN	2.202E-10	3.300E-15	7.963E-12	2.179E-12	5.861E-13	2.197E-14	1.794E-12	1.622E-12	4.987E-11	2.195E-13	8.623E-16
BL WALL	1.006E-11	1.511E-16	1.114E-12	5.905E-12	9.765E-13	2.807E-13	7.250E-13	9.933E-14	1.820E-12	8.432E-15	7.410E-17
KIDNEYS	1.160E-10	1.740E-15	8.146E-12	5.233E-12	1.506E-12	4.217E-14	9.391E-13	1.312E-12	8.599E-09	2.943E-13	5.512E-16
LIVER	2.527E-10	3.791E-15	5.096E-12	3.259E-12	1.364E-12	1.900E-14	7.189E-13	1.095E-10	1.620E-11	3.846E-14	8.222E-16
OVARIES	1.867E-11	2.802E-16	2.066E-12	1.444E-11	4.722E-12	7.284E-13	9.080E-13	2.836E-13	5.146E-12	2.493E-14	1.207E-16
PANCREAS	2.695E-10	4.041E-15	4.231E-11	3.236E-12	1.118E-12	3.103E-14	1.077E-12	1.443E-12	2.682E-11	6.165E-13	1.282E-15
BONE	1.085E-10	1.627E-15	1.564E-12	1.448E-12	4.061E-13	4.739E-14	3.885E-10	2.707E-13	4.324E-12	2.810E-14	3.061E-15
R MAR	1.381E-10	2.071E-15	2.600E-12	4.502E-12	1.194E-12	1.404E-13	6.870E-11	3.920E-13	1.087E-11	4.058E-14	3.366E-15
Y MAR	1.115E-10	1.672E-15	2.207E-12	1.983E-12	5.751E-13	5.893E-14	2.892E-12	4.019E-13	5.314E-12	4.176E-14	1.696E-15
ENDOST	1.085E-10	1.627E-15	1.564E-12	1.448E-12	4.061E-13	4.739E-14	2.575E-10	2.707E-13	4.324E-12	2.810E-14	3.061E-15
SPLEEN	2.054E-10	3.079E-15	2.335E-11	2.949E-12	7.817E-13	4.330E-14	6.838E-13	7.419E-13	3.403E-11	1.049E-10	6.749E-16
TESTES	4.085E-12	6.138E-17	3.518E-13	9.536E-13	2.438E-13	7.820E-14	7.373E-13	4.772E-14	7.381E-13	4.153E-15	3.443E-17
THYMUS	4.486E-10	6.732E-15	1.399E-12	2.868E-13	9.606E-14	3.414E-15	5.448E-13	3.027E-13	1.457E-12	9.949E-15	1.711E-14
THYROID	1.052E-10	1.577E-15	4.414E-13	1.011E-13	3.304E-14	1.332E-15	1.042E-12	7.316E-14	4.973E-13	6.000E-15	1.116E-10
UTERUS	2.376E-11	3.572E-16	2.472E-12	1.462E-11	2.687E-12	2.590E-13	5.985E-13	2.054E-13	4.406E-12	1.105E-14	1.159E-16

DOSE EQUIVALENT (REM/MICROCURIE)

SOURCE	TESTES	OVARIES	OTHER	TOTAL
TARGET				
LUNGS	2.582E-16	3.338E-16	8.343E-12	1.361E-06
RES LYM	2.582E-16	3.338E-16	8.343E-12	1.877E-08
S WALL	8.328E-16	2.097E-15	8.939E-12	1.184E-09
SI WALL	3.764E-15	2.396E-14	9.948E-12	5.161E-10
ULI WALL	2.669E-15	2.264E-14	1.020E-11	3.499E-10
LLI WALL	1.815E-14	2.881E-14	1.101E-11	7.461E-11
T BODY	6.017E-14	1.998E-14	5.802E-11	1.974E-08
ADREN	6.291E-16	1.179E-15	1.121E-10	3.966E-10
BL WALL	3.200E-14	1.416E-14	6.370E-11	8.473E-11
KIDNEYS	1.001E-15	2.333E-15	9.531E-12	8.742E-09
LIVER	7.233E-16	1.432E-15	7.235E-12	3.962E-10
OVARIES	0.0	1.020E-10	1.266E-11	1.617E-10
PANCREAS	8.065E-16	1.155E-15	1.159E-10	4.620E-10
BONE	4.635E-15	2.035E-15	1.053E-11	5.156E-10
R MAR	3.593E-15	6.612E-15	1.026E-10	3.291E-10
Y MAR	2.073E-15	2.672E-15	1.096E-10	2.346E-10
ENDOST	4.635E-15	2.035E-15	2.436E-11	3.984E-10
SPLEEN	6.429E-16	1.261E-15	9.400E-12	3.819E-10
TESTES	1.030E-10	0.0	8.093E-12	1.183E-10
THYMUS	1.447E-16	1.744E-16	1.263E-10	5.790E-10
THYROID	5.995E-17	6.587E-17	8.307E-12	2.273E-10
UTERUS	0.0	3.607E-14	1.248E-10	1.738E-10

PERCENT DOSE EQUIVALENT..

NUCLIDE	AT-217	BI-213	PO-213	PB-209	TL-209
TARGET					
LUNGS	95.0	2.0	2.1	0.0	0.9
RES LYM	0.0	37.4	0.1	0.3	62.1
S WALL	0.0	29.0	1.1	0.3	69.6
SI WALL	0.0	34.6	1.3	1.0	63.0
ULI WALL	0.0	25.0	0.9	2.6	71.6
LLI WALL	0.0	17.6	0.5	6.2	75.6
T BODY	93.7	2.3	2.4	0.0	1.7
ADREN	0.1	15.5	10.6	0.0	73.7
BL WALL	0.3	25.5	24.9	0.1	49.3
KIDNEYS	0.0	38.9	41.4	0.1	19.6
LIVER	0.1	14.9	10.6	0.1	74.3
OVARIES	0.3	26.7	25.9	0.1	47.0
PANCREAS	0.1	14.0	9.1	0.0	76.7
BONE	0.3	32.0	40.7	0.1	26.8
R MAR	0.2	22.0	23.3	0.1	54.4
Y MAR	0.2	20.8	17.9	0.0	61.0
ENDOST	0.6	11.3	52.0	0.2	36.0
SPLEEN	0.1	15.6	11.0	0.0	73.3
TESTES	0.4	34.0	35.5	0.1	30.1
THYMUS	0.1	11.7	7.3	0.0	80.9
THYROID	4.0	21.2	18.6	0.0	56.2
UTERUS	0.3	24.9	24.2	0.1	50.6

CASE 2.. INGESTION

INGESTION TRANSFER FRACTIONS (G. I. TRACT TO BLOOD)

	AT-217	BI-213	PO-213	PB-209	TL-209
STOMACH	0.0	0.0	0.0	0.0	0.0
S INT	0.950	5.000E-02	1.000E-01	8.000E-02	0.950
U L INT	0.0	0.0	0.0	0.0	0.0
L L INT	0.0	0.0	0.0	0.0	0.0

DOSE EQUIVALENT (REM/MICROCURIE)

SOURCE	S CONT	SI CONT	ULI CONT	LLI CONT	BONE	LIVER	KIDNEYS	SPLEEN	THYROID	TESTES	OVARIES
TARGET											
LUNGS	1.588E-10	2.244E-11	8.544E-12	2.666E-13	1.894E-12	1.708E-12	9.847E-13	1.444E-13	8.189E-15	5.244E-16	6.695E-16
RES LYM	1.588E-10	2.244E-11	8.544E-12	2.666E-13	1.894E-12	1.708E-12	9.847E-13	1.444E-13	8.189E-15	5.244E-16	6.695E-16
S WALL	7.274E-08	2.331E-10	6.845E-11	2.796E-12	1.159E-12	1.341E-12	3.115E-12	6.907E-13	1.304E-15	1.653E-15	4.168E-15
SI WALL	2.210E-10	1.663E-08	3.173E-10	1.479E-11	1.488E-12	1.127E-12	2.960E-12	1.015E-13	3.543E-16	7.431E-15	4.709E-14
ULI WALL	3.166E-10	1.486E-09	8.531E-09	7.249E-12	1.426E-12	1.568E-12	3.012E-12	1.023E-13	4.185E-16	5.290E-15	4.452E-14
LLI WALL	1.222E-10	4.517E-10	5.978E-11	1.140E-09	1.872E-12	2.521E-12	1.047E-12	4.745E-14	2.046E-16	3.557E-14	5.663E-14
T BODY	3.021E-10	2.640E-10	6.223E-11	5.603E-12	8.421E-12	2.393E-12	6.571E-12	2.386E-13	2.357E-14	4.315E-14	1.579E-14
ADREN	2.786E-10	8.220E-11	2.221E-11	8.324E-13	3.559E-12	3.184E-12	1.218E-11	4.324E-13	1.702E-15	1.256E-15	2.324E-15
BL WALL	3.904E-11	2.227E-10	3.700E-11	1.064E-11	1.442E-12	1.950E-13	4.471E-13	1.694E-14	1.493E-16	6.266E-14	2.788E-14
KIDNEYS	2.856E-10	1.974E-10	5.705E-11	1.598E-12	1.855E-12	2.583E-12	1.162E-09	5.787E-13	1.116E-15	2.006E-15	4.598E-15
LIVER	1.786E-10	1.229E-10	5.167E-11	7.200E-13	1.421E-12	6.499E-11	3.952E-12	7.587E-14	1.634E-15	1.461E-15	2.836E-15
OVARIES	7.225E-11	5.447E-10	1.785E-10	2.760E-11	1.783E-12	5.775E-13	1.259E-12	4.830E-14	2.416E-16	0.0	5.087E-11
PANCREAS	1.483E-09	1.221E-10	4.237E-11	1.176E-12	2.139E-12	2.824E-12	6.546E-12	1.208E-12	2.613E-15	1.635E-15	2.275E-15
BONE	5.482E-11	5.461E-11	1.539E-11	1.796E-12	8.228E-11	5.326E-13	1.055E-12	5.526E-14	5.993E-15	9.106E-15	4.000E-15
R MAR	9.116E-11	1.698E-10	4.824E-11	5.322E-12	2.547E-11	7.709E-13	2.652E-12	7.970E-14	6.592E-15	7.044E-15	1.297E-14
Y MAR	7.736E-11	7.480E-11	2.179E-11	2.233E-12	5.684E-12	7.909E-13	1.297E-12	8.210E-14	3.329E-15	4.085E-15	5.248E-15
ENDOST	5.482E-11	5.461E-11	1.539E-11	1.796E-12	6.021E-11	5.326E-13	1.055E-12	5.526E-14	5.993E-15	9.106E-15	4.000E-15
SPLEEN	8.184E-10	1.112E-10	2.962E-11	1.641E-12	1.338E-12	6.727E-13	8.299E-12	5.634E-11	1.340E-15	1.257E-15	2.471E-15
TESTES	1.228E-11	3.597E-11	9.238E-12	2.963E-12	1.470E-12	9.485E-14	1.816E-13	8.283E-15	6.978E-17	5.229E-11	0.0
THYMUS	4.890E-11	1.082E-11	3.639E-12	1.294E-13	1.059E-12	5.852E-13	3.557E-13	1.896E-14	3.751E-14	2.925E-16	3.494E-16
THYROID	1.545E-11	3.812E-12	1.252E-12	5.045E-14	2.056E-12	1.447E-13	1.226E-13	1.193E-14	5.131E-11	1.219E-16	1.331E-16
UTERUS	8.658E-11	5.517E-10	1.018E-10	9.815E-12	1.181E-12	4.101E-13	1.083E-12	2.125E-14	2.327E-16	0.0	7.071E-14

DOSE EQUIVALENT (REM/MICROCURIE)

SOURCE	OTHER	TOTAL
TARGET		
LUNGS	1.660E-11	2.113E-10
RES LYM	1.660E-11	2.113E-10
S WALL	1.779E-11	7.307E-08
SI WALL	1.978E-11	1.720E-08
ULI WALL	2.028E-11	1.037E-08
LLI WALL	2.190E-11	1.799E-09
T BODY	4.189E-11	6.935E-10
ADREN	7.058E-11	4.738E-10
BL WALL	5.046E-11	3.621E-10
KIDNEYS	1.898E-11	1.727E-09
LIVER	1.440E-11	4.387E-10
OVARIES	2.520E-11	9.031E-10
PANCREAS	7.789E-11	1.740E-09
BONE	1.963E-11	2.302E-10
R MAR	5.646E-11	3.970E-10
Y MAR	6.558E-11	2.496E-10
ENDOST	3.933E-11	2.278E-10
SPLEEN	1.871E-11	1.046E-09
TESTES	1.613E-11	1.306E-10
THYMUS	9.899E-11	1.645E-10
THYROID	1.652E-11	9.073E-11
UTERUS	9.555E-11	8.482E-10

PERCENT DOSE EQUIVALENT..

NUCLIDE	AT-217	BI-213	PO-213	PB-209	TL-209
TARGET					
LUNGS	0.0	6.3	0.0	0.0	93.7
RES LYM	0.0	6.3	0.0	0.0	93.7
S WALL	53.4	17.0	0.7	0.0	28.9
SI WALL	0.0	38.7	1.5	0.3	59.5
ULI WALL	0.0	30.5	1.1	1.0	67.4
LLI WALL	0.0	24.6	0.9	3.0	71.5
T BODY	12.1	17.8	1.4	0.1	68.6
ADREN	0.0	5.5	1.0	0.0	93.5
BL WALL	0.0	6.7	0.6	0.0	92.6
KIDNEYS	0.0	23.6	22.7	0.1	53.6
LIVER	0.0	6.7	1.0	0.1	92.2
OVARIES	0.0	8.1	0.5	0.0	91.4
PANCREAS	0.0	7.2	0.3	0.0	92.5
BONE	0.0	11.5	9.9	0.2	78.4
R MAR	0.0	7.8	2.1	0.0	90.0
Y MAR	0.0	7.0	1.8	0.0	91.2
ENDOST	0.0	5.9	9.8	0.2	84.1
SPLEEN	0.0	7.0	0.4	0.0	92.6
TESTES	0.0	5.6	3.5	0.0	90.9
THYMUS	0.0	4.2	2.8	0.0	93.0
THYROID	0.0	6.0	5.0	0.0	89.0
UTERUS	0.0	7.3	0.5	0.0	92.1

RADIONUCLIDE: RN-219

PHYSICAL AND METABOLIC PARAMETERS FOR DOSIMETRICALLY SIGNIFICANT PROGENY:

NUCLIDE	RADIOACTIVE HALF-LIFE (DAYS)
RN-219	4.5800E-05
PO-215	2.0600E-08
PB-211	2.5100E-02
BI-211	1.4800E-03
PO-211	6.4800E-06
TL-207	3.3100E-03

BRANCHING RATIOS:

FROM	TO	FRACTION
RN-219	PO-215	1.000
PO-215	PB-211	1.000
PB-211	BI-211	1.000
BI-211	PO-211	3.0000E-03
BI-211	TL-207	0.9970

ORGAN	NUCLIDE	BLOOD TRANSFER FRACTION F2-PRIME	COMPARTMENT DEPOSITION FRACTION	COMPARTMENT BIOLOGICAL HALF-TIME (DAYS)
ABSORBED	RN-219	0.0	0.874	2.650E-04
			9.130E-02	3.110E-03
			1.980E-02	2.280E-02
			8.630E-03	0.146
			6.120E-03	0.963
	PO-215	1.00	1.000E-02	0.500
			0.990	50.0
	PB-211	1.00	1.000E-01	1.00
			0.200	10.0
			0.300	320.
			0.200	2.000E 03
			0.200	8.000E 03
	BI-211	1.00	-1.720E-02	1.000E-01
			1.02	5.78
	PO-211	1.00	1.000E-02	0.500
			0.990	50.0
	TL-207	1.00	1.00	4.00
BONE	RN-219	0.0	0.910	2.650E-04
			8.660E-02	3.110E-03
			3.040E-04	2.280E-02
			3.170E-03	0.146
			6.810E-06	0.963
	* PO-215	9.000E-02	1.000E-02	0.500
			0.990	50.0
	PB-211	0.562	0.375	320.
			0.310	2.000E 03
			0.315	8.000E 03
	* BI-211	7.340E-02	-1.000E-01	1.000E-01
			1.10	5.78
	* PO-211	9.000E-02	1.000E-02	0.500
			0.990	50.0
	* TL-207	0.118	1.00	4.00
LIVER	RN-219	0.0	0.849	2.650E-04
			9.900E-02	3.110E-03
			4.400E-02	2.280E-02
			7.790E-04	0.146
			2.030E-05	0.963
	PO-215	1.000E-01	1.000E-02	0.500
			0.990	50.0
	PB-211	0.106	0.843	10.0
			7.870E-02	320.
			4.010E-02	2.000E 03
			3.800E-02	8.000E 03
	* BI-211	2.540E-02	-1.000E-01	1.000E-01
			1.10	5.78
	PO-211	1.000E-01	1.000E-02	0.500
			0.990	50.0
	* TL-207	4.240E-02	1.00	4.00

α decay (3.96 S 1)

* Retention data derived from "other tissues" compartment.

ORGAN	NUCLIDE	BLOOD TRANSFER FRACTION F2-PRIME	COMPARTMENT DEPOSITION FRACTION	COMPARTMENT BIOLOGICAL HALF-TIME (DAYS)
KIDNEYS	*RN-219	0.0	0.849	2.650E-04
			9.900E-02	3.110E-03
			4.400E-02	2.880E-02
			7.790E-04	0.146
			2.030E-05	0.963
	PO-215	1.000E-01	1.000E-02	0.500
			0.990	50.0
	PB-211	5.090E-02	0.962	10.0
			2.000E-02	320.
			9.600E-03	2.000E 03
			8.290E-03	8.000E 03
	BI-211	0.400	1.00	5.78
	PO-211	1.000E-01	1.000E-02	0.500
			C.990	50.0
	TL-207	3.760E-02	1.00	4.00
SPLEEN	* RN-219	0.0	0.849	2.650E-04
			9.900E-02	3.110E-03
			4.400E-02	2.880E-02
			7.790E-04	0.146
			2.030E-05	0.963
	PO-215	1.000E-01	1.000E-02	0.500
			C.990	50.0
	* PB-211	2.960E-04	0.375	320.
			0.310	2.000E 03
			0.315	8.000E 03
	* BI-211	2.640E-03	-1.000E-01	1.000E-01
			1.10	5.78
	PO-211	1.000E-01	1.000E-02	0.500
			C.990	50.0
	* TL-207	4.240E-03	1.00	4.00
TESTES	* RN-219	0.0	C.910	2.650E-04
			8.660E-02	3.110E-03
			3.040E-04	2.880E-02
			3.170E-03	0.146
			6.810E-06	0.963
	* PO-215	6.300E-04	1.000E-02	0.500
			0.990	50.0
	* PB-211	5.760E-05	0.375	320.
			0.310	2.000E 03
			0.315	8.000E 03
	* BI-211	5.140E-04	-1.000E-01	1.000E-01
			1.10	5.78
	* PO-211	6.300E-04	1.000E-02	0.500
			C.990	50.0
	* TL-207	8.240E-04	1.00	4.00
OVARIES	* RN-219	0.0	0.910	2.650E-04
			8.660E-02	3.110E-03
			3.040E-04	2.880E-02
			3.170E-03	0.146
			6.810E-06	0.963
	* PO-215	1.980E-04	1.000E-02	0.500
			C.990	50.0
	* PB-211	1.810E-05	0.375	0.0
			0.310	2.000E 03
			0.315	8.000E 03
	* BI-211	1.610E-04	-1.000E-01	1.000E-01
			1.10	5.78
	* PO-211	1.980E-04	1.000E-02	0.500
			C.990	50.0
	* TL-207	2.590E-04	1.00	4.00
OTHER	RN-219	0.0	0.872	2.650E-04
			9.140E-02	3.110E-03
			2.050E-02	2.880E-02
			9.080E-03	0.146
			6.790E-03	0.963
	PO-215	0.610	1.000E-02	0.500
			0.990	50.0
	PB-211	5.580E-02	0.375	0.0
			0.310	2.000E 03
			0.315	8.000E 03
	BI-211	0.500	-1.000E-01	1.000E-01
			1.10	5.78
	PO-211	0.610	1.000E-02	0.500
			C.990	50.0
	TL-207	0.814	1.00	4.00

S FACTORS (REM/MICROCURIE-DAY) FOR RN-219

TARGET ORGANS	SOURCE ORGANS									
	LUNGS	RES LYM	S CONT	SI CONT	ULI CONT	LLI CONT	BONE	LIVER	KIDNEYS	SPLEEN
LUNGS	0.361E 01	0.444E-03	0.177E-04	0.288E-05	0.303E-05	0.933E-06	0.986E-05	0.246E-04	0.891E-05	0.223E-04
RES LYM	0.444E-03	0.241E 03	0.177E-04	0.288E-05	0.303E-05	0.933E-06	0.986E-05	0.246E-04	0.891E-05	0.223E-04
S WALL	0.186E-04	0.186E-04	0.708E-01	0.357E-04	0.370E-04	0.180E-04	0.584E-05	0.193E-04	0.339E-04	0.972E-04
SI WALL	0.233E-05	0.233E-05	0.264E-04	0.442E-01	0.166E-03	0.922E-04	0.785E-05	0.164E-04	0.283E-04	0.141E-04
ULI WALL	0.302E-05	0.302E-05	0.346E-04	0.234E-03	0.803E-01	0.426E-04	0.728E-05	0.252E-04	0.289E-04	0.131E-04
LLI WALL	0.962E-06	0.962E-06	0.129E-04	0.701E-04	0.301E-04	0.131E 00	0.102E-04	0.276E-05	0.860E-05	0.665E-05
T BODY	0.516E-01	0.516E-01	0.168E-03	0.421E-03	0.259E-03	0.317E-03	0.258E 00	0.516E-01	0.516E-01	0.516E-01
ADREN	0.247E-04	0.247E-04	0.230E-04	0.143E-04	0.957E-05	0.475E-05	0.145E-04	0.500E-04	0.111E-03	0.632E-04
BL WALL	0.605E-06	0.605E-06	0.326E-05	0.297E-04	0.205E-04	0.621E-04	0.558E-05	0.241E-05	0.342E-05	0.154E-05
KIDNEYS	0.955E-05	0.955E-05	0.345E-04	0.311E-04	0.275E-04	0.905E-05	0.915E-05	0.383E-04	0.117E 02	0.876E-04
LIVER	0.245E-04	0.245E-04	0.201E-04	0.184E-04	0.255E-04	0.310E-05	0.688E-05	0.201E 01	0.393E-04	0.105E-04
OVARIES	0.135E-05	0.135E-05	0.463E-05	0.984E-04	0.121E-03	0.182E-03	0.868E-05	0.366E-05	0.120E-04	0.786E-05
PANCREAS	0.265E-04	0.265E-04	0.179E-03	0.207E-04	0.216E-04	0.722E-05	0.101E-04	0.429E-04	0.650E-04	0.191E-03
BONE	0.112E-04	0.112E-04	0.689E-05	0.926E-05	0.841E-05	0.121E-04	0.361E 01	0.845E-05	0.110E-04	0.873E-05
R MAR	0.142E-04	0.142E-04	0.122E-04	0.301E-04	0.260E-04	0.365E-04	0.595E 00	0.123E-04	0.284E-04	0.132E-04
Y MAR	0.117E-04	0.117E-04	0.958E-05	0.129E-04	0.120E-04	0.149E-04	0.320E-04	0.125E-04	0.136E-04	0.130E-04
ENDOST	0.112E-04	0.112E-04	0.689E-05	0.926E-05	0.841E-05	0.121E-04	0.533E 01	0.845E-05	0.110E-04	0.873E-05
SPLEEN	0.224E-04	0.224E-04	0.986E-04	0.157E-04	0.133E-04	0.851E-05	0.736E-05	0.965E-05	0.861E-04	0.201E 02
TESTES	0.177E-06	0.177E-06	0.476E-06	0.357E-05	0.404E-05	0.205E-04	0.605E-05	0.967E-06	0.131E-05	0.794E-06
THYMUS	0.388E-04	0.388E-04	0.243E-05	0.121E-05	0.134E-05	0.467E-06	0.598E-05	0.946E-05	0.288E-05	0.415E-05
THYROID	0.999E-05	0.999E-05	0.133E-05	0.302E-06	0.326E-06	0.128E-06	0.101E-04	0.206E-05	0.786E-06	0.129E-05
UTERUS	0.967E-06	0.967E-06	0.855E-05	0.912E-04	0.467E-04	0.647E-04	0.603E-05	0.414E-05	0.974E-05	0.427E-05

S FACTORS (REM/MICROCURIE-DAY) FOR RN-219

TARGET ORGANS	SOURCE ORGANS		
	TESTES	OVARIES	OTHER
LUNGS	0.129E-06	0.890E-06	0.125E-04
RES LYM	0.129E-06	0.890E-06	0.125E-04
S WALL	0.779E-06	0.815E-05	0.134E-04
SI WALL	0.469E-05	0.119E-03	0.151E-04
ULI WALL	0.347E-05	0.112E-03	0.154E-04
LLI WALL	0.283E-04	0.144E-03	0.166E-04
T BODY	0.516E-01	0.516E-01	0.514E-01
ADREN	0.566E-06	0.477E-05	0.106E 00
BL WALL	0.495E-04	0.685E-04	0.533E-01
KIDNEYS	0.760E-06	0.104E-04	0.140E-04
LIVER	0.453E-06	0.598E-05	0.106E-04
OVARIES	0.0	0.329E 03	0.190E-04
PANCREAS	0.588E-06	0.519E-05	0.107E 00
BONE	0.733E-05	0.110E-04	0.125E-04
R MAR	0.593E-05	0.375E-04	0.107E 00
Y MAR	0.296E-05	0.147E-04	0.106E 00
ENDOST	0.733E-05	0.110E-04	0.170E-04
SPLEEN	0.691E-06	0.615E-05	0.140E-04
TESTES	0.103E 03	0.0	0.116E-04
THYMUS	0.730E-07	0.481E-06	0.107E 00
THYROID	0.201E-07	0.124E-06	0.107E 00
UTERUS	0.0	0.199E-03	0.107E 00

CASE 1.. INHALATION

AMAD (MICRON).. 0.0 D3 =2.000E-02 D4 =4.000E-02 D5 =0.940

	SOLUBILITY CLASS	G.I. UPTAKE FRACTIONS STOMACH	S INT	U L INT	L L INT
RN-219	*	0.0	0.0	0.0	0.0
PO-215	W	0.0	1.000E-01	0.0	0.0
PB-211	W	0.0	8.000E-02	0.0	0.0
BI-211	W	0.0	5.000E-02	0.0	0.0
PO-211	W	0.0	1.000E-01	0.0	0.0
TL-207	W	0.0	0.950	0.0	0.0

*SPECIAL LUNG CLEARANCE PARAMETERS. T=HALF-TIME (DAYS), F=DEPOSITION FRACTION.

	CLEARANCE PATHWAY..	A	B	C	D	E	F	G	H	I
RN-219	F	1.0	0.0	1.0	0.0	1.0	0.0	0.0	0.0	1.0
	T	8.20E-05	1.0	8.20E-05	1.0	8.20E-05	0.0	0.0	0.0	2.96E-03

DOSE EQUIVALENT (REM/MICROCURIE)

SOURCE	LUNGS	RES LYM	S CONT	SI CONT	ULI CONT	LLI CONT	BONE	LIVER	KIDNEYS	SPLEEN	TESTES
TARGET											
LUNGS	4.660E-04	5.385E-11	3.087E-12	3.790E-13	8.368E-14	1.766E-15	6.453E-12	3.022E-12	7.690E-13	1.170E-14	1.677E-17
RES LYM	2.053E-06	2.497E-07	3.087E-12	3.790E-13	8.368E-14	1.766E-15	6.453E-12	3.022E-12	7.690E-13	1.170E-14	1.677E-17
S WALL	2.121E-09	3.309E-14	1.714E-08	4.268E-12	9.119E-13	2.821E-14	3.749E-12	2.382E-12	2.813E-12	5.118E-14	8.901E-17
SI WALL	2.862E-10	4.646E-15	4.491E-12	6.899E-09	4.075E-12	1.461E-13	5.239E-12	1.997E-12	2.336E-12	7.438E-15	5.095E-16
ULI WALL	3.738E-10	6.089E-15	5.717E-12	2.804E-11	2.855E-09	6.721E-14	4.781E-12	3.093E-12	2.397E-12	7.144E-15	3.655E-16
LLI WALL	1.056E-10	1.612E-15	2.239E-12	8.390E-12	7.654E-13	3.041E-10	6.610E-12	3.543E-13	7.189E-13	3.526E-15	2.817E-15
T BODY	6.658E-06	5.351E-11	3.961E-11	6.512E-11	9.007E-12	7.243E-13	9.561E-08	3.695E-09	3.210E-09	2.015E-11	3.917E-12
ADREN	2.785E-09	4.317E-14	3.826E-12	1.608E-12	2.571E-13	7.776E-15	1.045E-11	6.086E-12	9.680E-12	3.411E-14	6.740E-17
BL WALL	7.574E-11	1.241E-15	6.786E-13	3.528E-12	5.063E-13	9.394E-14	3.624E-12	3.142E-13	3.086E-13	1.004E-15	5.213E-15
KIDNEYS	1.104E-09	1.736E-14	5.794E-12	3.811E-12	6.906E-13	1.433E-14	6.363E-12	4.664E-12	7.234E-07	4.558E-14	9.765E-17
LIVER	2.759E-09	4.275E-14	3.436E-12	2.232E-12	6.279E-13	5.391E-15	4.580E-12	1.435E-07	3.273E-12	5.601E-15	5.960E-17
OVARIES	1.619E-10	2.596E-15	1.189E-12	1.178E-11	2.816E-12	2.806E-13	6.156E-12	4.951E-13	1.051E-12	4.199E-15	0.0
PANCREAS	2.972E-09	4.593E-14	3.003E-11	2.499E-12	5.108E-13	1.177E-14	6.371E-12	5.443E-12	5.495E-12	1.010E-13	6.507E-17
BONE	1.238E-09	1.898E-14	1.121E-12	1.057E-12	1.963E-13	1.834E-14	1.341E-06	9.853E-13	8.915E-13	4.471E-15	7.314E-16
R MAR	1.563E-09	2.389E-14	1.948E-12	3.391E-12	5.973E-13	5.539E-14	2.222E-07	1.424E-12	2.285E-12	6.693E-15	5.863E-16
Y MAR	1.296E-09	1.989E-14	1.556E-12	1.465E-12	2.793E-13	2.256E-14	2.051E-11	1.454E-12	1.105E-12	6.680E-15	3.021E-16
ENDOST	1.238E-09	1.898E-14	1.121E-12	1.057E-12	1.963E-13	1.834E-14	2.116E-06	9.853E-13	8.915E-13	4.471E-15	7.314E-16
SPLEEN	2.514E-09	3.887E-14	1.666E-11	1.891E-12	3.291E-13	1.484E-14	5.195E-12	1.252E-12	7.112E-12	7.824E-09	3.311E-17
TESTES	2.409E-11	4.102E-16	1.147E-13	4.777E-13	1.163E-13	3.133E-14	3.989E-12	1.665E-13	1.175E-13	4.721E-16	7.833E-09
THYMUS	4.417E-09	6.884E-14	6.324E-13	1.617E-13	3.652E-14	8.905E-16	4.533E-12	1.249E-12	2.335E-13	2.557E-15	1.051E-17
THYROID	1.229E-09	1.997E-14	2.521E-13	4.564E-14	1.007E-14	2.777E-16	6.063E-12	2.464E-13	7.289E-14	7.396E-16	3.359E-18
UTERUS	1.132E-10	1.791E-15	1.527E-12	1.080E-11	1.156E-12	9.766E-14	4.349E-12	5.126E-13	7.677E-13	2.503E-15	0.0

DOSE EQUIVALENT (REM/MICROCURIE)

SOURCE	OVARIES	OTHER	TOTAL
TARGET			
LUNGS	3.460E-17	1.260E-12	4.660E-04
RES LYM	3.460E-17	1.260E-12	2.303E-06
S WALL	2.617E-16	1.345E-12	1.927E-08
SI WALL	3.815E-15	1.513E-12	7.205E-09
ULI WALL	3.587E-15	1.542E-12	3.274E-09
LLI WALL	4.573E-15	1.662E-12	4.309E-10
T BODY	1.229E-12	3.788E-09	6.765E-06
ADREN	1.674E-16	7.881E-09	1.070E-08
BL WALL	2.221E-15	3.926E-09	4.011E-09
KIDNEYS	3.468E-16	1.414E-12	7.245E-07
LIVER	1.976E-16	1.074E-12	1.463E-07
OVARIES	7.813E-09	1.895E-12	8.001E-09
PANCREAS	1.956E-16	7.881E-09	1.090E-08
BONE	3.373E-16	1.577E-11	1.343E-06
R MAR	1.143E-15	7.826E-09	2.316E-07
Y MAR	4.512E-16	7.881E-09	9.203E-09
ENDOST	3.373E-16	9.869E-11	2.117E-06
SPLEEN	2.041E-16	1.410E-12	1.037E-08
TESTES	0.0	1.170E-12	7.864E-09
THYMUS	1.821E-17	7.881E-09	1.230E-08
THYROID	5.333E-18	7.881E-09	9.117E-09
UTERUS	6.138E-15	7.882E-09	8.014E-09

PERCENT DOSE EQUIVALENT..

NUCLIDE	RN-219	PO-215	PB-211	BI-211	PO-211	TL-207
TARGET						
LUNGS	32.8	35.7	0.2	31.0	0.1	0.2
RES LYM	0.8	0.0	42.3	11.7	0.0	45.2
S WALL	4.1	0.0	27.6	39.5	0.1	28.7
SI WALL	1.4	0.0	29.8	44.8	0.1	23.9
ULI WALL	3.9	0.0	27.8	39.3	0.1	28.9
LLI WALL	9.5	0.0	28.1	37.9	0.1	24.4
T BODY	32.3	35.1	0.2	32.0	0.1	0.2
ADREN	9.8	0.0	8.6	79.6	0.2	1.8
BL WALL	0.6	0.0	1.2	95.9	0.3	2.0
KIDNEYS	0.1	0.0	0.4	98.4	0.3	0.8
LIVER	0.7	0.0	1.2	96.9	0.3	0.8
OVARIES	0.7	0.0	1.2	95.8	0.3	1.9
PANCREAS	10.3	0.0	8.9	78.8	0.2	1.7
BONE	0.0	0.0	0.1	99.3	0.3	0.1
R MAR	0.3	0.0	0.4	98.6	0.3	0.3
Y MAR	5.4	0.0	4.7	87.8	0.3	1.8
ENDOST	0.0	0.0	0.1	99.6	0.3	0.1
SPLEEN	9.2	0.0	8.0	80.7	0.3	1.8
TESTES	0.1	0.0	0.5	97.1	0.3	1.9
THYMUS	13.4	0.0	11.8	72.9	0.2	1.7
THYROID	4.6	0.0	5.2	87.9	0.3	1.9
UTERUS	0.5	0.0	0.9	96.3	0.3	2.0

CASE 2.. INGESTION

INGESTION TRANSFER FRACTIONS (G. I. TRACT TO BLOOD)

	RN-219	PO-215	PB-211	BI-211	PO-211	TL-207
STOMACH	0.0	0.0	0.0	0.0	0.0	0.0
S INT	0.0	1.000E-01	8.000E-02	5.000E-02	1.000E-01	0.950
U L INT	0.0	0.0	0.0	0.0	0.0	0.0
L L INT	0.0	0.0	0.0	0.0	0.0	0.0

DOSE EQUIVALENT (REM/MICROCURIE)

SOURCE	S CONT	SI CONT	ULI CONT	LLI CONT	BONE	LIVER	KIDNEYS	SPLEEN	TESTES	OVARIES	OTHER
TARGET											
LUNGS	2.225E-09	1.362E-10	3.009E-11	6.354E-13	4.936E-12	2.476E-12	5.741E-13	3.966E-14	9.275E-17	1.672E-16	4.471E-12
RES LYM	2.225E-09	1.362E-10	3.009E-11	6.354E-13	4.936E-12	2.476E-12	5.741E-13	3.966E-14	9.275E-17	1.672E-16	4.471E-12
S WALL	1.513E-05	1.534E-09	3.279E-10	1.015E-11	2.354E-12	1.960E-12	2.040E-12	1.715E-13	3.260E-16	8.885E-16	4.807E-12
SI WALL	3.279E-09	2.460E-06	1.465E-09	5.255E-11	4.022E-12	1.634E-12	1.695E-12	2.597E-14	1.940E-15	1.272E-14	5.329E-12
ULI WALL	4.238E-09	1.007E-08	1.025E-06	2.418E-11	3.674E-12	2.525E-12	1.742E-12	2.591E-14	1.432E-15	1.199E-14	5.461E-12
LLI WALL	1.618E-09	3.015E-09	2.753E-10	1.094E-07	5.074E-12	2.904E-13	5.269E-13	1.206E-14	8.704E-15	1.521E-14	5.866E-12
T BODY	3.449E-08	2.322E-08	3.235E-09	2.605E-10	6.681E-08	2.699E-09	1.702E-09	2.509E-11	4.877E-12	1.532E-12	4.761E-09
ADREN	2.826E-09	5.779E-10	9.247E-11	2.797E-12	8.101E-12	4.979E-12	7.196E-12	1.278E-13	3.058E-16	6.459E-16	9.881E-09
BL WALL	4.486E-10	1.268E-09	1.821E-10	3.379E-11	2.733E-12	2.519E-13	2.409E-13	5.738E-15	1.895E-14	7.851E-15	4.934E-09
KIDNEYS	4.258E-09	1.369E-09	2.484E-10	5.155E-12	4.946E-12	3.810E-12	3.836E-07	1.511E-13	4.941E-16	1.260E-15	5.078E-12
LIVER	2.502E-09	8.020E-10	2.258E-10	1.939E-12	3.513E-12	1.048E-07	2.368E-12	2.001E-14	3.320E-16	7.354E-16	3.874E-12
OVARIES	7.160E-10	4.234E-09	1.013E-09	1.009E-10	4.727E-12	4.443E-13	8.137E-13	1.235E-14	0.0	9.729E-09	6.638E-12
PANCREAS	2.208E-08	8.979E-10	1.837E-10	4.234E-12	4.872E-12	4.452E-12	4.042E-12	3.396E-13	3.251E-16	9.547E-16	9.882E-09
BONE	8.375E-10	3.796E-10	7.061E-11	6.596E-12	9.367E-07	7.949E-13	6.305E-13	1.437E-14	2.408E-15	1.036E-15	5.096E-10
R MAR	1.470E-09	1.219E-09	2.148E-10	1.993E-11	1.561E-07	1.145E-12	1.607E-12	2.117E-14	1.902E-15	3.408E-15	7.967E-09
Y MAR	1.164E-09	5.265E-10	1.004E-10	8.115E-12	1.560E-11	1.174E-12	7.815E-13	2.143E-14	1.036E-15	1.376E-15	9.881E-09
ENDOST	8.375E-10	3.796E-10	7.061E-11	6.596E-12	1.473E-06	7.949E-13	6.305E-13	1.437E-14	2.408E-15	1.036E-15	3.377E-09
SPLEEN	1.221E-08	6.794E-10	1.184E-10	5.337E-12	4.014E-12	1.047E-12	5.143E-12	9.733E-09	2.887E-16	7.286E-16	5.058E-12
TESTES	7.097E-11	1.716E-10	4.182E-11	1.127E-11	3.071E-12	1.527E-13	9.089E-14	2.052E-15	9.746E-09	0.0	4.224E-12
THYMUS	3.786E-10	5.809E-11	1.313E-11	3.203E-13	3.532E-12	1.009E-12	1.518E-13	1.216E-14	6.046E-17	8.420E-17	9.882E-09
THYROID	1.743E-10	1.640E-11	3.623E-12	9.988E-14	4.501E-12	2.029E-13	5.758E-14	3.053E-15	2.222E-17	2.892E-17	9.881E-09
UTERUS	1.087E-09	3.881E-09	4.158E-10	3.513E-11	3.419E-12	4.188E-13	5.465E-13	1.092E-14	0.0	1.926E-14	9.890E-09

DOSE EQUIVALENT (REM/MICROCURIE)

SOURCE	TOTAL
TARGET	
LUNGS	2.404E-09
RES LYM	2.404E-09
S WALL	1.514E-05
SI WALL	2.465E-06
ULI WALL	1.040E-06
LLI WALL	1.143E-07
T BODY	1.372E-07
ADREN	1.340E-08
BL WALL	6.869E-09
KIDNEYS	3.895E-07
LIVER	1.083E-07
OVARIES	1.581E-08
PANCREAS	3.306E-08
BONE	9.386E-07
R MAR	1.670E-07
Y MAR	1.170E-08
ENDOST	1.478E-06
SPLEEN	2.276E-08
TESTES	1.005E-08
THYMUS	1.034E-08
THYROID	1.008E-08
UTERUS	1.531E-08

PERCENT DOSE EQUIVALENT..

NUCLIDE	RN-219	PO-215	PB-211	BI-211	PO-211	TL-207
TARGET						
LUNGS	48.6	0.0	26.9	23.4	0.0	1.2
RES LYM	48.6	0.0	26.9	23.4	0.0	1.2
S WALL	30.9	32.9	11.0	15.2	0.1	10.0
SI WALL	0.3	0.2	29.8	45.6	0.2	24.1
ULI WALL	0.2	0.0	26.6	40.7	0.1	32.4
LLI WALL	0.8	0.0	26.6	40.0	0.1	32.5
T BODY	8.1	7.8	8.9	65.0	0.2	10.0
ADREN	11.3	0.0	7.6	34.2	0.1	46.8
BL WALL	3.2	0.0	12.7	38.3	0.1	45.7
KIDNEYS	0.6	0.0	0.9	89.5	0.3	8.7
LIVER	1.2	0.0	1.6	90.5	0.3	6.3
OVARIES	2.0	0.0	18.3	40.4	0.1	39.3
PANCREAS	35.7	0.0	17.6	27.2	0.0	19.4
BONE	0.0	0.0	0.2	98.7	0.3	0.8
R MAR	0.5	0.0	0.8	94.4	0.3	4.0
Y MAR	5.4	0.0	5.0	36.1	0.1	53.4
ENDOST	0.0	0.0	0.1	99.0	0.3	0.6
SPLEEN	28.6	0.0	14.7	29.2	0.1	27.4
TESTES	0.3	0.0	1.7	37.0	0.1	60.9
THYMUS	1.6	0.0	2.0	36.0	0.1	60.4
THYROID	0.9	0.0	0.8	36.4	0.1	61.8
UTERUS	3.7	0.0	15.7	39.2	0.1	41.3

RADIONUCLIDE: RN-220

PHYSICAL AND METABOLIC PARAMETERS FOR DOSIMETRICALLY SIGNIFICANT PROGENY:

NUCLIDE	RADIOACTIVE HALF-LIFE (DAYS)
RN-220	6.4400E-04
PO-216	1.7400E-06
PB-212	0.4430
BI-212	4.2000E-02
PO-212	3.5300E-12
TL-208	2.1300E-03

BRANCHING RATIOS:

FROM	TO	FRACTION
RN-220	PO-216	1.000
PO-216	PB-212	1.000
PB-212	BI-212	1.000
BI-212	PO-212	0.6400
BI-212	TL-208	0.3600

ORGAN	NUCLIDE	BLOOD TRANSFER FRACTION F2-PRIME	COMPARTMENT DEPOSITION FRACTION	COMPARTMENT BIOLOGICAL HALF-TIME (DAYS)
ABSORBED	RN-220	0.0	0.874	2.650E-04
			9.130E-02	3.110E-03
			1.980E-02	2.280E-02
			8.630E-03	0.146
			6.120E-03	0.963
	PO-216	1.00	1.000E-02	0.500
			0.990	50.0
	PB-212	1.00	1.000E-01	1.00
			0.200	10.0
			0.300	320.
			0.200	2.000E 03
			0.200	8.000E 03
	BI-212	1.00	-1.720E-02	1.000E-01
			1.02	5.78
	PO-212	1.00	1.000E-02	0.500
			0.990	50.0
	TL-208	1.00	1.00	4.00
BONE	RN-220	0.0	0.910	2.650E-04
			8.660E-02	3.110E-03
			3.040E-04	2.880E-02
			3.170E-03	0.146
			6.810E-06	0.963
	* PO-216	9.000E-02	1.000E-02	0.500
			0.990	50.0
	PB-212	0.562	0.375	320.
			0.310	2.000E 03
			0.315	8.000E 03
	* BI-212	7.340E-02	-1.000E-01	1.000E-01
			1.10	5.78
	* PO-212	9.000E-02	1.000E-02	0.500
			0.990	50.0
	* TL-208	0.118	1.00	4.00
LIVER	RN-220	0.0	0.849	2.650E-04
			9.900E-02	3.110E-03
			4.400E-02	2.880E-02
			7.790E-04	0.146
			2.030E-05	0.963
	PO-216	1.000E-01	1.000E-02	0.500
			0.990	50.0
	PB-212	0.106	0.843	10.0
			7.870E-02	320.
			4.010E-02	2.000E 03
			3.820E-02	8.000E 03
	* BI-212	2.640E-02	-1.000E-01	1.000E-01
			1.10	5.78
	PO-212	1.000E-01	1.000E-02	0.500
			0.990	50.0
	* TL-208	4.240E-02	1.00	4.00

α decay (55.6 S 1)

* Retention data derived from "other tissues" compartment.

ORGAN	NUCLIDE	BLOOD TRANSFER FRACTION F2-PRIME	COMPARTMENT DEPOSITION FRACTION	COMPARTMENT BIOLOGICAL HALF-TIME (DAYS)
KIDNEYS	* RN-220	0.0	0.849	2.650E-04
			9.900E-02	3.110E-03
			4.400E-02	2.880E-02
			7.790E-04	0.146
			2.030E-05	0.963
	PO-216	1.000E-01	1.000E-02	0.500
			0.990	50.0
	PB-212	5.090E-02	0.962	10.0
			2.000E-02	320.
			9.600E-03	2.000E 03
			8.290E-03	8.000E 03
	BI-212	0.400	1.00	5.78
	PO-212	1.000E-01	1.000E-02	0.500
			0.990	50.0
	TL-208	3.760E-02	1.00	4.00
SPLEEN	* RN-220	0.0	0.849	2.650E-04
			9.900E-02	3.110E-03
			4.400E-02	2.880E-02
			7.790E-04	0.146
			2.030E-05	0.963
	PO-216	1.000E-01	1.000E-02	0.500
			0.990	50.0
	* PB-212	2.960E-04	0.375	320.
			0.310	2.000E 03
			0.315	8.000E 03
	* BI-212	2.640E-03	-1.000E-01	1.000E-01
			1.10	5.78
	PO-212	1.000E-01	1.000E-02	0.500
			0.990	50.0
	* TL-208	4.240E-03	1.00	4.00
TESTES*	RN-220	0.0	0.910	2.650E-04
			8.660E-02	3.110E-03
			3.040E-04	2.880E-02
			3.170E-03	0.146
			6.810E-06	0.963
	PO-216	6.300E-04	1.000E-02	0.500
			0.990	50.0
	PB-212	5.760E-05	0.375	320.
			0.310	2.000E 03
			0.315	8.000E 03
	BI-212	5.140E-04	-1.000E-01	1.000E-01
			1.10	5.78
	PO-212	6.300E-04	1.000E-02	0.500
			0.990	50.0
	TL-208	8.240E-04	1.00	4.00
OVARIES*	RN-220	0.0	0.910	2.650E-04
			8.660E-02	3.110E-03
			3.040E-04	2.880E-02
			3.170E-03	0.146
			6.810E-06	0.963
	PO-216	1.980E-04	1.000E-02	0.500
			0.990	50.0
	PB-212	1.810E-05	0.375	320.
			0.310	2.000E 03
			0.315	8.000E 03
	BI-212	1.610E-04	-1.000E-01	1.000E-01
			1.10	5.78
	PO-212	1.980E-04	1.000E-02	0.500
			0.990	50.0
	TL-208	2.590E-04	1.00	4.00
OTHER	RN-220	0.0	0.872	2.650E-04
			9.140E-02	3.110E-03
			2.050E-02	2.880E-02
			9.080E-03	0.146
			6.790E-03	0.963
	PO-216	0.610	1.000E-02	0.500
			0.990	50.0
	PB-212	5.580E-02	0.375	320.
			0.310	2.000E 03
			0.315	8.000E 03
	BI-212	0.500	-1.000E-01	1.000E-01
			1.10	5.78
	PO-212	0.610	1.000E-02	0.500
			0.990	50.0
	TL-208	0.814	1.00	4.00

RADON-220 CONTINUED

S FACTORS (REM/MICROCURIE-DAY) FOR RN-220

TARGET ORGANS	SOURCE ORGANS									
	LUNGS	RES LYM	S CONT	SI CONT	ULI CONT	LLI CONT	BONE	LIVER	KIDNEYS	SPLEEN
LUNGS	0.334E 01	0.139E-05	0.178E-06	0.326E-07	0.335E-07	0.104E-07	0.948E-07	0.230E-06	0.922E-07	0.211E-06
RES LYM	0.139E-05	0.222E 03	0.178E-06	0.326E-07	0.335E-07	0.104E-07	0.948E-07	0.230E-06	0.922E-07	0.211E-06
S WALL	0.178E-06	0.178E-06	0.643E-01	0.327E-06	0.347E-06	0.172E-06	0.562E-07	0.183E-06	0.323E-06	0.939E-06
SI WALL	0.273E-07	0.273E-07	0.263E-06	0.402E-01	0.156E-05	0.857E-06	0.780E-07	0.152E-06	0.264E-06	0.134E-06
ULI WALL	0.373E-07	0.373E-07	0.314E-06	0.219E-05	0.731E-01	0.403E-06	0.682E-07	0.246E-06	0.276E-06	0.135E-06
LLI WALL	0.771E-08	0.771E-08	0.123E-06	0.648E-06	0.291E-06	0.119E 00	0.921E-07	0.309E-07	0.847E-07	0.669E-07
T BODY	0.477E-01	0.477E-01	0.138E-03	0.363E-03	0.219E-03	0.272E-03	0.238E 00	0.477E-01	0.477E-01	0.477E-01
ADREN	0.234E-06	0.234E-06	0.204E-06	0.119E-06	0.991E-07	0.477E-07	0.165E-06	0.469E-06	0.120E-05	0.589E-06
BL WALL	0.731E-08	0.731E-08	0.446E-07	0.317E-06	0.185E-06	0.535E-06	0.617E-07	0.322E-07	0.378E-07	0.149E-07
KIDNEYS	0.101E-06	0.101E-06	0.316E-06	0.305E-06	0.262E-06	0.905E-07	0.903E-07	0.361E-06	0.108E 02	0.314E-06
LIVER	0.229E-06	0.229E-06	0.196E-06	0.174E-06	0.237E-06	0.338E-07	0.685E-07	0.185E 01	0.383E-06	0.103E-06
OVARIES	0.150E-07	0.150E-07	0.572E-07	0.853E-06	0.118E-05	0.153E-05	0.104E-06	0.235E-07	0.115E-06	0.984E-07
PANCREAS	0.264E-06	0.264E-06	0.167E-05	0.200E-06	0.174E-06	0.720E-07	0.880E-07	0.458E-06	0.633E-06	0.186E-05
BONE	0.963E-07	0.963E-07	0.580E-07	0.753E-07	0.693E-07	0.100E-06	0.333E 01	0.706E-07	0.946E-07	0.739E-07
R MAR	0.121E-06	0.121E-06	0.100E-06	0.239E-06	0.206E-06	0.299E-06	0.550E 00	0.103E-06	0.239E-06	0.109E-06
Y MAR	0.102E-06	0.102E-06	0.807E-07	0.104E-06	0.983E-07	0.124E-06	0.287E-06	0.103E-06	0.117E-06	0.111E-06
ENDOST	0.963E-07	0.963E-07	0.580E-07	0.753E-07	0.693E-07	0.100E-06	0.536E 01	0.705E-07	0.946E-07	0.739E-07
SPLEEN	0.205E-06	0.205E-06	0.912E-06	0.151E-06	0.119E-06	0.920E-07	0.817E-07	0.977E-07	0.797E-06	0.185E 02
TESTES	0.247E-08	0.247E-08	0.364E-08	0.365E-07	0.503E-07	0.194E-06	0.563E-07	0.124E-07	0.147E-07	0.944E-08
THYMUS	0.356E-06	0.356E-06	0.278E-07	0.137E-07	0.150E-07	0.579E-08	0.747E-07	0.125E-06	0.365E-07	0.485E-07
THYROID	0.118E-06	0.118E-06	0.149E-07	0.401E-08	0.428E-08	0.185E-08	0.102E-06	0.179E-07	0.937E-08	0.145E-07
UTERUS	0.946E-08	0.946E-08	0.870E-07	0.833E-06	0.431E-06	0.534E-06	0.588E-07	0.420E-07	0.804E-07	0.466E-07

S FACTORS (REM/MICROCURIE-DAY) FOR RN-220

TARGET ORGANS	SOURCE ORGANS		
	TESTES	OVARIES	OTHER
LUNGS	0.153E-08	0.114E-07	0.122E-06
RES LYM	0.153E-08	0.114E-07	0.122E-06
S WALL	0.111E-07	0.803E-07	0.129E-06
SI WALL	0.518E-07	0.113E-05	0.145E-06
ULI WALL	0.318E-07	0.106E-05	0.148E-06
LLI WALL	0.269E-06	0.135E-05	0.160E-06
T BODY	0.477E-01	0.477E-01	0.474E-01
ADREN	0.703E-08	0.585E-07	0.983E-01
BL WALL	0.492E-06	0.644E-06	0.491E-01
KIDNEYS	0.103E-07	0.110E-06	0.137E-06
LIVER	0.550E-08	0.595E-07	0.105E-06
OVARIES	0.0	0.303E 03	0.182E-06
PANCREAS	0.426E-08	0.570E-07	0.983E-01
BONE	0.638E-07	0.885E-07	0.116E-06
R MAR	0.507E-07	0.295E-06	0.983E-01
Y MAR	0.274E-07	0.118E-06	0.983E-01
ENDOST	0.638E-07	0.885E-07	0.121E-06
SPLEEN	0.121E-07	0.665E-07	0.136E-06
TESTES	0.953E 02	0.0	0.114E-06
THYMUS	0.115E-08	0.608E-08	0.983E-01
THYROID	0.364E-09	0.184E-08	0.983E-01
UTERUS	0.0	0.171E-05	0.983E-01

CASE 1.. INHALATION

AMAD (MICRON).. 0.0 D3 =2.000E-02 D4 =4.000E-02 D5 =0.940

	SOLUBILITY CLASS	G.I. UPTAKE FRACTIONS STOMACH	S INT	U L INT	L L INT
RN-220	*	0.0	0.0	0.0	0.0
PO-216	W	0.0	1.000E-01	0.0	0.0
PB-212	W	0.0	8.000E-02	0.0	0.0
BI-212	W	0.0	5.000E-02	0.0	0.0
PO-212	W	0.0	1.000E-01	0.0	0.0
TL-208	W	0.0	0.950	0.0	0.0

*SPECIAL LUNG CLEARANCE PARAMETERS. T=HALF-TIME (DAYS), F=DEPOSITION FRACTION.

	CLEARANCE PATHWAY..	A	B	C	D	E	F	G	H	I
RN-220	F	1.0	0.0	1.0	0.0	1.0	0.0	0.0	0.0	1.0
	T	8.20E-05	1.0	8.20E-05	1.0	8.20E-05	0.0	0.0	0.0	2.96E-03

DOSE EQUIVALENT (REM/MICROCURIE)

SOURCE	LUNGS	RES LYM	S CONT	SI CONT	ULI CONT	LLI CONT	BONE	LIVER	KIDNEYS	SPLEEN	TESTES
TARGET											
LUNGS	1.106E-03	2.162E-09	2.935E-10	1.540E-10	3.723E-10	1.314E-10	4.427E-10	1.991E-10	7.258E-11	2.049E-12	7.058E-15
RES LYM	4.258E-06	1.297E-05	2.935E-10	1.540E-10	3.723E-10	1.314E-10	4.427E-10	1.991E-10	7.258E-11	2.049E-12	7.058E-15
S WALL	4.148E-08	2.127E-11	1.258E-07	1.431E-09	3.205E-09	1.221E-09	2.563E-10	1.683E-10	2.495E-10	8.608E-12	2.676E-14
SI WALL	7.555E-09	3.993E-12	4.389E-10	2.319E-07	1.398E-08	5.796E-09	3.527E-10	1.343E-10	2.037E-10	1.324E-12	1.091E-13
ULI WALL	9.865E-09	5.084E-12	5.255E-10	9.354E-09	7.692E-07	2.640E-09	3.311E-10	1.980E-10	1.960E-10	1.373E-12	1.096E-13
LLI WALL	1.876E-09	9.612E-13	2.188E-10	2.902E-09	2.636E-09	8.944E-07	4.287E-10	2.923E-11	7.101E-11	6.830E-13	4.801E-13
T BODY	1.582E-05	2.798E-09	5.478E-10	2.819E-09	3.934E-09	3.222E-09	5.290E-07	1.989E-08	1.866E-08	1.274E-10	2.790E-11
ADREN	4.004E-08	2.044E-11	4.108E-10	5.609E-10	1.042E-09	3.343E-10	6.487E-10	4.519E-10	8.309E-10	5.779E-12	1.944E-14
BL WALL	2.189E-09	1.129E-12	6.959E-11	1.155E-09	1.990E-09	3.691E-09	2.790E-10	2.528E-11	3.381E-11	2.774E-13	8.419E-13
KIDNEYS	2.015E-08	1.034E-11	5.339E-10	1.241E-09	2.421E-09	6.919E-10	3.995E-10	3.082E-10	4.196E-06	7.524E-12	2.874E-14
LIVER	5.039E-08	2.581E-11	3.439E-10	7.724E-10	2.311E-09	2.668E-10	3.460E-10	7.689E-07	2.804E-10	1.041E-12	2.166E-14
OVARIES	3.962E-09	2.040E-12	1.476E-10	3.762E-09	9.879E-09	1.075E-08	4.136E-10	5.233E-11	7.778E-11	3.316E-13	0.0
PANCREAS	5.052E-08	2.586E-11	2.676E-09	8.435E-10	2.155E-09	5.029E-10	4.460E-10	3.221E-10	4.342E-10	1.626E-11	2.891E-14
BONE	2.245E-08	1.147E-11	1.056E-10	3.465E-10	6.810E-10	7.125E-10	7.409E-06	6.450E-11	7.311E-11	7.235E-13	1.225E-13
R MAR	2.831E-08	1.446E-11	1.757E-10	1.070E-09	2.000E-09	2.083E-09	1.225E-06	9.255E-11	1.811E-10	1.062E-12	9.950E-14
Y MAR	2.358E-08	1.205E-11	1.477E-10	4.750E-10	9.522E-10	8.746E-10	1.306E-09	9.449E-11	8.961E-11	1.073E-12	6.000E-14
ENDOST	2.245E-08	1.147E-11	1.056E-10	3.465E-10	6.810E-10	7.125E-10	9.692E-06	6.450E-11	7.311E-11	7.235E-13	1.225E-13
SPLEEN	4.679E-08	2.397E-11	1.485E-09	6.739E-10	1.225E-09	6.650E-10	3.192E-10	8.465E-11	5.761E-10	4.899E-08	2.661E-14
TESTES	9.498E-10	4.910E-13	2.559E-11	2.281E-10	5.029E-10	1.284E-09	4.186E-10	1.308E-11	1.396E-11	1.265E-13	4.724E-08
THYMUS	8.437E-08	4.322E-11	8.384E-11	7.104E-11	1.712E-10	5.635E-11	3.434E-10	8.800E-11	1.872E-11	5.974E-13	5.165E-15
THYROID	2.330E-08	1.197E-11	3.111E-11	2.636E-11	6.267E-11	2.364E-11	2.391E-10	1.843E-11	9.669E-12	1.781E-13	2.389E-15
UTERUS	4.006E-09	2.066E-12	1.675E-10	3.424E-09	4.419E-09	3.683E-09	2.685E-10	4.422E-11	6.734E-11	5.813E-13	0.0

DOSE EQUIVALENT (REM/MICROCURIE)

SOURCE	OVARIES	OTHER	TOTAL
TARGET			
LUNGS	1.083E-14	2.207E-10	1.106E-03
RES LYM	1.083E-14	2.207E-10	1.723E-05
S WALL	5.834E-14	2.380E-10	1.741E-07
SI WALL	6.221E-13	2.641E-10	2.606E-07
ULI WALL	5.797E-13	2.712E-10	7.926E-07
LLI WALL	7.673E-13	2.935E-10	9.029E-07
T BODY	7.526E-12	2.307E-08	1.642E-05
ADREN	3.268E-14	4.775E-08	9.209E-08
BL WALL	3.519E-13	2.401E-08	3.345E-08
KIDNEYS	6.778E-14	2.542E-10	4.222E-06
LIVER	4.094E-14	1.944E-10	8.238E-07
OVARIES	4.717E-08	3.312E-10	7.656E-08
PANCREAS	3.244E-14	4.784E-08	1.058E-07
BONE	5.177E-14	2.647E-10	7.434E-06
R MAR	1.636E-13	4.752E-08	1.306E-06
Y MAR	6.759E-14	4.768E-08	7.522E-08
ENDOST	5.177E-14	5.579E-10	9.717E-06
SPLEEN	4.460E-14	2.500E-10	1.011E-07
TESTES	0.0	2.370E-10	5.091E-08
THYMUS	5.450E-15	4.807E-08	1.333E-07
THYROID	2.265E-15	4.772E-08	7.145E-08
UTERUS	9.523E-13	4.818E-08	6.427E-08

PERCENT DOSE EQUIVALENT..

NUCLIDE	RN-220	PO-216	PB-212	BI-212	PO-212	TL-208
TARGET						
LUNGS	31.7	34.2	0.1	9.6	24.3	0.1
RES LYM	0.0	0.0	5.1	34.0	53.7	7.2
S WALL	0.0	0.0	10.6	32.6	23.3	33.5
SI WALL	0.0	0.0	10.4	39.1	30.2	20.4
ULI WALL	0.0	0.0	9.8	40.1	32.0	18.1
LLI WALL	0.0	0.0	9.7	41.1	33.1	16.1
T BODY	30.5	32.8	0.1	10.3	26.0	0.3
ADREN	0.0	0.0	7.3	21.7	36.7	34.2
BL WALL	0.0	0.0	3.0	23.5	50.4	23.1
KIDNEYS	0.0	0.0	0.2	28.0	71.0	0.8
LIVER	0.0	0.0	1.0	27.1	66.4	5.4
OVARIES	0.0	0.0	4.6	22.1	43.8	29.5
PANCREAS	0.0	0.0	7.0	19.9	32.0	41.1
BONE	0.0	0.0	0.1	27.9	71.7	0.3
R MAR	0.0	0.0	0.5	27.6	69.9	2.1
Y MAR	0.0	0.0	5.6	22.2	44.9	27.3
ENDOST	0.9	0.0	0.1	52.4	47.4	0.2
SPLEEN	0.0	0.0	6.3	19.7	33.9	39.3
TESTES	0.0	0.1	0.6	26.9	65.9	6.6
THYMUS	0.0	0.0	7.9	19.4	25.4	43.3
THYROID	0.0	0.0	3.2	23.3	47.3	26.1
UTERUS	0.0	0.0	2.9	24.0	52.6	20.5

CASE 2.. INGESTION

INGESTION TRANSFER FRACTIONS (G. I. TRACT TO BLOOD)

	RN-220	PO-216	PB-212	BI-212	PO-212	TL-208
STOMACH	0.0	0.0	0.0	0.0	0.0	0.0
S INT	0.0	1.000E-01	8.000E-02	5.000E-02	1.000E-01	0.950
U L INT	0.0	0.0	0.0	0.0	0.0	0.0
L L INT	0.0	0.0	0.0	0.0	0.0	0.0

DOSE EQUIVALENT (REM/MICROCURIE)

SOURCE	S CONT	SI CONT	ULI CONT	LLI CONT	BONE	LIVER	KIDNEYS	SPLEEN	TESTES	OVARIES	OTHER
TARGET											
LUNGS	1.074E-08	1.041E-08	3.026E-08	1.103E-08	8.661E-09	4.087E-09	1.123E-09	7.577E-11	2.690E-13	4.122E-13	8.272E-09
RES LYM	1.074E-08	1.041E-08	3.026E-08	1.103E-08	8.661E-09	4.087E-09	1.123E-09	7.577E-11	2.690E-13	4.122E-13	8.272E-09
S WALL	1.261E-04	9.817E-08	2.610E-07	1.025E-07	5.014E-09	3.464E-09	3.872E-09	3.169E-10	1.021E-12	2.202E-12	8.928E-09
SI WALL	1.605E-08	1.755E-05	1.130E-06	4.867E-07	6.901E-09	2.759E-09	3.156E-09	4.891E-11	4.109E-12	2.316E-11	9.906E-09
ULI WALL	1.966E-08	6.430E-07	6.267E-05	2.217E-07	6.478E-09	4.067E-09	3.032E-09	5.087E-11	4.185E-12	2.156E-11	1.017E-08
LLI WALL	7.947E-09	1.990E-07	2.146E-07	7.511E-05	8.378E-09	6.044E-10	1.099E-09	2.539E-11	1.794E-11	2.861E-11	1.101E-08
T BODY	2.809E-07	2.084E-07	3.204E-07	2.706E-07	9.651E-06	3.596E-07	2.318E-07	1.552E-09	3.004E-10	9.540E-11	2.898E-07
ADREN	1.500E-08	3.839E-08	8.472E-08	2.807E-08	1.267E-08	9.319E-09	1.284E-08	2.127E-10	7.379E-13	1.227E-12	5.942E-07
BL WALL	2.386E-09	7.895E-08	1.620E-07	3.100E-07	5.469E-09	5.240E-10	5.225E-10	1.038E-11	3.128E-11	1.306E-11	3.038E-07
KIDNEYS	1.984E-08	8.505E-08	1.971E-07	5.809E-08	7.802E-09	6.328E-09	5.205E-05	2.770E-10	1.089E-12	2.547E-12	9.543E-09
LIVER	1.248E-08	5.284E-08	1.882E-07	2.239E-08	6.780E-09	1.389E-05	4.344E-09	3.857E-11	8.240E-13	1.540E-12	7.300E-09
OVARIES	4.968E-09	2.593E-07	8.044E-07	9.032E-07	8.099E-09	1.079E-09	1.196E-09	1.150E-11	0.0	5.815E-07	1.242E-08
PANCREAS	1.005E-07	5.772E-08	1.755E-07	4.222E-08	8.722E-09	6.600E-09	6.712E-09	5.983E-10	1.108E-12	1.202E-12	5.977E-07
BONE	4.022E-09	2.400E-08	5.552E-08	5.984E-08	1.352E-04	1.321E-09	1.137E-09	2.658E-11	4.562E-12	1.919E-12	9.368E-09
R MAR	6.761E-09	7.443E-08	1.631E-07	1.750E-07	2.234E-05	1.896E-09	2.817E-09	3.904E-11	3.713E-12	6.037E-12	5.885E-07
Y MAR	5.627E-09	3.293E-08	7.764E-08	7.345E-08	2.546E-08	1.935E-09	1.393E-09	3.940E-11	2.254E-12	2.502E-12	5.916E-07
ENDOST	4.022E-09	2.400E-08	5.552E-08	5.984E-08	1.768E-04	1.321E-09	1.137E-09	2.658E-11	4.562E-12	1.919E-12	1.697E-08
SPLEEN	5.585E-08	4.602E-08	9.980E-08	5.583E-08	6.239E-09	1.741E-09	8.928E-09	5.845E-07	1.021E-12	1.689E-12	9.377E-09
TESTES	8.278E-10	1.538E-08	4.086E-08	1.078E-07	8.235E-09	2.699E-10	2.159E-10	4.749E-12	5.824E-07	0.0	8.955E-09
THYMUS	2.817E-09	4.786E-09	1.391E-08	4.730E-09	6.741E-09	1.820E-09	2.892E-10	2.247E-11	1.983E-13	2.072E-13	6.069E-07
THYROID	1.057E-09	1.761E-09	5.087E-09	1.984E-09	4.624E-09	3.800E-10	1.495E-10	6.663E-12	9.229E-14	8.691E-14	5.933E-07
UTERUS	5.891E-09	2.358E-07	3.597E-07	3.093E-07	5.243E-09	9.137E-10	1.044E-09	2.187E-11	0.0	3.540E-11	6.113E-07

DOSE EQUIVALENT (REM/MICROCURIE)

SOURCE	TOTAL
TARGET	
LUNGS	8.465E-08
RES LYM	8.465E-08
S WALL	1.265E-04
SI WALL	1.921E-05
ULI WALL	6.358E-05
LLI WALL	7.555E-05
T BODY	1.161E-05
ADREN	7.954E-07
BL WALL	8.637E-07
KIDNEYS	5.243E-05
LIVER	1.419E-05
OVARIES	2.576E-06
PANCREAS	9.961E-07
BONE	1.353E-04
R MAR	2.336E-05
Y MAR	8.101E-07
ENDOST	1.770E-04
SPLEEN	8.683E-07
TESTES	7.650E-07
THYMUS	6.420E-07
THYROID	6.083E-07
UTERUS	1.529E-06

PERCENT DOSE EQUIVALENT..

NUCLIDE	RN-220	PO-216	PB-212	BI-212	PO-212	TL-208
TARGET						
LUNGS	0.2	0.0	9.3	11.3	0.0	79.2
RES LYM	0.2	0.0	9.3	11.3	0.0	79.2
S WALL	46.2	49.8	0.9	1.3	1.0	0.8
SI WALL	4.2	4.6	11.6	35.2	27.4	17.1
ULI WALL	0.0	0.0	10.2	40.4	32.4	17.0
LLI WALL	0.0	0.0	9.8	41.1	33.2	15.8
T BODY	1.1	1.2	0.9	27.4	66.5	2.8
ADREN	0.0	0.0	3.0	23.5	51.5	22.0
BL WALL	0.0	0.0	8.1	17.9	23.6	50.4
KIDNEYS	0.0	0.0	0.3	27.9	70.8	1.0
LIVER	0.0	0.0	0.5	27.8	69.6	2.1
OVARIES	0.0	0.0	10.3	15.9	15.8	58.0
PANCREAS	0.2	0.0	6.4	21.0	41.1	31.4
BONE	0.0	0.0	0.1	27.9	71.9	0.2
R MAR	0.0	0.0	0.4	27.7	70.4	1.5
Y MAR	0.0	0.0	4.5	23.3	50.6	21.6
ENDOST	0.0	0.0	0.0	52.4	47.4	0.1
SPLEEN	0.1	0.0	4.7	22.7	46.9	25.5
TESTES	0.0	0.0	2.3	23.8	53.2	20.7
THYMUS	0.0	0.0	0.6	25.8	63.8	9.8
THYROID	0.0	0.0	0.4	26.9	67.3	5.4
UTERUS	0.0	0.0	8.5	18.7	26.8	46.0

RADIONUCLIDE: RN-222

PHYSICAL AND METABOLIC PARAMETERS FOR DOSIMETRICALLY SIGNIFICANT PROGENY:

NUCLIDE	RADIOACTIVE HALF-LIFE (DAYS)
RN-222	3.820
PO-218	2.1200E-03
PB-214	1.8600E-02
BI-214	1.3800E-02
PO-214	1.8900E-09
PB-210	8140.
BI-210	5.010
PO-210	138.0

BRANCHING RATIOS:

FROM	TO	FRACTION
RN-222	PO-218	1.000
PO-218	PB-214	1.000
PB-214	BI-214	1.000
BI-214	PO-214	1.000
PO-214	PB-210	1.000
PB-210	BI-210	1.000
BI-210	PO-210	1.000

ORGAN	NUCLIDE	BLOOD TRANSFER FRACTION F2-PRIME	COMPARTMENT DEPOSITION FRACTION	COMPARTMENT BIOLOGICAL HALF-TIME (DAYS)
ABSORBED	RN-222	0.0	0.874	2.650E-04
			9.130E-02	3.110E-03
			1.980E-02	2.280E-02
			8.630E-03	0.146
			6.120E-03	0.963
	PO-218	1.00	1.000E-02	0.500
			0.990	50.0
	PB-214	1.00	1.000E-01	1.00
			0.200	10.0
			0.300	320.
			0.200	2.000E 03
			0.200	8.000E 03
	BI-214	1.00	-1.720E-02	1.000E-01
			1.02	5.78
	PO-214	1.00	1.000E-02	0.500
			0.990	50.0
	PB-210	1.00	1.000E-01	1.00
			0.200	10.0
			0.300	320.
			0.200	2.000E 03
			0.200	8.000E 03
	BI-210	1.00	-1.720E-02	1.000E-01
			1.02	5.78
	PO-210	1.00	1.000E-02	0.500
			0.990	50.0
BONE	RN-222	0.0	0.910	2.650E-04
			8.660E-02	3.110E-03
			3.040E-04	2.880E-02
			3.170E-03	0.146
			6.810E-06	0.963
	* PO-218	9.000E-02	1.000E-02	0.500
			0.990	50.0
	PB-214	0.562	0.375	320.
			0.310	2.000E 03
			0.315	8.000E 03
	* BI-214	7.340E-02	-1.000E-01	1.000E-01
			1.10	5.78
	* PO-214	9.000E-02	1.000E-02	0.500
			0.990	50.0
	PB-210	0.562	0.375	320.
			0.310	2.000E 03
			0.315	8.000E 03
	* BI-210	7.340E-02	-1.000E-01	1.000E-01
			1.10	5.78
	* PO-210	9.000E-02	1.000E-02	0.500
			0.990	50.0

α decay (3.8235 D 3)

*Retention data derived from "other tissues" compartment.

RADON-222 CONTINUED

ORGAN	NUCLIDE	BLOOD TRANSFER FRACTION F2-PRIME	COMPARTMENT DEPOSITION FRACTION	COMPARTMENT BIOLOGICAL HALF-TIME (DAYS)
LIVER	•RN-222	0.0	0.874	2.650E-04
			9.900E-02	3.110E-03
			4.400E-02	2.880E-02
			7.790E-04	0.146
			2.030E-05	0.963
	PO-218	1.000E-01	1.000E-02	0.500
			0.990	50.0
	PB-214	0.106	0.843	10.0
			7.870E-02	320.
			4.010E-02	2.000E 03
			3.820E-02	8.000E 03
	•BI-214	2.640E-02	-1.000E-01	1.000E-01
			1.10	5.78
	PO-214	1.000E-01	1.000E-02	0.500
			0.990	50.0
	PB-210	0.106	0.843	10.0
			7.870E-02	320.
			4.010E-02	2.000E 03
			3.820E-02	8.000E 03
	•BI-210	2.640E-02	-1.000E-01	1.000E-01
			1.10	5.78
	PO-210	1.000E-01	1.000E-02	0.500
			0.990	50.0
KIDNEYS	•RN-222	0.0	0.874	2.650E-04
			9.900E-02	3.110E-03
			4.400E-02	2.880E-02
			7.790E-04	0.146
			2.030E-05	0.963
	PO-218	1.000E-01	1.000E-02	0.500
			0.990	50.0
	PB-214	5.090E-02	0.962	10.0
			2.000E-02	320.
			9.600E-03	2.000E 03
			8.290E-03	8.000E 03
	BI-214	0.400	1.00	5.78
	PO-214	1.000E-01	1.000E-02	0.500
			0.990	50.0
	PB-210	5.090E-02	0.962	10.0
			2.000E-02	320.
			9.600E-03	2.000E 03
			8.290E-03	8.000E 03
	BI-210	0.400	1.00	5.78
	PO-210	1.000E-01	1.000E-02	0.500
			0.990	50.0
SPLEEN	•RN-222	0.0	0.874	2.650E-04
			9.900E-02	3.110E-03
			4.400E-02	2.880E-02
			7.790E-04	0.146
			2.030E-05	0.963
	PO-218	1.000E-01	1.000E-02	0.500
			0.990	50.0
	•PB-214	2.960E-04	0.375	320.
			0.310	2.000E 03
			0.315	8.000E 03
	•BI-214	2.640E-03	-1.000E-01	1.000E-01
			1.10	5.78
	PO-214	1.000E-01	1.000E-02	0.500
			0.990	50.0
	•PB-210	2.960E-04	0.375	320.
			0.310	2.000E 03
			0.315	8.000E 03
	•BI-210	2.640E-03	-1.000E-01	1.000E-01
			1.10	5.78
	PO-210	1.000E-01	1.000E-02	0.500
			0.990	50.0

RADON-222 CONTINUED

ORGAN	NUCLIDE	BLOOD TRANSFER FRACTION F2-PRIME	COMPARTMENT DEPOSITION FRACTION	COMPARTMENT BIOLOGICAL HALF-TIME (DAYS)
OTHER	RN-222	0.0	0.872	2.650E-04
			9.140E-02	3.110E-03
			2.050E-02	2.880E-02
			9.080E-03	0.146
			6.790E-03	0.963
	PO-218	0.610	1.000E-02	0.500
			0.990	50.0
	PB-214	5.580E-02	0.375	320.
			0.310	2.000E 03
			0.315	8.000E 03
	BI-214	0.500	-1.000E-01	1.000E-01
			1.10	5.78
	PO-214	0.610	1.000E-02	0.500
			0.990	50.0
	PB-210	5.580E-02	0.375	320.
			0.310	2.000E 03
			0.315	8.000E 03
	BI-210	0.500	-1.000E-01	1.000E-01
			1.10	5.78
	PO-210	0.610	1.000E-02	0.500
			0.990	50.0

S FACTORS (REM/MICROCURIE-DAY) FOR RN-222

TARGET ORGANS	SOURCE ORGANS									
	LUNGS	RES LYM	S CONT	SI CONT	ULI CONT	LLI CONT	BONE	LIVER	KIDNEYS	SPLEEN
LUNGS	0.291E 01	0.994E-06	0.127E-06	0.230E-07	0.234E-07	0.704E-08	0.673E-07	0.164E-06	0.652E-07	0.150E-06
RES LYM	0.994E-06	0.194E 03	0.127E-06	0.230E-07	0.234E-07	0.704E-08	0.673E-07	0.164E-06	0.652E-07	0.150E-06
S WALL	0.126E-06	0.126E-06	0.562E-01	0.231E-06	0.247E-06	0.123E-06	0.402E-07	0.129E-06	0.230E-06	0.672E-06
SI WALL	0.191E-07	0.191E-07	0.180E-06	0.351E-01	0.111E-05	0.610E-06	0.552E-07	0.108E-06	0.187E-06	0.948E-07
ULI WALL	0.263E-07	0.263E-07	0.225E-06	0.156E-05	0.633E-01	0.298E-06	0.480E-07	0.176E-06	0.197E-06	0.956E-07
LLI WALL	0.538E-08	0.538E-08	0.868E-07	0.461E-06	0.205E-06	0.104E 00	0.647E-07	0.222E-07	0.602E-07	0.479E-07
T BODY	0.416E-01	0.416E-01	0.120E-03	0.321E-03	0.192E-03	0.238E-03	0.208E 00	0.416E-01	0.416E-01	0.416E-01
ADREN	0.167E-06	0.167E-06	0.145E-06	0.846E-07	0.691E-07	0.339E-07	0.116E-06	0.334E-06	0.851E-06	0.413E-06
BL WALL	0.509E-08	0.509E-08	0.314E-07	0.232E-06	0.130E-06	0.384E-06	0.450E-07	0.237E-07	0.263E-07	0.938E-08
KIDNEYS	0.717E-07	0.717E-07	0.225E-06	0.217E-06	0.185E-06	0.566E-07	0.626E-07	0.257E-06	0.939E 01	0.581E-06
LIVER	0.163E-06	0.163E-06	0.139E-06	0.123E-06	0.169E-06	0.238E-07	0.485E-07	0.162E 01	0.273E-06	0.735E-07
OVARIES	0.105E-07	0.105E-07	0.384E-07	0.598E-06	0.864E-06	0.109E-05	0.743E-07	0.139E-07	0.794E-07	0.726E-07
PANCREAS	0.190E-06	0.190E-06	0.119E-05	0.142E-06	0.122E-06	0.512E-07	0.620E-07	0.328E-06	0.448E-06	0.133E-05
BONE	0.686E-07	0.686E-07	0.414E-07	0.536E-07	0.495E-07	0.713E-07	0.291E 01	0.503E-07	0.674E-07	0.526E-07
R MAR	0.863E-07	0.863E-07	0.716E-07	0.170E-06	0.148E-06	0.213E-06	0.481E 00	0.739E-07	0.170E-06	0.775E-07
Y MAR	0.723E-07	0.723E-07	0.575E-07	0.743E-07	0.702E-07	0.882E-07	0.204E-06	0.735E-07	0.838E-07	0.793E-07
ENDOST	0.686E-07	0.686E-07	0.414E-07	0.536E-07	0.495E-07	0.713E-07	0.613E 01	0.503E-07	0.674E-07	0.526E-07
SPLEEN	0.145E-06	0.145E-06	0.649E-06	0.108E-06	0.840E-07	0.646E-07	0.578E-07	0.686E-07	0.566E-06	0.162E 02
TESTES	0.170E-08	0.170E-08	0.184E-08	0.250E-07	0.354E-07	0.141E-06	0.395E-07	0.903E-08	0.103E-07	0.659E-08
THYMUS	0.251E-06	0.251E-06	0.166E-07	0.961E-08	0.105E-07	0.402E-08	0.526E-07	0.914E-07	0.276E-07	0.332E-07
THYROID	0.829E-07	0.829E-07	0.105E-07	0.277E-08	0.296E-08	0.126E-08	0.758E-07	0.126E-07	0.654E-08	0.102E-07
UTERUS	0.658E-08	0.658E-08	0.614E-07	0.594E-06	0.305E-06	0.380E-06	0.398E-07	0.301E-07	0.571E-07	0.323E-07

CASE 1.. INHALATION

AMAD (MICRON).. 0.0 D3 =2.000E-02 D4 =4.000E-02 D5 =0.940

	SOLUBILITY CLASS	G.I. UPTAKE FRACTIONS STOMACH	S INT	U L INT	L L INT
RN-222	*	0.0	0.0	0.0	0.0
PO-218	W	0.0	1.000E-01	0.0	0.0
PB-214	W	0.0	8.000E-02	0.0	0.0
BI-214	W	0.0	5.000E-02	0.0	0.0
PO-214	W	0.0	1.000E-01	0.0	0.0
PB-210	W	0.0	8.000E-02	0.0	0.0
BI-210	W	0.0	5.000E-02	0.0	0.0
PO-210	W	0.0	1.000E-01	0.0	0.0

*SPECIAL LUNG CLEARANCE PARAMETERS. T=HALF-TIME (DAYS), F=DEPOSITION FRACTION.

	CLEARANCE PATHWAY..	A	B	C	D	E	F	G	H	I
RN-222	F	1.0	0.0	1.0	0.0	1.0	0.0	0.0	0.0	1.0
	T	8.20E-05	1.0	8.20E-05	1.0	8.20E-05	0.0	0.0	0.0	2.96E-03

DOSE EQUIVALENT (REM/MICROCURIE)

SOURCE	LUNGS	RES LYM	S CONT	SI CONT	ULI CONT	LLI CONT	BONE	LIVER	KIDNEYS	SPLEEN	OTHER
TARGET											
LUNGS	1.193E-03	8.739E-10	1.580E-10	2.396E-11	5.303E-12	1.242E-13	2.836E-10	1.629E-10	1.202E-10	2.975E-11	2.732E-10
RES LYM	6.013E-06	3.200E-06	1.580E-10	2.396E-11	5.303E-12	1.242E-13	2.836E-10	1.629E-10	1.202E-10	2.975E-11	2.732E-10
S WALL	6.517E-08	2.072E-12	6.072E-08	2.339E-10	4.367E-11	1.186E-12	1.649E-10	1.316E-10	3.956E-10	1.332E-10	2.933E-10
SI WALL	1.065E-08	3.397E-13	2.267E-10	2.770E-08	1.949E-10	6.184E-12	2.272E-10	1.075E-10	3.470E-10	1.990E-11	3.260E-10
ULI WALL	1.381E-08	4.406E-13	2.923E-10	1.498E-09	9.759E-09	2.832E-12	2.148E-10	1.574E-10	3.482E-10	2.022E-11	3.342E-10
LLI WALL	2.751E-09	8.538E-14	1.219E-10	4.593E-10	3.791E-11	2.203E-09	2.822E-10	2.184E-11	1.200E-10	9.562E-12	3.617E-10
T BODY	1.710E-05	6.876E-10	2.780E-10	3.653E-10	5.180E-11	6.289E-12	4.265E-07	1.687E-08	3.124E-08	5.147E-09	6.562E-08
ADREN	6.727E-08	2.108E-12	2.393E-10	8.651E-11	1.425E-11	3.547E-13	4.854E-10	3.233E-10	1.455E-09	8.993E-11	1.355E-07
BL WALL	3.094E-09	9.904E-14	3.913E-11	1.965E-10	2.568E-11	4.070E-12	1.773E-10	1.779E-11	5.464E-11	3.814E-12	6.801E-08
KIDNEYS	3.298E-08	1.041E-12	2.878E-10	2.036E-10	3.483E-11	6.952E-13	2.814E-10	2.486E-10	7.033E-06	1.151E-10	3.126E-10
LIVER	7.748E-08	2.454E-12	1.801E-10	1.251E-10	3.172E-11	2.906E-13	2.121E-10	6.541E-07	4.723E-10	1.518E-11	2.373E-10
OVARIES	5.767E-09	1.834E-13	8.711E-11	5.859E-10	1.163E-10	1.163E-11	2.683E-10	4.682E-11	1.630E-10	8.424E-12	1.356E-07
PANCREAS	7.876E-08	2.479E-12	1.466E-09	1.300E-10	2.690E-11	5.211E-13	3.033E-10	2.718E-10	7.741E-10	2.481E-10	1.356E-07
BONE	3.324E-08	1.063E-12	5.391E-11	5.350E-11	9.042E-12	7.272E-13	5.960E-06	5.035E-11	1.207E-10	1.092E-11	3.588E-10
R MAR	4.208E-08	1.344E-12	9.003E-11	1.646E-10	2.640E-11	2.146E-12	7.016E-07	7.217E-11	3.013E-10	1.595E-11	1.351E-07
Y MAR	3.466E-08	1.111E-12	7.567E-11	7.330E-11	1.275E-11	9.012E-13	8.993E-10	7.420E-11	1.486E-10	1.620E-11	1.354E-07
ENDOST	3.324E-08	1.063E-12	5.391E-11	5.350E-11	9.042E-12	7.272E-13	5.240E-06	5.035E-11	1.207E-10	1.092E-11	9.429E-10
SPLEEN	6.814E-08	2.152E-12	8.189E-10	1.104E-10	1.748E-11	7.183E-13	2.184E-10	6.928E-11	9.912E-10	1.996E-06	3.086E-10
TESTES	1.249E-09	4.039E-14	1.300E-11	3.772E-11	6.609E-12	1.259E-12	2.273E-10	1.118E-11	2.245E-11	1.650E-12	1.355E-07
THYMUS	1.344E-07	4.267E-12	5.283E-11	1.128E-11	2.306E-12	5.633E-14	1.936E-10	6.053E-11	3.122E-11	6.954E-12	1.359E-07
THYROID	3.657E-08	1.155E-12	1.594E-11	4.018E-12	8.055E-13	2.221E-14	2.171E-10	1.419E-11	1.528E-11	2.399E-12	1.355E-07
UTERUS	5.747E-09	1.852E-13	8.548E-11	5.532E-10	6.095E-11	3.947E-12	1.917E-10	3.476E-11	1.133E-10	6.498E-12	1.360E-07

DOSE EQUIVALENT (REM/MICROCURIE)

SOURCE	TOTAL
TARGET	
LUNGS	1.193E-03
RES LYM	9.215E-06
S WALL	1.273E-07
SI WALL	3.980E-08
ULI WALL	2.644E-08
LLI WALL	6.369E-09
T BODY	1.765E-05
ADREN	2.055E-07
BL WALL	7.162E-08
KIDNEYS	7.068E-06
LIVER	7.329E-07
OVARIES	1.426E-07
PANCREAS	2.176E-07
BONE	5.994E-06
R MAR	8.794E-07
Y MAR	1.714E-07
ENDOST	5.275E-06
SPLEEN	2.067E-06
TESTES	1.371E-07
THYMUS	2.706E-07
THYROID	1.723E-07
UTERUS	1.428E-07

PERCENT DOSE EQUIVALENT..

NUCLIDE	RN-222	PO-218	PB-214	BI-214	PO-214	PB-210	BI-210	PO-210
TARGET								
LUNGS	28.9	31.4	0.2	0.4	39.2	0.0	0.0	0.0
RES LYM	0.0	0.5	19.6	45.7	11.3	0.1	0.5	22.3
S WALL	0.0	1.7	13.6	64.6	20.1	0.0	0.0	0.0
SI WALL	0.0	0.2	9.9	58.2	31.4	0.0	0.2	0.0
ULI WALL	0.0	0.0	9.6	72.0	16.5	0.1	1.7	0.1
LLI WALL	0.0	0.0	10.5	61.5	6.2	0.8	19.5	1.5
T BODY	27.9	30.5	0.2	0.5	40.1	0.0	0.0	0.8
ADREN	0.0	12.7	5.4	28.3	48.4	0.0	0.1	4.1
BL WALL	0.0	18.2	0.7	5.7	69.5	0.0	0.1	5.8
KIDNEYS	0.0	6.6	0.2	1.3	91.3	0.0	0.0	0.7
LIVER	0.0	11.0	2.0	9.8	73.2	0.0	0.1	3.9
OVARIES	0.0	18.3	0.7	5.2	69.8	0.0	0.1	5.9
PANCREAS	0.0	12.0	6.5	31.8	45.7	0.0	0.1	3.8
BONE	0.0	2.2	0.1	0.6	67.5	0.0	0.1	29.5
R MAR	0.0	5.4	1.0	4.4	87.4	0.0	0.3	1.5
Y MAR	0.0	15.2	3.9	17.8	58.1	0.1	0.1	4.9
ENDOST	0.0	4.5	0.2	0.6	91.5	0.0	0.1	3.1
SPLEEN	0.0	39.0	0.8	3.4	53.7	0.0	0.0	3.0
TESTES	0.0	19.0	0.2	1.9	72.6	0.0	0.1	6.1
THYMUS	0.0	9.6	7.6	42.8	36.8	0.0	0.1	3.1
THYROID	0.0	15.1	3.1	19.0	57.8	0.0	0.1	4.9
UTERUS	0.0	18.2	0.6	5.5	69.7	0.0	0.1	5.9

CASE 2.. INGESTION

INGESTION TRANSFER FRACTIONS (G. I. TRACT TO BLOOD)

	RN-222	PO-218	PB-214	BI-214	PO-214	PB-210	BI-210	PO-210
STOMACH	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
S INT	0.0	1.000E-01	8.000E-02	5.000E-02	1.000E-01	8.000E-02	5.000E-02	1.000E-01
U L INT	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
L L INT	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

DOSE EQUIVALENT (REM/MICROCURIE)

SOURCE	S CONT	SI CONT	ULI CONT	LLI CONT	BONE	LIVER	KIDNEYS	SPLEEN	OTHER	TOTAL
TARGET										
LUNGS	8.662E-06	1.406E-05	5.531E-05	3.620E-05	3.656E-07	1.930E-07	1.205E-07	2.178E-08	2.492E-07	1.152E-04
RES LYM	8.662E-06	1.406E-05	5.531E-05	3.620E-05	3.656E-07	1.930E-07	1.205E-07	2.178E-08	2.492E-07	1.152E-04
S WALL	7.931E-03	1.401E-04	4.710E-04	3.636E-04	2.127E-07	1.559E-07	3.969E-07	9.752E-08	2.677E-07	8.907E-03
SI WALL	1.247E-05	2.837E-02	2.103E-03	1.889E-03	2.930E-07	1.274E-07	3.481E-07	1.458E-08	2.975E-07	3.237E-02
ULI WALL	1.611E-05	9.018E-04	0.164	8.775E-04	2.771E-07	1.865E-07	3.493E-07	1.481E-08	3.049E-07	0.165
LLI WALL	6.634E-06	2.755E-04	4.064E-04	0.415	3.636E-07	2.587E-08	1.203E-07	7.003E-09	3.301E-07	0.416
T BODY	2.511E-05	3.265E-04	7.322E-04	1.329E-03	4.395E-04	1.839E-05	3.043E-05	3.677E-06	5.591E-05	2.961E-03
ADREN	1.292E-05	5.203E-05	1.505E-04	1.075E-04	6.258E-07	3.829E-07	1.459E-06	6.586E-08	1.154E-04	4.408E-04
BL WALL	2.083E-06	1.174E-04	2.752E-04	1.248E-03	2.289E-07	2.108E-08	5.474E-08	2.796E-09	5.795E-05	1.701E-03
KIDNEYS	1.588E-05	1.220E-04	3.731E-04	2.102E-04	3.629E-07	2.945E-07	6.851E-03	8.424E-08	2.853E-07	7.573E-03
LIVER	9.860E-06	7.471E-05	3.403E-04	8.649E-05	2.736E-07	7.129E-04	4.738E-07	1.112E-08	2.166E-07	1.225E-03
OVARIES	4.520E-06	3.548E-04	1.280E-03	3.561E-03	3.460E-07	5.540E-08	1.634E-07	6.166E-09	1.155E-04	5.316E-03
PANCREAS	8.117E-05	7.812E-05	2.883E-04	1.585E-04	3.912E-07	3.220E-07	7.766E-07	1.817E-07	1.155E-04	7.233E-04
BONE	3.010E-06	3.255E-05	9.872E-05	2.248E-04	6.136E-03	5.964E-08	1.212E-07	7.995E-09	3.217E-07	6.496E-03
R MAR	5.057E-06	1.008E-04	2.904E-04	6.648E-04	8.869E-04	8.551E-08	3.026E-07	1.168E-08	1.151E-04	2.063E-03
Y MAR	4.221E-06	4.467E-05	1.394E-04	2.783E-04	1.109E-06	8.789E-08	1.492E-07	1.186E-08	1.154E-04	5.833E-04
ENDOST	3.010E-06	3.255E-05	9.872E-05	2.248E-04	6.485E-03	5.964E-08	1.212E-07	7.995E-09	8.161E-07	6.845E-03
SPLEEN	4.527E-05	6.569E-05	1.866E-04	2.156E-04	2.815E-07	8.206E-08	9.946E-07	1.426E-03	2.816E-07	1.941E-03
TESTES	6.618E-07	2.183E-05	6.919E-05	3.883E-04	2.934E-07	1.323E-08	2.248E-08	1.210E-09	1.154E-04	5.957E-04
THYMUS	2.722E-06	6.571E-06	2.405E-05	1.649E-05	2.498E-07	7.172E-08	3.132E-08	5.095E-09	1.158E-04	1.660E-04
THYROID	8.472E-07	2.298E-06	8.230E-06	6.390E-06	2.801E-07	1.681E-08	1.529E-08	1.758E-09	1.154E-04	1.335E-04
UTERUS	4.622E-06	3.341E-04	6.516E-04	1.220E-03	2.475E-07	4.116E-08	1.136E-07	4.759E-09	1.159E-04	2.326E-03

PERCENT DOSE EQUIVALENT..

NUCLIDE	RN-222	PO-218	PB-214	BI-214	PO-214	PB-210	BI-210	PO-210
TARGET								
LUNGS	0.0	0.0	11.5	88.4	0.0	0.0	0.0	0.0
RES LYM	0.0	0.0	11.5	88.4	0.0	0.0	0.0	0.0
S WALL	26.1	26.6	10.3	23.1	14.0	0.0	0.0	0.0
SI WALL	17.4	19.0	11.3	31.2	21.1	0.0	0.0	0.0
ULI WALL	18.3	20.1	10.5	25.5	25.7	0.0	0.0	0.0
LLI WALL	18.6	20.4	10.3	24.4	26.3	0.0	0.0	0.0
T BODY	11.0	12.6	9.8	33.9	30.6	0.0	0.0	2.0
ADREN	0.0	4.2	10.8	63.3	20.7	0.0	0.0	1.0
BL WALL	0.0	0.5	15.9	80.8	2.7	0.0	0.0	0.1
KIDNEYS	0.0	4.4	1.6	8.8	85.0	0.0	0.0	0.1
LIVER	0.0	4.7	6.6	35.9	51.7	0.0	0.0	0.9
OVARIES	0.0	0.4	17.5	80.3	1.7	0.0	0.0	0.1
PANCREAS	0.0	2.6	14.1	70.1	12.6	0.0	0.0	0.6
BONE	0.0	1.4	1.1	4.6	80.3	0.0	0.1	12.4
R MAR	0.0	1.7	10.2	41.5	46.3	0.0	0.1	0.3
Y MAR	0.0	3.2	15.2	65.2	15.6	0.0	0.0	0.7
ENDOST	0.0	2.5	1.0	4.4	91.0	0.0	0.0	1.1
SPLEEN	0.0	29.8	4.1	22.9	42.0	0.0	0.0	1.1
TESTES	0.0	3.1	13.1	67.7	15.3	0.0	0.0	0.7
THYMUS	0.0	11.2	3.4	27.8	55.0	0.0	0.1	2.5
THYROID	0.0	14.0	1.2	13.2	68.4	0.0	0.1	3.1
UTERUS	0.0	0.8	16.3	78.8	3.9	0.0	0.0	0.2

RADIONUCLIDE: FR-221

PHYSICAL AND METABOLIC PARAMETERS FOR DOSIMETRICALLY SIGNIFICANT PROGENY:

NUCLIDE	RADIOACTIVE HALF-LIFE (DAYS)
FR-221	3.3300E-03
AT-217	3.7400E-07
BI-213	3.1700E-02
PO-213	4.8600E-11
PB-209	0.1380
TL-209	1.5300E-03

BRANCHING RATIOS:

FROM	TO	FRACTION
FR-221	AT-217	1.000
AT-217	BI-213	1.000
BI-213	PO-213	2.1600E-02
BI-213	TL-209	0.9780
PO-213	PB-209	1.000
TL-209	PB-209	1.000

ORGAN ABSORBED	NUCLIDE	BLOOD TRANSFER FRACTION F2-PRIME	COMPARTMENT DEPOSITION FRACTION	COMPARTMENT BIOLOGICAL HALF-TIME (DAYS)
	FR-221	1.00	0.130	1.40
			0.870	135.
	AT-217	1.00	0.284	0.200
			0.716	30.0
	BI-213	1.00	-1.720E-02	1.000E-01
			1.02	5.78
	PO-213	1.00	1.000E-02	0.500
			0.990	50.0
	PB-209	1.00	1.000E-01	1.00
			0.200	10.0
			0.330	320.
			0.200	2.000E 03
			0.230	8.000E 03
	TL-209	1.00	1.00	4.00
BONE	•FR-221	0.121	0.130	1.40
			0.870	135.
	•AT-217	9.000E-02	0.444	0.200
			0.556	30.0
	•BI-213	7.340E-02	-1.000E-01	1.000E-01
			1.10	5.78
	•PO-213	9.000E-02	1.000E-02	0.500
			0.990	50.0
	PB-209	0.562	0.375	320.
			0.310	2.000E 03
			0.315	8.000E 03
	•TL-209	0.118	1.00	4.00
LIVER	•FR-221	4.370E-02	0.130	1.40
			0.870	135.
	•AT-217	4.780E-02	0.293	0.200
			0.707	30.0
	•BI-213	2.640E-02	-1.000E-01	1.000E-01
			1.10	5.78
	PO-213	1.000E-01	1.000E-02	0.500
			0.990	50.0
	PB-209	0.106	0.843	10.0
			7.870E-02	320.
			4.010E-02	2.000E 03
			3.820E-02	8.000E 03
	•TL-209	4.240E-02	1.00	4.00
KIDNEYS	•FR-221	7.520E-03	0.130	1.40
			0.870	135.
	•AT-217	8.220E-03	0.293	0.200
			0.707	30.0
	BI-213	0.400	1.00	5.78
	PO-213	1.000E-01	1.000E-02	0.500
			0.990	50.0
	PB-209	5.090E-02	0.962	10.0
			2.000E-02	320.
			9.600E-03	2.000E 03
			8.290E-03	8.000E 03
	TL-209	3.760E-02	1.00	4.00

α decay (4.8 M 1)

• Retention data derived from "other tissues" compartment.

ORGAN	NUCLIDE	BLOOD TRANSFER FRACTION F2-PRIME	COMPARTMENT DEPOSITION FRACTION	COMPARTMENT BIOLOGICAL HALF-TIME (DAYS)
SPLEEN	*FR-221	4.370E-03	0.130	1.40
			0.870	138.
	*AT-217	4.780E-03	0.293	0.200
			0.707	30.0
	*BI-213	2.640E-03	-1.000E-01	1.000E-01
			1.10	5.78
	PO-213	1.000E-01	1.000E-02	0.500
			0.990	50.0
	*PB-209	2.960E-04	0.375	320.
			0.310	2.000E 03
			0.315	8.000E 03
	*TL-209	4.240E-03	1.00	4.00
THYROID	*FR-221	4.850E-04	0.130	1.40
			0.870	138.
	AT-217	1.030E-02	-1.94	0.200
			2.94	30.0
	*BI-213	2.930E-04	-1.000E-01	1.000E-01
			1.10	5.78
	*PO-213	3.600E-04	1.000E-02	0.500
			0.990	50.0
	*PB-209	3.290E-05	0.375	320.
			0.310	2.000E 03
			0.315	8.000E 03
	*TL-209	4.700E-04	1.00	4.00
TESTES	*FR-221	8.490E-04	0.130	1.40
			0.870	138.
	*AT-217	9.290E-04	0.293	0.200
			0.707	30.0
	*BI-213	5.140E-04	-1.000E-01	1.000E-01
			1.10	5.78
	*PO-213	6.300E-04	1.000E-02	0.500
			0.990	50.0
	*PB-209	5.760E-05	0.375	320.
			0.310	2.000E 03
			0.315	8.000E 03
	*TL-209	8.240E-04	1.00	4.00
OVARIES	*FR-221	2.670E-04	0.130	1.40
			0.870	138.
	*AT-217	2.920E-04	0.293	0.200
			0.707	30.0
	*BI-213	1.610E-04	-1.000E-01	1.000E-01
			1.10	5.78
	*PO-213	1.980E-04	1.000E-02	0.500
			0.990	50.0
	*PB-209	1.810E-05	0.375	320.
			0.310	2.000E 03
			0.315	8.000E 03
	*TL-209	2.590E-04	1.00	4.00
OTHER	FR-221	0.822	0.130	1.40
			0.870	138.
	AT-217	0.899	0.293	0.200
			0.707	30.0
	BI-213	0.500	-1.000E-01	1.000E-01
			1.10	5.78
	PO-213	0.610	1.000E-02	0.500
			0.990	50.0
	PB-209	5.580E-02	0.375	320.
			0.310	2.000E 03
			0.315	8.000E 03
	TL-209	0.914	1.00	4.00

S FACTORS (REM/MICROCURIE-DAY) FOR FR-221

TARGET ORGANS	SOURCE ORGANS									
	LUNGS	RES LYM	S CONT	SI CONT	ULI CONT	LLI CONT	BONE	LIVER	KIDNEYS	SPLEEN
LUNGS	0.337E 01	0.556E-03	0.961E-05	0.142E-05	0.155E-05	0.487E-06	0.552E-05	0.141E-04	0.476E-05	0.126E-04
RES LYM	0.556E-03	0.225E 03	0.961E-05	0.142E-05	0.155E-05	0.487E-06	0.552E-05	0.141E-04	0.476E-05	0.126E-04
S WALL	0.105E-04	0.105E-04	0.662E-01	0.207E-04	0.211E-04	0.100E-04	0.324E-05	0.110E-04	0.191E-04	0.542E-04
SI WALL	0.113E-05	0.113E-05	0.147E-04	0.414E-01	0.943E-04	0.529E-04	0.430E-05	0.940E-05	0.161E-04	0.793E-05
ULI WALL	0.138E-05	0.138E-05	0.200E-04	0.137E-03	0.752E-01	0.240E-04	0.415E-05	0.139E-04	0.162E-04	0.708E-05
LLI WALL	0.591E-06	0.591E-06	0.725E-05	0.406E-04	0.170E-04	0.122E 00	0.597E-05	0.135E-05	0.469E-05	0.357E-05
T BODY	0.482E-01	0.482E-01	0.151E-03	0.388E-03	0.236E-03	0.290E-03	0.241E 00	0.482E-01	0.482E-01	0.482E-01
ADREN	0.140E-04	0.140E-04	0.136E-04	0.853E-05	0.517E-05	0.254E-05	0.717E-05	0.282E-04	0.574E-04	0.365E-04
BL WALL	0.283E-06	0.283E-06	0.134E-05	0.149E-04	0.120E-04	0.370E-04	0.273E-05	0.936E-06	0.175E-05	0.925E-06
KIDNEYS	0.497E-05	0.497E-05	0.199E-04	0.172E-04	0.156E-04	0.531E-05	0.512E-05	0.217E-04	0.109E 02	0.502E-04
LIVER	0.140E-04	0.140E-04	0.111E-04	0.104E-04	0.147E-04	0.159E-05	0.276E-05	0.187E 01	0.217E-04	0.574E-05
OVARIES	0.682E-06	0.682E-06	0.249E-05	0.595E-04	0.657E-04	0.111E-03	0.405E-05	0.267E-05	0.686E-05	0.328E-05
PANCREAS	0.143E-04	0.143E-04	0.102E-03	0.115E-04	0.134E-04	0.393E-05	0.592E-05	0.222E-04	0.363E-04	0.106E-03
BONE	0.682E-05	0.682E-05	0.422E-05	0.580E-05	0.521E-05	0.749E-05	0.337E 01	0.522E-05	0.671E-05	0.536E-05
R MAR	0.867E-05	0.867E-05	0.751E-05	0.192E-04	0.165E-04	0.229E-04	0.565E 00	0.755E-05	0.175E-04	0.819E-05
Y MAR	0.706E-05	0.706E-05	0.588E-05	0.810E-05	0.745E-05	0.925E-05	0.197E-04	0.774E-05	0.826E-05	0.793E-05
ENDOST	0.682E-05	0.682E-05	0.422E-05	0.580E-05	0.521E-05	0.749E-05	0.559E 01	0.522E-05	0.671E-05	0.536E-05
SPLEEN	0.129E-04	0.129E-04	0.567E-04	0.871E-05	0.787E-05	0.442E-05	0.371E-05	0.525E-05	0.495E-04	0.187E 02
TESTES	0.727E-07	0.727E-07	0.348E-06	0.195E-05	0.182E-05	0.113E-04	0.348E-05	0.468E-06	0.648E-06	0.376E-06
THYMUS	0.227E-04	0.227E-04	0.142E-05	0.595E-06	0.669E-06	0.214E-06	0.274E-05	0.379E-05	0.116E-05	0.205E-05
THYROID	0.482E-05	0.482E-05	0.663E-06	0.129E-06	0.141E-06	0.305E-07	0.519E-05	0.121E-05	0.371E-06	0.637E-06
UTERUS	0.539E-06	0.539E-06	0.460E-05	0.528E-04	0.271E-04	0.396E-04	0.346E-05	0.220E-05	0.590E-05	0.223E-05

S FACTORS (REM/MICROCURIE-DAY) FOR FR-221

TARGET ORGANS	SOURCE ORGANS			
	THYROID	TESTES	OVARIES	OTHER
LUNGS	0.537E-05	0.652E-07	0.404E-06	0.698E-05
RES LYM	0.537E-05	0.652E-07	0.404E-06	0.698E-05
S WALL	0.264E-06	0.282E-06	0.445E-05	0.748E-05
SI WALL	0.823E-07	0.235E-05	0.672E-04	0.846E-05
ULI WALL	0.617E-07	0.202E-05	0.636E-04	0.862E-05
LLI WALL	0.412E-07	0.157E-04	0.814E-04	0.928E-05
T BODY	0.482E-01	0.482E-01	0.482E-01	0.479E-01
ADREN	0.895E-06	0.258E-06	0.215E-05	0.994E-01
BL WALL	0.219E-07	0.272E-04	0.392E-04	0.497E-01
KIDNEYS	0.217E-06	0.323E-06	0.545E-05	0.774E-05
LIVER	0.665E-06	0.226E-06	0.326E-05	0.584E-05
OVARIES	0.478E-07	0.0	0.306E 03	0.107E-04
PANCREAS	0.579E-06	0.399E-06	0.277E-05	0.994E-01
BONE	0.487E-05	0.440E-05	0.694E-05	0.751E-05
R MAR	0.533E-05	0.358E-05	0.241E-04	0.994E-01
Y MAR	0.253E-05	0.171E-05	0.929E-05	0.994E-01
ENDOST	0.487E-05	0.440E-05	0.694E-05	0.142E-04
SPLEEN	0.667E-06	0.152E-06	0.310E-05	0.785E-05
TESTES	0.601E-08	0.963E 02	0.0	0.637E-05
THYMUS	0.242E-04	0.262E-07	0.216E-06	0.994E-01
THYROID	0.169E 03	0.602E-08	0.478E-07	0.695E-05
UTERUS	0.446E-07	0.0	0.119E-03	0.994E-01

CASE 1.. INHALATION

AMAD (MICRON).. 1.00 D3 =0.310 D4 =8.000E-02 D5 =0.249

	SOLUBILITY CLASS	G.I. UPTAKE FRACTIONS STOMACH	S INT	U L INT	L L INT
FR-221	D	0.0	0.950	0.0	0.0
AT-217	D	0.0	0.950	0.0	0.0
BI-213	W	0.0	5.000E-02	0.0	0.0
PO-213	W	0.0	1.000E-01	0.0	0.0
PB-209	W	0.0	8.000E-02	0.0	0.0
TL-209	W	0.0	0.950	0.0	0.0

DOSE EQUIVALENT (REM/MICROCURIE)

SOURCE	LUNGS	RES LYM	S CONT	SI CONT	ULI CONT	LLI CONT	BONE	LIVER	KIDNEYS	SPLEEN	THYROID
TARGET											
LUNGS	1.902E-02	1.017E-07	8.127E-08	1.189E-08	4.582E-09	1.432E-10	2.005E-08	1.812E-08	2.823E-08	1.539E-09	8.698E-11
RES LYM	1.445E-04	7.711E-04	8.127E-08	1.189E-08	4.582E-09	1.432E-10	2.005E-08	1.812E-08	2.823E-08	1.539E-09	8.698E-11
S WALL	1.642E-06	1.157E-09	3.992E-05	1.236E-07	3.671E-08	1.501E-09	1.223E-08	1.423E-08	8.978E-08	7.324E-09	1.351E-11
SI WALL	2.602E-07	1.835E-10	1.133E-07	9.892E-06	1.702E-07	7.943E-09	1.577E-08	1.196E-08	8.484E-08	1.074E-09	3.584E-12
ULI WALL	3.527E-07	2.489E-10	1.623E-07	7.882E-07	4.672E-06	3.893E-09	1.506E-08	1.678E-08	8.641E-08	1.080E-09	4.228E-12
LLI WALL	6.164E-08	4.339E-11	6.255E-08	2.395E-07	3.206E-08	6.342E-07	1.983E-08	2.643E-09	2.989E-08	5.034E-10	2.103E-12
T BODY	2.730E-04	1.661E-07	1.605E-07	1.498E-07	3.366E-08	3.059E-09	1.853E-05	1.362E-06	5.286E-07	1.362E-07	1.510E-08
ADREN	1.723E-06	1.214E-09	1.422E-07	4.361E-08	1.191E-08	4.471E-10	3.727E-08	3.397E-08	3.497E-07	4.591E-09	1.792E-11
BL WALL	7.784E-08	5.494E-11	1.982E-08	1.181E-07	1.984E-08	5.713E-09	1.505E-08	2.070E-09	1.276E-08	1.753E-10	1.528E-12
KIDNEYS	9.016E-07	6.358E-10	1.466E-07	1.047E-07	3.060E-08	8.583E-10	1.957E-08	2.746E-08	1.101E-04	6.159E-09	1.136E-11
LIVER	1.973E-06	1.390E-09	9.147E-08	6.518E-08	2.771E-08	3.867E-10	1.498E-08	5.254E-05	1.136E-07	8.037E-10	1.704E-11
OVARIES	1.448E-07	1.022E-10	3.670E-08	2.890E-07	9.594E-08	1.482E-08	1.891E-08	5.881E-09	3.608E-08	5.215E-10	2.484E-12
PANCREAS	2.102E-06	1.481E-09	7.613E-07	6.476E-08	2.272E-08	6.316E-10	2.243E-08	3.018E-08	1.881E-07	1.291E-08	2.643E-11
BONE	8.490E-07	5.981E-10	2.821E-08	2.897E-08	8.251E-09	9.645E-10	2.589E-04	5.673E-09	3.032E-08	5.897E-10	6.390E-11
R MAR	1.081E-06	7.614E-10	4.699E-08	9.011E-08	2.426E-08	2.858E-09	4.281E-05	8.215E-09	7.621E-08	8.511E-10	7.027E-11
Y MAR	8.727E-07	6.147E-10	3.980E-08	3.968E-08	1.168E-08	1.199E-09	6.045E-08	8.421E-09	3.726E-08	8.751E-10	3.537E-11
ENDOST	8.490E-07	5.981E-10	2.821E-08	2.897E-08	8.251E-09	9.645E-10	3.840E-04	5.673E-09	3.032E-08	5.897E-10	6.390E-11
SPLEEN	1.607E-06	1.132E-09	4.201E-07	5.897E-08	1.598E-08	8.812E-10	1.427E-08	7.148E-09	2.386E-07	5.245E-05	1.401E-11
TESTES	3.149E-08	2.224E-11	6.230E-09	1.906E-08	4.954E-09	1.591E-09	1.533E-08	9.931E-10	5.175E-09	8.634E-11	7.087E-13
THYMUS	3.497E-06	2.465E-09	2.480E-08	5.733E-09	1.951E-09	6.948E-11	1.137E-08	6.331E-09	1.021E-08	2.095E-10	3.567E-10
THYROID	8.186E-07	5.770E-10	7.865E-09	2.019E-09	6.712E-10	2.710E-11	2.170E-08	1.530E-09	3.486E-09	1.249E-10	5.262E-05
UTERUS	1.835E-07	1.296E-10	4.423E-08	2.926E-07	5.459E-08	5.272E-09	1.248E-08	4.273E-09	3.090E-08	2.323E-10	2.391E-12

DOSE EQUIVALENT (REM/MICROCURIE)

SOURCE	TESTES	OVARIES	OTHER	TOTAL
TARGET				
LUNGS	5.335E-12	6.937E-12	1.735E-07	1.902E-02
RES LYM	5.335E-12	6.937E-12	1.735E-07	9.159E-04
S WALL	1.728E-11	4.377E-11	1.858E-07	4.204E-05
SI WALL	7.839E-11	5.020E-10	2.069E-07	1.077E-05
ULI WALL	5.565E-11	4.745E-10	2.120E-07	6.311E-06
LLI WALL	3.794E-10	6.038E-10	2.289E-07	1.313E-06
T BODY	2.642E-08	8.331E-09	2.543E-05	3.196E-04
ADREN	1.305E-11	2.460E-11	5.269E-05	5.504E-05
BL WALL	6.689E-10	2.966E-10	2.645E-05	2.673E-05
KIDNEYS	2.073E-11	4.878E-11	1.981E-07	1.116E-04
LIVER	1.496E-11	2.991E-11	1.504E-07	5.498E-05
OVARIES	0.0	5.243E-05	2.633E-07	5.334E-05
PANCREAS	1.671E-11	2.416E-11	5.277E-05	5.597E-05
BONE	9.698E-11	4.274E-11	2.204E-07	2.601E-04
R MAR	7.523E-11	1.390E-10	5.248E-05	9.663E-05
Y MAR	4.328E-11	5.615E-11	5.264E-05	5.371E-05
ENDOST	9.698E-11	4.274E-11	5.171E-07	3.855E-04
SPLEEN	1.334E-11	2.640E-11	1.954E-07	5.501E-05
TESTES	5.241E-05	0.0	1.681E-07	5.266E-05
THYMUS	2.989E-12	3.625E-12	5.298E-05	5.654E-05
THYROID	1.236E-12	1.365E-12	1.727E-07	5.365E-05
UTERUS	0.0	7.575E-10	5.295E-05	5.358E-05

PERCENT DOSE EQUIVALENT..

NUCLIDE	FR-221	AT-217	BI-213	PO-213	PB-209	TL-209
TARGET						
LUNGS	46.0	51.2	1.1	1.2	0.0	0.5
RES LYM	38.8	42.9	6.9	1.1	0.0	10.2
S WALL	26.4	28.7	14.7	0.6	0.1	29.5
SI WALL	4.8	5.1	33.1	1.3	0.5	55.2
ULI WALL	0.6	0.5	27.5	1.0	1.5	69.0
LLI WALL	0.5	0.0	19.7	0.6	3.8	75.4
T BODY	45.7	50.8	1.2	1.3	0.0	0.9
ADREN	43.1	48.1	2.0	1.8	0.0	5.0
BL WALL	44.4	49.4	1.8	1.8	0.0	2.6
KIDNEYS	21.3	23.7	21.3	22.6	0.1	11.1
LIVER	43.2	48.0	2.0	1.8	0.0	5.1
OVARIES	44.5	49.5	1.8	1.8	0.0	2.4
PANCREAS	42.5	47.3	2.1	1.7	0.0	6.4
BONE	45.5	50.6	1.4	1.9	0.0	0.6
R MAR	44.7	49.9	1.6	1.8	0.0	1.9
Y MAR	44.2	49.3	1.9	1.8	0.0	2.9
ENDOST	50.9	47.2	0.2	1.2	0.0	0.4
SPLEEN	43.2	47.9	2.0	1.8	0.0	5.1
TESTES	45.1	50.1	1.8	1.8	0.0	1.3
THYMUS	42.0	46.8	2.0	1.7	0.0	7.4
THYROID	44.4	49.4	1.8	1.8	0.0	2.5
UTERUS	44.3	49.4	1.8	1.8	0.0	2.7

CASE 2.. INGESTION

INGESTION TRANSFER FRACTIONS (G. I. TRACT TO BLOOD)

	FR-221	AT-217	BI-213	PO-213	PB-209	TL-209
STOMACH	0.0	0.0	0.0	0.0	0.0	0.0
S INT	0.950	0.950	5.000E-02	1.000E-01	8.000E-02	0.950
U L INT	0.0	0.0	0.0	0.0	0.0	0.0
L L INT	0.0	0.0	0.0	0.0	0.0	0.0

DOSE EQUIVALENT (REM/MICROCURIE)

SOURCE	S CONT	SI CONT	ULI CONT	LLI CONT	BONE	LIVER	KIDNEYS	SPLEEN	THYROID	TESTES	OVARIES
TARGET											
LUNGS	1.309E-06	2.033E-07	7.896E-08	2.470E-09	2.480E-08	2.238E-08	9.372E-09	1.896E-09	1.074E-10	6.768E-12	8.699E-12
RES LYM	1.309E-06	2.033E-07	7.896E-08	2.470E-09	2.480E-08	2.238E-08	9.372E-09	1.896E-09	1.074E-10	6.768E-12	8.699E-12
S WALL	8.659E-04	2.114E-06	6.327E-07	2.590E-08	1.516E-08	1.758E-08	2.966E-08	9.051E-09	1.694E-11	2.153E-11	5.443E-11
SI WALL	1.828E-06	1.779E-04	2.933E-06	1.370E-07	1.949E-08	1.477E-08	2.817E-08	1.329E-09	4.566E-12	9.715E-11	6.184E-10
ULI WALL	2.614E-06	1.348E-05	8.022E-05	6.716E-08	1.865E-08	2.062E-08	2.867E-08	1.338E-09	5.391E-12	6.911E-11	5.846E-10
LLI WALL	1.007E-06	4.097E-06	5.526E-07	1.056E-05	2.452E-08	3.290E-08	9.964E-09	6.218E-10	2.650E-12	4.670E-10	7.437E-10
T BODY	3.062E-06	2.642E-06	5.793E-07	5.189E-09	1.098E-05	8.179E-07	1.966E-07	8.178E-08	9.049E-09	1.585E-08	5.012E-09
ADREN	2.283E-06	7.460E-07	2.052E-07	7.712E-09	4.640E-08	4.182E-08	1.159E-07	5.670E-09	2.224E-11	1.633E-11	3.042E-11
BL WALL	3.174E-07	2.019E-06	3.420E-07	9.856E-08	1.378E-08	2.555E-09	4.253E-09	2.201E-10	1.932E-12	8.229E-10	3.659E-10
KIDNEYS	2.365E-06	1.790E-06	5.273E-07	1.481E-08	2.426E-08	3.388E-08	4.134E-05	7.593E-09	1.442E-11	2.603E-11	6.027E-11
LIVER	1.473E-06	1.115E-06	4.775E-07	6.670E-09	1.357E-08	3.137E-05	3.762E-08	9.938E-10	2.128E-11	1.890E-11	3.710E-11
OVARIES	5.875E-07	4.944E-06	1.654E-06	2.557E-07	2.335E-08	7.460E-09	1.198E-08	6.367E-10	3.130E-12	0.0	3.121E-05
PANCREAS	1.228E-05	1.108E-06	3.916E-07	1.090E-08	2.791E-08	3.710E-08	6.231E-08	1.587E-08	3.367E-11	2.115E-11	2.983E-11
BONE	4.558E-07	4.956E-07	1.422E-07	1.664E-08	1.531E-04	6.992E-09	1.005E-08	7.255E-10	7.870E-11	1.195E-10	5.258E-11
R MAR	7.601E-07	1.542E-06	4.182E-07	4.931E-08	2.540E-05	1.012E-08	2.525E-08	1.047E-09	8.657E-11	9.254E-11	1.707E-10
Y MAR	6.429E-07	6.789E-07	2.014E-07	2.069E-08	7.455E-08	1.038E-08	1.235E-08	1.078E-09	4.366E-11	5.351E-11	6.902E-11
ENDOST	4.558E-07	4.956E-07	1.422E-07	1.664E-08	2.278E-04	6.992E-09	1.005E-08	7.255E-10	7.870E-11	1.195E-10	5.258E-11
SPLEEN	6.778E-06	1.008E-06	2.737E-07	1.520E-08	1.756E-08	8.821E-09	7.901E-08	3.126E-05	1.747E-11	1.646E-11	3.247E-11
TESTES	9.952E-08	3.258E-07	8.538E-08	2.745E-08	1.914E-08	1.237E-09	1.728E-09	1.078E-10	9.002E-13	3.120E-05	0.0
THYMUS	3.965E-07	9.300E-08	3.363E-08	1.199E-09	1.393E-08	7.720E-09	3.385E-09	2.521E-10	4.398E-10	3.781E-12	4.542E-12
THYROID	1.262E-07	3.451E-08	1.157E-08	4.674E-10	2.689E-08	1.894E-09	1.166E-09	1.556E-10	3.132E-05	1.572E-12	1.723E-12
UTERUS	7.110E-07	5.005E-06	9.409E-07	9.093E-08	1.545E-08	5.340E-09	1.030E-08	2.816E-10	3.015E-12	0.0	9.303E-10

DOSE EQUIVALENT (REM/MICROCURIE)

SOURCE	OTHER	TOTAL
TARGET		
LUNGS	2.163E-07	1.868E-06
RES LYM	2.163E-07	1.868E-06
S WALL	2.317E-07	8.689E-04
SI WALL	2.579E-07	1.831E-04
ULI WALL	2.643E-07	9.671E-05
LLI WALL	2.853E-07	1.654E-05
T BODY	1.525E-05	3.369E-05
ADREN	3.150E-05	3.495E-05
BL WALL	1.592E-05	1.872E-05
KIDNEYS	2.472E-07	4.635E-05
LIVER	1.876E-07	3.469E-05
OVARIES	3.284E-07	3.902E-05
PANCREAS	3.159E-05	4.553E-05
BONE	2.622E-07	1.545E-04
R MAR	3.129E-05	5.949E-05
Y MAR	3.143E-05	3.307E-05
ENDOST	5.572E-07	2.295E-04
SPLEEN	2.437E-07	3.968E-05
TESTES	2.100E-07	3.197E-05
THYMUS	3.186E-05	3.242E-05
THYROID	2.153E-07	3.174E-05
UTERUS	3.182E-05	3.860E-05

PERCENT DOSE EQUIVALENT..

NUCLIDE	FR-221	AT-217	BI-213	PO-213	PB-209	TL-209
TARGET						
LUNGS	2.3	0.0	6.1	0.0	0.0	91.6
RES LYM	2.3	0.0	6.1	0.0	0.0	91.6
S WALL	32.3	35.8	11.4	0.4	0.0	19.4
SI WALL	7.2	7.8	33.1	1.3	0.2	50.5
ULI WALL	0.8	0.8	30.2	1.1	0.9	66.2
LLI WALL	0.3	0.1	24.8	0.9	2.8	71.2
T BODY	38.8	43.0	4.1	1.3	0.0	12.7
ADREN	40.5	45.0	1.3	1.3	0.0	11.4
BL WALL	37.7	41.9	2.2	1.2	0.0	17.0
KIDNEYS	30.7	33.9	8.8	8.6	0.0	18.1
LIVER	40.8	45.2	1.9	1.3	0.0	10.8
OVARIES	36.2	40.2	2.7	1.2	0.0	19.7
PANCREAS	31.9	34.6	3.1	1.0	0.0	29.4
BONE	45.5	50.7	1.1	1.5	0.0	1.2
R MAR	43.2	48.2	1.5	1.4	0.0	5.7
Y MAR	42.7	47.6	1.6	1.4	0.0	6.7
ENDOST	50.9	47.1	0.2	1.0	0.0	0.9
SPLEEN	36.1	39.5	2.5	1.1	0.0	20.7
TESTES	44.1	49.0	1.4	1.4	0.0	4.0
THYMUS	43.5	48.6	1.4	1.4	0.0	5.2
THYROID	44.6	49.7	1.4	1.4	0.0	3.0
UTERUS	36.6	40.8	2.5	1.2	0.0	19.0

RADIONUCLIDE: RA-223

PHYSICAL AND METABOLIC PARAMETERS FOR DOSIMETRICALLY SIGNIFICANT PROGENY:

NUCLIDE	RADIOACTIVE HALF-LIFE (DAYS)
RA-223	11.40
RN-219	4.5800E-05
PO-215	2.0600E-08
PB-211	2.5100E-02
BI-211	1.4800E-03
PO-211	6.4800E-06
TL-207	3.3100E-03

BRANCHING RATIOS:

FROM	TO	FRACTION
RA-223	RN-219	1.000
RN-219	PO-215	1.000
PO-215	PB-211	1.000
PB-211	BI-211	1.000
BI-211	PO-211	3.0000E-03
BI-211	TL-207	0.9970

ORGAN ABSORBED	NUCLIDE	BLOOD TRANSFER FRACTION F2-PRIME	COMPARTMENT DEPOSITION FRACTION	COMPARTMENT BIOLOGICAL HALF-TIME (DAYS)
	RA-223	1.00	0.917	5.50
			5.360E-02	81.0
			1.990E-03	955.
			1.750E-05	3.140E 03
			9.390E-04	7.620E 03
	RN-219	0.0	0.874	2.650E-04
			9.130E-02	3.110E-03
			1.980E-02	2.280E-02
			8.630E-03	0.146
			6.120E-03	0.963
	PO-215	1.00	1.000E-02	0.500
			0.990	50.0
	PB-211	1.00	1.000E-01	1.00
			0.200	10.0
			0.300	320.
			0.200	2.000E 03
			0.200	8.000E 03
	BI-211	1.00	-1.720E-02	1.000E-01
			1.02	5.78
	PO-211	1.00	1.000E-02	0.500
			0.990	50.0
	TL-207	1.00	1.00	4.00
BONE	RA-223	0.172	0.880	5.68
			1.360E-02	240.
			2.030E-03	1.610E 03
			5.730E-02	1.490E 03
			4.600E-02	8.380E 03
	RN-219	0.0	0.700	2.650E-04
			0.300	1.000E 50
	*PO-215	9.000E-02	1.000E-02	0.500
			0.990	50.0
	PB-211	0.562	0.375	320.
			0.310	2.000E 03
			0.315	8.000E 03
	*BI-211	7.340E-02	-1.000E-01	1.000E-01
			1.10	5.78
	*PO-211	9.000E-02	1.000E-02	0.500
			0.990	50.0
	*TL-207	0.118	1.00	4.00

α decay (11.434 D 2)

*Retention data derived from "other tissues" compartment.

RADIUM-223 CONTINUED

ORGAN	NUCLIDE	BLOOD TRANSFER FRACTION F2-PRIME	COMPARTMENT DEPOSITION FRACTION	COMPARTMENT BIOLOGICAL HALF-TIME (DAYS)
LIVER	*RA-223	4.540E-02	0.890	0.630
			7.090E-02	28.9
			3.040E-02	160.
			7.430E-03	776.
			7.940E-04	4.040E 03
	*RN-219	0.0	0.849	2.650E-04
			9.900E-02	3.110E-03
			4.400E-02	2.880E-02
			7.790E-04	0.146
			2.030E-05	0.963
	PO-215	1.000E-01	1.000E-02	0.500
			C.990	50.0
	PB-211	0.106	0.843	10.0
			7.870E-02	320.
			4.010E-02	2.000E 03
			3.800E-02	8.000E 03
	*BI-211	2.640E-02	-1.000E-01	1.000E-01
			1.10	5.78
	PO-211	1.000E-01	1.000E-02	0.500
			C.990	50.0
	*TL-207	4.240E-02	1.00	4.00
KIDNEYS	*RA-223	7.820E-03	0.890	0.630
			7.090E-02	28.9
			3.040E-02	160.
			7.430E-03	776.
			7.940E-04	4.040E 03
	*RN-219	0.0	0.849	2.650E-04
			9.900E-02	3.110E-03
			4.400E-02	2.880E-02
			7.790E-04	0.146
			2.030E-05	0.963
	PO-215	1.000E-01	1.000E-02	0.500
			C.990	50.0
	PB-211	5.090E-02	0.962	10.0
			2.000E-02	320.
			9.600E-03	2.000E 03
			8.290E-03	8.000E 03
	BI-211	0.400	1.00	5.78
	PO-211	1.000E-01	1.000E-02	0.500
			C.990	50.0
	TL-207	3.760E-02	1.00	4.00
SPLEEN	*RA-223	4.540E-03	0.890	0.630
			7.090E-02	28.9
			3.040E-02	160.
			7.430E-03	776.
			7.940E-04	4.040E 03
	*RN-219	0.0	0.849	2.650E-04
			9.900E-02	3.110E-03
			4.400E-02	2.880E-02
			7.790E-04	0.146
			2.030E-05	0.963
	PO-215	1.000E-01	1.000E-02	0.500
			0.990	50.0
	*PB-211	2.960E-04	0.375	320.
			0.310	2.000E 03
			0.315	8.000E 03
	*BI-211	2.640E-03	-1.000E-01	1.000E-01
			1.10	5.78
	PO-211	1.000E-01	1.000E-02	0.500
			C.990	50.0
	*TL-207	4.240E-03	1.00	4.00
TESTES	*RA-223	8.830E-04	0.890	0.630
			7.090E-02	28.9
			3.040E-02	160.
			7.430E-03	776.
			7.940E-04	4.040E 03
	*RN-219	0.0	0.910	2.650E-04
			8.660E-02	3.110E-03
			3.040E-04	2.880E-02
			3.170E-03	0.146
			6.810E-06	0.963
	*PO-215	6.300E-04	1.000E-02	0.500
			C.990	50.0
	*PB-211	5.760E-05	0.375	320.
			0.310	2.000E 03
			0.315	8.000E 03

RADIUM-223 CONTINUED

ORGAN	NUCLIDE	BLOOD TRANSFER FRACTION F2-PRIME	COMPARTMENT DEPOSITION FRACTION	COMPARTMENT BIOLOGICAL HALF-TIME (DAYS)
	* BI-211	5.140E-04	-1.000E-01	1.000E-01
			1.10	5.78
	* PO-211	5.300E-04	1.000E-02	0.500
			0.990	50.0
	* TL-207	8.240E-04	1.00	4.00
OVARIES	* RA-223	2.770E-04	0.890	0.630
			7.090E-02	28.9
			3.040E-02	160.
			7.430E-03	776.
			7.940E-04	4.040E 03
	RN-219	0.0	0.910	2.650E-04
			8.660E-02	3.110E-03
			3.040E-04	2.880E-02
			3.170E-03	0.146
			6.810E-06	0.963
	* PO-215	1.980E-04	1.000E-02	0.500
			0.990	50.0
	* PB-211	1.810E-05	0.375	0.0
			0.310	2.000E 03
			0.315	8.000E 03
	* BI-211	1.610E-04	-1.000E-01	1.000E-01
			1.10	5.78
	* PO-211	1.980E-04	1.000E-02	0.500
			0.990	50.0
	* TL-207	2.590E-04	1.00	4.00
OTHER	RA-223	0.854	0.890	0.630
			7.090E-02	28.9
			3.040E-02	160.
			7.430E-03	776.
			7.940E-04	4.040E 03
	RN-219	0.0	0.872	2.650E-04
			9.140E-02	3.110E-03
			2.050E-02	2.880E-02
			9.080E-03	0.146
			6.790E-03	0.963
	PO-215	0.610	1.000E-02	0.500
			0.990	50.0
	PB-211	5.580E-02	0.375	0.0
			0.310	2.000E 03
			0.315	8.000E 03
	BI-211	0.500	-1.000E-01	1.000E-01
			1.10	5.78
	PO-211	0.610	1.000E-02	0.500
			0.990	50.0
	TL-207	0.814	1.00	4.00

S FACTORS (REM/MICROCURIE-DAY) FOR RA-223

TARGET ORGANS	SOURCE ORGANS												
	LUNGS	RES LYM	S CONT	SI CONT	ULI CONT	LLI CONT	BONE	LIVER	KIDNEYS	SPLEEN	TESTES	OVARIES	OTHER
LUNGS	0.302E 01	0.412E-02	0.448E-04	0.587E-05	0.662E-05	0.197E-05	0.241E-04	0.643E-04	0.213E-04	0.575E-04	0.210E-06	0.168E-05	0.316E-04
RES LYM	0.412E-02	0.202E 03	0.448E-04	0.587E-05	0.662E-05	0.197E-05	0.241E-04	0.643E-04	0.213E-04	0.575E-04	0.210E-06	0.168E-05	0.316E-04
S WALL	0.469E-04	0.469E-04	0.669E-01	0.916E-04	0.959E-04	0.446E-04	0.137E-04	0.475E-04	0.876E-04	0.256E-03	0.121E-05	0.196E-04	0.324E-04
SI WALL	0.487E-05	0.487E-05	0.669E-04	0.419E-01	0.434E-03	0.240E-03	0.187E-04	0.404E-04	0.713E-04	0.347E-04	0.957E-05	0.312E-03	0.376E-04
ULI WALL	0.608E-05	0.608E-05	0.856E-04	0.658E-03	0.757E-01	0.109E-03	0.173E-04	0.633E-04	0.713E-04	0.345E-04	0.764E-05	0.288E-03	0.365E-04
LLI WALL	0.187E-05	0.187E-05	0.304E-04	0.189E-03	0.788E-04	0.123E 00	0.254E-04	0.578E-05	0.185E-04	0.154E-04	0.697E-04	0.377E-03	0.414E-04
T BODY	0.432E-01	0.432E-01	0.188E-03	0.427E-03	0.275E-03	0.329E-03	0.216E 00	0.432E-01	0.432E-01	0.432E-01	0.432E-01	0.433E-01	0.430E-01
ADREN	0.644E-04	0.644E-04	0.638E-04	0.285E-04	0.228E-04	0.952E-05	0.315E-04	0.118E-03	0.285E-03	0.161E-03	0.964E-06	0.919E-05	0.852E-01
BL WALL	0.109E-05	0.108E-05	0.694E-05	0.679E-04	0.522E-04	0.167E-03	0.128E-04	0.449E-05	0.709E-05	0.308E-05	0.124E-03	0.181E-03	0.446E-01
KIDNEYS	0.218E-04	0.218E-04	0.873E-04	0.783E-04	0.701E-04	0.211E-04	0.213E-04	0.987E-04	0.975E 01	0.232E-03	0.128E-05	0.234E-04	0.344E-04
LIVER	0.623E-04	0.623E-04	0.459E-04	0.456E-04	0.643E-04	0.645E-05	0.164E-04	0.169E 01	0.986E-04	0.244E-04	0.848E-06	0.134E-04	0.261E-04
OVARIES	0.265E-05	0.263E-05	0.122E-04	0.271E-03	0.300E-03	0.466E-03	0.194E-04	0.999E-05	0.280E-04	0.135E-04	0.0	0.275E 03	0.466E-04
PANCREAS	0.661E-04	0.661E-04	0.469E-03	0.508E-04	0.552E-04	0.174E-04	0.224E-04	0.109E-03	0.165E-03	0.497E-03	0.126E-05	0.119E-04	0.852E-01
BONE	0.366E-04	0.366E-04	0.214E-04	0.298E-04	0.269E-04	0.400E-04	0.604E 00	0.269E-04	0.351E-04	0.278E-04	0.213E-04	0.369E-04	0.357E-04
R MAR	0.461E-04	0.461E-04	0.372E-04	0.101E-03	0.873E-04	0.127E-02	0.499E 00	0.379E-04	0.918E-04	0.407E-04	0.169E-04	0.132E-03	0.852E-01
Y MAR	0.382E-04	0.382E-04	0.301E-04	0.418E-04	0.387E-04	0.502E-04	0.111E-03	0.403E-04	0.430E-04	0.421E-04	0.795E-05	0.501E-04	0.852E-01
ENDOST	0.366E-04	0.366E-04	0.214E-04	0.298E-04	0.269E-04	0.400E-04	0.599E 01	0.269E-04	0.351E-04	0.278E-04	0.213E-04	0.369E-04	0.516E-04
SPLEEN	0.573E-04	0.573E-04	0.258E-03	0.375E-04	0.348E-04	0.203E-04	0.162E-04	0.227E-04	0.224E-03	0.168E 02	0.938E-06	0.128E-04	0.353E-04
TESTES	0.279E-06	0.279E-06	0.112E-05	0.764E-05	0.767E-05	0.473E-04	0.150E-04	0.175E-05	0.242E-05	0.140E-05	0.864E 02	0.0	0.281E-04
THYMUS	0.105E-03	0.105E-03	0.662E-05	0.223E-05	0.262E-05	0.302E-06	0.136E-04	0.184E-04	0.560E-05	0.786E-05	0.105E-06	0.808E-06	0.952E-01
THYROID	0.228E-04	0.228E-04	0.243E-05	0.487E-06	0.532E-06	0.195E-06	0.215E-04	0.290E-05	0.139E-05	0.238E-05	0.266E-07	0.186E-06	0.851E-01
UTERUS	0.208E-05	0.208E-05	0.189E-04	0.244E-03	0.130E-03	0.174E-03	0.140E-04	0.945E-05	0.223E-04	0.966E-05	0.0	0.529E-03	0.852E-01

CASE 1.. INHALATION

AMAD (MICRON).. 1.00 D3 =0.310 D4 =8.000E-02 D5 =0.249

	SOLUBILITY CLASS	G.I. UPTAKE FRACTIONS STOMACH	S INT	U L INT	L L INT
RA-223	W	0.0	0.200	0.0	0.0
RN-219	*	0.0	0.0	0.0	0.0
PO-215	W	0.0	1.000E-01	0.0	0.0
PB-211	W	0.0	8.000E-02	0.0	0.0
BI-211	W	0.0	5.000E-02	0.0	0.0
PO-211	W	0.0	1.000E-01	0.0	0.0
TL-207	W	0.0	0.950	0.0	0.0

*SPECIAL LUNG CLEARANCE PARAMETERS. T=HALF-TIME (DAYS), F=DEPOSITION FRACTION.

	CLEARANCE PATHWAY..	A	B	C	D	E	F	G	H	I
RN-219	F	1.0	0.0	1.0	0.0	1.0	0.0	0.0	0.0	1.0
	T	8.20E-05	1.0	8.20E-05	1.0	8.20E-05	0.0	0.0	0.0	2.96E-03

DOSE EQUIVALENT (REM/MICROCURIE)

SOURCE	LUNGS	RES LYM	S CONT	SI CONT	ULI CONT	LLI CONT	BONE	LIVER	KIDNEYS	SPLEEN	TESTES
TARGET											
LUNGS	23.7	1.640E-03	1.542E-06	7.742E-07	2.670E-06	1.443E-06	9.101E-06	2.010E-06	1.322E-07	1.764E-07	1.790E-10
RES LYM	8.319E-02	28.8	1.542E-06	7.742E-07	2.670E-06	1.443E-06	9.101E-06	2.010E-06	1.322E-07	1.764E-07	1.790E-10
S WALL	1.852E-04	3.000E-06	6.150E-03	1.029E-05	3.387E-05	2.791E-05	5.250E-06	1.532E-06	5.120E-07	7.785E-07	1.003E-09
SI WALL	2.159E-05	3.598E-07	2.284E-06	1.245E-02	1.524E-04	1.470E-04	7.201E-06	1.297E-06	4.214E-07	1.091E-07	6.594E-09
ULI WALL	2.755E-05	4.612E-07	3.001E-06	7.069E-05	7.452E-02	6.725E-05	6.635E-06	2.018E-06	4.271E-07	1.063E-07	4.986E-09
LLI WALL	9.137E-06	1.350E-07	1.083E-06	2.072E-05	2.798E-05	0.211	9.472E-06	2.057E-07	1.201E-07	5.003E-08	4.213E-08
T BODY	0.338	6.164E-03	1.466E-05	1.187E-04	2.403E-04	5.119E-04	0.174	2.959E-03	5.570E-04	2.304E-04	5.640E-05
ADREN	2.498E-04	4.027E-06	2.073E-06	3.594E-06	8.672E-06	6.798E-06	1.309E-05	3.870E-06	1.709E-06	5.015E-07	7.677E-10
BL WALL	5.227E-06	8.876E-08	2.779E-07	8.090E-06	1.962E-05	9.915E-05	4.981E-06	1.717E-07	4.890E-08	1.176E-08	7.581E-08
KIDNEYS	9.033E-05	1.481E-06	2.972E-06	8.959E-06	2.513E-05	1.368E-05	8.419E-06	3.098E-06	0.126	7.006E-07	1.064E-09
LIVER	2.440E-04	3.943E-06	1.724E-06	5.243E-06	2.303E-05	4.611E-06	6.308E-06	0.115	5.862E-07	7.931E-08	6.668E-10
OVARIES	1.197E-05	2.003E-07	4.693E-07	2.941E-05	1.064E-04	2.852E-04	7.891E-06	3.155E-07	1.776E-07	5.192E-08	0.0
PANCREAS	2.604E-04	4.216E-06	1.569E-05	5.861E-06	1.938E-05	1.120E-05	8.786E-06	3.491E-06	9.815E-07	1.522E-06	8.483E-10
BONE	1.296E-04	2.037E-06	6.567E-07	2.963E-06	8.448E-06	2.158E-05	0.488	7.568E-07	1.827E-07	7.688E-08	1.192E-08
R MAR	1.634E-04	2.568E-06	1.145E-06	9.823E-06	2.672E-05	6.702E-05	0.402	1.079E-06	4.734E-07	1.137E-07	9.514E-09
Y MAR	1.354E-04	2.129E-06	9.187E-07	4.138E-06	1.210E-05	2.695E-05	3.546E-05	1.127E-06	2.249E-07	1.157E-07	4.650E-09
ENDOST	1.296E-04	2.037E-06	6.567E-07	2.963E-06	8.448E-06	2.158E-05	3.82	7.568E-07	1.827E-07	7.688E-08	1.192E-08
SPLEEN	2.235E-04	3.609E-06	8.656E-06	4.385E-06	1.225E-05	1.345E-05	6.633E-06	7.620E-07	1.302E-06	0.113	8.724E-10
TESTES	1.512E-06	2.624E-08	4.478E-08	9.860E-07	3.417E-06	3.048E-05	5.637E-06	7.659E-08	1.786E-08	5.544E-09	0.113
THYMUS	4.028E-04	6.475E-06	2.513E-07	3.142E-07	1.122E-06	6.691E-07	5.614E-06	6.897E-07	3.789E-08	3.030E-08	1.026E-10
THYROID	9.713E-05	1.604E-06	1.027E-07	7.876E-08	2.690E-07	1.869E-07	8.477E-06	1.431E-07	1.074E-08	9.034E-09	2.997E-11
UTERUS	8.898E-06	1.470E-07	7.028E-07	2.677E-05	4.436E-05	1.032E-04	5.612E-06	7.171E-07	1.360E-07	3.301E-08	0.0

DOSE EQUIVALENT (REM/MICROCURIE)

SOURCE	OVARIES	OTHER	TOTAL
TARGET			
LUNGS	4.016E-10	1.856E-05	23.7
RES LYM	4.016E-10	1.856E-05	28.9
S WALL	3.798E-09	1.942E-05	6.438E-03
SI WALL	5.791E-08	2.219E-05	1.280E-02
ULI WALL	5.391E-08	2.268E-05	7.472E-02
LLI WALL	6.978E-08	2.442E-05	0.211
T BODY	1.770E-05	5.455E-02	0.578
ADREN	2.078E-09	0.113	0.113
BL WALL	3.359E-08	5.657E-02	5.671E-02
KIDNEYS	4.756E-09	2.051E-05	0.126
LIVER	2.720E-09	1.556E-05	0.115
OVARIES	0.113	2.828E-05	0.113
PANCREAS	2.512E-09	0.113	0.114
BONE	6.053E-09	5.116E-05	0.488
R MAR	2.120E-08	0.113	0.515
Y MAR	8.165E-09	0.113	0.113
ENDOST	6.053E-09	2.504E-04	3.82
SPLEEN	2.708E-09	2.075E-05	0.113
TESTES	0.0	1.687E-05	0.113
THYMUS	2.047E-10	0.113	0.114
THYROID	5.396E-11	0.113	0.114
UTERUS	9.621E-08	0.113	0.114

PERCENT DOSE EQUIVALENT..

NUCLIDE	RA-223	RN-219	PO-215	PB-211	BI-211	PO-211	TL-207
TARGET							
LUNGS	29.8	23.0	25.0	0.2	21.8	0.1	0.2
RES LYM	21.7	25.5	27.6	0.3	24.5	0.1	0.3
S WALL	20.5	19.8	20.3	11.6	16.4	0.1	11.4
SI WALL	19.4	19.5	20.3	13.1	18.8	0.1	8.9
ULI WALL	17.7	18.7	19.9	12.4	18.0	0.1	13.3
LLI WALL	17.6	18.7	20.0	12.4	18.0	0.1	13.3
T BODY	27.1	23.8	25.8	0.1	23.0	0.1	0.1
ADREN	23.9	24.6	26.9	0.2	24.1	0.1	0.2
BL WALL	23.9	24.8	26.8	0.2	24.0	0.1	0.2
KIDNEYS	21.5	22.3	24.0	0.2	31.5	0.1	0.3
LIVER	23.6	24.3	26.3	0.2	25.3	0.1	0.2
OVARIES	24.1	24.8	26.7	0.2	23.9	0.1	0.2
PANCREAS	23.9	24.8	26.8	0.2	24.0	0.1	0.2
BONE	23.1	24.8	26.9	0.2	24.8	0.1	0.2
R MAR	23.4	24.8	26.9	0.1	24.7	0.1	0.1
Y MAR	23.9	24.6	26.9	0.2	24.1	0.1	0.2
ENDOST	29.3	23.4	22.1	0.0	25.1	0.1	0.0
SPLEEN	24.0	24.8	26.8	0.2	23.9	0.1	0.2
TESTES	24.0	24.7	26.9	0.2	24.0	0.1	0.2
THYMUS	23.9	24.8	26.8	0.2	24.0	0.1	0.2
THYROID	23.8	24.8	26.9	0.2	24.0	0.1	0.2
UTERUS	23.8	24.8	26.9	0.2	24.0	0.1	0.2

CASE 2.. INGESTION

INGESTION TRANSFER FRACTIONS (G. I. TRACT TO BLOOD)

	RA-223	RN-219	PO-215	PB-211	BI-211	PO-211	TL-207
STOMACH	0.0	0.0	0.0	0.0	0.0	0.0	0.0
S INT	0.200	0.0	1.000E-01	8.000E-02	5.000E-02	1.000E-01	0.950
U L INT	0.0	0.0	0.0	0.0	0.0	0.0	0.0
L L INT	0.0	0.0	0.0	0.0	0.0	0.0	0.0

DOSE EQUIVALENT (REM/MICROCURIE)

SOURCE	S CONT	SI CONT	ULI CONT	LLI CONT	BONE	LIVER	KIDNEYS	SPLEEN	TESTES	OVARIES	OTHER
TARGET											
LUNGS	3.261E-06	1.803E-06	6.390E-06	3.461E-06	1.109E-05	2.423E-06	1.486E-07	2.168E-07	2.201E-10	4.938E-10	2.282E-05
RES LYM	3.261E-06	1.803E-06	6.390E-06	3.461E-06	1.109E-05	2.423E-06	1.486E-07	2.168E-07	2.201E-10	4.938E-10	2.282E-05
S WALL	1.230E-02	2.409E-05	8.108E-05	6.693E-05	6.396E-06	1.845E-06	5.780E-07	9.571E-07	1.233E-09	4.669E-09	2.387E-05
SI WALL	4.843E-06	2.988E-02	3.649E-04	3.524E-04	8.773E-06	1.562E-06	4.754E-07	1.341E-07	8.107E-09	7.120E-08	2.729E-05
ULI WALL	6.389E-06	1.656E-04	0.178	1.612E-04	8.084E-06	2.431E-06	4.813E-07	1.307E-07	6.130E-09	6.629E-08	2.789E-05
LLI WALL	2.281E-06	4.851E-05	6.697E-05	0.506	1.154E-05	2.472E-07	1.345E-07	6.151E-08	5.180E-08	8.579E-08	3.002E-05
T BODY	2.951E-05	2.756E-04	5.749E-04	1.227E-03	0.212	3.579E-03	6.221E-04	3.569E-04	6.932E-05	2.176E-05	6.705E-02
ADREN	4.429E-06	8.391E-06	2.076E-05	1.630E-05	1.593E-05	4.660E-06	1.925E-06	6.166E-07	9.438E-10	2.554E-09	0.139
BL WALL	5.706E-07	1.890E-05	4.457E-05	2.377E-04	6.068E-06	2.060E-07	5.454E-08	1.446E-08	9.321E-08	4.130E-08	6.953E-02
KIDNEYS	6.307E-06	2.095E-05	6.015E-05	3.281E-05	1.025E-05	3.735E-06	0.140	8.614E-07	1.308E-09	5.848E-09	2.521E-05
LIVER	3.648E-06	1.226E-05	5.512E-05	1.105E-05	7.685E-06	0.139	6.609E-07	9.750E-08	8.199E-10	3.344E-09	1.913E-05
OVARIES	9.574E-07	6.886E-05	2.547E-04	6.839E-04	9.606E-06	3.800E-07	1.993E-07	6.382E-08	0.0	0.138	3.477E-05
PANCREAS	3.338E-05	1.370E-05	4.639E-05	2.685E-05	1.070E-05	4.204E-06	1.107E-06	1.871E-06	1.043E-09	3.089E-09	0.139
BONE	1.416E-06	6.955E-06	2.023E-05	5.173E-05	0.596	9.147E-07	2.082E-07	9.452E-08	1.466E-08	7.442E-09	6.356E-05
R MAP	2.471E-06	2.309E-05	6.398E-05	1.607E-04	0.491	1.304E-06	5.401E-07	1.398E-07	1.170E-08	2.606E-08	0.139
Y MAR	1.983E-06	9.716E-06	2.897E-05	6.437E-05	4.328E-05	1.362E-06	2.562E-07	1.423E-07	5.717E-09	1.004E-08	0.139
ENDOST	1.416E-06	6.955E-06	2.023E-05	5.173E-05	4.66	9.147E-07	2.082E-07	9.452E-08	1.466E-08	7.442E-09	3.122E-04
SPLEEN	1.840E-05	1.025E-05	2.932E-05	3.225E-05	8.074E-06	9.167E-07	1.470E-06	0.139	1.072E-09	3.329E-09	2.551E-05
TESTES	9.119E-08	2.297E-06	8.176E-06	7.308E-05	6.869E-06	9.150E-08	1.983E-08	6.816E-09	0.139	0.0	2.074E-05
THYMUS	5.133E-07	7.306E-07	2.684E-06	1.604E-06	6.832E-06	8.278E-07	4.227E-08	3.725E-08	1.261E-10	2.517E-10	0.139
THYROID	2.106E-07	1.825E-07	6.437E-07	4.481E-07	1.033E-05	1.719E-07	1.188E-08	1.111E-08	3.685E-11	6.634E-11	0.139
UTERUS	1.470E-06	6.267E-05	1.062E-04	2.475E-04	6.833E-06	3.816E-07	1.532E-07	4.059E-08	0.0	1.183E-07	0.139

DOSE EQUIVALENT (REM/MICROCURIE)

SOURCE	TOTAL
TARGET	
LUNGS	5.161E-05
RES LYM	5.161E-05
S WALL	1.251E-02
SI WALL	2.964E-02
ULI WALL	0.179
LLI WALL	0.507
T BODY	0.286
ADREN	0.139
BL WALL	6.984E-02
KIDNEYS	0.141
LIVER	0.139
OVARIES	0.139
PANCREAS	0.140
BONE	0.596
R MAR	0.630
Y MAR	0.139
ENDOST	4.66
SPLEEN	0.139
TESTES	0.139
THYMUS	0.139
THYROID	0.139
UTERUS	0.140

PERCENT DOSE EQUIVALENT..

NUCLIDE	RA-223	RN-219	PO-215	PB-211	BI-211	PO-211	TL-207
TARGET							
LUNGS	49.5	18.6	0.0	16.6	14.5	0.0	0.7
RES LYM	49.5	18.6	0.0	16.6	14.5	0.0	0.7
S WALL	23.0	23.8	25.1	8.6	11.8	0.0	7.6
SI WALL	19.9	20.2	21.0	12.5	17.9	0.1	8.4
ULI WALL	17.7	18.7	20.0	12.4	18.0	0.1	13.2
LLI WALL	17.6	18.7	20.0	12.4	18.0	0.1	13.3
T BODY	23.5	24.9	27.0	0.2	24.1	0.1	0.2
ADREN	23.9	24.7	27.0	0.2	24.0	0.1	0.2
BL WALL	24.0	24.8	26.8	0.2	23.9	0.1	0.2
KIDNEYS	23.7	24.6	26.5	0.2	24.7	0.1	0.3
LIVER	23.9	24.7	26.8	0.2	24.1	0.1	0.2
OVARIES	24.2	24.8	26.7	0.3	23.8	0.1	0.2
PANCREAS	23.8	24.8	26.9	0.2	24.0	0.1	0.2
BONE	23.3	25.0	27.1	0.2	24.2	0.1	0.2
R MAR	23.5	25.0	27.1	0.1	24.3	0.1	0.1
Y MAR	23.9	24.7	27.0	0.2	24.0	0.1	0.2
ENDOST	29.5	23.6	22.3	0.0	24.5	0.1	0.0
SPLEEN	24.0	24.8	26.9	0.2	23.9	0.1	0.2
TESTES	24.0	24.7	26.9	0.2	23.9	0.1	0.2
THYMUS	23.8	24.8	26.9	0.2	24.0	0.1	0.2
THYROID	23.8	24.9	26.9	0.2	24.0	0.1	0.2
UTERUS	23.9	24.8	26.9	0.2	23.9	0.1	0.2

RADIONUCLIDE: RA-224

PHYSICAL AND METABOLIC PARAMETERS FOR DOSIMETRICALLY SIGNIFICANT PROGENY:

NUCLIDE	RADIOACTIVE HALF-LIFE (DAYS)
RA-224	3.660
RN-220	6.4400E-04
PO-216	1.7400E-06
PB-212	0.4430
BI-212	4.2000E-02
PO-212	3.5300E-12
TL-208	2.1300E-03

BRANCHING RATIOS:

FROM	TO	FRACTION
RA-224	RN-220	1.000
RN-220	PO-216	1.000
PO-216	PB-212	1.000
PB-212	BI-212	1.000
BI-212	PO-212	0.6400
BI-212	TL-208	0.3600

ORGAN ABSORBED	NUCLIDE	BLOOD TRANSFER FRACTION F2-PRIME	COMPARTMENT DEPOSITION FRACTION	COMPARTMENT BIOLOGICAL HALF-TIME (DAYS)
	RA-224	1.00	0.917	5.50
			5.360E-02	81.0
			2.000E-02	955.
			1.760E-04	3.140E 03
			9.390E-03	7.620E 03
	RN-220	0.0	0.874	2.650E-04
			9.130E-02	3.110E-03
			1.980E-02	2.280E-02
			8.630E-03	0.146
			6.120E-03	0.963
	PO-216	1.00	1.000E-02	0.500
			0.990	50.0
	PB-212	1.00	1.000E-01	1.00
			0.200	10.0
			0.300	320.
			0.200	2.000E 03
			0.200	8.000E 03
	BI-212	1.00	-1.720E-02	1.000E-01
			1.02	5.78
	PO-212	1.00	1.000E-02	0.500
			0.990	50.0
	TL-208	1.00	1.00	4.00
BONE	RA-224	0.172	0.880	5.68
			1.360E-02	240.
			2.030E-03	1.610E 03
			5.730E-02	1.490E 03
			4.600E-02	8.380E 03
	RN-220	0.0	0.700	2.650E-04
			0.300	1.000E 50
	*PO-216	9.000E-02	1.000E-02	0.500
			0.990	50.0
	PB-212	0.562	0.375	320.
			0.310	2.000E 03
			0.315	8.000E 03
	*BI-212	7.340E-02	-1.000E-01	1.000E-01
			1.10	5.78
	*PO-212	9.000E-02	1.000E-02	0.500
			0.990	50.0
	*TL-208	0.118	1.00	4.00

α decay (3.66 D 4)

*Retention data derived from "other tissues" compartment.

ORGAN	NUCLIDE	BLOOD TRANSFER FRACTION F2-PRIME	COMPARTMENT DEPOSITION FRACTION	COMPARTMENT BIOLOGICAL HALF-TIME (DAYS)
LIVER	*RA-224	4.540E-02	0.890	0.630
			7.090E-02	28.9
			3.040E-02	160.
			7.430E-03	776.
			7.940E-04	4.040E 03
	*RN-220	0.0	0.849	2.650E-04
			9.900E-02	3.110E-03
			4.400E-02	2.880E-02
			7.790E-04	0.146
			2.030E-05	0.963
	PO-216	1.000E-01	1.000E-02	0.500
			0.990	50.0
	PB-212	0.106	0.843	10.0
			7.870E-02	320.
			4.010E-02	2.000E 03
			3.820E-02	8.000E 03
	*BI-212	2.640E-02	-1.000E-01	1.000E-01
			1.10	5.78
	PO-212	1.000E-01	1.000E-02	0.500
			0.990	50.0
	*TL-208	4.240E-02	1.00	4.00
KIDNEYS	*RA-224	7.820E-03	0.890	0.630
			7.090E-02	28.9
			3.040E-02	160.
			7.430E-03	776.
			7.940E-04	4.040E 03
	*RN-220	0.0	0.849	2.650E-04
			9.900E-02	3.110E-03
			4.400E-02	2.880E-02
			7.790E-04	0.146
			2.030E-05	0.963
	PO-216	1.000E-01	1.000E-02	0.500
			0.990	50.0
	PB-212	5.090E-02	0.962	10.0
			2.000E-02	320.
			9.600E-03	2.000E 03
			8.290E-03	8.000E 03
	BI-212	0.400	1.00	5.78
	PO-212	1.000E-01	1.000E-02	0.500
			0.990	50.0
	TL-208	3.760E-02	1.00	4.00
SPLEEN	*RA-224	4.540E-03	0.890	0.630
			7.090E-02	28.9
			3.040E-02	160.
			7.430E-03	776.
			7.940E-04	4.040E 03
	*RN-220	0.0	0.849	2.650E-04
			9.900E-02	3.110E-03
			4.400E-02	2.880E-02
			7.790E-04	0.146
			2.030E-05	0.963
	PO-216	1.000E-01	1.000E-02	0.500
			0.990	50.0
	*PB-212	2.960E-04	0.375	320.
			0.310	2.000E 03
			0.315	8.000E 03
	*BI-212	2.640E-03	-1.000E-01	1.000E-01
			1.10	5.78
	PO-212	1.000E-01	1.000E-02	0.500
			0.990	50.0
	*TL-208	4.240E-03	1.00	4.00
TESTES	*RA-224	8.830E-04	0.890	0.630
			7.090E-02	28.9
			3.040E-02	160.
			7.430E-03	776.
			7.940E-04	4.040E 03
	*RN-220	0.0	0.910	2.650E-04
			8.660E-02	3.110E-03
			3.040E-04	2.880E-02
			3.170E-03	0.146
			6.810E-06	0.963
	*PO-216	6.300E-04	1.000E-02	0.500
			0.990	50.0
	*PB-212	5.760E-05	0.375	320.
			0.310	2.000E 03
			0.315	8.000E 03

RADIUM-224 CONTINUED

ORGAN	NUCLIDE	BLOOD TRANSFER FRACTION F2-PRIME	COMPARTMENT DEPOSITION FRACTION	COMPARTMENT BIOLOGICAL HALF-TIME (DAYS)
	* BI-212	5.140E-04	-1.000E-01	1.000E-01
			1.10	5.78
	* PO-212	6.300E-04	1.000E-02	0.500
			0.990	50.0
	* TL-208	8.240E-04	1.00	4.00
OVARIES	* RA-224	2.770E-04	0.890	0.630
			7.090E-02	28.9
			3.040E-02	160.
			7.430E-03	776.
			7.940E-04	4.040E 03
	RN-220	0.0	0.910	2.650E-04
			8.660E-02	3.110E-03
			3.040E-04	2.880E-02
			3.170E-03	0.146
			6.810E-06	0.963
	* PO-216	1.980E-04	1.000E-02	0.500
			0.990	50.0
	* PB-212	1.810E-05	0.375	320.
			0.310	2.000E 03
			0.315	8.000E 03
	* BI-212	1.610E-04	-1.000E-01	1.000E-01
			1.10	5.78
	* PO-212	1.980E-04	1.000E-02	0.500
			0.990	50.0
	* TL-208	2.590E-04	1.00	4.00
OTHER	RA-224	0.854	0.890	0.630
			7.090E-02	28.9
			3.040E-02	160.
			7.430E-03	776.
			7.940E-04	4.040E 03
	RN-220	0.0	0.872	2.650E-04
			9.140E-02	3.110E-03
			2.050E-02	2.880E-02
			9.080E-03	0.146
			6.790E-03	0.963
	PO-216	0.610	1.000E-02	0.500
			0.990	50.0
	PB-212	5.580E-02	0.375	320.
			0.310	2.000E 03
			0.315	8.000E 03
	BI-212	0.500	-1.000E-01	1.000E-01
			1.10	5.78
	PO-212	0.610	1.000E-02	0.500
			0.990	50.0
	TL-208	0.814	1.00	4.00

S FACTORS (REM/MICROCURIE-DAY) FOR RA-224

TARGET ORGANS	SOURCE ORGANS												
	LUNGS	RES LYM	S CONT	SI CONT	ULI CONT	LLI CONT	BONE	LIVER	KIDNEYS	SPLEEN	TESTES	OVARIES	OTHER
LUNGS	0.131E 01	0.132E-03	0.307E-05	0.469E-06	0.506E-06	0.159E-06	0.176E-05	0.446E-05	0.153E-05	0.400E-05	0.213E-07	0.137E-06	0.232E-05
RES LYM	0.132E-03	0.201E 03	0.307E-05	0.469E-06	0.506E-06	0.159E-06	0.176E-05	0.446E-05	0.153E-05	0.400E-05	0.218E-07	0.137E-06	0.232E-05
S WALL	0.333E-05	0.333E-05	0.564E-01	0.654E-05	0.668E-05	0.321E-05	0.104E-05	0.349E-05	0.608E-05	0.173E-04	0.101E-06	0.143E-05	0.239E-05
SI WALL	0.375E-06	0.375E-06	0.469E-05	0.365E-01	0.298E-04	0.167E-04	0.139E-05	0.300E-05	0.513E-05	0.255E-05	0.774E-06	0.213E-04	0.370E-05
ULI WALL	0.462E-06	0.462E-06	0.631E-05	0.426E-04	0.663E-01	0.763E-05	0.137E-05	0.443E-05	0.617E-05	0.226E-05	0.647E-06	0.202E-04	0.274E-05
LLI WALL	0.190E-06	0.190E-06	0.232E-05	0.128E-04	0.539E-05	0.108E 00	0.189E-05	0.447E-06	0.152E-05	0.116E-05	0.501E-05	0.258E-04	0.256E-05
T BODY	0.430E-01	0.430E-01	0.128E-03	0.337E-03	0.202E-03	0.250E-03	0.215E 00	0.430E-01	0.430E-01	0.430E-01	0.430E-01	0.430E-01	0.429E-01
ADREN	0.444E-05	0.444E-05	0.427E-05	0.274E-05	0.166E-05	0.831E-06	0.235E-05	0.903E-05	0.184E-04	0.116E-04	0.878E-07	0.724E-06	0.887E-01
BL WALL	0.954E-07	0.954E-07	0.457E-06	0.487E-05	0.390E-05	0.116E-04	0.895E-06	0.326E-06	0.574E-06	0.297E-06	0.869E-05	0.124E-04	0.443E-01
KIDNEYS	0.162E-05	0.162E-05	0.630E-05	0.550E-05	0.436E-05	0.169E-05	0.164E-05	0.698E-06	0.977E-01	0.159E-04	0.111E-06	0.177E-05	0.247E-05
LIVER	0.443E-05	0.443E-05	0.385E-05	0.333E-05	0.455E-05	0.521E-06	0.121E-05	0.167E 01	0.692E-05	0.185E-05	0.752E-07	0.106E-05	0.187E-05
OVARIES	0.225E-06	0.225E-06	0.795E-06	0.186E-04	0.210E-04	0.349E-04	0.134E-05	0.822E-06	0.220E-05	0.113E-05	0.0	0.274E 03	0.338E-05
PANCREAS	0.459E-05	0.459E-05	0.322E-04	0.363E-05	0.432E-05	0.126E-05	0.189E-05	0.713E-05	0.116E-04	0.737E-04	0.126E-06	0.898E-06	0.887E-01
BONE	0.209E-05	0.209E-05	0.130E-05	0.178E-05	0.140E-05	0.228E-05	0.602E 00	0.160E-05	0.206E-05	0.165E-05	0.137E-05	0.211E-05	0.232E-05
R MAR	0.266E-05	0.266E-05	0.232E-05	0.583E-05	0.502E-05	0.694E-05	0.407E 00	0.333E-05	0.535E-05	0.252E-05	0.112E-05	0.727E-05	0.887E-01
Y MAR	0.216E-05	0.216E-05	0.161E-05	0.249E-05	0.228E-05	0.281E-05	0.592E-05	0.237E-05	0.255E-05	0.343E-05	0.540E-06	0.282E-05	0.887E-01
ENDOST	0.209E-05	0.209E-05	0.130E-05	0.178E-05	0.160E-05	0.228E-05	0.600E 01	0.160E-05	0.206E-05	0.165E-05	0.137E-05	0.211E-05	0.232E-05
SPLEEN	0.409E-05	0.409E-05	0.179E-04	0.279E-05	0.249E-05	0.143E-05	0.121E-05	0.169E-05	0.156E-04	0.167E 02	0.632E-07	0.102E-05	0.250E-05
TESTES	0.254E-07	0.254E-07	0.108E-06	0.634E-06	0.614E-06	0.364E-05	0.111E-25	0.157E-06	0.216E-06	0.127E-06	0.860E-02	0.0	0.204E-05
THYMUS	0.714E-05	0.714E-05	0.447E-06	0.199E-06	0.222E-06	0.727E-07	0.909E-06	0.121E-05	0.398E-06	0.483E-06	0.945E-08	0.738E-07	0.887E-01
THYROID	0.159E-05	0.159E-05	0.221E-06	0.446E-07	0.487E-07	0.178E-07	0.170E-05	0.302E-06	0.125E-06	0.212E-06	0.228E-08	0.170E-07	0.986E-01
UTERUS	0.174E-06	0.174E-06	0.149E-05	0.166E-04	0.851E-05	0.124E-04	0.111E-05	0.714E-06	0.188E-05	0.726E-06	0.0	0.373E-04	0.887E-01

CASE 1.. INHALATION

AMAD (MICRON).. 1.00 D3 =0.310 D4 =8.000E-02 D5 =0.249

	SOLUBILITY CLASS	G.I. UPTAKE FRACTIONS STOMACH	S INT	U L INT	L L INT
RA-224	W	0.0	0.200	0.0	0.0
RN-220	*	0.0	0.0	0.0	0.0
PO-216	W	0.0	1.000E-01	0.0	0.0
PB-212	W	0.0	8.000E-02	0.0	0.0
BI-212	W	0.0	5.000E-02	0.0	0.0
PO-212	W	0.0	1.000E-01	0.0	0.0
TL-209	W	0.0	0.950	0.0	0.0

*SPECIAL LUNG CLEARANCE PARAMETERS. T=HALF-TIME (DAYS), F=DEPOSITION FRACTION.

	CLEARANCE PATHWAY..	A	B	C	D	E	F	G	H	I
RN-220	F	1.0	0.0	1.0	0.0	1.0	0.0	0.0	0.0	1.0
	T	8.20E-05	1.0	8.20E-05	1.0	8.20E-05	0.0	0.0	0.0	2.96E-03

DOSE EQUIVALENT (REM/MICROCURIE)

SOURCE	LUNGS	RES LYM	S CONT	SI CONT	ULI CONT	LLI CONT	BONE	LIVER	KIDNEYS	SPLEEN	TESTES
TARGET											
LUNGS	4.46	1.630E-04	1.037E-06	1.120E-06	8.898E-06	9.449E-06	1.210E-05	2.316E-06	3.193E-07	1.730E-07	5.026E-10
RES LYM	4.803E-03	3.39	1.037E-06	1.120E-06	8.898E-06	9.449E-06	1.210E-05	2.316E-06	3.193E-07	1.730E-07	5.026E-10
S WALL	4.879E-05	1.599E-06	3.320E-03	1.067E-05	7.751E-05	8.885E-05	7.007E-06	1.953E-06	1.103E-06	7.329E-07	1.916E-09
SI WALL	8.640E-06	2.906E-07	1.551E-06	7.408E-03	3.360E-04	4.227E-04	9.640E-06	1.560E-06	9.005E-07	1.115E-07	8.190E-09
ULI WALL	1.125E-05	3.793E-07	1.877E-06	6.991E-05	4.909E-02	1.925E-04	9.052E-06	2.302E-06	9.672E-07	1.141E-07	7.988E-09
LLI WALL	2.248E-06	7.250E-08	7.722E-07	2.162E-05	6.370E-05	0.142	1.174E-05	3.272E-07	3.121E-07	5.645E-08	3.760E-08
T BODY	6.372E-02	7.273E-04	8.106E-06	7.296E-05	1.364E-04	4.113E-04	5.459E-02	8.766E-04	1.881E-04	8.320E-05	1.535C-05
ADREN	4.840E-05	1.548E-06	1.450E-06	4.183E-06	2.499E-05	2.428E-05	1.772E-05	5.237E-06	3.662E-06	4.915E-07	1.410E-09
BL WALL	2.489E-06	8.414E-08	2.383E-07	8.568E-06	4.796E-05	2.697E-04	7.501E-06	2.910E-07	1.478E-07	2.207E-08	6.643E-08
KIDNEYS	2.371E-05	7.771E-07	1.903E-06	9.241E-06	5.949E-05	5.024E-05	1.093E-05	3.583E-06	4.242E-02	6.436E-07	2.080E-09
LIVER	5.968E-05	1.944E-06	1.212E-06	5.736E-06	5.581E-05	1.930E-05	9.426E-06	3.401E-02	1.239E-06	8.668E-08	1.554C-09
OVARIES	4.561E-06	1.525E-07	5.012E-07	2.826E-05	2.389E-04	7.864E-04	1.127E-05	6.043E-07	3.443E-07	3.158E-08	0.0
PANCREAS	6.000E-05	1.950E-06	9.566E-06	6.269E-06	5.137E-05	3.655E-05	1.220E-05	3.746E-06	1.922E-06	1.390E-06	8.065E-09
BONE	2.672E-05	8.661E-07	3.793E-07	2.619E-06	1.655E-05	5.220E-05	0.153	7.521E-07	3.256E-07	6.289E-08	9.731E-09
R MAR	3.372E-05	1.092E-06	6.349E-07	8.137E-06	4.878E-05	1.529E-04	0.126	1.079E-06	8.081E-07	9.243E-08	7.877E-09
Y MAR	2.804E-05	9.099E-07	5.304E-07	3.595E-05	2.318E-05	6.409E-05	3.584E-05	1.100E-06	3.991E-07	9.335E-08	4.614E-09
ENDOST	2.672E-05	8.661E-07	3.793E-07	2.619E-06	1.656E-05	5.220E-05	1.26	7.521E-07	3.256E-07	6.289E-08	9.731E-09
SPLEEN	5.539E-05	1.805E-06	5.323E-06	4.990E-06	2.960E-05	4.822E-05	8.722E-06	9.817E-07	2.555E-06	3.228E-02	1.867E-09
TESTES	1.063E-06	3.646E-08	8.577E-08	1.652E-06	1.198E-05	9.356E-05	1.137E-05	1.505E-07	6.091E-08	9.986E-09	3.066E-02
THYMUS	9.964E-05	3.254E-06	2.845E-07	5.143E-07	4.085E-06	4.055E-06	9.331C-06	1.015E-06	8.226E-08	4.732E-08	3.602E-10
THYROID	2.711E-05	8.976E-07	1.066E-07	1.878E-07	1.484E-06	1.695E-06	6.639E-06	2.138E-07	4.207E-08	1.423E-08	1.639E-10
UTERUS	4.555E-06	1.540E-07	5.827E-07	2.569E-05	1.066E-04	2.696E-04	7.349E-06	5.107E-07	2.982C-07	4.635E-08	0.0

DOSE EQUIVALENT (REM/MICROCURIE)

SOURCE	OVARIES	OTHER	TOTAL
TARGET			
LUNGS	7.795E-10	1.823E-05	4.46
RES LYM	7.795E-10	1.823E-05	3.39
S WALL	4.397E-09	1.962E-05	3.578E-03
SI WALL	4.921E-08	2.181C-05	8.211E-03
ULI WALL	4.591E-08	2.238E-05	4.940E-02
LLI WALL	6.044E-08	2.420E-05	0.142
T BODY	4.818E-06	1.538E-02	0.136
ADREN	2.460E-09	3.189E-02	3.202E-02
BL WALL	2.802E-08	1.594E-02	1.628E-02
KIDNEYS	5.158E-09	2.089E-05	4.260E-02
LIVER	3.105E-09	1.594E-05	3.418E-02
OVARIES	3.061E-02	2.740E-05	3.171E-02
PANCREAS	2.523E-09	3.189E-02	3.208E-02
BONE	4.225E-09	2.360E-05	0.153
R MAR	1.360E-08	3.186E-02	0.158
Y MAR	5.547E-09	3.188E-02	3.204E-02
ENDOST	4.225E-09	6.019E-05	1.26
SPLEEN	3.325E-09	2.062E-05	3.246E-02
TESTES	0.0	1.913E-05	3.080E-02
THYMUS	3.934E-10	3.191E-02	3.204E-02
THYROID	1.592E-10	3.187E-02	3.191E-02
UTERUS	7.636E-08	3.192E-02	3.234E-02

PERCENT DOSE EQUIVALENT..

NUCLIDE	RA-224	RN-220	PO-216	PB-212	BI-212	PO-212	TL-208
TARGET							
LUNGS	69.4	10.2	11.0	0.0	2.6	6.6	0.0
RES LYM	24.3	22.5	24.3	0.1	8.1	20.2	0.1
S WALL	25.1	26.9	29.0	2.4	5.5	3.7	7.3
SI WALL	21.3	23.4	25.2	3.9	9.6	6.7	9.8
ULI WALL	18.9	20.8	22.5	4.2	15.1	12.1	6.4
LLI WALL	16.6	18.3	19.6	4.9	18.6	15.1	7.0
T BODY	51.3	14.6	15.8	0.1	5.1	12.3	0.2
ADREN	42.0	17.0	18.3	0.1	6.3	15.9	0.4
BL WALL	41.2	16.7	18.0	0.3	6.4	15.6	1.7
KIDNEYS	31.6	13.1	14.1	0.1	11.6	29.1	0.5
LIVER	39.4	16.3	17.6	0.1	7.5	13.7	0.5
OVARIES	42.5	16.0	17.2	0.5	6.4	14.9	2.6
PANCREAS	41.9	17.0	18.3	0.1	6.3	15.9	0.6
BONE	33.8	18.9	20.4	0.1	7.5	19.2	0.1
R MAR	35.5	18.5	20.0	0.0	7.2	18.5	0.2
Y MAR	41.9	17.0	18.3	0.1	6.3	15.9	0.4
ENDOST	41.0	19.4	18.5	0.0	11.1	29.1	0.0
SPLEEN	41.4	17.1	18.5	0.1	6.4	15.9	0.5
TESTES	43.7	16.5	17.8	0.1	6.1	15.3	0.4
THYMUS	42.0	17.0	18.3	0.1	6.3	15.9	0.5
THYROID	42.1	17.1	18.4	0.1	6.3	15.9	0.2
UTERUS	41.6	16.8	18.2	0.2	6.4	15.7	1.1

CASE 2.. INGESTION

INGESTION TRANSFER FRACTIONS (G. I. TRACT TO BLOOD)

	RA-224	RN-220	PO-216	PB-212	BI-212	PO-212	TL-208
STOMACH	0.0	0.0	0.0	0.0	0.0	0.0	0.0
S INT	0.200	0.0	1.000E-01	8.000E-02	5.000E-02	1.000E-01	0.950
U L INT	0.0	0.0	0.0	0.0	0.0	0.0	0.0
L L INT	0.0	0.0	0.0	0.0	0.0	0.0	0.0

DOSE EQUIVALENT (REM/MICROCURIE)

SOURCE	S CONT	SI CONT	ULI CONT	LLI CONT	BONE	LIVER	KIDNEYS	SPLEEN	TESTES	OVARIES	OTHER
TARGET											
LUNGS	6.047E-07	1.824E-06	2.108E-05	2.448E-05	1.610E-05	3.071E-06	3.590E-07	2.311E-07	6.719E-10	1.042E-09	2.436E-05
RES LYM	6.047E-07	1.824E-06	2.108E-05	2.448E-05	1.610E-05	3.071E-06	3.590E-07	2.311E-07	6.719E-10	1.042E-09	2.436E-05
S WALL	8.023E-03	1.765E-05	1.839E-04	2.303E-04	9.322E-06	2.591E-06	1.243E-06	9.791E-07	2.562E-09	5.877E-09	2.622E-05
SI WALL	9.081E-07	1.820E-02	7.973E-04	1.096E-03	1.283E-05	2.070E-06	1.015E-06	1.489E-07	1.095E-08	6.575E-08	2.915E-05
ULI WALL	1.135E-06	1.157E-04	0.127	4.992E-04	1.204E-05	3.054E-06	9.780E-07	1.524E-07	1.068E-08	6.135E-08	2.991E-05
LLI WALL	4.495E-07	3.571E-05	1.511E-04	0.377	1.562E-05	4.473E-07	3.509E-07	7.542E-08	5.025E-08	8.077E-08	3.234E-05
T BODY	1.779E-05	1.751E-04	4.724E-04	1.086E-03	7.276E-02	1.166E-03	2.304E-04	1.109E-04	2.046E-05	6.421E-06	2.050E-02
ADREN	8.439E-07	6.913E-06	5.924E-05	6.293E-05	2.358E-05	6.947E-06	4.122E-06	6.566E-07	1.884E-09	3.287E-09	4.250E-02
BL WALL	1.250E-07	1.411E-05	1.138E-04	6.994E-04	1.011E-05	3.860E-07	1.657E-07	2.950E-08	8.875E-08	3.744E-08	2.124E-02
KIDNEYS	1.143E-06	1.526E-05	1.388E-04	1.302E-04	1.454E-05	4.752E-06	5.195E-02	8.598E-07	2.780E-09	6.893E-09	2.791E-05
LIVER	7.023E-07	9.457E-06	1.324E-04	5.001E-05	1.255E-05	4.524E-02	1.397E-06	1.158E-07	2.077E-09	4.150E-09	2.131E-05
OVARIES	2.539E-07	4.690E-05	5.670E-04	2.039E-03	1.500E-05	8.015E-07	3.880E-07	4.215E-08	0.0	4.079E-02	3.661E-05
PANCREAS	5.801E-06	1.034E-05	1.233E-04	9.473E-05	1.624E-05	4.968E-06	2.168E-06	1.857E-06	2.761E-09	3.371E-09	4.251E-02
BONE	2.327E-07	4.362E-06	3.933E-05	1.354E-04	0.204	9.975E-07	3.685E-07	8.402E-08	1.300E-08	5.645E-09	3.150E-05
R MAR	3.967E-07	1.360E-05	1.159E-04	3.965E-04	0.168	1.431E-06	9.156E-07	1.235E-07	1.053E-08	1.817E-08	4.246E-02
Y MAR	3.252E-07	5.993E-06	5.505E-05	1.662E-04	4.768E-05	1.462E-06	4.517E-07	1.247E-07	6.167E-09	7.411E-09	4.249E-02
ENDOST	2.327E-07	4.362E-06	3.933E-05	1.354E-04	1.68	9.975E-07	3.685E-07	8.402E-08	1.300E-08	5.645E-09	8.022E-05
SPLEEN	3.225E-06	8.211E-06	7.023E-05	1.250E-04	1.160E-05	1.302E-06	2.884E-06	4.202E-02	2.497E-09	4.444E-09	2.756E-05
TESTES	4.130E-08	2.683E-06	2.840E-05	2.426E-04	1.512E-05	1.996E-07	6.822E-08	1.334E-08	4.086E-02	0.0	2.556E-05
THYMUS	1.438E-07	8.349E-07	9.676E-06	1.051E-05	1.241E-05	1.346E-06	9.243E-08	6.323E-08	4.816E-10	5.258E-10	4.253E-02
THYROID	5.618E-08	3.016E-07	3.512E-06	4.390E-06	8.832E-06	2.835E-07	4.706E-08	1.901E-08	2.192E-10	2.128E-10	4.248E-02
UTERUS	3.237E-07	4.260E-05	2.530E-04	6.990E-04	9.778E-06	6.774E-07	3.363E-07	6.194E-08	0.0	1.020E-07	4.254E-02

DOSE EQUIVALENT (REM/MICROCURIE)

SOURCE	TOTAL
TARGET	
LUNGS	9.212E-05
RES LYM	9.212E-05
S WALL	8.496E-03
SI WALL	2.014E-02
ULI WALL	0.127
LLI WALL	0.378
T BODY	9.654E-02
ADREN	4.266E-02
BL WALL	2.208E-02
KIDNEYS	5.229E-02
LIVER	4.546E-02
OVARIES	4.350E-02
PANCREAS	4.277E-02
BONE	0.204
R MAR	0.211
Y MAR	4.277E-02
ENDOST	1.68
SPLEEN	4.327E-02
TESTES	4.118E-02
THYMUS	4.257E-02
THYROID	4.249E-02
UTERUS	4.355E-02

PERCENT DOSE EQUIVALENT..

NUCLIDE	RA-224	RN-220	PO-216	PB-212	BI-212	PO-212	TL-208
TARGET							
LUNGS	1.3	0.0	0.0	8.6	11.8	0.0	78.3
RES LYM	1.3	0.0	0.0	8.6	11.8	0.0	78.3
S WALL	28.5	30.6	33.0	1.2	1.5	0.7	4.5
SI WALL	23.5	25.8	27.8	3.2	6.7	4.4	9.7
ULI WALL	19.8	21.9	23.6	3.9	13.9	11.1	5.8
LLI WALL	16.9	18.6	20.0	4.8	18.2	14.7	6.8
T BODY	35.5	18.5	19.9	0.1	7.3	18.3	0.4
ADREN	42.0	17.0	18.4	0.1	6.3	15.8	0.4
BL WALL	40.6	16.4	17.7	0.6	6.5	15.2	3.0
KIDNEYS	34.4	14.3	15.3	0.1	10.0	25.3	0.6
LIVER	39.5	16.3	17.6	0.1	7.4	18.6	0.5
OVARIES	41.4	15.5	16.8	0.9	6.4	14.4	4.6
PANCREAS	41.9	17.0	18.3	0.1	6.3	15.8	0.6
BONE	33.9	18.9	20.4	0.1	7.4	19.1	0.2
R MAR	35.5	18.5	20.0	0.1	7.2	18.4	0.2
Y MAR	41.9	17.0	18.3	0.2	6.3	15.8	0.6
ENDOST	41.0	19.4	18.5	0.0	11.1	10.0	0.0
SPLEEN	41.5	17.2	18.5	0.1	6.3	15.9	0.5
TESTES	43.6	16.5	17.8	0.1	6.1	15.2	0.7
THYMUS	42.1	17.1	18.4	0.1	6.2	15.8	0.3
THYROID	42.1	17.1	18.4	0.1	6.3	15.9	0.1
UTERUS	41.2	16.7	18.0	0.4	6.4	15.5	1.9

RADIONUCLIDE: RA-225

PHYSICAL AND METABOLIC PARAMETERS FOR DOSIMETRICALLY SIGNIFICANT PROGENY:

NUCLIDE	RADIOACTIVE HALF-LIFE (DAYS)
RA-225	14.80
AC-225	10.00
FR-221	3.3300E-03
AT-217	3.7400E-07
BI-213	3.1700E-02
PO-213	4.8600E-11
PB-209	0.1380
TL-209	1.5300E-03

BRANCHING RATIOS:

FROM	TO	FRACTION
RA-225	AC-225	1.000
AC-225	FR-221	1.000
FR-221	AT-217	1.000
AT-217	BI-213	1.000
BI-213	PO-213	2.1600E-02
BI-213	TL-209	0.9780
PO-213	PB-209	1.000
TL-209	PB-209	1.000

ORGAN	NUCLIDE	BLOOD TRANSFER FRACTION F2-PRIME	COMPARTMENT DEPOSITION FRACTION	COMPARTMENT BIOLOGICAL HALF-TIME (DAYS)
ABSORBED	RA-225	1.00	0.917	5.50
			5.360E-02	81.0
			1.990E-03	955.
			1.750E-05	3.140E 03
			9.390E-04	7.620E 03
	AC-225	1.00	0.460	1.460E 04
			0.540	3.650E 04
	FR-221	1.00	0.130	1.40
			0.870	135.
	AT-217	1.00	0.284	0.200
			0.716	30.0
	BI-213	1.00	-1.720E-02	1.000E-01
			1.02	5.78
	PO-213	1.00	1.000E-02	0.500
			0.990	50.0
	PB-209	1.00	1.000E-01	1.00
			0.200	10.0
			0.300	320.
			0.200	2.000E 03
			0.200	8.000E 03
	TL-209	1.00	1.00	4.00
BONE	RA-225	0.172	0.880	5.68
			1.360E-02	240.
			5.730E-02	1.490E 03
			2.030E-03	1.610E 03
			4.600E-02	8.380E 03
	AC-225	0.450	1.00	3.650E 04
	• FR-221	0.121	0.130	1.40
			0.870	135.
	• AT-217	9.000E-02	0.444	0.200
			0.556	30.0
	• BI-213	7.340E-02	-1.000E-01	1.000E-01
			1.10	5.78
	• PO-213	9.000E-02	1.000E-02	0.500
			0.990	50.0
	PB-209	0.562	0.375	320.
			0.310	2.000E 03
			0.315	8.000E 03
	• TL-209	0.118	1.00	4.00

β^- decay (14.8 D 2)

• Retention data derived from "other tissues" compartment.

ORGAN	NUCLIDE	BLOOD TRANSFER FRACTION F2-PRIME	COMPARTMENT DEPOSITION FRACTION	COMPARTMENT BIOLOGICAL HALF-TIME (DAYS)
LIVER	•RA-225	4.540E-02	0.890	0.630
			7.090E-02	28.9
			3.040E-02	160.
			7.430E-03	776.
			7.940E-04	4.040E 03
	AC-225	0.450	1.00	1.460E 04
	•FR-221	4.370E-02	0.130	1.40
			0.870	135.
	•AT-217	4.780E-02	0.293	0.200
			0.707	30.0
	•BI-213	2.640E-02	-1.000E-01	1.000E-01
			1.10	5.78
	PO-213	1.000E-01	1.000E-02	0.500
			0.990	50.0
	PB-209	0.106	0.843	10.0
			7.870E-02	320.
			4.010E-02	2.000E 03
			3.820E-02	8.000E 03
	•TL-209	4.240E-02	1.00	4.00
KIDNEYS	•RA-225	7.820E-03	0.890	0.630
			7.090E-02	28.9
			3.040E-02	160.
			7.430E-03	776.
			7.940E-04	4.040E 03
	AC-225	1.000E-02	1.00	1.460E 04
	•FR-221	7.520E-03	0.130	1.40
			0.870	135.
	•AT-217	8.220E-03	0.293	0.200
			0.707	30.0
	BI-213	0.400	1.00	5.78
	PO-213	1.000E-01	1.000E-02	0.500
			0.990	50.0
	PB-209	5.090E-02	0.962	10.0
			2.000E-02	320.
			9.600E-03	2.000E 03
			8.290E-03	8.000E 03
	TL-209	3.760E-02	1.00	4.00
SPLEEN	•RA-225	4.540E-03	0.890	0.630
			7.090E-02	28.9
			3.040E-02	160.
			7.430E-03	776.
			7.940E-04	4.040E 03
	•AC-225	4.760E-04	1.00	3.650E 04
	•FR-221	4.370E-03	0.130	1.40
			0.870	135.
	•AT-217	4.780E-03	0.293	0.200
			0.707	30.0
	•BI-213	2.640E-03	-1.000E-01	1.000E-01
			1.10	5.78
	PO-213	1.000E-01	1.000E-02	0.500
			0.990	50.0
	•PB-209	2.960E-04	0.375	320.
			0.310	2.000E 03
			0.315	8.000E 03
	•TL-209	4.240E-03	1.00	4.00
THYROID	•RA-225	5.040E-04	0.890	0.630
			7.090E-02	28.9
			3.040E-02	160.
			7.430E-03	776.
			7.940E-04	4.040E 03
	•AC-225	5.290E-05	1.00	3.650E 04
	•FR-221	4.850E-04	0.130	1.40
			0.870	135.
	AT-217	1.030E-02	-1.94	0.200
			2.94	30.0
	•BI-213	2.930E-04	-1.000E-01	1.000E-01
			1.10	5.78
	•PO-213	3.600E-04	1.000E-02	0.500
			0.990	50.0
	•PB-209	3.290E-05	0.375	320.
			0.310	2.000E 03
			0.315	8.000E 03
	•TL-209	4.700E-04	1.00	4.00

RADIUM-225 CONTINUED

ORGAN	NUCLIDE	BLOOD TRANSFER FRACTION F2-PRIME	COMPARTMENT DEPOSITION FRACTION	COMPARTMENT BIOLOGICAL HALF-TIME (DAYS)
TESTES	•RA-225	9.830E-04	0.890	0.630
			7.090E-02	28.9
			3.040E-02	160.
			7.430E-03	776.
			7.940E-04	4.040E 03
	AC-225	3.500E-04	1.00	3.650E 04
	•FR-221	8.490E-04	0.130	1.40
			0.870	135.
	•AT-217	9.290E-04	0.293	0.200
			0.707	30.0
	•BI-213	5.140E-04	-1.000E-01	1.000E-01
			1.10	5.78
	•PO-213	6.300E-04	1.000E-02	0.500
			0.990	50.0
	•PB-209	5.760E-05	0.375	320.
			0.310	2.000E 03
			0.315	8.000E 03
	•TL-209	8.240E-04	1.00	4.00
OVARIES	•RA-225	2.770E-04	0.890	0.630
			7.090E-02	28.9
			3.040E-02	160.
			7.430E-03	776.
			7.940E-04	4.040E 03
	AC-225	1.100E-04	1.00	3.650E 04
	•FR-221	2.670E-04	0.130	1.40
			0.870	135.
	•AT-217	2.920E-04	0.293	0.200
			0.707	30.0
	•BI-213	1.610E-04	-1.000E-01	1.000E-01
			1.10	5.78
	•PO-213	1.980E-04	1.000E-02	0.500
			0.990	50.0
	•PB-209	1.810E-05	0.375	320.
			0.310	2.000E 03
			0.315	8.000E 03
	•TL-209	2.590E-04	1.00	4.00
OTHER	RA-225	0.854	0.890	0.630
			7.090E-02	28.9
			3.040E-02	160.
			7.430E-03	776.
			7.940E-04	4.040E 03
	AC-225	8.950E-02	1.00	3.650E 04
	FR-221	0.822	0.130	1.40
			0.870	135.
	AT-217	0.898	0.293	0.200
			0.707	30.0
	BI-213	0.500	-1.000E-01	1.000E-01
			1.10	5.78
	PO-213	0.610	1.000E-02	0.500
			0.990	50.0
	PB-209	5.580E-02	0.375	320.
			0.310	2.000E 03
			0.315	8.000E 03
	TL-209	0.814	1.00	4.00

S FACTORS (REM/MICROCURIE-DAY) FOR RA-225

TARGET ORGANS	SOURCE ORGANS									
	LUNGS	RES LYM	S CONT	SI CONT	ULI CONT	LLI CONT	BONE	LIVER	KIDNEYS	SPLEEN
LUNGS	0.553E-02	0.553E-02	0.522E-05	0.156E-06	0.204E-06	0.351E-07	0.228E-05	0.933E-05	0.133E-05	0.742E-05
RES LYM	0.553E-02	0.358E 00	0.522E-05	0.156E-06	0.204E-06	0.351E-07	0.228E-05	0.933E-05	0.133E-05	0.742E-05
S WALL	0.525E-05	0.525E-05	0.111E-01	0.959E-05	0.129E-04	0.386E-05	0.846E-06	0.390E-05	0.708E-05	0.333E-04
SI WALL	0.121E-06	0.121E-06	0.563E-05	0.693E-02	0.781E-04	0.408E-04	0.144E-05	0.279E-05	0.558E-05	0.195E-05
ULI WALL	0.175E-06	0.175E-06	0.105E-04	0.167E-03	0.125E-01	0.172E-04	0.120E-05	0.608E-05	0.532E-05	0.240E-05
LLI WALL	0.269E-07	0.269E-07	0.196E-05	0.354E-04	0.102E-04	0.202E-01	0.232E-05	0.107E-06	0.735E-06	0.733E-06
T BODY	0.843E-04	0.843E-04	0.311E-04	0.699E-04	0.451E-04	0.540E-04	0.845E-04	0.846E-04	0.843E-04	0.846E-04
ADREN	0.563E-05	0.563E-05	0.460E-05	0.936E-06	0.131E-05	0.223E-06	0.273E-05	0.147E-04	0.490E-04	0.201E-04
BL WALL	0.155E-07	0.155E-07	0.166E-06	0.477E-05	0.334E-05	0.179E-04	0.536E-06	0.645E-07	0.101E-06	0.692E-07
KIDNEYS	0.125E-05	0.125E-05	0.734E-05	0.586E-05	0.542E-05	0.103E-05	0.154E-05	0.106E-04	0.180E-01	0.363E-04
LIVER	0.811E-05	0.811E-05	0.366E-05	0.366E-05	0.572E-05	0.146E-06	0.121E-05	0.316E-02	0.104E-04	0.105E-05
OVARIES	0.691E-07	0.691E-07	0.786E-06	0.396E-04	0.410E-04	0.889E-04	0.209E-05	0.495E-06	0.124E-05	0.379E-06
PANCREAS	0.645E-05	0.645E-05	0.757E-04	0.308E-05	0.321E-05	0.670E-06	0.142E-05	0.116E-04	0.168E-04	0.943E-04
BONE	0.666E-05	0.666E-05	0.255E-05	0.405E-05	0.364E-05	0.782E-05	0.107E-02	0.407E-05	0.533E-05	0.420E-05
R MAR	0.794E-05	0.794E-05	0.362E-05	0.154E-04	0.136E-04	0.298E-04	0.172E-03	0.448E-05	0.142E-04	0.494E-05
Y MAR	0.747E-05	0.747E-05	0.370E-05	0.570E-05	0.530E-05	0.105E-04	0.389E-04	0.645E-05	0.642E-05	0.655E-05
ENDOST	0.666E-05	0.666E-05	0.255E-05	0.405E-05	0.364E-05	0.782E-05	0.733E-03	0.407E-05	0.533E-05	0.420E-05
SPLEEN	0.712E-05	0.712E-05	0.332E-04	0.231E-05	0.227E-05	0.112E-05	0.148E-05	0.111E-05	0.364E-04	0.310E-01
TESTES	0.149E-08	0.149E-08	0.165E-07	0.159E-06	0.165E-06	0.386E-05	0.761E-06	0.102E-07	0.157E-07	0.623E-08
THYMUS	0.115E-04	0.115E-04	0.478E-06	0.143E-07	0.175E-07	0.307E-08	0.816E-06	0.531E-06	0.106E-06	0.799E-07
THYROID	0.922E-06	0.922E-06	0.174E-07	0.103E-08	0.123E-08	0.254E-09	0.146E-05	0.265E-07	0.616E-08	0.154E-07
UTERUS	0.559E-07	0.559E-07	0.485E-06	0.335E-04	0.125E-04	0.175E-04	0.849E-06	0.294E-06	0.644E-06	0.216E-06

S FACTORS (REM/MICROCURIE-DAY) FOR RA-225

TARGET ORGANS	SOURCE ORGANS			
	THYROID	TESTES	OVARIES	OTHER
LUNGS	0.152E-05	0.442E-09	0.257E-07	0.500E-05
RES LYM	0.152E-05	0.442E-09	0.257E-07	0.500E-05
S WALL	0.599E-07	0.185E-07	0.868E-06	0.419E-05
SI WALL	0.104E-08	0.253E-06	0.507E-04	0.415E-05
ULI WALL	0.125E-08	0.213E-06	0.534E-04	0.464E-05
LLI WALL	0.197E-09	0.593E-05	0.739E-04	0.467E-05
T BODY	0.832E-04	0.829E-04	0.854E-04	0.824E-04
ADREN	0.264E-07	0.317E-08	0.198E-06	0.166E-03
BL WALL	0.478E-10	0.126E-04	0.197E-04	0.871E-04
KIDNEYS	0.615E-08	0.114E-07	0.945E-06	0.454E-05
LIVER	0.575E-07	0.819E-08	0.470E-06	0.303E-05
OVARIES	0.177E-09	0.0	0.499E 00	0.655E-05
PANCREAS	0.239E-07	0.743E-08	0.277E-06	0.171E-03
BONE	0.277E-05	0.164E-05	0.574E-05	0.105E-04
R MAR	0.273E-05	0.115E-05	0.231E-04	0.153E-03
Y MAR	0.137E-05	0.477E-06	0.808E-05	0.169E-03
ENDOST	0.277E-05	0.164E-05	0.574E-05	0.894E-04
SPLEEN	0.346E-07	0.625E-08	0.333E-06	0.491E-05
TESTES	0.496E-11	0.157E 00	0.0	0.329E-05
THYMUS	0.101E-04	0.644E-10	0.238E-08	0.174E-03
THYROID	0.274E 00	0.499E-11	0.178E-09	0.544E-05
UTERUS	0.157E-09	0.0	0.804E-04	0.175E-03

CASE 1.. INHALATION

AMAD (MICRON).. 1.00 D3 =0.310 D4 =8.000E-02 D5 =0.249

	SOLUBILITY CLASS	G.I. UPTAKE FRACTIONS STOMACH	S INT	U L INT	L L INT
RA-225	W	0.0	0.200	0.0	0.0
AC-225	W	0.0	1.000E-03	0.0	0.0
FR-221	D	0.0	0.950	0.0	0.0
AT-217	D	0.0	0.950	0.0	0.0
BI-213	W	0.0	5.000E-02	0.0	0.0
PO-213	W	0.0	1.000E-01	0.0	0.0
PB-209	W	0.0	8.000E-02	0.0	0.0
TL-209	W	0.0	0.950	0.0	0.0

DOSE EQUIVALENT (REM/MICROCURIE)

SOURCE	LUNGS	RES LYM	S CONT	SI CONT	ULI CONT	LLI CONT	BONE	LIVER	KIDNEYS	SPLEEN	THYROID
TARGET											
LUNGS	14.7	4.012E-03	3.242E-06	1.203E-05	8.015E-06	6.541E-06	9.869E-05	5.999E-05	1.643E-06	1.639E-06	9.008E-08
RES LYM	0.105	40.3	3.242E-06	1.203E-06	8.015E-06	6.541E-06	9.869E-05	5.999E-05	1.643E-06	1.639E-06	9.008E-08
S WALL	1.031E-03	4.263E-05	1.662E-03	1.308E-05	6.705E-05	7.068E-05	6.006E-05	4.702E-05	5.263E-06	7.642E-06	1.382E-03
SI WALL	1.610E-04	6.707E-06	4.492E-06	2.721E-03	3.139E-04	3.804E-04	7.756E-05	3.953E-05	4.954E-06	1.115E-06	3.651E-09
ULI WALL	2.182E-04	9.089E-06	6.474E-06	9.007E-05	2.239E-02	1.853E-04	7.399E-05	5.560E-05	5.043E-06	1.121E-06	4.705E-09
LLI WALL	3.817E-05	1.590E-06	2.457E-06	2.636E-05	5.827E-05	7.520E-02	9.778E-05	8.673E-06	1.733E-06	5.215E-07	2.145E-09
T BODY	0.211	8.669E-03	6.598E-06	3.126E-05	1.031E-04	2.490E-04	0.196	8.566E-03	6.483E-04	2.972E-04	3.276E-05
ADREN	1.085E-03	4.486E-05	5.597E-06	4.470E-06	2.109E-05	2.063E-05	1.822E-04	1.125E-04	2.047E-05	4.790E-06	1.342E-08
BL WALL	4.805E-05	2.003E-06	7.713E-07	1.215E-05	3.563E-05	2.698E-04	7.347E-05	6.794E-06	7.376E-07	1.801E-07	1.556E-09
KIDNEYS	5.611E-04	2.331E-05	5.809E-06	1.095E-05	5.475E-05	3.990E-05	9.607E-05	9.088E-05	0.146	6.452E-06	1.159E-08
LIVER	1.245E-03	5.135E-05	3.609E-06	6.805E-06	4.976E-05	1.773E-05	7.352E-05	0.370	6.643E-06	8.323E-07	1.748E-08
OVARIES	3.960E-05	3.732E-06	1.438E-06	3.177E-05	1.776E-04	7.157E-04	9.285E-05	1.922E-05	2.102E-06	5.390E-07	2.534E-09
PANCREAS	1.320E-03	5.460E-05	3.084E-05	6.752E-06	4.063E-05	2.939E-05	1.099E-04	9.993E-05	1.100E-05	1.356E-05	2.693E-08
BONE	5.467E-04	2.233E-05	1.140E-06	3.196E-06	1.528E-05	4.742E-05	0.549	1.890E-05	1.792E-06	6.203E-07	6.686E-08
R MAR	6.944E-04	2.840E-05	1.888E-06	1.013E-05	4.559E-05	1.428E-04	0.452	2.734E-05	4.512E-06	8.952E-07	7.345E-08
Y MAR	5.638E-04	2.298E-05	1.611E-06	4.390E-06	2.167E-05	5.921E-05	3.085E-04	2.806E-05	2.202E-06	9.229E-07	3.693E-08
ENDOST	5.467E-04	2.233E-05	1.140E-06	3.196E-06	1.528E-05	4.742E-05	4.45	1.890E-05	1.792E-06	6.203E-07	6.686E-08
SPLEEN	1.017E-03	4.189E-05	1.687E-05	6.086E-06	2.830E-05	4.085E-05	7.019E-05	2.359E-05	1.403E-05	0.115	1.439E-08
TESTES	1.941E-05	8.095E-07	2.419E-07	1.916E-06	8.668E-06	7.490E-05	7.499E-05	3.252E-06	2.985E-07	8.858E-08	7.209E-10
THYMUS	2.199E-03	9.089E-05	9.709E-07	5.741E-07	3.400E-06	3.164E-06	5.592E-05	2.088E-05	5.892E-07	2.180E-07	3.708E-07
THYROID	5.092E-04	2.117E-05	3.049E-07	2.006E-07	1.160E-06	1.227E-06	1.063E-04	5.032E-06	2.006E-07	1.234E-07	0.115
UTERUS	1.134E-04	4.724E-06	1.722E-06	3.165E-05	9.820E-05	2.502E-04	6.128E-05	1.402E-05	1.797E-06	2.422E-07	2.439E-09

DOSE EQUIVALENT (REM/MICROCURIE)

SOURCE	TESTES	OVARIES	OTHER	TOTAL
TARGET				
LUNGS	5.800E-09	7.568E-09	1.808E-04	14.7
RES LYM	5.800E-09	7.568E-09	1.808E-04	40.4
S WALL	1.887E-08	4.814E-08	1.930E-04	3.199E-03
SI WALL	8.612E-08	5.598E-07	2.148E-04	3.926E-03
ULI WALL	6.124E-08	5.297E-07	2.204E-04	2.326E-02
LLI WALL	4.209E-07	6.751E-07	2.377E-04	7.567E-02
T BODY	6.157E-05	1.934E-05	5.555E-02	0.482
ADREN	1.425E-08	2.698E-08	0.115	0.117
BL WALL	7.429E-07	3.293E-07	5.770E-02	5.815E-02
KIDNEYS	2.261E-08	5.373E-08	2.058E-04	0.147
LIVER	1.630E-08	3.290E-08	1.560E-04	0.372
OVARIES	0.0	0.122	2.741E-04	0.124
PANCREAS	1.824E-08	2.661E-08	0.115	0.117
BONE	1.079E-07	4.809E-08	2.325E-04	0.550
R MAR	8.374E-08	1.573E-07	0.115	0.568
Y MAR	4.793E-08	6.329E-08	0.115	0.116
ENDOST	1.079E-07	4.809E-08	5.788E-04	4.45
SPLEEN	1.458E-08	2.908E-08	2.033E-04	0.117
TESTES	0.123	0.0	1.743E-04	0.123
THYMUS	3.249E-09	3.952E-09	0.116	0.118
THYROID	1.341E-09	1.483E-09	1.801E-04	0.116
UTERUS	0.0	8.469E-07	0.115	0.116

PERCENT COSE EQUIVALENT..

NUCLIDE	RA-225	AC-225	FR-221	AT-217	BI-213	PO-213	PB-209	TL-209
TARGET								
LUNGS	0.1	29.5	32.3	35.9	0.9	0.9	0.0	0.4
RES LYM	0.1	28.7	32.6	36.2	1.0	0.9	0.0	0.5
S WALL	6.8	7.4	9.5	9.7	10.1	0.3	0.1	56.1
SI WALL	10.7	15.1	11.0	11.5	11.0	0.3	0.2	40.2
ULI WALL	9.7	16.2	17.6	19.1	12.6	0.5	0.1	24.2
LLI WALL	8.4	16.9	18.4	20.2	13.3	0.5	0.1	22.1
T BODY	0.1	29.2	32.4	36.1	0.8	0.9	0.0	0.5
ADREN	0.1	28.3	32.2	35.9	1.0	0.9	0.0	1.7
BL WALL	0.1	28.4	32.3	35.9	1.0	0.9	0.0	1.5
KIDNEYS	0.0	28.6	32.4	36.0	1.0	1.0	0.0	1.1
LIVER	0.0	29.0	32.3	36.0	0.9	0.9	0.0	0.9
OVARIES	0.1	23.4	32.3	36.0	1.0	0.9	0.0	1.4
PANCREAS	0.1	28.2	32.1	35.8	1.0	0.9	0.0	1.9
BONE	0.0	29.2	32.5	36.1	0.7	0.9	0.0	0.5
R MAR	0.0	29.2	32.5	36.3	0.7	0.9	0.0	0.4
Y MAR	0.1	28.4	32.3	36.1	0.9	0.9	0.0	1.2
ENDOST	0.0	35.2	33.3	30.8	0.1	0.6	0.0	0.1
SPLEEN	0.1	28.4	32.2	35.8	1.0	0.9	0.0	1.5
TESTES	0.0	28.7	32.6	36.2	0.9	0.9	0.0	0.6
THYMUS	0.1	28.0	31.9	35.6	1.0	0.9	0.0	2.6
THYROID	0.1	28.5	32.5	36.1	0.9	0.9	0.0	1.0
UTERUS	0.1	28.4	32.3	36.1	0.9	0.9	0.0	1.2

CASE 2.. INGESTION

INGESTION TRANSFER FRACTIONS (G. I. TRACT TO BLOOD)

	RA-225	AC-225	FR-221	AT-217	BI-213	PO-213	PB-209	TL-209
STOMACH	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
S INT	0.200	1.000E-03	0.950	0.950	5.000E-02	1.000E-01	3.000E-02	0.950
U L INT	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
L L INT	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

DOSE EQUIVALENT (REM/MICROCURIE)

SOURCE	S CONT	SI CONT	ULI CONT	LLI CONT	BONE	LIVER	KIDNEYS	SPLEEN	THYROID	TESTES	OVARIES
TARGET											
LUNGS	2.503E-07	1.235E-07	3.072E-06	4.771E-06	9.819E-05	2.159E-05	1.380E-06	1.820E-06	1.024E-07	6.186E-09	8.071E-09
RES LYM	2.503E-07	1.235E-07	3.072E-06	4.771E-06	9.819E-05	2.159E-05	1.380E-06	1.820E-06	1.024E-07	6.186E-09	8.071E-09
S WALL	4.905E-04	2.354E-06	2.966E-05	5.335E-05	5.072E-05	1.686E-05	4.428E-06	8.688E-06	1.579E-08	2.013E-08	5.136E-08
SI WALL	2.807E-07	1.177E-03	1.451E-04	2.974E-04	7.715E-05	1.417E-05	4.165E-06	1.267E-06	4.146E-09	2.139E-08	5.080E-07
ULI WALL	6.031E-07	2.910E-05	1.200E-02	1.435E-04	7.358E-05	1.906E-05	4.233E-06	1.274E-06	4.888E-09	6.534E-08	6.659E-07
LLI WALL	1.070E-07	6.795E-06	2.541E-05	6.558E-02	9.724E-05	3.101E-06	1.455E-06	6.027E-07	2.436E-09	4.434E-07	7.214E-07
T BODY	1.386E-06	1.215E-05	5.514E-05	2.100E-04	0.195	3.432E-03	5.891E-04	3.422E-04	3.796E-06	6.653E-05	2.000E-05
ADREN	2.492E-07	5.062E-07	8.353E-06	1.511E-05	1.812E-04	4.042E-05	1.723E-05	5.446E-06	2.092E-08	1.520E-08	2.873E-08
BL WALL	1.491E-08	1.656E-06	1.452E-05	2.052E-04	7.304E-05	2.429E-06	6.187E-07	2.045E-07	1.76BE-09	7.033E-07	3.516E-07
KIDNEYS	3.655E-07	1.694E-06	2.341E-05	2.953E-03	9.554E-05	3.268E-05	0.133	7.776E-06	1.316E-08	2.411E-09	5.733E-03
LIVER	1.897E-07	1.055E-06	2.066E-05	1.296E-05	7.311E-05	0.133	5.589E-06	9.458E-07	1.985E-08	1.739E-08	3.510E-08
OVARIES	4.751E-08	7.406E-06	8.099E-05	5.657E-04	9.237E-05	6.876E-06	1.765E-06	6.125E-07	2.977E-09	0.0	0.132
PANCREAS	3.461E-06	9.776E-07	1.635E-05	2.170E-03	1.092E-04	3.590E-05	9.557E-06	1.543E-05	3.058E-08	1.946E-03	2.379E-03
BONE	1.177E-07	7.940E-07	7.006E-06	3.847E-05	0.547	6.819E-06	1.511E-06	7.055E-07	7.601E-08	1.153E-07	5.140E-08
R MAR	1.701E-07	2.844E-06	2.187E-05	1.191E-04	0.451	9.840E-06	3.807E-06	1.019E-06	9.350E-08	8.742E-08	1.682E-07
Y MAR	1.704E-07	1.128E-06	9.985E-06	4.841E-05	3.084E-04	1.013E-05	1.867E-06	1.050E-06	4.197E-08	5.116E-08	6.765E-08
ENDOST	1.177E-07	7.940E-07	7.006E-06	3.947E-05	4.43	6.819E-06	1.511E-06	7.055E-07	7.601E-08	1.153E-07	5.140E-08
SPLEEN	1.553E-06	8.203E-07	1.139E-05	3.026E-05	6.988E-05	8.447E-06	1.183E-05	0.133	1.636E-08	1.555E-08	3.103E-08
TESTES	3.183E-09	1.950E-07	2.702E-06	5.642E-05	7.456E-05	1.102E-06	2.503E-07	1.006E-07	8.187E-10	0.132	0.0
THYMUS	2.986E-08	5.119E-08	1.279E-06	2.300E-06	5.561E-05	7.469E-06	4.943E-07	2.477E-07	4.214E-07	3.465E-09	4.214E-09
THYROID	3.899E-09	1.732E-08	4.346E-07	8.920E-07	1.058E-04	1.708E-06	1.682E-07	1.458E-07	0.132	1.410E-09	1.582E-09
UTERUS	3.816E-08	7.012E-06	4.117E-05	1.908E-04	6.094E-05	5.013E-06	1.509E-06	2.753E-07	2.770E-09	0.0	9.048E-07

DOSE EQUIVALENT (REM/MICROCURIE)

SOURCE	OTHER	TOTAL
TARGET		
LUNGS	2.055E-04	3.368E-04
RES LYM	2.055E-04	3.368E-04
S WALL	2.194E-04	8.850E-04
SI WALL	2.442E-04	1.961E-03
ULI WALL	2.505E-04	1.353E-02
LLI WALL	2.701E-04	6.598E-02
T BODY	6.397E-02	0.264
ADREN	0.133	0.133
BL WALL	6.645E-02	8.675E-02
KIDNEYS	2.339E-04	0.133
LIVER	1.773E-04	0.133
OVARIES	3.115E-04	0.133
PANCREAS	0.133	0.133
BONE	2.645E-04	0.547
R MAR	0.132	0.583
Y MAR	0.133	0.133
ENDOST	6.606E-04	4.43
SPLEEN	2.311E-04	0.133
TESTES	1.981E-04	0.133
THYMUS	0.133	0.133
THYROID	2.048E-04	0.133
UTERUS	0.133	0.133

PERCENT DOSE EQUIVALENT..

NUCLIDE	RA-225	AC-225	FR-221	AT-217	BI-213	PO-213	PB-209	TL-209
TARGET								
LUNGS	1.0	0.8	1.5	0.0	6.3	0.3	0.0	90.4
RES LYM	1.0	0.8	1.5	0.0	6.3	0.3	0.0	90.4
S WALL	53.5	1.2	1.5	0.9	3.1	0.3	0.0	39.3
SI WALL	50.1	4.2	3.3	2.9	4.0	0.1	0.0	35.5
ULI WALL	39.0	11.0	11.9	12.9	8.2	0.3	0.1	16.7
LLI WALL	22.6	14.4	15.7	17.2	11.1	0.4	0.1	18.5
T BODY	0.0	29.4	32.5	36.1	0.8	0.0	0.0	0.3
ADREN	0.1	29.2	32.2	36.0	0.9	0.0	0.0	0.7
BL WALL	0.1	29.1	32.1	35.7	0.9	0.0	0.0	1.2
KIDNEYS	0.1	29.2	32.4	35.9	0.9	0.0	0.0	0.7
LIVER	0.1	29.2	32.3	35.9	0.9	0.0	0.0	0.7
OVARIES	0.1	29.1	32.1	35.8	0.9	0.0	0.0	1.0
PANCREAS	0.1	29.2	32.2	36.0	0.9	0.0	0.0	0.7
BONE	0.1	29.4	32.4	36.1	0.7	0.0	0.0	0.4
R MAR	0.0	29.5	32.4	36.2	0.7	0.0	0.0	0.3
Y MAR	0.1	29.2	32.2	36.0	0.9	0.0	0.0	0.7
ENDOST	0.0	35.3	33.2	30.8	0.1	0.6	0.0	0.0
SPLEEN	0.1	29.3	32.3	35.9	0.9	0.0	0.0	0.7
TESTES	0.1	29.2	32.3	35.9	0.9	0.0	0.0	0.6
THYMUS	0.1	29.1	32.2	36.0	0.9	0.0	0.0	0.8
THYROID	0.1	29.2	32.3	36.0	0.9	0.0	0.0	0.6
UTERUS	0.1	29.1	32.2	35.9	0.9	0.0	0.0	0.9

RADIONUCLIDE: RA-226

PHYSICAL AND METABOLIC PARAMETERS FOR DOSIMETRICALLY SIGNIFICANT PROGENY:

NUCLIDE	RADIOACTIVE HALF-LIFE (DAYS)
RA-226	5.940E 05
RN-222	3.820
PO-218	2.130E-03
PB-214	1.860E-02
BI-214	1.380E-02
PO-214	1.890E-09
PB-210	8140.
BI-210	5.010
PO-210	138.0

BRANCHING RATIOS:

FROM	TO	FRACTION
RA-226	RN-222	1.000
RN-222	PO-218	1.000
PO-218	PB-214	1.000
PB-214	BI-214	1.000
BI-214	PO-214	1.000
PO-214	PB-210	1.000
PB-210	BI-210	1.000
BI-210	PO-210	1.000

ORGAN ABSORBED	NUCLIDE	BLOOD TRANSFER FRACTION PER TIME	COMPARTMENT DEPOSITION FRACTION	COMPARTMENT BIOLOGICAL HALF-TIME (DAYS)
	RA-226	1.00	0.917	5.50
			5.360E-02	41.0
			2.000E-02	256.
			1.760E-04	3.140E 03
			9.390E-03	7.620E 03
	RN-222	0.0	0.874	2.650E-04
			0.133E-02	3.110E-03
			1.380E-02	2.240E-02
			8.630E-03	0.146
			6.120E-03	0.063
	PO-218	1.00	1.000E-02	0.500
			0.990	50.0
	PB-214	1.00	1.000E-01	1.00
			0.200	10.0
			0.300	320.
			0.200	2.000E 03
			0.200	8.000E 03
	BI-214	1.00	-1.720E-02	1.000E-01
			1.02	5.78
	PO-214	1.00	1.000E-02	0.500
			0.990	50.0
	PB-210	1.00	1.000E-01	1.00
			0.200	10.0
			0.300	320.
			0.200	2.000E 03
			0.200	8.000E 03
	BI-210	1.00	-1.720E-02	1.000E-01
			1.02	5.78
	PO-210	1.00	1.000E-02	0.500
			0.990	50.0
BONE	RA-226	0.172	0.890	5.68
			1.360E-02	240.
			2.030E-03	1.610E 03
			5.730E-02	1.430E 03
			4.600E-02	9.490E 03
	RN-222	0.0	0.700	2.650E-04
			0.300	1.000E 00
	*PO-218	9.000E-02	1.000E-02	0.500
			0.990	50.0
	PB-214	0.562	0.375	320.
			0.310	2.000E 03
			0.315	8.000E 03

α decay (1600 Y 7)

* Retention data derived from "other tissues" compartment.

ORGAN	NUCLIDE	BLOOD TRANSFER FRACTION F2-PRIME	COMPARTMENT DEPOSITION FRACTION	COMPARTMENT BIOLOGICAL HALF-TIME (DAYS)
	*BI-214	7.340E-02	-1.000E-01	1.000E-01
			1.10	5.78
	*PO-214	9.000E-02	1.000E-02	0.500
			0.990	50.0
	PB-210	0.562	0.375	320.
			0.310	2.000E 03
			0.315	8.000E 03
	*BI-210	7.340E-02	-1.000E-01	1.000E-01
			1.10	5.78
	*PO-210	9.000E-02	1.000E-02	0.500
			0.990	50.0
LIVER	*RA-226	4.540E-02	0.890	0.630
			7.090E-02	28.9
			3.040E-02	160.
			7.430E-03	776.
			7.940E-04	4.040E 03
	*RN-222	0.0	0.849	2.650E-04
			9.900E-02	3.110E-03
			4.400E-02	2.880E-02
			7.790E-04	0.146
			2.030E-05	0.963
	PO-218	1.000E-01	1.000E-02	0.500
			0.990	50.0
	PB-214	0.106	0.843	10.0
			7.870E-02	320.
			4.010E-02	2.000E 03
			3.820E-02	8.000E 03
	*BI-214	2.640E-02	-1.000E-01	1.000E-01
			1.10	5.78
	PO-214	1.000E-01	1.000E-02	0.500
			0.990	50.0
	PB-210	0.106	0.843	10.0
			7.870E-02	320.
			4.010E-02	2.000E 03
			3.820E-02	8.000E 03
	*BI-210	2.640E-02	-1.000E-01	1.000E-01
			1.10	5.78
	PO-210	1.000E-01	1.000E-02	0.500
			0.990	50.0
KIDNEYS	*RA-226	7.820E-03	0.890	0.630
			7.090E-02	28.9
			3.040E-02	160.
			7.430E-03	776.
			7.940E-04	4.040E 03
	*RN-222	0.0	0.849	2.650E-04
			9.900E-02	3.110E-03
			4.400E-02	2.880E-02
			7.790E-04	0.146
			2.030E-05	0.963
	PO-218	1.000E-01	1.000E-02	0.500
			0.990	50.0
	PB-214	5.090E-02	0.962	10.0
			2.000E-02	320.
			9.600E-03	2.000E 03
			8.290E-03	8.000E 03
	BI-214	0.400	1.00	5.78
	PO-214	1.000E-01	1.000E-02	0.500
			0.990	50.0
	PB-210	5.090E-02	0.962	10.0
			2.000E-02	320.
			9.600E-03	2.000E 03
			8.290E-03	8.000E 03
	BI-210	0.400	1.00	5.78
	PO-210	1.000E-01	1.000E-02	0.500
			0.990	50.0
SPLEEN	*RA-226	4.540E-03	0.890	0.630
			7.090E-02	28.9
			3.040E-02	160.
			7.430E-03	776.
			7.940E-04	4.040E 03
	*RN-222	0.0	0.849	2.650E-04
			9.900E-02	3.110E-03
			4.400E-02	2.880E-02
			7.790E-04	0.146
			2.030E-05	0.963

RADIUM-226 CONTINUED

ORGAN	NUCLIDE	BLOOD TRANSFER FRACTION F2-PRIME	COMPARTMENT DEPOSITION FRACTION	COMPARTMENT BIOLOGICAL HALF-TIME (DAYS)
	PO-218	1.000E-01	1.000E-02	0.500
			0.990	50.0
	*PB-214	2.960E-04	0.375	320.
			0.310	2.000E 03
			0.315	8.000E 03
	*BI-214	2.640E-03	-1.000E-01	1.000E-01
			1.10	5.78
	PO-214	1.000E-01	1.000E-02	0.500
			0.990	50.0
	*PB-210	2.960E-04	0.375	320.
			0.310	2.000E 03
			0.315	8.000E 03
	*BI-210	2.640E-03	-1.000E-01	1.000E-01
			1.10	5.78
	PO-210	1.000E-01	1.000E-02	0.500
			0.990	50.0
OTHER	RA-226	0.855	0.890	0.630
			7.090E-02	28.9
			3.040E-02	160.
			7.430E-03	776.
			7.940E-04	4.040E 03
	RN-222	0.0	0.872	2.650E-04
			9.140E-02	3.110E-03
			2.050E-02	2.880E-02
			9.080E-03	0.146
			6.790E-03	0.963
	PO-218	0.610	1.000E-02	0.500
			0.990	50.0
	PB-214	5.580E-02	0.375	320.
			0.310	2.000E 03
			0.315	8.000E 03
	BI-214	0.500	-1.000E-01	1.000E-01
			1.10	5.78
	PO-214	0.610	1.000E-02	0.500
			0.990	50.0
	PB-210	5.580E-02	0.375	320.
			0.310	2.000E 03
			0.315	8.000E 03
	BI-210	0.500	-1.000E-01	1.000E-01
			1.10	5.78
	PO-210	0.610	1.000E-02	0.500
			0.990	50.0

S FACTORS (REM/MICROCURIE-DAY) FOR RA-226

TARGET ORGANS	SOURCE ORGANS									
	LUNGS	RES LYM	S CONT	SI CONT	ULI CONT	LLI CONT	BONE	LIVER	KIDNEYS	SPLEEN
LUNGS	0.253E 01	0.198E-03	0.212E-05	0.297E-06	0.332E-06	0.104E-06	0.121E-05	0.312E-05	0.104E-05	0.279E-05
RES LYM	0.198E-03	0.169E 03	0.212E-05	0.297E-06	0.332E-06	0.104E-06	0.121E-05	0.312E-05	0.104E-05	0.279E-05
S WALL	0.231E-05	0.231E-05	0.463E-01	0.458E-05	0.467E-05	0.221E-05	0.705E-06	0.239E-05	0.428E-05	0.121E-04
SI WALL	0.240E-06	0.240E-06	0.328E-05	0.308E-01	0.208E-04	0.117E-04	0.937E-06	0.207E-05	0.358E-05	0.176E-05
ULI WALL	0.288E-06	0.288E-06	0.442E-05	0.309E-04	0.560E-01	0.531E-05	0.903E-06	0.307E-05	0.357E-05	0.161E-05
LLI WALL	0.121E-06	0.121E-06	0.157E-05	0.906E-05	0.380E-05	0.912E-01	0.132E-05	0.288E-06	0.992E-06	0.776E-06
T BODY	0.362E-01	0.362E-01	0.108E-03	0.284E-03	0.170E-03	0.211E-03	0.181E 00	0.362E-01	0.362E-01	0.362E-01
ADREN	0.314E-05	0.314E-05	0.312E-05	0.174E-05	0.113E-05	0.526E-06	0.150E-05	0.607E-05	0.128E-04	0.802E-05
BL WALL	0.563E-07	0.563E-07	0.291E-06	0.322E-05	0.268E-05	0.833E-05	0.599E-06	0.191E-06	0.371E-06	0.190E-06
KIDNEYS	0.107E-05	0.107E-05	0.439E-05	0.383E-05	0.347E-05	0.115E-05	0.110E-05	0.483E-05	0.816E 01	0.112E-04
LIVER	0.308E-05	0.308E-05	0.246E-05	0.230E-05	0.323E-05	0.335E-06	0.822E-06	0.141E 01	0.478E-05	0.125E-05
OVARIES	0.140E-06	0.140E-06	0.565E-06	0.133E-04	0.144E-04	0.242E-04	0.866E-06	0.597E-06	0.148E-05	0.633E-06
PANCREAS	0.316E-05	0.316E-05	0.225E-04	0.254E-05	0.298E-05	0.876E-06	0.125E-05	0.493E-05	0.804E-05	0.234E-04
BONE	0.160E-05	0.160E-05	0.991E-06	0.137E-05	0.123E-05	0.177E-05	0.506E 00	0.123E-05	0.158E-05	0.126E-05
R MAR	0.204E-05	0.204E-05	0.176E-05	0.457E-05	0.393E-05	0.546E-05	0.564E-02	0.177E-05	0.412E-05	0.191E-05
Y MAR	0.166E-05	0.166E-05	0.138E-05	0.192E-05	0.176E-05	0.219E-05	0.466E-05	0.182E-05	0.194E-05	0.187E-05
ENDOST	0.160E-05	0.160E-05	0.991E-06	0.137E-05	0.123E-05	0.177E-05	0.225E 00	0.123E-05	0.158E-05	0.126E-05
SPLEEN	0.286E-05	0.286E-05	0.125E-04	0.191E-05	0.176E-05	0.971E-06	0.782E-06	0.115E-05	0.109E-04	0.141E 02
TESTES	0.137E-07	0.137E-07	0.754E-07	0.417E-06	0.372E-06	0.242E-05	0.777E-06	0.945E-07	0.132E-06	0.750E-07
THYMUS	0.512E-05	0.512E-05	0.320E-06	0.121E-06	0.139E-06	0.422E-07	0.598E-06	0.782E-06	0.240E-06	0.421E-06
THYROID	0.106E-05	0.106E-05	0.134E-06	0.249E-07	0.273E-07	0.942E-08	0.109E-05	0.246E-06	0.741E-07	0.130E-06
UTERUS	0.114E-06	0.114E-06	0.992E-06	0.118E-04	0.618E-05	0.885E-05	0.750E-06	0.481E-06	0.128E-05	0.488E-06

CASE 1.. INHALATION

AMAD (MICRON).. 1.00 D3 =0.310 D4 =8.000E-02 D5 =0.249

	SOLUBILITY CLASS	G.I. UPTAKE FRACTIONS STOMACH	S INT	U L INT	L L INT
RA-226	W	0.0	0.200	0.0	0.0
RN-222	*	0.0	0.0	0.0	0.0
PO-218	W	0.0	1.000E-01	0.0	0.0
PB-214	W	0.0	8.000E-02	0.0	0.0
BI-214	W	0.0	5.000E-02	0.0	0.0
PO-214	W	0.0	1.000E-01	0.0	0.0
PB-210	W	0.0	8.000E-02	0.0	0.0
BI-210	W	0.0	5.000E-02	0.0	0.0
PO-210	W	0.0	1.000E-01	0.0	0.0

*SPECIAL LUNG CLEARANCE PARAMETERS. T=HALF-TIME (DAYS), F=DEPOSITION FRACTION.

CLEARANCE PATHWAY..		A	B	C	D	E	F	G	H	I
RN-222	F	1.0	0.0	1.0	0.0	1.0	0.0	0.0	0.0	1.0
	T	8.20E-05	1.0	8.20E-05	1.0	8.20E-05	0.0	0.0	0.0	2.96E-03

DOSE EQUIVALENT (REM/MICROCURIE)

SOURCE	LUNGS	RES LYM	S CONT	SI CONT	ULI CONT	LLI CONT	BONE	LIVER	KIDNEYS	SPLEEN	OTHER
TARGET											
LUNGS	28.3	2.143E-04	6.059E-07	4.139E-07	3.604E-06	5.404E-06	1.940E-03	8.366E-07	5.192E-08	7.476E-08	1.016E-05
RES LYM	2.760E-03	152.	6.059E-07	4.139E-07	3.604E-06	5.404E-06	1.940E-03	8.366E-07	5.192E-08	7.476E-08	1.016E-05
S WALL	3.170E-05	2.470E-06	1.337E-03	4.225E-06	3.113E-05	5.482E-05	1.130E-03	6.446E-07	2.065E-07	3.253E-07	1.076E-05
SI WALL	3.644E-06	2.801E-07	8.750E-07	2.882E-03	1.390E-04	2.849E-04	1.555E-03	5.548E-07	1.739E-07	4.746E-08	1.228E-05
ULI WALL	4.466E-06	3.423E-07	1.133E-06	2.728E-05	2.322E-02	1.323E-04	1.471E-03	8.217E-07	1.736E-07	4.396E-08	1.256E-05
LLI WALL	1.600E-06	1.254E-07	4.654E-07	8.310E-06	2.680E-05	0.100	1.933E-03	8.094E-08	4.989E-08	2.114E-08	1.357E-05
T BODY	0.406	3.263E-02	3.440E-06	2.839E-05	8.554E-05	2.862E-04	8.84	8.683E-03	1.496E-03	8.684E-04	0.164
ADREN	4.116E-05	3.228E-06	9.131E-07	1.571E-06	9.858E-06	1.614E-05	3.307E-03	1.631E-06	6.374E-07	2.161E-07	0.339
BL WALL	9.086E-07	6.931E-08	1.442E-07	3.469E-06	1.918E-05	1.885E-04	1.211E-03	5.551E-08	1.936E-08	5.567E-09	0.169
KIDNEYS	1.494E-05	1.161E-06	1.116E-06	3.667E-06	2.461E-05	3.163E-05	1.924E-03	1.293E-06	0.337	2.989E-07	1.135E-05
LIVER	4.141E-05	3.236E-06	6.914E-07	2.244E-06	2.246E-05	1.295E-05	1.450E-03	0.338	2.329E-07	3.399E-08	8.599E-06
OVARIES	2.085E-06	1.607E-07	3.175E-07	1.080E-05	8.502E-05	5.380E-04	1.830E-03	1.685E-07	7.327E-08	1.741E-08	0.339
PANCREAS	4.243E-05	3.315E-06	5.692E-06	2.354E-06	1.908E-05	2.386E-05	2.075E-03	1.330E-06	3.902E-07	6.267E-07	0.339
BONE	2.088E-05	1.639E-06	2.132E-07	1.001E-06	6.584E-06	3.406E-05	24.8	3.222E-07	7.439E-08	3.309E-08	1.220E-05
R MAR	2.659E-05	2.087E-06	3.586E-07	3.120E-06	1.944E-05	1.009E-04	11.3	4.635E-07	1.930E-07	5.000E-08	0.339
Y MAR	2.168E-05	1.701E-06	2.989E-07	1.376E-06	9.303E-06	4.218E-05	5.786E-03	4.766E-07	9.137E-08	4.911E-08	0.339
ENDOST	2.088E-05	1.639E-06	2.132E-07	1.001E-06	6.584E-06	3.406E-05	116.	3.222E-07	7.439E-08	3.309E-08	3.006E-05
SPLEEN	3.811E-05	2.982E-06	3.177E-06	1.966E-06	1.231E-05	3.235E-05	1.490E-03	3.134E-07	5.248E-07	0.338	1.144E-05
TESTES	2.659E-07	1.987E-08	4.708E-08	6.408E-07	4.499E-06	5.857E-05	1.552E-03	2.874E-08	7.103E-09	2.237E-09	0.339
THYMUS	6.934E-05	5.413E-06	1.920E-07	1.924E-07	1.566E-06	2.460E-06	1.321E-03	2.206E-07	1.227E-08	1.194E-08	0.339
THYROID	1.515E-05	1.174E-06	5.906E-08	6.624E-09	5.309E-07	9.499E-07	1.494E-03	6.670E-08	4.178E-09	3.754E-09	0.339
UTERUS	1.792E-06	1.372E-07	3.236E-07	1.012E-05	4.300E-05	1.845E-04	1.312E-03	1.342E-07	6.136E-08	1.342E-08	0.339

DOSE EQUIVALENT (REM/MICROCURIE)

SOURCE	TOTAL
TARGET	
LUNGS	28.3
RES LYM	152.
S WALL	2.603E-03
SI WALL	4.878E-03
ULI WALL	2.487E-02
LLI WALL	0.102
T BODY	9.45
ADREN	0.342
BL WALL	0.170
KIDNEYS	0.339
LIVER	0.340
OVARIES	0.341
PANCREAS	0.341
BONE	24.8
R MAR	11.6
Y MAR	0.344
ENDOST	116.
SPLEEN	0.340
TESTES	0.340
THYMUS	0.340
THYROID	0.340
UTERUS	0.340

PERCENT DOSE EQUIVALENT..

NUCLIDE	RA-226	RN-222	PO-218	PB-214	BI-214	PO-214	PB-210	BI-210	PO-210
TARGET									
LUNGS	99.6	0.1	0.1	0.0	0.0	0.1	0.0	0.0	0.0
RES LYM	99.7	0.1	0.1	0.0	0.0	0.1	0.0	0.0	0.0
S WALL	43.0	1.1	1.4	8.3	42.8	3.4	0.0	0.0	0.0
SI WALL	44.5	2.9	3.1	7.7	37.8	4.0	0.0	0.0	0.0
ULI WALL	50.7	8.2	8.9	5.4	15.9	10.9	0.0	0.0	0.0
LLI WALL	37.1	11.6	12.7	6.6	16.3	15.8	0.0	0.0	0.0
T BODY	48.5	14.5	15.8	0.0	0.1	20.6	0.0	0.0	0.4
ADREN	98.2	0.2	0.2	0.1	0.8	0.3	0.0	0.0	0.0
BL WALL	98.4	0.2	0.2	0.1	0.7	0.3	0.0	0.0	0.0
KIDNEYS	99.2	0.1	0.1	0.1	0.5	0.1	0.0	0.0	0.0
LIVER	99.4	0.1	0.1	0.1	0.4	0.1	0.0	0.0	0.0
OVARIES	98.5	0.2	0.2	0.1	0.6	0.3	0.0	0.0	0.0
PANCREAS	98.6	0.2	0.2	0.1	0.5	0.3	0.0	0.0	0.0
BONE	44.9	15.5	16.9	0.1	0.2	21.9	0.0	0.0	0.5
R MAR	4.0	27.3	29.8	0.1	0.2	38.7	0.0	0.0	0.0
Y MAR	97.5	0.2	0.2	0.3	1.4	0.3	0.0	0.0	0.0
ENDOST	4.3	34.9	32.7	0.0	0.0	29.0	0.0	0.0	0.0
SPLEEN	99.3	0.1	0.1	0.1	0.4	0.1	0.0	0.0	0.0
TESTES	98.7	0.2	0.2	0.1	0.4	0.3	0.0	0.0	0.0
THYMUS	98.8	0.2	0.2	0.1	0.3	0.3	0.0	0.0	0.0
THYROID	98.9	0.2	0.2	0.1	0.4	0.3	0.0	0.0	0.0
UTERUS	98.7	0.2	0.2	0.1	0.4	0.3	0.0	0.0	0.0

CASE 2.. INGESTION

INGESTION TRANSFER FRACTIONS (G. I. TRACT TO BLOOD)

	RA-226	RN-222	PO-218	PB-214	BI-214	PO-214	PB-210	BI-210	PO-210
STOMACH	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
S INT	0.200	0.0	1.000E-01	8.000E-02	5.000E-02	1.000E-01	8.000E-02	5.000E-02	1.000E-01
U L INT	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
L L INT	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

DOSE EQUIVALENT (REM/MICROCURIE)

SOURCE	S CONT	SI CONT	ULI CONT	LLI CONT	BONE	LIVER	KIDNEYS	SPLEEN	OTHER	TOTAL
TARGET										
LUNGS	1.538E-07	4.409E-07	6.042E-06	9.848E-06	1.729E-03	7.466E-07	4.674E-08	6.680E-08	9.054E-06	1.755E-03
RES LYM	1.538E-07	4.409E-07	6.042E-06	9.848E-06	1.729E-03	7.466E-07	4.674E-08	6.680E-08	9.054E-06	1.755E-03
S WALL	2.114E-03	4.614E-06	5.231E-05	9.996E-05	1.00?E-03	5.752E-07	1.856E-07	2.907E-07	9.589E-06	3.288E-03
SI WALL	2.309E-07	4.954E-03	2.335E-04	5.195E-04	1.385E-03	4.950E-07	1.563E-07	4.242E-08	1.095E-05	7.104E-03
ULI WALL	3.060E-07	2.989E-05	4.214E-02	2.412E-04	1.310E-03	7.332E-07	1.561E-07	3.929E-08	1.119E-05	4.374E-02
LLI WALL	1.156E-07	9.080E-06	4.502E-05	0.186	1.722E-03	7.227E-08	4.493E-08	1.889E-08	1.209E-05	0.189
T BODY	4.690E-06	4.754E-05	1.531E-04	5.310E-04	7.87	7.736E-03	1.533E-03	7.737E-04	0.146	8.03
ADREN	2.277E-07	1.719E-06	1.654E-05	2.943E-05	2.946E-03	1.456E-06	5.738E-07	1.931E-07	0.302	0.305
BL WALL	2.787E-08	3.784E-06	3.053E-05	3.437E-04	1.079E-03	4.958E-08	1.747E-08	4.985E-09	0.151	0.152
KIDNEYS	3.030E-07	3.995E-06	4.133E-05	5.766E-05	1.714E-03	1.154E-06	0.301	2.671E-07	1.011E-05	0.302
LIVER	1.770E-07	2.441E-06	3.772E-05	2.361E-05	1.292E-03	0.301	2.094E-07	3.038E-08	7.663E-06	0.303
OVARIES	5.772E-08	1.192E-05	1.430E-04	9.811E-04	1.630E-03	1.505E-07	6.594E-08	1.557E-08	0.302	0.304
PANCREAS	1.551E-06	2.571E-06	3.206E-05	4.350E-05	1.849E-03	1.137E-06	3.509E-07	5.599E-07	0.302	0.304
BONE	6.405E-08	1.114E-06	1.106E-05	6.213E-05	22.1	2.874E-07	6.677E-08	2.955E-08	1.087E-05	22.1
R MAR	1.116E-07	3.494E-06	3.273E-05	1.840E-04	10.0	4.135E-07	1.732E-07	4.465E-08	0.302	10.3
Y MAR	8.941E-08	1.534E-06	1.565E-05	7.693E-05	5.155E-03	4.252E-07	8.201E-08	4.386E-08	0.302	0.307
ENDOST	6.405E-08	1.114E-06	1.106E-05	6.213E-05	103.	2.874E-07	6.677E-08	2.955E-08	2.678E-05	103.
SPLEEN	8.631E-07	2.131E-06	2.068E-05	5.897E-05	1.328E-03	2.797E-07	4.716E-07	0.301	1.019E-05	0.303
TESTES	8.145E-09	6.780E-07	7.540E-06	1.068E-04	1.383E-03	2.569E-08	6.418E-09	2.003E-09	0.302	0.303
THYMUS	3.391E-08	2.035E-07	2.624E-06	4.482E-06	1.177E-03	1.969E-07	1.106E-08	1.068E-08	0.302	0.303
THYROID	1.199E-08	6.877E-08	8.886E-07	1.731E-06	1.331E-03	5.953E-08	3.784E-09	3.360E-09	0.302	0.303
UTERUS	7.627E-08	1.112E-05	7.222E-05	3.365E-04	1.169E-03	1.198E-07	5.513E-09	1.200E-08	0.302	0.303

PERCENT DOSE EQUIVALENT..

NUCLIDE	RA-226	RN-222	PO-218	PB-214	BI-214	PO-214	PB-210	BI-210	PO-210
TARGET									
LUNGS	1.8	0.0	0.0	14.8	83.4	0.0	0.0	0.0	0.0
RES LYM	1.8	0.0	0.0	14.8	83.4	0.0	0.0	0.0	0.0
S WALL	63.2	0.5	0.5	5.5	29.8	0.3	0.0	0.0	0.0
SI WALL	58.4	2.5	2.7	5.8	27.7	2.7	0.0	0.0	0.0
ULI WALL	55.6	7.9	8.6	4.8	12.9	10.3	0.0	0.0	0.0
LLI WALL	38.8	11.4	12.5	6.4	15.3	15.6	0.0	0.0	0.0
T BODY	46.1	15.2	16.6	0.0	0.1	21.5	0.0	0.0	0.5
ADREN	98.2	0.2	0.2	0.1	0.8	0.3	0.0	0.0	0.0
BL WALL	98.2	0.2	0.2	0.1	0.8	0.3	0.0	0.0	0.0
KIDNEYS	99.1	0.1	0.1	0.1	0.5	0.1	0.0	0.0	0.0
LIVER	99.3	0.1	0.1	0.1	0.4	0.1	0.0	0.0	0.0
OVARIES	98.3	0.2	0.2	0.1	0.8	0.3	0.0	0.0	0.0
PANCREAS	98.6	0.2	0.2	0.1	0.5	0.3	0.0	0.0	0.0
BONE	44.9	15.5	16.9	0.1	0.2	21.9	0.0	0.0	0.5
R MAR	4.0	27.3	29.8	0.1	0.2	38.7	0.0	0.0	0.0
Y MAR	97.5	0.2	0.2	0.3	1.4	0.3	0.0	0.0	0.0
ENDOST	4.3	34.9	32.7	0.0	0.0	28.0	0.0	0.0	0.0
SPLEEN	99.3	0.1	0.1	0.1	0.4	0.1	0.0	0.0	0.0
TESTES	98.7	0.2	0.2	0.1	0.4	0.3	0.0	0.0	0.0
THYMUS	98.8	0.2	0.2	0.1	0.3	0.3	0.0	0.0	0.0
THYROID	98.8	0.2	0.2	0.1	0.4	0.3	0.0	0.0	0.0
UTERUS	98.7	0.2	0.2	0.1	0.4	0.3	0.0	0.0	0.0

RADIONUCLIDE: RA-228

PHYSICAL AND METABOLIC PARAMETERS FOR DOSIMETRICALLY SIGNIFICANT PROGENY:

NUCLIDE	RADIOACTIVE HALF-LIFE (DAYS)
RA-228	2100.
AC-228	0.2550
TH-228	698.0
RA-224	3.660
RN-220	6.4400E-04
PO-216	1.7400E-06
PB-212	0.4430
BI-212	4.2000E-02
PO-212	3.5300E-12
TL-208	2.1300E-03

BRANCHING RATIOS:	FROM	TO	FRACTION
	RA-228	AC-228	1.000
	AC-228	TH-228	1.000
	TH-228	RA-224	1.000
	RA-224	RN-220	1.000
	RN-220	PO-216	1.000
	PO-216	PB-212	1.000
	PB-212	BI-212	1.000
	BI-212	PO-212	0.6400
	BI-212	TL-208	0.3600

ORGAN ABSORBED	NUCLIDE	BLOOD TRANSFER FRACTION F2-PRIME	COMPARTMENT DEPOSITION FRACTION	COMPARTMENT BIOLOGICAL HALF-TIME (DAYS)
	RA-228	1.00	0.917	5.50
			5.360E-02	81.0
			2.000E-02	955.
			1.760E-04	3.140E 03
			9.390E-03	7.620E 03
	AC-228	1.00	0.460	1.460E 04
			0.540	3.650E 04
	TH-228	1.00	0.460	1.460E 04
			0.540	3.650E 04
	RA-224	1.00	0.917	5.50
			5.360E-02	81.0
			2.000E-02	955.
			1.760E-04	3.140E 03
			9.390E-03	7.620E 03
	RN-220	0.0	0.874	2.650E-04
			9.130E-02	3.110E-03
			1.980E-02	2.280E-02
			8.630E-03	0.146
			6.120E-03	0.963
	PO-216	1.00	1.000E-02	0.500
			0.990	50.0
	PB-212	1.00	1.000E-01	1.00
			0.200	10.0
			0.300	320.
			0.200	2.000E 03
			0.200	8.000E 03
	BI-212	1.00	-1.720E-02	1.000E-01
			1.02	5.78
	PO-212	1.00	1.000E-02	0.500
			0.990	50.0
	TL-208	1.00	1.00	4.00

β^- decay (5.75 Y 3)

*Retention data derived from "other tissues" compartment.

RADIUM-228 CONTINUED

ORGAN	NUCLIDE	BLOOD TRANSFER FRACTION F2-PRIME	COMPARTMENT DEPOSITION FRACTION	COMPARTMENT BIOLOGICAL HALF-TIME (DAYS)
BONE	RA-228	0.172	0.880	5.68
			1.360E-02	240.
			2.030E-03	1.610E 03
			5.730E-02	1.490E 03
			4.600E-02	8.380E 03
	AC-228	0.450	1.00	3.650E 04
	TH-228	0.450	1.00	3.650E 04
	RA-224	0.172	0.880	5.68
			1.360E-02	240.
			2.030E-03	1.610E 03
			5.730E-02	1.490E 03
			4.600E-02	8.380E 03
	RN-220	0.0	0.700	2.650E-04
			0.300	1.000E 50
	*PO-216	9.000E-02	1.000E-02	0.500
			0.990	50.0
	PB-212	0.562	0.375	320.
			0.310	2.000E 03
			0.315	8.000E 03
	*BI-212	7.340E-02	-1.000E-01	1.000E-01
			1.10	5.78
	*PO-212	9.000E-02	1.000E-02	0.500
			0.990	50.0
	*TL-208	0.118	1.00	4.00
LIVER	*RA-228	4.540E-02	0.890	0.630
			7.090E-02	28.9
			3.040E-02	160.
			7.430E-03	776.
			7.940E-04	4.040E 03
	AC-228	0.450	1.00	1.460E 04
	TH-228	0.450	1.00	1.460E 04
	*RA-224	4.540E-02	0.890	0.630
			7.090E-02	28.9
			3.040E-02	160.
			7.430E-03	776.
			7.940E-04	4.040E 03
	*RN-220	0.0	0.849	2.650E-04
			9.900E-02	3.110E-03
			4.400E-02	2.880E-02
			7.790E-04	0.146
			2.030E-05	0.963
	PO-216	1.000E-01	1.000E-02	0.500
			0.990	50.0
	PB-212	0.106	0.843	10.0
			7.870E-02	320.
			4.010E-02	2.000E 03
			3.820E-02	8.000E 03
	*BI-212	2.640E-02	-1.000E-01	1.000E-01
			1.10	5.78
	PO-212	1.000E-01	1.000E-02	0.500
			0.990	50.0
	*TL-208	4.240E-02	1.00	4.00
KIDNEYS	*RA-228	7.820E-03	0.890	0.630
			7.090E-02	28.9
			3.040E-02	160.
			7.430E-03	776.
			7.940E-04	4.040E 03
	AC-228	1.000E-02	1.00	1.460E 04
	TH-228	1.000E-02	1.00	1.460E 04
	*RA-224	7.820E-03	0.890	0.630
			7.090E-02	28.9
			3.040E-02	160.
			7.430E-03	776.
			7.940E-04	4.040E 03
	*RN-220	0.0	0.849	2.650E-04
			9.900E-02	3.110E-03
			4.400E-02	2.880E-02
			7.790E-04	0.146
			2.030E-05	0.963
	PO-216	1.000E-01	1.000E-02	0.500
			0.990	50.0

ORGAN	NUCLIDE	BLOOD TRANSFER FRACTION F2-PRIME	COMPARTMENT DEPOSITION FRACTION	COMPARTMENT BIOLOGICAL HALF-TIME (DAYS)
	PB-212	5.090E-02	0.962	10.0
			2.000E-03	320.
			9.600E-03	2.000E 03
			8.290E-04	8.000E 03
	EI-212	0.400	1.00	5.78
	PO-212	1.000E-01	1.000E-02	0.500
			0.990	50.0
	TL-208	3.760E-02	1.00	4.00
SPLEEN	* RA-228	4.540E-03	0.890	0.630
			7.090E-02	28.9
			3.040E-02	160.
			7.430E-03	776.
			7.940E-04	4.040E 03
	* AC-228	4.760E-04	1.00	3.650E 04
	* TH-228	4.760E-04	1.00	3.650E 04
	* RA-224	4.540E-03	0.890	0.630
			7.090E-02	28.9
			3.040E-02	160.
			7.430E-03	776.
			7.940E-04	4.040E 03
	RN-220	0.0	0.849	2.650E-04
			9.900E-02	3.110E-03
			4.400E-02	2.880E-02
			7.790E-04	0.146
			2.030E-05	0.963
	PO-216	1.000E-01	1.000E-02	0.500
			0.990	50.0
	* PB-212	2.960E-04	0.375	320.
			0.310	2.000E 03
			0.315	8.000E 03
	* BI-212	2.640E-04	-1.000E-01	1.000E-01
			1.10	5.78
	PO-212	1.000E-01	1.000E-02	0.500
			0.990	50.0
	* TL-208	4.240E-03	1.00	4.00
TESTES	* RA-228	8.830E-04	0.890	0.630
			7.090E-02	28.9
			3.040E-02	160.
			7.430E-03	776.
			7.940E-04	4.040E 03
	AC-228	3.500E-04	1.00	3.650E 04
	TH-228	3.500E-04	1.00	3.650E 04
	* RA-224	8.830E-04	0.890	0.630
			7.090E-02	28.9
			3.040E-02	160.
			7.430E-03	776.
			7.940E-04	4.040E 03
	RN-220	0.0	0.910	2.650E-04
			8.660E-02	3.110E-03
			3.040E-04	2.880E-02
			3.170E-03	0.146
			6.810E-06	0.963
	* PO-216	6.300E-04	1.000E-02	0.500
			0.990	50.0
	* PB-212	5.760E-05	0.375	320.
			0.310	2.000E 03
			0.315	8.000E 03
	* BI-212	5.140E-04	-1.000E-01	1.000E-01
			1.10	5.78
	* PO-212	6.300E-04	1.000E-02	0.500
			0.990	50.0
	* TL-208	8.240E-04	1.00	4.00
OVARIES	* RA-228	2.770E-04	0.890	0.630
			7.090E-02	28.9
			3.040E-02	160.
			7.430E-03	776.
			7.940E-04	4.040E 03
	AC-228	1.100E-04	1.00	3.650E 04
	TH-228	1.100E-04	1.00	3.650E 04
	* RA-224	2.770E-04	0.890	0.630
			7.090E-02	28.9
			3.040E-02	160.
			7.430E-03	776.
			7.940E-04	4.040E 03

RADIUM-228 CONTINUED

ORGAN	NUCLIDE	BLOOD TRANSFER FRACTION F2-PRIME	COMPARTMENT DEPOSITION FRACTION	COMPARTMENT BIOLOGICAL HALF-TIME (DAYS)
	RN-220	0.0	0.910	2.650E-04
			8.660E-02	3.110E-03
			3.040E-04	2.880E-02
			3.170E-03	0.146
			6.810E-06	0.963
	* PO-216	1.980E-04	1.000E-02	0.500
			0.990	50.0
	* PB-212	1.810E-05	0.375	320.
			0.310	2.000E 03
			0.315	8.000E 03
	* BI-212	1.610E-04	-1.000E-01	1.000E-01
			1.10	5.78
	* PO-212	1.980E-04	1.000E-02	0.500
			0.990	50.0
	* TL-208	2.590E-04	1.00	4.00
OTHER	RA-228	0.854	0.890	0.630
			7.090E-02	28.9
			3.040E-02	160.
			7.430E-03	776.
			7.940E-04	4.040E 03
	AC-228	8.950E-02	1.00	3.650E 04
	TH-228	8.950E-02	1.00	3.650E 04
	RA-224	0.854	0.890	0.630
			7.090E-02	28.9
			3.040E-02	160.
			7.430E-03	776.
			7.940E-04	4.040E 03
	RN-220	0.0	0.872	2.650E-04
			9.140E-02	3.110E-03
			2.050E-02	2.880E-02
			9.080E-03	0.146
			6.790E-03	0.963
	PO-216	0.610	1.000E-02	0.500
			0.990	50.0
	PB-212	5.580E-02	0.375	320.
			0.310	2.000E 03
			0.315	8.000E 03
	BI-212	0.500	-1.000E-01	1.000E-01
			1.10	5.78
	PO-212	0.610	1.000E-02	0.500
			0.990	50.0
	TL-208	0.814	1.00	4.00

S FACTORS (REM/MICROCURIE-DAY) FOR RA-228

TARGET ORGANS	SOURCE ORGANS												
	LUNGS	RES LYM	S CONT	SI CONT	ULI CONT	LLI CONT	BONE	LIVER	KIDNEYS	SPLEEN	TESTES	OVARIES	OTHER
LUNGS	0.639E-03	0.639E-03	0.241E-13	0.607E-24	0.541E-24	0.357E-23	0.231E-13	0.106E-13	0.488E-14	0.888E-13	0.0	0.699E-32	0.441E-12
RES LYM	0.639E-03	0.426E-01	0.241E-13	0.607E-24	0.541E-24	0.357E-23	0.231E-13	0.106E-13	0.488E-14	0.888E-13	0.0	0.699E-32	0.441E-12
S WALL	0.733E-13	0.733E-13	0.128E-02	0.777E-13	0.298E-12	0.171E-14	0.198E-13	0.526E-13	0.195E-15	0.119E-12	0.150E-31	0.110E-19	0.108E-13
SI WALL	0.225E-23	0.225E-23	0.373E-13	0.799E-03	0.746E-12	0.331E-12	0.208E-13	0.322E-13	0.889E-15	0.241E-16	0.365E-24	0.392E-12	0.821E-13
ULI WALL	0.346E-23	0.346E-23	0.110E-12	0.614E-10	0.145E-02	0.141E-11	0.289E-13	0.258E-13	0.102E-15	0.161E-16	0.106E-23	0.122E-11	0.600E-12
LLI WALL	0.855E-26	0.855E-26	0.233E-15	0.384E-11	0.337E-12	0.237E-02	0.894E-13	0.373E-23	0.113E-17	0.248E-18	0.177E-15	0.113E-11	0.205E-13
T BODY	0.914E-05	0.914E-05	0.374E-05	0.731E-05	0.436E-05	0.541E-05	0.914E-05	0.914E-05	0.914E-05	0.914E-05	0.914E-05	0.914E-05	0.900E-05
ADREN	0.169E-12	0.169E-12	0.590E-17	0.294E-20	0.787E-21	0.267E-23	0.553E-13	0.338E-12	0.914E-05	0.914E-05	0.914E-05	0.914E-05	0.900E-05
BL WALL	0.482E-34	0.482E-34	0.220E-24	0.575E-16	0.453E-16	0.189E-13	0.309E-17	0.785E-25	0.642E-12	0.151E-13	0.0	0.271E-26	0.193E-04
KIDNEYS	0.877E-17	0.877E-17	0.523E-16	0.674E-15	0.435E-16	0.579E-18	0.413E-13	0.115E-12	0.206E-02	0.959E-12	0.638E-33	0.250E-20	0.167E-13
LIVER	0.978E-14	0.978E-14	0.293E-13	0.104E-13	0.216E-13	0.390E-23	0.170E-13	0.355E-03	0.605E-13	0.983E-19	0.352E-32	0.144E-20	0.715E-13
OVARIES	0.717E-30	0.717E-30	0.271E-20	0.188E-11	0.275E-11	0.561E-11	0.290E-14	0.134E-20	0.503E-20	0.134E-22	0.0	0.581E-01	0.444E-13
PANCREAS	0.116E-14	0.116E-14	0.113E-11	0.361E-17	0.308E-17	0.234E-20	0.534E-17	0.201E-12	0.319E-14	0.213E-12	0.132E-35	0.647E-24	0.189E-04
BONE	0.370E-14	0.370E-14	0.527E-14	0.293E-13	0.225E-13	0.597E-14	0.127E-03	0.796E-14	0.306E-13	0.932E-15	0.170E-17	0.369E-13	0.875E-07
R MAR	0.384E-14	0.384E-14	0.546E-14	0.123E-12	0.944E-13	0.247E-13	0.135E-05	0.824E-14	0.818E-13	0.966E-15	0.443E-15	0.155E-13	0.196E-04
Y MAR	0.504E-14	0.504E-14	0.717E-14	0.411E-13	0.314E-13	0.823E-14	0.128E-10	0.108E-13	0.370E-13	0.127E-14	0.152E-15	0.518E-14	0.138E-24
ENDOST	0.370E-14	0.370E-14	0.527E-14	0.293E-13	0.225E-13	0.597E-14	0.133E-04	0.796E-14	0.306E-13	0.932E-15	0.100E-17	0.369E-14	0.135E-04
SPLEEN	0.905E-13	0.905E-13	0.154E-13	0.390E-15	0.788E-17	0.209E-18	0.890E-13	0.962E-15	0.845E-12	0.355E-02	0.176E-35	0.130E-22	0.137E-13
TESTES	0.0	0.0	0.467E-32	0.376E-24	0.162E-23	0.639E-16	0.247E-17	0.297E-32	0.559E-33	0.166E-35	0.183E-01	0.0	0.143E-13
THYMUS	0.303E-13	0.303E-13	0.300E-24	0.143E-32	0.184E-32	0.139E-35	0.389E-13	0.962E-22	0.965E-28	0.751E-26	0.320E-30	0.0	0.189E-04
THYROID	0.553E-19	0.553E-19	0.775E-32	0.0	0.0	0.0	0.180E-13	0.177E-30	0.111E-35	0.860E-33	0.341E-34	0.714E-29	0.148E-04
UTERUS	0.520E-31	0.520E-31	0.103E-21	0.186E-12	0.584E-15	0.700E-15	0.127E-16	0.239E-22	0.159E-21	0.103E-24	0.0	0.246E-13	0.188E-04

CASE 1.. INHALATION

AMAD (MICRON).. 1.00 D3 =0.310 D4 =8.000E-02 D5 =0.249

	SOLUBILITY CLASS	G.I. UPTAKE FRACTIONS STOMACH	S INT	U L INT	L L INT
RA-228	W	0.0	0.200	0.0	0.0
AC-228	W	0.0	1.000E-03	0.0	0.0
TH-228	W	0.0	1.000E-03	0.0	0.0
RA-224	W	0.0	0.200	0.0	0.0
RN-220	*	0.0	0.0	0.0	0.0
PO-216	W	0.0	1.000E-01	0.0	0.0
PB-212	W	0.0	8.000E-02	0.0	0.0
BI-212	W	0.0	5.000E-02	0.0	0.0
PO-212	W	0.0	1.000E-01	0.0	0.0
TL-208	W	0.0	0.950	0.0	0.0

*SPECIAL LUNG CLEARANCE PARAMETERS. T=HALF-TIME (DAYS), F=DEPOSITION FRACTION.

	CLEARANCE PATHWAY..	A	B	C	D	E	F	G	H	I
RN-220	F	1.0	0.0	1.0	0.0	1.0	0.0	0.0	0.0	1.0
	T	8.20E-05	1.0	8.20E-05	1.0	8.20E-05	0.0	0.0	0.0	2.96E-03

DOSE EQUIVALENT (REM/MICROCURIE)

SOURCE	LUNGS	RES LYM	S CONT	SI CONT	ULI CONT	LLI CONT	BONE	LIVER	KIDNEYS	SPLEEN	TESTES
TARGET											
LUNGS	2.56	2.454E-02	1.732E-05	1.042E-05	2.487E-05	1.246E-05	1.885E-03	1.409E-04	5.912E-06	6.876E-06	1.905E-08
RES LYM	0.258	85.0	1.732E-05	1.042E-05	2.487E-05	1.246E-05	1.885E-03	1.409E-04	5.912E-06	6.876E-06	1.905E-08
S WALL	3.089E-03	2.872E-04	3.539E-03	1.054E-04	3.175E-04	1.306E-04	1.074E-03	1.154E-04	1.974E-05	3.015E-05	6.394E-08
SI WALL	5.013E-04	4.720E-05	2.470E-05	6.899E-03	9.688E-04	7.103E-04	1.536E-03	9.246E-05	1.682E-05	4.556E-06	3.456E-07
ULI WALL	6.542E-04	6.160E-05	3.105E-05	6.950E-04	2.620E-02	3.250E-04	1.433E-03	1.286E-04	1.702E-05	4.569E-06	2.697E-07
LLI WALL	1.446E-04	1.340E-05	1.335E-05	2.070E-04	1.946E-04	5.703E-02	1.918E-03	1.867E-05	5.504E-06	2.145E-06	1.573E-06
T BODY	3.859E-02	1.844E-02	2.392E-05	1.138E-04	1.892E-04	2.740E-04	5.22	8.464E-02	3.571E-03	1.243E-03	2.796E-04
ADREN	3.685E-03	3.359E-04	2.350E-05	3.715E-05	7.216E-05	3.991E-05	3.176E-03	2.953E-04	7.197E-05	2.162E-05	5.628E-08
BL WALL	1.426E-04	1.346E-05	4.566E-06	7.856E-05	1.264E-04	4.403E-04	1.074E-03	1.511E-05	2.700E-06	9.645E-07	3.207E-06
KIDNEYS	1.621E-03	1.496E-04	3.187E-05	9.387E-05	1.741E-04	7.513E-05	1.937E-03	2.153E-04	9.804	2.643E-05	8.966E-08
LIVER	3.802E-03	3.531E-04	1.935E-05	5.604E-05	1.541E-04	3.142E-05	1.409E-03	3.29	2.700E-05	3.500E-06	6.279E-08
OVARIES	2.718E-04	2.549E-05	1.137E-05	2.907E-04	5.313E-04	1.352E-03	1.790E-03	3.780E-05	8.355E-06	1.974E-06	0.0
PANCREAS	3.781E-03	3.515E-04	1.612E-04	5.977E-05	1.283E-04	5.921E-05	1.913E-03	2.363E-04	3.954E-05	5.812E-05	6.904E-08
BONE	1.602E-03	1.497E-04	5.875E-06	2.423E-05	4.436E-05	8.368E-05	14.7	4.424E-05	6.006E-06	2.528E-06	4.283E-07
R MAR	2.026E-03	1.892E-04	9.957E-06	7.541E-05	1.299E-04	2.493E-04	12.1	6.332E-05	1.506E-05	3.719E-06	3.385E-07
Y MAR	1.674E-03	1.565E-04	8.194E-06	3.341E-05	6.273E-05	1.029E-04	5.817E-03	6.544E-05	7.403E-06	3.760E-06	1.897E-07
ENDOST	1.602E-03	1.497E-04	5.875E-06	2.423E-05	4.436E-05	8.368E-05	134.	4.424E-05	6.006E-06	2.528E-06	4.283E-07
SPLEEN	3.410E-03	3.178E-04	9.129E-05	4.785E-05	8.532E-05	8.236E-05	1.489E-03	6.104E-05	4.953E-05	0.482	5.477E-08
TESTES	5.522E-05	5.284E-06	1.368E-06	1.550E-05	3.272E-05	1.349E-04	1.476E-03	1.047E-05	1.034E-06	3.689E-07	0.558
THYMUS	6.580E-03	6.090E-04	6.592E-06	4.769E-06	1.060E-05	5.855E-06	1.441E-03	5.527E-05	1.246E-06	1.860E-06	1.207E-08
THYROID	2.013E-03	1.845E-04	1.671E-06	1.599E-05	3.479E-06	2.165E-06	1.255E-03	1.236E-05	6.915E-07	5.415E-07	4.805E-09
UTERUS	2.286E-04	2.193E-05	9.389E-06	2.538E-04	2.920E-04	4.556E-04	1.378E-03	2.810E-05	5.473E-06	1.726E-06	0.0

DOSE EQUIVALENT (REM/MICROCURIE)

SOURCE	OVARIES	OTHER	TOTAL
TARGET			
LUNGS	3.068E-08	7.650E-04	2.59
RES LYM	3.068E-08	7.650E-04	85.3
S WALL	1.690E-07	8.157E-04	9.425E-03
SI WALL	2.225E-06	9.059E-04	1.171E-02
ULI WALL	2.106E-06	9.333E-04	3.050E-02
LLI WALL	2.696E-06	1.000E-03	6.055E-02
T BODY	8.784E-05	0.232	5.60
ADREN	1.111E-07	0.479	0.487
BL WALL	1.349E-06	0.240	0.242
KIDNEYS	2.213E-07	8.670E-04	0.810
LIVER	1.322E-07	6.601E-04	3.29
OVARIES	0.556	1.141E-03	0.562
PANCREAS	1.497E-07	0.479	0.486
BONE	1.852E-07	9.301E-04	14.7
R MAR	6.062E-07	0.478	12.6
Y MAR	2.446E-07	0.479	0.487
ENDOST	1.852E-07	2.283E-03	134.
SPLEEN	1.279E-07	8.623E-04	0.488
TESTES	0.0	7.310E-04	0.560
THYMUS	1.547E-08	0.480	0.489
THYROID	5.619E-09	0.479	0.482
UTERUS	3.381E-06	0.481	0.487

PERCENT DOSE EQUIVALENT..

NUCLIDE	RA-228	AC-228	TH-228	RA-224	RN-220	PO-216	PB-212	BI-212	PO-212	TL-208
TARGET										
LUNGS	0.3	10.5	44.2	30.7	4.7	5.0	0.0	1.3	3.2	0.1
RES LYM	0.1	1.8	19.6	19.6	17.7	19.2	0.0	6.2	15.8	0.1
S WALL	3.3	39.7	0.3	0.7	0.7	0.7	0.8	1.2	0.7	3.2
SI WALL	0.5	87.0	0.5	1.1	1.1	1.2	1.0	1.7	0.6	5.4
ULI WALL	1.1	82.9	1.0	2.2	2.4	2.6	0.9	2.5	1.8	2.7
LLI WALL	1.6	76.3	1.6	3.0	3.3	3.6	1.1	3.7	2.9	2.3
T BODY	0.0	0.2	35.2	22.7	12.5	13.5	0.0	4.4	11.4	0.0
ADREN	0.0	2.0	61.8	15.2	6.2	6.6	0.0	2.3	5.7	0.2
BL WALL	0.0	1.5	62.2	15.3	6.2	6.7	0.0	2.3	5.7	0.2
KIDNEYS	0.0	0.9	62.7	15.3	6.4	6.8	0.0	2.2	5.6	0.1
LIVER	0.0	0.3	63.2	15.4	6.4	6.9	0.0	2.2	5.6	0.1
OVARIES	0.0	1.2	63.3	15.6	5.9	6.3	0.0	2.1	5.4	0.1
PANCREAS	0.0	1.9	61.9	15.2	6.2	6.6	0.0	2.3	5.7	0.2
BONE	0.0	0.3	33.5	23.1	12.9	13.9	0.0	4.6	11.8	0.1
R MAR	0.0	0.1	34.6	22.8	12.6	13.7	0.0	4.5	11.6	0.0
Y MAR	0.0	1.8	61.8	15.2	6.2	6.6	0.1	2.3	5.7	0.3
ENDOST	0.0	0.0	39.7	25.2	11.9	11.4	0.0	6.2	5.6	0.0
SPLEEN	0.0	1.7	61.8	15.2	6.3	6.8	0.0	2.3	5.7	0.1
TESTES	0.0	0.7	63.7	15.6	5.9	6.4	0.0	2.1	5.4	0.1
THYMUS	0.0	2.4	61.6	15.1	6.1	6.6	0.0	2.2	5.6	0.2
THYROID	0.0	1.3	62.4	15.3	6.2	6.7	0.0	2.3	5.7	0.1
UTERUS	0.0	1.4	62.3	15.3	6.2	6.7	0.0	2.3	5.7	0.1

CASE 2.. INGESTION

INGESTION TRANSFER FRACTIONS (G. I. TRACT TO BLOOD)

	RA-228	AC-228	TH-228	RA-224	RN-220	PO-216	PB-212	BI-212	PO-212	TL-208
STOMACH	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
S INT	0.200	1.000E-03	1.000E-03	0.200	0.0	1.000E-01	8.000E-02	5.000E-02	1.000E-01	0.950
U L INT	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
L L INT	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

DOSE EQUIVALENT (REM/MICROCURIE)

SOURCE	S CONT	SI CONT	ULI CONT	LLI CONT	BONE	LIVER	KIDNEYS	SPLEEN	TESTES	OVARIES	OTHER
TARGET											
LUNGS	1.166E-06	2.836E-06	2.043E-05	1.772E-05	1.604E-03	6.935E-05	4.786E-06	6.113E-06	1.648E-08	2.657E-08	6.804E-04
RES LYM	1.166E-06	2.836E-06	2.043E-05	1.772E-05	1.604E-03	6.935E-05	4.786E-06	6.113E-06	1.648E-08	2.657E-08	6.804E-04
S WALL	2.721E-04	2.873E-05	1.787E-04	1.869E-04	9.135E-04	5.588E-05	1.591E-05	2.681E-05	5.504E-08	1.461E-07	7.255E-04
SI WALL	1.662E-06	1.815E-03	7.969E-04	1.024E-03	1.309E-03	4.562E-05	1.361E-05	4.051E-06	2.999E-07	1.934E-06	8.057E-04
ULI WALL	2.090E-06	1.894E-04	1.911E-02	4.687E-04	1.221E-03	6.782E-05	1.784E-05	4.063E-06	2.322E-07	1.831E-06	8.301E-04
LLI WALL	8.987E-07	5.639E-05	1.604E-04	6.849E-02	1.636E-03	8.675E-06	4.436E-06	1.906E-06	1.364E-06	2.342E-06	8.895E-04
T BODY	1.683E-06	3.040E-05	1.482E-04	3.636E-04	4.05	1.011E-02	1.737E-03	1.042E-03	1.987E-04	6.244E-05	0.194
ADREN	1.581E-06	1.011E-05	5.936E-05	5.749E-05	2.722E-03	1.382E-04	5.853E-05	1.924E-05	4.876E-08	9.658E-08	0.401
BL WALL	3.077E-07	2.139E-05	1.036E-04	6.339E-04	9.095E-04	6.679E-06	2.187E-06	8.583E-07	2.793E-06	1.175E-06	0.201
KIDNEYS	2.145E-06	2.559E-05	1.433E-04	1.076E-04	1.660E-03	1.052E-04	0.391	2.350E-05	7.788E-08	1.921E-07	7.711E-04
LIVER	1.301E-06	1.527E-05	1.266E-04	4.523E-05	1.197E-03	0.392	1.860E-05	3.112E-06	5.443E-08	1.147E-07	5.871E-04
OVARIES	7.673E-07	7.927E-05	4.325E-04	1.951E-03	1.525E-03	1.910E-05	6.911E-06	1.761E-06	0.0	0.395	1.015E-03
PANCREAS	1.085E-05	1.628E-05	1.049E-04	8.522E-05	1.629E-03	1.191E-04	3.209E-05	5.169E-05	5.853E-08	1.311E-07	0.402
BONE	3.951E-07	6.597E-06	3.640E-05	1.204E-04	11.4	2.112E-05	4.844E-06	2.248E-06	3.719E-07	1.607E-07	8.266E-04
R MAR	6.698E-07	2.054E-05	1.066E-04	3.573E-04	9.38	3.021E-05	1.215E-05	3.306E-06	2.938E-07	5.264E-07	0.401
Y MAR	5.511E-07	9.098E-06	5.149E-05	1.480E-04	4.955E-03	3.143E-05	5.979E-06	3.343E-06	1.635E-07	2.123E-07	0.401
ENDOST	3.951E-07	6.597E-06	3.640E-05	1.204E-04	104.	2.112E-05	4.844E-06	2.248E-06	3.719E-07	1.607E-07	2.025E-03
SPLEEN	6.147E-06	1.303E-05	7.018E-05	1.189E-04	1.274E-03	3.063E-05	4.019E-05	0.403	4.689E-08	1.107E-07	7.670E-04
TESTES	9.199E-08	4.219E-06	2.686E-05	1.929E-04	1.243E-03	5.656E-06	8.322E-07	3.278E-07	0.396	0.0	6.497E-04
THYMUS	4.451E-07	1.298E-06	8.691E-06	8.373E-06	1.226E-03	2.535E-05	9.873E-07	1.654E-06	1.039E-08	1.340E-08	0.402
THYROID	1.123E-07	4.347E-07	2.840E-06	3.073E-06	1.078E-03	5.922E-06	5.548E-07	4.813E-07	4.115E-09	4.848E-09	0.401
UTERUS	6.316E-07	6.916E-05	2.397E-04	6.571E-04	1.184E-03	1.297E-05	4.422E-06	1.534E-06	0.0	2.937E-06	0.403

DOSE EQUIVALENT (REM/MICROCURIE)

SOURCE	TOTAL
TARGET	
LUNGS	2.407E-03
RES LYM	2.407E-03
S WALL	2.404E-03
SI WALL	5.817E-03
ULI WALL	2.191E-02
LLI WALL	7.125E-02
T BODY	4.26
ADREN	0.405
BL WALL	0.203
KIDNEYS	0.393
LIVER	0.394
OVARIES	0.400
PANCREAS	0.404
BONE	11.4
R MAR	9.78
Y MAR	0.406
ENDOST	104.
SPLEEN	0.406
TESTES	0.398
THYMUS	0.404
THYROID	0.402
UTERUS	0.405

PERCENT DOSE EQUIVALENT..

NUCLIDE	RA-228	AC-228	TH-228	RA-224	RN-220	PO-216	PB-212	BI-212	PO-212	TL-208
TARGET										
LUNGS	0.0	73.4	0.2	0.4	0.0	0.0	2.9	3.3	0.0	19.9
RES LYM	0.0	73.4	0.2	0.4	0.0	0.0	2.9	3.3	0.0	19.9
S WALL	2.2	80.4	0.1	0.3	0.0	0.0	1.8	2.2	0.0	13.0
SI WALL	1.8	88.8	0.1	0.1	0.0	0.0	1.0	1.2	0.0	7.0
ULI WALL	2.9	94.7	0.1	0.0	0.0	0.0	0.3	0.3	0.0	1.8
LLI WALL	2.7	96.1	0.2	0.0	0.0	0.0	0.1	0.1	0.0	0.7
T BODY	0.0	0.1	35.0	22.7	12.6	13.6	0.0	4.5	11.5	0.0
ADREN	0.0	1.2	62.5	15.2	6.2	6.7	0.0	2.3	5.7	0.2
BL WALL	0.0	1.6	62.3	15.2	6.1	6.6	0.0	2.2	5.6	0.2
KIDNEYS	0.0	1.2	62.7	15.3	6.3	6.8	0.0	2.1	5.4	0.1
LIVER	0.0	1.0	62.7	15.2	6.3	6.8	0.0	2.2	5.6	0.1
OVARIES	0.0	1.6	63.2	15.4	5.8	6.3	0.0	2.1	5.3	0.1
PANCREAS	0.0	1.1	62.6	15.3	6.2	6.7	0.0	2.3	5.7	0.2
BONE	0.0	0.3	33.5	23.0	12.8	13.9	0.0	4.6	11.8	0.1
R MAR	0.0	0.1	34.8	22.8	12.6	13.6	0.0	4.5	11.5	0.0
Y MAR	0.0	1.5	62.2	15.2	6.1	6.6	0.1	2.3	5.6	0.3
ENDOST	0.0	0.0	39.7	25.2	11.9	11.4	0.0	6.2	5.6	0.0
SPLEEN	0.0	1.0	62.5	15.2	6.3	6.8	0.0	2.3	5.8	0.1
TESTES	0.0	0.9	63.7	15.5	5.9	6.3	0.0	2.1	5.3	0.1
THYMUS	0.0	1.1	62.7	15.3	6.2	6.7	0.0	2.2	5.7	0.1
THYROID	0.0	0.9	62.8	15.3	6.2	6.7	0.0	2.3	5.7	0.1
UTERUS	0.0	1.5	62.4	15.2	6.2	6.6	0.0	2.2	5.7	0.1

RADIONUCLIDE: AC-225

PHYSICAL AND METABOLIC PARAMETERS FOR DOSIMETRICALLY SIGNIFICANT PROGENY:

NUCLIDE	RADIOACTIVE HALF-LIFE (DAYS)
AC-225	10.00
FR-221	3.3300E-03
AT-217	3.7400E-07
BI-213	3.1700E-02
PO-213	4.8600E-11
PB-209	0.1380
TL-209	1.8300E-03

BRANCHING RATIOS:

FROM	TO	FRACTION
AC-225	FR-221	1.000
FR-221	AT-217	1.000
AT-217	BI-213	1.000
BI-213	PO-213	2.1600E-02
BI-213	TL-209	0.9780
PO-213	PB-209	1.000
TL-209	PB-209	1.000

ORGAN ABSORBED	NUCLIDE	BLOOD TRANSFER FRACTION F3-PRIME	COMPARTMENT DEPOSITION FRACTION	COMPARTMENT BIOLOGICAL HALF-TIME (DAYS)
	AC-225	1.00	4.000E-02	0.500
			0.460	1.480E 04
			0.500	3.650E 04
	FR-221	1.00	0.130	1.40
			0.870	138.
	AT-217	1.00	0.284	0.200
			0.716	30.0
	BI-213	1.00	-1.720E-02	1.000E-01
			1.02	5.78
	PO-213	1.00	1.000E-02	0.500
			0.990	50.0
	PB-209	1.00	1.000E-01	1.00
			0.200	10.0
			0.300	320.
			0.200	2.000E 03
			0.200	8.000E 03
	TL-209	1.00	1.00	4.00
EXCRET.	AC-225	4.000E-02	1.00	0.500
	FR-221	0.0	1.00	0.500
	AT-217	0.0	1.00	0.500
	BI-213	0.0	1.00	0.500
	PO-213	0.0	1.00	0.500
	PB-209	0.0	1.00	0.500
	TL-209	0.0	1.00	0.500
BONE	AC-225	0.450	1.00	3.650E 04
	* FR-221	0.121	0.130	1.40
			0.870	138.
	AT-217	9.000E-02	0.444	0.200
			0.556	30.0
	* BI-213	7.340E-02	-1.000E-01	1.000E-01
			1.10	5.78
	* PO-213	9.000E-02	1.000E-02	0.500
			0.990	50.0
	PB-209	0.562	0.375	320.
			0.310	2.000E 03
			0.315	8.000E 03
	* TL-209	0.118	1.00	4.00

α decay (10.0 D 1)

Case 1 represents inhalation of oxides, hydroxides, and carbides; case 2 inhalation of nitrates; and case 3 ingestion of any compound.

*Retention data derived from "other tissues" compartment.

ACTINIUM-225 CONTINUED

ORGAN	NUCLIDE	BLOOD TRANSFER FRACTION F2-PRIME	COMPARTMENT DEPOSITION FRACTION	COMPARTMENT BIOLOGICAL HALF-TIME (DAYS)
LIVER	AC-225	0.450	1.00	1.460E 04
	*FR-221	4.370E-02	0.130	1.40
			0.870	135.
	*AT-217	4.780E-02	0.293	0.200
			0.707	30.0
	*BI-213	2.640E-02	-1.000E-01	1.000E-01
			1.10	5.78
	PO-213	1.000E-01	1.000E-02	0.500
			0.990	50.0
	PB-209	0.106	0.843	10.0
			7.870E-02	320.
			4.010E-02	2.000E 03
			3.820E-02	8.000E 03
	*TL-209	4.240E-02	1.00	4.00
KIDNEYS	AC-225	1.000E-02	1.00	1.460E 04
	*FR-221	7.520E-03	0.130	1.40
			0.870	135.
	*AT-217	8.240E-03	0.293	0.200
			0.707	30.0
	BI-213	0.400	1.00	5.78
	PO-213	1.000E-01	1.000E-02	0.500
			0.990	50.0
	PB-209	5.090E-02	0.962	10.0
			2.000E-02	320.
			9.600E-03	2.000E 03
			8.290E-03	8.000E 03
	TL-209	3.760E-02	1.00	4.00
SPLEEN	*AC-225	4.760E-04	1.00	3.650E 04
	*FR-221	4.370E-03	0.130	1.40
			0.870	135.
	*AT-217	4.780E-03	0.293	0.200
			0.707	30.0
	*BI-213	2.640E-03	-1.000E-01	1.000E-01
			1.10	5.78
	PO-213	1.000E-01	1.000E-02	0.500
			0.990	50.0
	*PB-209	2.960E-04	0.375	320.
			0.310	2.000E 03
			0.315	8.000E 03
	*TL-209	4.240E-03	1.00	4.00
THYROID	*AC-225	5.290E-05	1.00	3.650E 04
	*FR-221	4.850E-04	0.130	1.40
			0.870	135.
	AT-217	1.030E-02	-1.94	0.200
			2.94	30.0
	*BI-213	2.930E-04	-1.000E-01	1.000E-01
			1.10	5.78
	*PO-213	3.600E-04	1.000E-02	0.500
			0.990	50.0
	*PB-209	3.290E-05	0.375	320.
			0.310	2.000E 03
			0.315	8.000E 03
	*TL-209	4.700E-04	1.00	4.00
TESTES	AC-225	3.500E-04	1.00	3.650E 04
	*FR-221	8.490E-04	0.130	1.40
			0.870	135.
	*AT-217	9.290E-04	0.293	0.200
			0.707	30.0
	*BI-213	5.140E-04	-1.000E-01	1.000E-01
			1.10	5.78
	*PO-213	6.300E-04	1.000E-02	0.500
			0.990	50.0
	*PB-209	5.760E-05	0.375	320.
			0.310	2.000E 03
			0.315	8.000E 03
	*TL-209	8.240E-04	1.00	4.00
OVARIES	AC-225	1.100E-04	1.00	3.650E 04
	*FR-221	2.670E-04	0.130	1.40
			0.870	135.
	*AT-217	2.920E-04	0.293	0.200
			0.707	30.0
	*BI-213	1.610E-04	-1.000E-01	1.000E-01
			1.10	5.78
	*PO-213	1.980E-04	1.000E-02	0.500
			0.990	50.0
	*PB-209	1.810E-05	0.375	320.
			0.310	2.000E 03
			0.315	8.000E 03
	*TL-209	2.590E-04	1.00	4.00

ORGAN	NUCLIDE	BLOOD TRANSFER FRACTION F2-PRIME	COMPARTMENT DEPOSITION FRACTION	COMPARTMENT BIOLOGICAL HALF-TIME (DAYS)
OTHER	AC-225	4.970E-02	1.00	3.650E 04
	FR-221	0.822	0.130	1.40
			0.870	135.
	AT-217	0.898	0.293	0.200
			0.707	30.0
	BI-213	0.500	-1.000E-01	1.000E-01
			1.10	5.78
	PO-213	0.610	1.000E-02	0.500
			0.990	50.0
	PB-209	5.580E-02	0.375	320.
			0.310	2.000E 03
			0.315	8.000E 03
	TL-209	0.814	1.00	4.00

S FACTORS (REM/MICROCURIE-DAY) FOR AC-225

TARGET ORGANS	SOURCE ORGANS									
	LUNGS	RES LYM	S CONT	SI CONT	ULI CONT	LLI CONT	EXCRET.	BONE	LIVER	KIDNEYS
LUNGS	0.305E 01	0.101E-02	0.538E-05	0.638E-06	0.760E-06	0.223E-06	0.436E-01	0.288E-05	0.789E-05	0.255E-05
RES LYM	0.101E-02	0.203E 03	0.538E-05	0.638E-06	0.760E-06	0.223E-06	0.436E-01	0.288E-05	0.789E-05	0.255E-05
S WALL	0.569E-05	0.569E-05	0.609E-01	0.112E-04	0.118E-04	0.536E-05	0.436E-01	0.164E-05	0.567E-05	0.109E-04
SI WALL	0.544E-06	0.544E-06	0.819E-05	0.381E-01	0.540E-04	0.301E-04	0.436E-01	0.222E-05	0.489E-05	0.870E-05
ULI WALL	0.654E-06	0.654E-06	0.110E-04	0.117E-03	0.691E-01	0.143E-04	0.436E-01	0.206E-05	0.769E-05	0.862E-05
LLI WALL	0.191E-06	0.191E-06	0.355E-05	0.261E-04	0.100E-04	0.112E 00	0.436E-01	0.315E-05	0.656E-06	0.206E-05
T BODY	0.436E-01	0.436E-01	0.137E-03	0.354E-03	0.214E-03	0.264E-03	0.560E-01	0.218E 00	0.436E-01	0.436E-01
ADREN	0.817E-05	0.817E-05	0.826E-05	0.289E-05	0.272E-05	0.101E-05	0.436E-01	0.339E-05	0.137E-04	0.359E-04
BL WALL	0.102E-06	0.102E-06	0.802E-06	0.783E-05	0.654E-05	0.210E-04	0.436E-01	0.153E-05	0.461E-06	0.799E-06
KIDNEYS	0.252E-05	0.252E-05	0.106E-04	0.963E-05	0.859E-05	0.249E-05	0.436E-01	0.248E-05	0.121E-04	0.984E 01
LIVER	0.757E-05	0.757E-05	0.608E-05	0.552E-05	0.779E-05	0.714E-06	0.436E-01	0.196E-05	0.169E 01	0.119E-04
OVARIES	0.272E-06	0.272E-06	0.153E-05	0.348E-04	0.376E-04	0.587E-04	0.436E-01	0.217E-05	0.128E-05	0.328E-05
PANCREAS	0.794E-05	0.794E-05	0.572E-04	0.614E-05	0.687E-05	0.216E-05	0.436E-01	0.253E-05	0.133E-04	0.201E-04
BONE	0.483E-05	0.483E-05	0.285E-05	0.403E-05	0.362E-05	0.534E-05	0.218E 00	0.305E 01	0.359E-05	0.465E-05
R MAR	0.611E-05	0.611E-05	0.459E-05	0.138E-04	0.119E-04	0.171E-04	0.436E-01	0.505E 00	0.507E-05	0.122E-04
Y MAR	0.503E-05	0.503E-05	0.401E-05	0.567E-05	0.521E-05	0.670E-05	0.436E-01	0.217E-04	0.536E-05	0.569E-05
ENDOST	0.483E-05	0.483E-05	0.285E-05	0.403E-05	0.362E-05	0.534E-05	0.436E-01	0.594E 01	0.359E-05	0.465E-05
SPLEEN	0.705E-05	0.705E-05	0.312E-04	0.451E-05	0.434E-05	0.242E-05	0.436E-01	0.184E-05	0.270E-05	0.273E-04
TESTES	0.224E-07	0.224E-07	0.136E-06	0.871E-06	0.781E-06	0.532E-05	0.436E-01	0.188E-05	0.173E-06	0.245E-06
THYMUS	0.132E-04	0.132E-04	0.821E-06	0.224E-06	0.282E-06	0.740E-07	0.436E-01	0.162E-05	0.192E-05	0.594E-06
THYROID	0.272E-05	0.272E-05	0.240E-06	0.414E-07	0.457E-07	0.151E-07	0.436E-01	0.235E-05	0.393E-06	0.132E-06
UTERUS	0.233E-06	0.233E-06	0.220E-05	0.299E-04	0.165E-04	0.215E-04	0.436E-01	0.165E-05	0.112E-05	0.264E-05

S FACTORS (REM/MICROCURIE-DAY) FOR AC-225

TARGET ORGANS	SOURCE ORGANS				
	SPLEEN	THYROID	TESTES	OVARIES	OTHER
LUNGS	0.703E-05	0.282E-05	0.175E-07	0.171E-06	0.409E-05
RES LYM	0.703E-05	0.282E-05	0.175E-07	0.171E-06	0.409E-05
S WALL	0.313E-04	0.146E-06	0.950E-07	0.238E-05	0.377E-05
SI WALL	0.422E-05	0.237E-07	0.103E-05	0.386E-04	0.460E-05
ULI WALL	0.437E-05	0.308E-07	0.875E-06	0.369E-04	0.492E-05
LLI WALL	0.180E-05	0.122E-07	0.828E-05	0.486E-04	0.501E-05
T BODY	0.436E-01	0.436E-01	0.436E-01	0.436E-01	0.434E-01
ADREN	0.192E-04	0.349E-06	0.880E-07	0.950E-06	0.900E-01
BL WALL	0.320E-06	0.601E-08	0.147E-04	0.222E-04	0.450E-01
KIDNEYS	0.289E-04	0.943E-07	0.114E-06	0.271E-05	0.424E-05
LIVER	0.289E-05	0.269E-06	0.860E-07	0.156E-05	0.317E-05
OVARIES	0.118E-05	0.139E-07	0.0	0.277E 03	0.630E-05
PANCREAS	0.606E-04	0.194E-06	0.145E-06	0.144E-05	0.900E-01
BONE	0.368E-05	0.321E-05	0.282E-05	0.496E-05	0.475E-05
R MAR	0.538E-05	0.348E-05	0.221E-05	0.179E-04	0.900E-01
Y MAR	0.557E-05	0.164E-05	0.102E-05	0.676E-05	0.900E-01
ENDOST	0.368E-05	0.321E-05	0.282E-05	0.496E-05	0.202E-04
SPLEEN	0.170E 02	0.295E-06	0.592E-07	0.141E-05	0.436E-05
TESTES	0.134E-06	0.152E-08	0.872E 02	0.0	0.335E-05
THYMUS	0.809E-06	0.130E-04	0.728E-08	0.724E-07	0.900E-01
THYROID	0.240E-06	0.153E 03	0.152E-08	0.139E-07	0.410E-05
UTERUS	0.116E-05	0.129E-07	0.0	0.643E-04	0.900E-01

CASE 1.. INHALATION

AMAD (MICRON).. 1.00 D3 =0.310 D4 =8.000E-02 D5 =0.249

	SOLUBILITY CLASS	G.I. UPTAKE FRACTIONS			
		STOMACH	S INT	U L INT	L L INT
AC-225	Y	0.0	1.000E-03	0.0	0.0
FR-221	D	0.0	0.950	0.0	0.0
AT-217	D	0.0	0.950	0.0	0.0
BI-213	W	0.0	5.000E-02	0.0	0.0
PO-213	W	0.0	1.000E-01	0.0	0.0
PB-209	W	0.0	8.000E-02	0.0	0.0
TL-209	W	0.0	0.950	0.0	0.0

DOSE EQUIVALENT (REM/MICROCURIE)

SOURCE	LUNGS	RES LYM	S CONT	SI CONT	ULI CONT	LLI CONT	EXCRET.	BONE	LIVER	KIDNEYS	SPLEEN
TARGET											
LUNGS	25.1	8.576E-04	1.670E-05	6.198E-06	3.537E-05	2.374E-05	1.874E-05	1.505E-05	3.135E-05	2.930E-06	3.311E-07
RES LYM	0.152	8.67	1.670E-05	6.198E-06	3.537E-05	2.374E-05	1.874E-05	1.505E-05	3.135E-05	2.930E-06	3.311E-07
S WALL	1.713E-03	9.701E-06	9.688E-03	6.504E-05	2.870E-04	2.525E-04	1.874E-05	9.180E-06	2.461E-05	9.318E-06	1.576E-06
SI WALL	2.707E-04	1.535E-06	2.331E-05	1.187E-02	1.330E-03	1.336E-03	1.876E-05	1.184E-05	2.069E-05	8.806E-06	2.312E-07
ULI WALL	3.668E-04	2.080E-06	3.335E-05	4.184E-04	8.879E-02	6.540E-04	1.876E-05	1.130E-05	2.907E-05	8.968E-06	2.323E-07
LLI WALL	6.419E-05	3.636E-07	1.284E-05	1.264E-04	2.502E-04	0.249	1.876E-05	1.491E-05	4.547E-06	3.102E-06	1.083E-07
T BODY	0.361	1.866E-03	3.618E-05	1.398E-04	4.197E-04	8.405E-04	2.403E-05	2.633E-02	4.765E-03	1.782E-04	3.563E-05
ADREN	1.802E-03	1.020E-05	2.919E-05	2.292E-05	9.241E-05	7.475E-05	1.880E-05	2.788E-05	5.879E-05	3.628E-05	9.879E-07
BL WALL	8.088E-05	4.587E-07	4.060E-06	6.168E-05	1.553E-04	9.604E-04	1.876E-05	1.126E-05	3.562E-06	1.324E-06	3.773E-08
KIDNEYS	9.395E-04	5.323E-06	3.015E-05	5.509E-05	2.384E-04	1.439E-04	1.875E-05	1.468E-05	4.752E-05	3.929E-02	1.325E-06
LIVER	2.060E-03	1.166E-05	1.880E-05	3.424E-05	2.160E-04	6.430E-05	1.875E-05	1.123E-05	0.184	1.179E-05	1.729E-07
OVARIES	1.506E-04	8.540E-07	7.520E-06	1.533E-04	7.549E-04	2.500E-03	1.877E-05	1.417E-05	1.008E-05	3.745E-06	1.120E-07
PANCREAS	2.194E-03	1.243E-05	1.566E-04	3.413E-05	1.776E-04	1.061E-04	1.876E-05	1.681E-05	5.225E-05	1.952E-05	2.777E-06
BONE	8.900E-04	5.034E-06	5.819E-06	1.539E-05	6.485E-05	1.634E-04	9.308E-05	0.768	9.860E-06	3.148E-06	1.267E-07
R MAR	1.133E-03	6.408E-06	9.698E-06	4.803E-05	1.913E-04	4.852E-04	1.875E-05	6.085E-02	1.427E-05	7.915E-06	1.832E-07
Y MAR	9.150E-04	5.175E-06	8.209E-06	2.110E-05	9.186E-05	2.032E-04	1.874E-05	4.583E-05	1.464E-05	3.869E-06	1.884E-07
ENDOST	8.900E-04	5.034E-06	5.819E-06	1.539E-05	6.485E-05	1.634E-04	1.874E-05	0.590	9.860E-06	3.148E-06	1.267E-07
SPLEEN	1.680E-03	9.507E-06	8.642E-05	3.091E-05	1.236E-04	1.472E-04	1.875E-05	1.071E-05	1.235E-05	2.476E-05	1.374E-02
TESTES	3.269E-05	1.855E-07	1.274E-06	9.898E-06	3.830E-05	2.679E-04	1.875E-05	1.148E-05	1.706E-06	5.369E-07	1.856E-08
THYMUS	3.651E-03	2.067E-05	5.077E-06	2.976E-06	1.506E-05	1.150E-05	1.876E-05	8.540E-06	1.094E-05	1.059E-06	4.502E-08
THYROID	8.538E-04	4.836E-06	1.611E-06	1.041E-06	5.144E-06	4.463E-06	1.874E-05	1.626E-05	2.638E-06	3.617E-07	2.686E-08
UTERUS	1.907E-04	1.082E-06	9.073E-06	1.544E-04	4.254E-04	8.894E-04	1.876E-05	9.367E-06	7.349E-06	3.208E-06	4.995E-08

DOSE EQUIVALENT (REM/MICROCURIE)

SOURCE	THYROID	TESTES	OVARIES	OTHER	TOTAL
TARGET					
LUNGS	1.871E-08	1.384E-09	1.802E-09	3.606E-05	25.1
RES LYM	1.871E-08	1.384E-09	1.802E-09	3.606E-05	8.82
S WALL	2.904E-09	4.482E-09	1.138E-08	3.863E-05	1.212E-02
SI WALL	7.714E-10	2.037E-08	1.307E-07	4.301E-05	1.494E-02
ULI WALL	9.099E-10	1.447E-08	1.235E-07	4.408E-05	9.037E-02
LLI WALL	4.523E-10	9.870E-08	1.572E-07	4.758E-05	0.249
T BODY	3.952E-06	9.464E-06	2.981E-06	6.262E-03	0.401
ADREN	3.854E-09	3.388E-09	6.393E-09	1.298E-02	1.516E-02
BL WALL	3.286E-10	1.740E-07	7.721E-08	6.512E-03	7.810E-03
KIDNEYS	2.445E-09	5.379E-09	1.269E-08	4.118E-05	4.083E-02
LIVER	3.665E-09	3.884E-09	7.780E-09	3.126E-05	0.187
OVARIES	5.342E-10	0.0	1.881E-02	5.475E-05	2.243E-02
PANCREAS	5.688E-09	4.342E-09	6.286E-09	1.300E-02	1.579E-02
BONE	1.375E-08	2.525E-08	1.115E-08	4.564E-05	0.369
R MAR	1.512E-08	1.959E-08	3.628E-08	1.294E-02	7.571E-02
Y MAR	7.612E-09	1.126E-08	1.465E-08	1.297E-02	1.430E-02
ENDOST	1.375E-08	2.525E-08	1.115E-08	1.063E-04	0.592
SPLEEN	3.013E-09	3.460E-09	6.868E-09	4.063E-05	1.593E-02
TESTES	1.524E-10	1.881E-02	0.0	3.495E-05	1.923E-02
THYMUS	7.675E-08	7.753E-10	9.413E-10	1.304E-02	1.679E-02
THYROID	1.379E-02	3.205E-10	3.543E-10	3.591E-05	1.473E-02
UTERUS	5.142E-10	0.0	1.973E-07	1.304E-02	1.475E-02

PERCENT DOSE EQUIVALENT..

NUCLIDE	AC-225	FR-221	AT-217	BI-213	PO-213	PB-209	TL-209
TARGET							
LUNGS	29.9	32.2	35.8	0.9	0.9	0.0	0.4
RES LYM	24.1	34.1	37.9	1.5	1.0	0.0	1.4
S WALL	9.9	20.4	22.0	11.5	0.4	0.1	35.8
SI WALL	19.6	14.5	15.5	13.7	0.5	0.1	36.1
ULI WALL	18.2	19.8	21.6	14.3	0.5	0.1	25.4
LLI WALL	18.5	20.1	22.1	14.6	0.6	0.1	24.0
T BODY	28.9	32.4	36.0	0.9	0.9	0.0	0.8
ADREN	2.1	38.3	42.5	2.2	1.3	0.0	13.6
BL WALL	2.1	37.2	41.1	2.2	1.2	0.0	16.2
KIDNEYS	16.0	31.1	34.5	6.0	6.1	0.0	6.2
LIVER	27.0	32.8	36.5	1.0	1.0	0.0	1.7
OVARIES	9.2	34.4	38.0	2.2	1.1	0.0	15.1
PANCREAS	2.1	36.8	40.8	2.4	1.2	0.0	16.8
BONE	24.7	34.6	38.5	0.8	1.0	0.0	0.4
R MAR	20.4	35.4	39.5	1.0	1.1	0.0	2.6
Y MAR	2.2	40.5	45.0	1.9	1.3	0.0	9.0
ENDOST	30.0	35.8	33.2	0.1	0.6	0.0	0.2
SPLEEN	3.5	38.1	42.1	2.1	1.3	0.0	12.9
TESTES	10.6	39.9	44.4	1.3	1.3	0.0	2.5
THYMUS	2.0	34.7	38.3	2.4	1.1	0.0	21.5
THYROID	3.7	41.1	45.7	1.7	1.4	0.0	6.3
UTERUS	2.2	39.3	43.6	2.0	1.3	0.0	11.7

CASE 2.. INHALATION

AMAD (MICRON).. 1.00 D3 =0.310 D4 =8.000E-02 D5 =0.249

	SOLUBILITY CLASS	G.I. UPTAKE FRACTIONS STOMACH	S INT	U L INT	L L INT
AC-225	W	0.0	1.000E-03	0.0	0.0
FR-221	D	0.0	0.950	0.0	0.0
AT-217	D	0.0	0.950	0.0	0.0
BI-213	W	0.0	5.000E-02	0.0	0.0
PO-213	W	0.0	1.000E-01	0.0	0.0
PB-209	W	0.0	8.000E-02	0.0	0.0
TL-209	W	0.0	0.950	0.0	0.0

DOSE EQUIVALENT (REM/MICROCURIE)

SOURCE	LUNGS	RES LYM	S CONT	SI CONT	ULI CONT	LLI CONT	EXCRET.	BONE	LIVER	KIDNEYS	SPLEEN
TARGET											
LUNGS	21.7	1.752E-03	1.521E-05	5.565E-06	3.151E-05	2.114E-05	3.171E-04	1.907E-04	4.726E-04	6.007E-06	6.846E-07
RES LYM	0.131	18.5	1.521E-05	5.565E-06	3.151E-05	2.114E-05	3.171E-04	1.907E-04	4.726E-04	6.007E-06	6.846E-07
S WALL	1.478E-03	1.980E-05	8.766E-03	5.840E-05	2.555E-04	2.248E-04	3.172E-04	1.163E-04	3.709E-04	1.918E-05	3.255E-06
SI WALL	2.336E-04	3.132E-06	2.123E-05	1.061E-02	1.184E-03	1.190E-03	3.175E-04	1.509E-04	3.119E-04	1.808E-05	4.773E-07
ULI WALL	3.165E-04	4.244E-06	3.038E-05	3.757E-04	7.906E-02	5.822E-04	3.174E-04	1.432E-04	4.384E-04	1.841E-05	4.796E-07
LLI WALL	5.538E-05	7.422E-07	1.170E-05	1.135E-04	2.229E-04	0.222	3.176E-04	1.889E-04	6.851E-05	6.349E-06	2.235E-07
T BODY	0.311	3.971E-03	3.283E-05	1.250E-04	3.737E-04	7.482E-04	4.067E-04	0.378	7.568E-02	1.741E-03	1.065E-04
ADREN	1.555E-03	2.083E-05	2.658E-05	2.058E-05	8.231E-05	6.655E-05	3.181E-04	3.527E-04	8.864E-04	7.442E-05	2.041E-06
BL WALL	6.977E-05	9.359E-07	3.698E-06	5.538E-05	1.383E-04	8.549E-04	3.174E-04	1.424E-04	5.367E-05	2.706E-06	7.754E-08
KIDNEYS	8.105E-04	1.087E-05	2.746E-05	4.946E-05	2.123E-04	1.281E-04	3.173E-04	1.859E-04	7.165E-04	0.391	2.740E-06
LIVER	1.777E-03	2.381E-05	1.712E-05	3.075E-05	1.924E-04	5.724E-05	3.173E-04	1.422E-04	2.93	2.421E-05	3.568E-07
OVARIES	1.299E-04	1.743E-06	6.850E-06	1.376E-04	6.724E-04	2.226E-03	3.176E-04	1.794E-04	1.518E-04	7.686E-06	2.313E-07
PANCREAS	1.893E-03	2.537E-05	1.426E-04	3.065E-05	1.582E-04	9.443E-05	3.174E-04	2.127E-04	7.878E-04	4.010E-05	5.744E-06
BONE	7.678E-04	1.028E-05	5.299E-06	1.382E-05	5.776E-05	1.455E-04	1.575E-03	5.28	1.487E-04	6.489E-06	2.625E-07
R MAR	9.774E-04	1.309E-05	8.832E-06	4.312E-05	1.704E-04	4.319E-04	3.173E-04	0.873	2.153E-04	1.633E-05	3.797E-07
Y MAR	7.894E-04	1.057E-05	7.476E-06	1.895E-05	8.182E-05	1.809E-04	3.171E-04	5.824E-04	2.208E-04	7.975E-06	7.903E-07
ENDOST	7.678E-04	1.028E-05	5.299E-06	1.382E-05	5.776E-05	1.455E-04	3.172E-04	8.58	1.487E-04	6.489E-06	2.625E-07
SPLEEN	1.449E-03	1.941E-05	7.871E-05	2.775E-05	1.101E-04	1.311E-04	3.173E-04	1.357E-04	1.862E-04	5.092E-05	4.120E-02
TESTES	2.820E-05	3.784E-07	1.160E-06	8.888E-06	3.411E-05	2.386E-04	3.173E-04	1.453E-04	2.569E-05	1.096E-06	2.816E-08
THYMUS	3.150E-03	4.221E-05	4.625E-06	2.672E-06	1.341E-05	1.024E-05	3.175E-04	1.082E-04	1.649E-04	2.162E-06	9.333E-08
THYROID	7.365E-04	9.872E-06	1.468E-06	9.351E-07	4.582E-06	3.973E-06	3.171E-04	2.059E-04	3.975E-05	7.373E-07	5.527E-08
UTERUS	1.645E-04	2.207E-06	8.264E-06	1.386E-04	3.789E-04	7.918E-04	3.174E-04	1.186E-04	1.107E-04	6.580E-06	1.036E-07

DOSE EQUIVALENT (REM/MICROCURIE)

SOURCE	THYROID	TESTES	OVARIES	OTHER	TOTAL
TARGET					
LUNGS	3.862E-08	6.361E-09	8.305E-09	5.586E-05	21.7
RES LYM	3.862E-08	6.361E-09	8.305E-09	5.586E-05	18.5
S WALL	5.961E-09	2.067E-08	5.270E-08	5.980E-05	1.169E-02
SI WALL	1.579E-09	9.423E-08	6.072E-07	6.660E-05	1.410E-02
ULI WALL	1.862E-09	6.698E-08	5.739E-07	6.827E-05	8.135E-02
LLI WALL	9.270E-10	4.583E-07	7.307E-07	7.367E-05	0.223
T BODY	1.182E-05	6.382E-05	2.009E-05	1.327E-02	0.785
ADREN	7.933E-09	1.562E-08	2.958E-08	2.752E-02	3.092E-02
BL WALL	6.730E-10	8.081E-08	3.585E-07	1.379E-02	1.543E-02
KIDNEYS	5.009E-09	2.478E-08	5.881E-08	6.375E-05	0.394
LIVER	7.534E-09	1.787E-08	3.603E-08	4.939E-05	2.93
OVARIES	1.095E-09	0.0	0.127	8.480E-05	0.131
PANCREAS	1.165E-08	1.999E-08	2.915E-08	2.754E-02	3.125E-02
BONE	2.846E-08	1.175E-07	5.195E-08	7.100E-05	5.29
R MAR	3.130E-08	9.117E-08	1.693E-07	2.745E-02	0.903
Y MAR	1.574E-08	5.227E-08	6.830E-08	2.750E-02	2.972E-02
ENDOST	2.846E-08	1.175E-07	5.195E-08	1.674E-04	8.58
SPLEEN	6.201E-09	1.597E-08	3.185E-08	6.291E-05	4.377E-02
TESTES	3.119E-10	0.127	0.0	5.408E-05	0.128
THYMUS	1.585E-07	3.563E-09	4.338E-09	2.761E-02	3.142E-02
THYROID	4.132E-02	1.471E-09	1.629E-09	5.561E-05	4.270E-02
UTERUS	1.054E-09	0.0	9.180E-07	2.760E-02	2.964E-02

PERCENT DOSE EQUIVALENT..

NUCLIDE	AC-225	FR-221	AT-217	BI-213	PO-213	PB-209	TL-209
TARGET							
LUNGS	29.9	32.2	35.8	0.9	0.9	0.0	0.4
RES LYM	27.3	33.1	36.8	1.1	0.9	0.0	0.8
S WALL	9.9	20.0	21.5	11.1	0.4	0.1	37.0
SI WALL	19.2	14.4	15.4	13.3	0.5	0.1	37.2
ULI WALL	18.2	19.7	21.5	14.2	0.5	0.1	25.8
LLI WALL	18.5	20.1	22.1	14.6	0.6	0.1	24.0
T BODY	29.2	32.5	36.1	0.8	0.9	0.0	0.5
ADREN	16.6	33.6	37.4	1.7	1.0	0.0	9.7
BL WALL	17.0	34.0	37.7	1.5	1.0	0.0	8.8
KIDNEYS	28.1	32.3	35.9	1.3	1.3	0.0	1.1
LIVER	29.2	32.4	36.0	0.9	0.9	0.0	0.6
OVARIES	26.2	32.6	36.3	1.1	1.0	0.0	2.9
PANCREAS	16.5	33.3	37.0	1.7	1.0	0.0	10.5
BONE	29.2	32.7	36.4	0.7	1.0	0.0	0.1
R MAR	28.8	32.6	36.5	0.7	1.0	0.0	0.4
Y MAR	17.3	34.9	38.9	1.4	1.1	0.0	6.4
ENDOST	35.0	33.4	30.9	0.1	0.6	0.0	0.1
SPLEEN	21.0	33.9	37.6	1.3	1.0	0.0	5.1
TESTES	26.9	33.3	37.0	0.9	1.0	0.0	0.8
THYMUS	16.4	33.1	36.8	1.6	1.0	0.0	11.1
THYROID	21.5	34.8	38.7	1.2	1.1	0.0	2.7
UTERUS	17.3	35.0	39.0	1.4	1.1	0.0	6.2

CASE 3.. INGESTION

INGESTION TRANSFER FRACTIONS (G. I. TRACT TO BLOOD)

	AC-225	FR-221	AT-217	BI-213	PO-213	PB-209	TL-209
STOMACH	0.0	0.0	0.0	0.0	0.0	0.0	0.0
S INT	1.000E-03	0.950	0.950	5.000E-02	1.000E-01	8.000E-02	0.950
U L INT	0.0	0.0	0.0	0.0	0.0	0.0	0.0
L L INT	0.0	0.0	0.0	0.0	0.0	0.0	0.0

DOSE EQUIVALENT (REM/MICROCURIE)

SOURCE	S CONT	SI CONT	ULI CONT	LLI CONT	EXCRET.	BONE	LIVER	KIDNEYS	SPLEEN	THYROID	TESTES
TARGET											
LUNGS	1.154E-05	9.859E-06	7.497E-05	5.119E-05	4.013E-06	5.781E-06	9.026E-06	6.297E-07	2.673E-07	1.511E-08	9.808E-10
RES LYM	1.154E-05	9.859E-06	7.497E-05	5.119E-05	4.013E-06	5.781E-06	9.026E-06	6.297E-07	2.673E-07	1.511E-08	9.808E-10
S WALL	1.002E-02	1.238E-04	6.085E-04	5.445E-04	4.014E-06	3.527E-06	7.086E-06	1.998E-06	1.272E-06	2.750E-09	3.165E-09
SI WALL	1.615E-05	2.273E-02	2.819E-03	2.881E-03	4.017E-06	4.547E-06	5.957E-06	1.894E-06	1.867E-07	6.259E-10	1.436E-08
ULI WALL	2.306E-05	6.700E-04	0.190	1.410E-03	4.016E-06	4.342E-06	8.364E-06	1.928E-06	1.877E-07	7.383E-10	1.021E-08
LLI WALL	8.855E-06	2.019E-04	5.305E-04	0.537	4.018E-06	5.722E-06	1.312E-06	6.684E-07	8.743E-08	3.663E-10	6.950E-08
T BODY	3.217E-05	2.576E-04	8.956E-04	1.813E-03	5.146E-06	8.435E-06	1.225E-03	7.052E-05	2.811E-05	3.119E-06	6.002E-06
ADREN	2.008E-05	3.658E-05	1.959E-04	1.612E-04	4.025E-06	1.073E-05	1.692E-05	7.792E-06	7.977E-07	3.115E-09	2.394E-09
BL WALL	2.778E-06	9.820E-05	3.293E-04	2.070E-03	4.016E-06	4.334E-06	1.027E-06	2.852E-07	3.054E-08	2.663E-10	1.225E-07
KIDNEYS	2.090E-05	8.793E-05	5.054E-04	3.102E-04	4.015E-06	5.641E-06	1.368E-05	1.572E-02	1.070E-06	1.983E-09	3.804E-09
LIVER	1.300E-05	5.463E-05	4.580E-04	1.386E-04	4.015E-06	4.317E-06	4.738E-02	2.531E-06	1.396E-07	2.965E-09	2.749E-09
OVARIES	5.144E-06	2.453E-04	1.601E-03	5.390E-03	4.019E-06	5.443E-06	2.914E-06	8.053E-07	9.031E-08	4.337E-10	0.0
PANCREAS	1.086E-04	5.452E-05	3.764E-04	2.287E-04	4.016E-06	6.464E-06	1.504E-05	4.192E-06	2.241E-06	4.616E-09	3.074E-09
BONE	4.060E-06	2.466E-05	1.375E-04	3.524E-04	1.993E-05	0.119	2.835E-06	6.765E-07	1.023E-07	1.110E-08	1.778E-08
R MAR	6.781E-06	7.702E-05	4.056E-04	1.046E-03	4.015E-06	1.949E-02	4.105E-06	1.701E-06	1.479E-07	1.221E-08	1.779E-08
Y MAR	5.727E-06	3.382E-05	1.948E-04	4.382E-04	4.013E-06	1.752E-05	4.209E-06	8.314E-07	1.520E-07	6.146E-09	7.935E-09
ENDOST	4.060E-06	2.466E-05	1.375E-04	3.524E-04	4.014E-06	0.185	2.835E-06	6.765E-07	1.023E-07	1.110E-08	1.778E-08
SPLEEN	5.991E-05	4.927E-05	2.621E-04	3.175E-04	4.015E-06	4.110E-06	3.557E-06	5.718E-06	1.094E-02	2.437E-09	2.439E-09
TESTES	8.663E-07	1.573E-05	8.117E-05	5.775E-04	4.015E-06	4.418E-06	4.921E-07	1.157E-07	1.502E-08	1.236E-10	1.192E-02
THYMUS	3.463E-06	4.728E-06	3.192E-05	2.479E-03	4.017E-06	3.275E-06	3.147E-06	2.272E-07	3.621E-08	6.197E-08	5.490E-10
THYROID	1.102E-06	1.650E-06	1.090E-05	9.622E-06	4.012E-06	6.251E-06	7.603E-07	7.805E-08	2.172E-08	1.088E-02	2.272E-10
UTERUS	6.240E-06	2.467E-04	9.018E-04	1.918E-03	4.016E-06	3.599E-06	2.120E-06	6.917E-07	4.022E-08	4.165E-10	0.0

DOSE EQUIVALENT (REM/MICROCURIE)

SOURCE	OVARIES	OTHER	TOTAL
TARGET			
LUNGS	1.274E-09	2.989E-05	1.972E-04
RES LYM	1.274E-09	2.989E-05	1.972E-04
S WALL	8.034E-09	3.202E-05	1.132E-02
SI WALL	9.206E-08	3.564E-05	2.850E-02
ULI WALL	8.701E-08	3.654E-05	0.192
LLI WALL	1.107E-07	3.944E-05	0.538
T BODY	1.892E-06	5.167E-03	1.794E-02
ADREN	4.508E-09	1.071E-02	1.117E-02
BL WALL	5.440E-08	5.373E-03	7.884E-03
KIDNEYS	8.945E-09	3.413E-05	1.671E-02
LIVER	5.488E-09	2.591E-05	4.808E-02
OVARIES	1.193E-02	4.538E-05	1.923E-02
PANCREAS	4.430E-09	1.073E-02	1.153E-02
BONE	7.843E-09	3.756E-05	0.118
R MAR	2.552E-08	1.068E-02	3.171E-02
Y MAR	1.030E-08	1.070E-02	1.140E-02
ENDOST	7.843E-09	8.621E-05	0.185
SPLEEN	4.837E-09	3.368E-05	1.158E-02
TESTES	0.0	2.897E-05	1.263E-02
THYMUS	6.655E-10	1.076E-02	1.084E-02
THYROID	2.508E-10	2.976E-05	1.094E-02
UTERUS	1.389E-07	1.076E-02	1.384E-02

PERCENT DOSE EQUIVALENT..

NUCLIDE	AC-225	FR-221	AT-217	BI-213	PO-213	PB-209	TL-209
TARGET							
LUNGS	1.1	1.8	0.7	5.0	0.0	0.0	91.3
RES LYM	1.1	1.8	0.7	5.0	0.0	0.0	91.3
S WALL	22.5	22.0	23.8	8.4	0.3	0.0	23.1
SI WALL	22.1	15.9	17.0	11.7	0.4	0.0	32.9
ULI WALL	18.5	20.1	21.9	14.2	0.5	0.1	24.7
LLI WALL	13.5	20.1	22.1	14.6	0.6	0.1	23.9
T BODY	11.8	36.2	40.1	2.8	1.1	0.0	8.0
ADREN	0.6	43.5	48.5	1.5	1.3	0.0	4.6
BL WALL	0.7	31.3	34.2	2.8	0.9	0.0	30.0
KIDNEYS	8.4	38.1	42.2	2.4	2.1	0.0	6.9
LIVER	22.5	34.8	38.7	1.1	1.0	0.0	1.9
OVARIES	2.7	28.1	30.5	3.5	0.8	0.0	34.5
PANCREAS	0.6	43.2	47.0	1.6	1.2	0.0	7.3
BONE	16.5	38.3	42.7	0.9	1.1	0.0	0.5
R MAR	10.5	39.0	43.4	1.2	1.1	0.0	4.8
Y MAR	0.7	42.7	47.5	1.6	1.3	0.0	6.3
ENDOST	20.5	40.6	37.7	0.1	0.7	0.0	0.3
SPLEEN	1.1	42.5	47.1	1.6	1.2	0.0	6.5
TESTES	3.5	41.7	46.3	1.6	1.2	0.0	5.7
THYMUS	0.6	44.8	50.0	1.3	1.3	0.0	2.0
THYROID	1.1	45.0	50.2	1.3	1.3	0.0	1.2
UTERUS	0.7	35.4	39.1	2.4	1.0	0.0	21.2

RADIONUCLIDE: AC-227

PHYSICAL AND METABOLIC PARAMETERS FOR DOSIMETRICALLY SIGNIFICANT PROGENY:

NUCLIDE	RADIOACTIVE HALF-LIFE (DAYS)
AC-227	7950.
TH-227	18.70
RA-223	11.40
RN-219	4.5800E-05
PO-215	2.0600E-08
PB-211	2.5100E-02
BI-211	1.4800E-03
PO-211	6.4800E-06
TL-207	3.3100E-03

BRANCHING RATIOS:

FROM	TO	FRACTION
AC-227	TH-227	1.000
TH-227	RA-223	1.000
RA-223	RN-219	1.000
RN-219	PO-215	1.000
PO-215	PB-211	1.000
PB-211	BI-211	1.000
BI-211	PO-211	3.0000E-03
BI-211	TL-207	0.9970

ORGAN	NUCLIDE	BLOOD TRANSFER FRACTION F2-PRIME	COMPARTMENT DEPOSITION FRACTION	COMPARTMENT BIOLOGICAL HALF-TIME (DAYS)
ABSORBED	AC-227	1.00	4.000E-02	0.500
			0.460	1.460E 04
			0.500	3.650E 04
	TH-227	1.00	0.460	1.460E 04
			0.540	3.650E 04
	RA-223	1.00	0.917	5.50
			5.360E-02	81.0
			2.000E-02	955.
			1.760E-04	3.140E 03
			9.390E-03	7.620E 03
	RN-219	0.0	0.874	2.650E-04
			9.130E-02	3.110E-03
			1.980E-02	2.280E-02
			8.630E-03	0.146
			6.120E-03	0.963
	PO-215	1.00	1.000E-02	0.500
			0.990	50.0
	PB-211	1.00	1.000E-01	1.00
			0.200	10.0
			0.300	320.
			0.200	2.000E 03
			0.200	8.000E 03
	BI-211	1.00	-1.720E-02	1.000E-01
			1.02	5.78
	PO-211	1.00	1.000E-02	0.500
			0.990	50.0
	TL-207	1.00	1.00	4.00
EXCRET.	AC-227	4.000E-02	1.00	0.500
	TH-227	0.0	1.00	0.500
	RA-223	0.0	1.00	0.500
	RN-219	0.0	0.874	2.650E-04
			9.130E-02	3.110E-03
			1.980E-02	2.280E-02
			8.630E-03	0.146
			6.120E-03	0.963
	PO-215	0.0	1.00	0.500
	PB-211	0.0	1.00	0.500
	BI-211	0.0	1.00	0.500
	PO-211	0.0	1.00	0.500
	TL-207	0.0	1.00	0.500

β^- decay (21.773 Y 3) 98.62%
α decay (21.773 Y 3) 1.38%

Case 1 represents inhalation of oxides, hydroxides, and carbides; case 2 inhalation of nitrates; and case 3 ingestion of any compound.

*Retention data derived from "other tissues" compartment.

ORGAN	NUCLIDE	BLOOD TRANSFER FRACTION F2-PRIME	COMPARTMENT DEPOSITION FRACTION	COMPARTMENT BIOLOGICAL HALF-TIME (DAYS)
BONE	AC-227	0.450	1.00	3.650E 04
	TH-227	0.450	1.00	3.650E 04
	RA-223	0.172	0.880	5.68
			1.360E-02	240.
			2.030E-03	1.610E 03
			5.730E-02	1.490E 03
			4.600E-02	8.380E 03
	RN-219	0.0	0.700	2.650E-04
			0.300	1.000E 50
	*PO-215	9.000E-02	1.000E-02	0.500
			0.990	50.0
	PB-211	0.562	0.375	320.
			0.310	2.000E 03
			0.315	8.000E 03
	*BI-211	7.340E-02	-1.000E-01	1.000E-01
			1.10	5.78
	*PO-211	9.000E-02	1.000E-02	0.500
			0.990	50.0
	*TL-207	0.118	1.00	4.00
LIVER	AC-227	0.450	1.00	1.460E 04
	TH-227	0.450	1.00	1.460E 04
	*RA-223	4.540E-02	0.890	0.630
			7.090E-02	28.9
			3.040E-02	160.
			7.430E-03	776.
			7.940E-04	4.040E 03
	*RN-219	0.0	0.849	2.650E-04
			9.900E-02	3.110E-03
			4.400E-02	2.880E-02
			7.790E-04	0.146
			2.030E-05	0.963
	PO-215	1.000E-01	1.000E-02	0.500
			0.990	50.0
	PB-211	0.106	0.843	10.0
			7.870E-02	320.
			4.010E-02	2.000E 03
			3.800E-02	8.000E 03
	*BI-211	2.640E-02	-1.000E-01	1.000E-01
			1.10	5.78
	PO-211	1.000E-01	1.000E-02	0.500
			0.990	50.0
	*TL-207	4.240E-02	1.00	4.00
KIDNEYS	AC-227	1.000E-02	1.00	1.460E 04
	TH-227	1.000E-02	1.00	1.460E 04
	*RA-223	7.820E-03	0.890	0.630
			7.090E-02	28.9
			3.040E-02	160.
			7.430E-03	776.
			7.940E-04	4.040E 03
	*RN-219	0.0	0.849	2.650E-04
			9.900E-02	3.110E-03
			4.400E-02	2.880E-02
			7.790E-04	0.146
			2.030E-05	0.963
	PO-215	1.000E-01	1.000E-02	0.500
			0.990	50.0
	PB-211	5.090E-02	0.962	10.0
			2.000E-02	320.
			9.600E-03	2.000E 03
			8.290E-03	8.000E 03
	BI-211	0.400	1.00	5.78
	PO-211	1.000E-01	1.000E-02	0.500
			0.990	50.0
	TL-207	3.760E-02	1.00	4.00

ACTINIUM-227 CONTINUED

ORGAN	NUCLIDE	BLOOD TRANSFER FRACTION F2-PRIME	COMPARTMENT DEPOSITION FRACTION	COMPARTMENT BIOLOGICAL HALF-TIME (DAYS)
SPLEEN	*AC-227	2.640E-04	1.00	3.650E 04
	*TH-227	4.760E-04	1.00	3.650E 04
	*RA-223	4.540E-03	0.890	0.630
			7.090E-02	28.9
			3.040E-02	160.
			7.430E-03	776.
			7.940E-04	4.040E 03
	*RN-219	0.0	0.849	2.650E-04
			9.900E-02	3.110E-03
			4.400E-02	2.880E-02
			7.790E-04	0.146
			2.030E-05	0.963
	PO-215	1.000E-01	1.000E-02	0.500
			0.990	50.0
	*PB-211	2.960E-04	0.375	320.
			0.310	2.000E 03
			0.315	8.000E 03
	*BI-211	2.640E-03	-1.000E-01	1.000E-01
			1.10	5.78
	PO-211	1.000E-01	1.000E-02	0.500
			0.990	50.0
	*TL-207	4.240E-03	1.00	4.00
TESTES	AC-227	3.500E-04	1.00	3.650E 04
	TH-227	3.500E-04	1.00	3.650E 04
	*RA-223	8.830E-04	0.890	0.630
			7.090E-02	28.9
			3.040E-02	160.
			7.430E-03	776.
			7.940E-04	4.040E 03
	*RN-219	0.0	0.910	2.650E-04
			8.660E-02	3.110E-03
			3.040E-04	2.880E-02
			3.170E-03	0.146
			6.810E-06	0.963
	*PO-215	6.300E-04	1.000E-02	0.500
			0.990	50.0
	*PB-211	5.760E-05	0.375	320.
			0.310	2.000E 03
			0.315	8.000E 03
	*BI-211	5.140E-04	-1.000E-01	1.000E-01
			1.10	5.78
	*PO-211	6.300E-04	1.000E-02	0.500
			0.990	50.0
	*TL-207	8.240E-04	1.00	4.00
OVARIES	AC-227	1.100E-04	1.00	3.650E 04
	TH-227	1.100E-04	1.00	3.650E 04
	*RA-223	2.770E-04	0.890	0.630
			7.090E-02	28.9
			3.040E-02	160.
			7.430E-03	776.
			7.940E-04	4.040E 03
	*RN-219	0.0	0.910	2.650E-04
			8.660E-02	3.110E-03
			3.040E-04	2.880E-02
			3.170E-03	0.146
			6.810E-06	0.963
	*PO-215	1.980E-04	1.000E-02	0.500
			0.990	50.0
	*PB-211	1.810E-05	0.375	0.0
			0.310	2.000E 03
			0.315	8.000E 03
	*BI-211	1.610E-04	-1.000E-01	1.000E-01
			1.10	5.78
	*PO-211	1.980E-04	1.000E-02	0.500
			0.990	50.0
	*TL-207	2.590E-04	1.00	4.00

ORGAN	NUCLIDE	BLOOD TRANSFER FRACTION F2-PRIME	COMPARTMENT DEPOSITION FRACTION	COMPARTMENT BIOLOGICAL HALF-TIME (DAYS)
OTHER	AC-227	4.970E-02	1.00	3.650E 04
	TH-227	8.950E-02	1.00	3.650E 04
	RA-223	0.854	0.890	3.630
			7.090E-02	28.9
			3.040E-02	160.
			7.430E-03	776.
			7.940E-04	4.040E 03
	RN-219	0.0	0.872	2.650E-04
			9.140E-02	3.110E-03
			2.050E-02	2.980E-02
			9.080E-03	0.146
			6.790E-03	0.963
	PO-215	0.610	1.000E-02	0.500
			0.990	50.0
	PB-211	5.580E-02	0.375	0.0
			0.310	2.000E 03
			0.315	8.000E 03
	BI-211	0.500	-1.000E-01	1.000E-01
			1.10	5.78
	PO-211	0.610	1.000E-02	0.500
			0.990	50.0
	TL-207	0.814	1.00	4.00

S FACTORS (REM/MICROCURIE-DAY) FOR AC-227

SOURCE ORGANS

TARGET ORGANS	LUNGS	RES LYM	S CONT	SI CONT	ULI CONT	LLI CONT	EXCRET.	BONE	LIVER	KIDNEYS
LUNGS	0.363E-01	0.660E-03	0.409E-07	0.480E-08	0.588E-08	0.173E-08	0.519E-03	0.221E-07	0.648E-07	0.197E-07
RES LYM	0.660E-03	0.242E 01	0.409E-07	0.480E-08	0.588E-08	0.173E-08	0.519E-03	0.221E-07	0.648E-07	0.197E-07
S WALL	0.444E-07	0.444E-07	0.201E-02	0.890E-07	0.959E-07	0.407E-07	0.519E-03	0.131E-07	0.434E-07	0.842E-07
SI WALL	0.421E-08	0.421E-08	0.635E-07	0.125E-02	0.494E-06	0.275E-06	0.519E-03	0.172E-07	0.578E-07	0.666E-07
ULI WALL	0.496E-08	0.496E-08	0.849E-07	0.192E-05	0.229E-02	0.152E-06	0.519E-03	0.162E-07	0.593E-07	0.669E-07
LLI WALL	0.127E-08	0.127E-08	0.265E-07	0.302E-06	0.856E-07	0.371E-02	0.519E-03	0.261E-07	0.516E-08	0.153E-07
T BODY	0.519E-03	0.519E-03	0.438E-05	0.115E-04	0.692E-06	0.857E-05	0.665E-03	0.256E-02	0.519E-03	0.519E-03
ADREN	0.677E-07	0.677E-07	0.654E-07	0.189E-07	0.210E-07	0.721E-08	0.519E-03	0.252E-07	0.108E-06	0.347E-06
BL WALL	0.697E-09	0.697E-09	0.657E-08	0.595E-07	0.516E-07	0.162E-06	0.519E-03	0.121E-07	0.359E-08	0.623E-08
KIDNEYS	0.191E-07	0.191E-07	0.798E-07	0.751E-07	0.660E-07	0.188E-07	0.519E-03	0.194E-07	0.963E-07	0.117E 00
LIVER	0.608E-07	0.608E-07	0.475E-07	0.428E-07	0.595E-07	0.541E-08	0.519E-03	0.155E-07	0.202E-01	0.911E-07
OVARIES	0.192E-08	0.192E-08	0.120E-07	0.305E-06	0.350E-06	0.557E-06	0.519E-03	0.164E-07	0.979E-08	0.247E-07
PANCREAS	0.602E-07	0.602E-07	0.462E-06	0.473E-07	0.530E-07	0.175E-07	0.519E-03	0.107E-06	0.192E-06	0.153E-06
BONE	0.381E-07	0.381E-07	0.225E-07	0.330E-07	0.299E-07	0.434E-07	0.256E-02	0.359E-01	0.287E-07	0.366E-07
R MAR	0.482E-07	0.482E-07	0.399E-07	0.114E-06	0.950E-07	0.139E-06	0.519E-03	0.590E-02	0.411E-07	0.965E-07
Y MAR	0.397E-07	0.397E-07	0.316E-07	0.463E-07	0.417E-07	0.547E-07	0.519E-03	0.372E-06	0.426E-07	0.448E-07
ENDOST	0.381E-07	0.381E-07	0.225E-07	0.330E-07	0.289E-07	0.434E-07	0.519E-03	0.352E-01	0.287E-07	0.366E-07
SPLEEN	0.557E-07	0.557E-07	0.231E-06	0.343E-07	0.336E-07	0.186E-07	0.519E-03	0.153E-07	0.209E-07	0.221E-06
TESTES	0.140E-09	0.140E-09	0.102E-08	0.657E-08	0.573E-08	0.381E-07	0.519E-03	0.150E-07	0.124E-08	0.177E-08
THYMUS	0.103E-06	0.103E-06	0.617E-08	0.162E-08	0.216E-08	0.510E-09	0.519E-03	0.137E-07	0.146E-07	0.465E-08
THYROID	0.219E-07	0.219E-07	0.170E-08	0.271E-09	0.331E-09	0.932E-10	0.519E-03	0.174E-07	0.268E-09	0.929E-09
UTERUS	0.173E-08	0.173E-08	0.172E-07	0.238E-06	0.129E-06	0.163E-06	0.519E-03	0.126E-07	0.984E-08	0.702E-07

S FACTORS (REM/MICROCURIE-DAY) FOR AC-227

SOURCE ORGANS

TARGET ORGANS	SPLEEN	TESTES	OVARIES	OTHER
LUNGS	0.550E-07	0.103E-09	0.127E-08	0.423E-07
RES LYM	0.550E-07	0.103E-09	0.127E-08	0.423E-07
S WALL	0.239E-06	0.590E-09	0.188E-07	0.292E-07
SI WALL	0.326E-07	0.765E-08	0.330E-06	0.382E-07
ULI WALL	0.349E-07	0.655E-08	0.397E-06	0.463E-07
LLI WALL	0.138E-07	0.620E-07	0.512E-06	0.401E-07
T BODY	0.519E-03	0.519E-03	0.519E-03	0.516E-03
ADREN	0.142E-06	0.602E-09	0.706E-08	0.107E-02
BL WALL	0.216E-08	0.110E-06	0.168E-06	0.535E-03
KIDNEYS	0.240E-06	0.773E-09	0.208E-07	0.389E-07
LIVER	0.223E-07	0.621E-09	0.119E-07	0.269E-07
OVARIES	0.760E-08	0.0	0.330E 01	0.632E-07
PANCREAS	0.524E-06	0.107E-08	0.116E-07	0.107E-02
BONE	0.289E-07	0.225E-07	0.386E-07	0.113E-06
R MAR	0.425E-07	0.176E-07	0.139E-06	0.107E-02
Y MAR	0.435E-07	0.809E-08	0.525E-07	0.107E-02
ENDOST	0.289E-07	0.225E-07	0.386E-07	0.138E-04
SPLEEN	0.202E 00	0.372E-09	0.107E-07	0.399E-07
TESTES	0.938E-09	0.104E 01	0.0	0.269E-07
THYMUS	0.594E-08	0.412E-10	0.490E-09	0.107E-02
THYROID	0.174E-08	0.732E-11	0.831E-10	0.107E-02
UTERUS	0.931E-08	0.0	0.481E-06	0.107E-02

CASE 1.. INHALATION

AMAD (MICRON).. 1.00 D3 =0.310 D4 =8.000E-02 D5 =0.249

	SOLUBILITY CLASS	G.I. UPTAKE FRACTIONS STOMACH	S INT	U L INT	L L INT
AC-227	Y	0.0	1.000E-03	0.0	0.0
TH-227	Y	0.0	1.000E-03	0.0	0.0
RA-223	W	0.0	0.200	0.0	0.0
RN-219	*	0.0	0.0	0.0	0.0
PO-215	W	0.0	1.000E-01	0.0	0.0
PB-211	W	0.0	8.000E-02	0.0	0.0
BI-211	W	0.0	5.000E-02	0.0	0.0
PO-211	W	0.0	1.000E-01	0.0	0.0
TL-207	W	0.0	0.950	0.0	0.0

*SPECIAL LUNG CLEARANCE PARAMETERS. T=HALF-TIME (DAYS), F=DEPOSITION FRACTION.

CLEARANCE PATHWAY..		A	B	C	D	E	F	G	H	I
RN-219	F	1.0	0.0	1.0	0.0	1.0	0.0	0.0	0.0	1.0
	T	8.20E-05	1.0	8.20E-05	1.0	8.20E-05	0.0	0.0	0.0	2.96E-03

DOSE EQUIVALENT (REM/MICROCURIE)

SOURCE	LUNGS	RES LYM	S CONT	SI CONT	ULI CONT	LLI CONT	EXCRET.	BONE	LIVER	KIDNEYS	SPLEEN
TARGET											
LUNGS	521.	3.05	7.908E-06	3.933E-06	1.377E-05	7.848E-06	2.399E-06	6.208E-03	8.795E-03	6.709E-05	6.717E-06
RES LYM	1.37	6.390E 04	7.908E-06	3.933E-06	1.377E-05	7.848E-06	2.399E-06	6.208E-03	8.795E-03	6.709E-05	6.717E-06
S WALL	4.760E-03	7.588E-03	2.857E-02	5.348E-05	1.791E-04	1.557E-04	2.399E-06	3.590E-03	6.692E-03	2.662E-04	2.942E-05
SI WALL	5.375E-04	8.829E-04	1.174E-05	5.518E-02	8.095E-04	8.254E-04	2.399E-06	4.883E-03	5.680E-03	2.211E-04	4.139E-06
ULI WALL	6.796E-04	1.124E-03	1.550E-05	3.872E-04	0.332	3.795E-04	2.399E-06	4.556E-03	8.667E-03	2.227E-04	3.910E-06
LLI WALL	2.231E-04	3.539E-04	5.601E-06	1.093E-04	1.470E-04	0.998	2.399E-06	6.931E-07	9.500E-04	6.268E-05	1.880E-06
T BODY	7.45	13.7	6.901E-05	5.307E-04	1.087E-03	2.447E-03	3.083E-06	97.4	9.35	0.211	8.562E-03
ADREN	6.399E-03	1.018E-02	1.063E-05	1.919E-05	4.505E-05	3.791E-05	2.399E-06	8.676E-03	1.715E-02	8.681E-04	1.910E-05
BL WALL	1.315E-04	2.181E-04	1.388E-06	4.142E-05	9.824E-05	5.570E-04	2.399E-06	3.294E-03	6.629E-04	2.410E-05	4.460E-07
KIDNEYS	2.294E-03	3.701E-03	1.534E-05	4.605E-05	1.320E-04	7.694E-05	2.399E-06	5.710E-03	1.345E-02	47.6	2.685E-05
LIVER	6.306E-03	1.002E-02	8.855E-06	2.713E-05	1.217E-04	2.530E-05	2.399E-06	4.266E-03	364.	3.050E-04	2.992E-06
OVARIES	3.060E-04	4.996E-04	2.364E-06	1.539E-04	5.650E-04	1.632E-03	2.399E-06	5.140E-03	1.448E-03	9.206E-05	1.889E-06
PANCREAS	6.649E-03	1.062E-02	8.097E-05	3.025E-05	1.037E-04	6.172E-05	2.399E-06	6.175E-03	1.455E-02	5.083E-04	5.813E-05
BONE	3.295E-03	5.163E-03	3.355E-06	1.538E-05	4.472E-05	1.210E-04	1.193E-05	1.365E 03	3.313E-03	9.687E-05	2.928E-06
R MAR	4.159E-03	6.515E-03	5.860E-06	5.111E-05	1.417E-04	3.764E-04	2.399E-06	225.	4.719E-03	2.519E-04	4.350E-06
Y MAR	3.443E-03	5.395E-03	4.694E-06	2.149E-05	6.403E-05	1.505E-04	2.399E-06	2.723E-02	4.947E-03	1.192E-04	4.389E-06
ENDOST	3.295E-03	5.163E-03	3.355E-06	1.538E-05	4.472E-05	1.210E-04	2.399E-06	2.281E 03	3.313E-03	9.687E-05	2.928E-06
SPLEEN	5.779E-03	9.175E-03	4.461E-05	2.265E-05	6.473E-05	7.353E-05	2.399E-06	4.442E-03	3.232E-03	6.932E-04	3.33
TESTES	3.680E-05	6.271E-05	2.361E-07	5.059E-06	1.739E-05	1.712E-04	2.399E-06	5.823E-03	2.945E-04	8.857E-06	2.016E-07
THYMUS	1.030E-02	1.636E-02	1.276E-06	1.602E-06	5.800E-06	3.613E-06	2.399E-06	3.588E-03	2.679E-03	1.812E-05	1.097E-06
THYROID	2.388E-03	3.914E-03	5.317E-07	3.922E-07	1.360E-06	9.811E-07	2.399E-06	5.828E-03	6.614E-04	5.203E-06	3.342E-07
UTERUS	2.305E-04	3.715E-04	3.620E-06	1.388E-04	2.330E-04	5.824E-04	2.399E-06	3.795E-03	1.348E-03	7.454E-05	1.199E-06

DOSE EQUIVALENT (REM/MICROCURIE)

SOURCE	TESTES	OVARIES	OTHER	TOTAL
TARGET				
LUNGS	3.700E-08	7.945E-08	7.183E-04	524.
RES LYM	3.700E-08	7.945E-08	7.183E-04	6.390E 04
S WALL	1.940E-07	8.168E-07	7.432E-04	5.263E-02
SI WALL	1.386E-06	1.268E-05	8.464E-04	6.990E-02
ULI WALL	1.104E-06	1.213E-05	8.732E-04	0.349
LLI WALL	9.200E-06	1.562E-05	9.272E-04	1.01
T BODY	8.986E-03	2.825E-03	1.61	130.
ADREN	1.557E-07	4.214E-07	3.33	3.38
BL WALL	1.623E-05	7.281E-06	1.67	1.67
KIDNEYS	2.063E-07	1.011E-06	7.843E-04	47.7
LIVER	1.335E-07	5.882E-07	5.904E-04	364.
OVARIES	0.0	18.0	1.091E-03	18.0
PANCREAS	1.984E-07	5.126E-07	3.34	3.38
BONE	2.576E-06	1.323E-06	1.213E-03	1.365E 03
R MAR	2.072E-06	4.643E-06	3.33	228.
Y MAR	9.997E-07	1.785E-06	3.33	3.37
ENDOST	2.576E-06	1.323E-06	4.956E-03	2.281E 03
SPLEEN	1.466E-07	5.719E-07	7.950E-04	3.36
TESTES	18.0	0.0	6.398E-04	18.0
THYMUS	1.842E-08	4.128E-08	3.34	3.37
THYROID	4.881E-09	1.006E-08	3.34	3.35
UTERUS	0.0	2.153E-05	3.34	3.34

PERCENT DOSE EQUIVALENT..

NUCLIDE	AC-227	TH-227	RA-223	RN-219	PO-215	PB-211	BI-211	PO-211	TL-207
TARGET									
LUNGS	0.7	36.5	18.5	14.3	15.5	0.7	13.7	0.0	0.4
RES LYM	0.3	21.7	17.0	19.9	21.6	0.1	19.2	0.1	0.1
S WALL	0.1	30.0	19.5	12.4	8.9	9.8	12.4	0.0	7.0
SI WALL	0.2	24.9	16.4	14.2	13.4	10.7	14.2	0.0	6.3
ULI WALL	0.2	18.2	15.0	15.2	15.9	10.2	14.7	0.0	10.6
LLI WALL	0.2	16.0	14.9	15.7	16.7	10.4	15.1	0.1	11.1
T BODY	0.4	37.1	14.7	15.6	16.9	0.0	15.0	0.1	0.0
ADREN	0.6	48.9	12.2	12.4	13.5	0.2	12.1	0.0	0.1
BL WALL	0.6	48.8	12.1	12.6	13.6	0.1	12.1	0.0	0.1
KIDNEYS	0.7	63.4	9.6	8.9	9.6	0.1	8.6	0.0	0.1
LIVER	0.7	64.3	9.4	8.7	9.4	0.1	8.3	0.0	0.1
OVARIES	0.7	61.6	9.0	9.3	10.1	0.1	9.0	0.0	0.1
PANCREAS	0.6	48.8	12.2	12.5	13.5	0.2	12.1	0.0	0.1
BONE	0.4	36.5	14.7	15.8	17.2	0.0	15.3	0.1	0.0
R MAR	0.4	36.6	14.7	15.8	17.1	0.0	15.3	0.1	0.0
Y MAR	0.6	48.9	12.3	12.4	13.5	0.2	12.1	0.0	0.1
ENDOST	0.2	40.6	17.5	14.0	13.2	0.0	14.4	0.0	0.0
SPLEEN	0.6	48.9	12.2	12.5	13.5	0.1	12.0	0.0	0.1
TESTES	0.7	61.6	9.0	9.3	10.1	0.1	9.0	0.0	0.1
THYMUS	0.6	48.7	12.3	12.6	13.6	0.2	12.1	0.0	0.1
THYROID	0.6	48.8	12.1	12.6	13.6	0.1	12.1	0.0	0.1
UTERUS	0.6	48.8	12.1	12.6	13.6	0.1	12.1	0.0	0.1

CASE 2.. INHALATION

AMAD (MICRON).. 1.00 D3 =0.310 D4 =8.000E-02 D5 =0.249

	SOLUBILITY CLASS	G.I. UPTAKE FRACTIONS STOMACH	S INT	U L INT	L L INT
AC-227	W	0.0	1.000E-03	0.0	0.0
TH-227	W	0.0	1.000E-03	0.0	0.0
RA-223	W	0.0	0.200	0.0	0.0
RN-219	*	0.0	0.0	0.0	0.0
PO-215	W	0.0	1.000E-01	0.0	0.0
PB-211	W	0.0	8.000E-02	0.0	0.0
BI-211	W	0.0	5.000E-02	0.0	0.0
PO-211	W	0.0	1.000E-01	0.0	0.0
TL-207	W	0.0	0.950	0.0	0.0

*SPECIAL LUNG CLEARANCE PARAMETERS. T=HALF-TIME (DAYS), F=DEPOSITION FRACTION.

CLEARANCE PATHWAY..		A	B	C	D	E	F	G	H	I
RN-219	F	1.0	0.0	1.0	0.0	1.0	0.0	0.0	0.0	1.0
	T	8.20E-05	1.0	8.20E-05	1.0	8.20E-05	0.0	0.0	0.0	2.96E-03

DOSE EQUIVALENT (REM/MICROCURIE)

SOURCE	LUNGS	RES LYM	S CONT	SI CONT	ULI CONT	LLI CONT	EXCRET.	BONE	LIVER	KIDNEYS	SPLEEN
TARGET											
LUNGS	42.8	3.685E-02	8.310E-07	4.256E-07	1.538E-06	9.248E-07	6.555E-06	1.693E-02	2.411E-02	1.818E-04	1.507E-05
RES LYM	0.114	764.	8.310E-07	4.256E-07	1.538E-06	9.248E-07	6.555E-06	1.693E-02	2.411E-02	1.818E-04	1.507E-05
S WALL	3.902E-04	9.020E-05	2.849E-03	5.849E-06	2.022E-05	1.855E-05	6.555E-06	9.790E-03	1.834E-02	7.216E-04	6.587E-05
SI WALL	4.405E-05	1.051E-05	1.236E-06	5.693E-03	9.156E-05	9.869E-05	6.555E-06	1.332E-02	1.557E-02	5.995E-04	9.276E-06
ULI WALL	5.571E-05	1.338E-05	1.637E-06	4.330E-05	3.515E-02	4.549E-05	6.555E-06	1.243E-02	2.376E-02	6.038E-04	8.700E-06
LLI WALL	1.829E-05	4.200E-06	5.900E-07	1.204E-05	1.655E-05	0.111	6.555E-06	1.781E-02	2.330E-03	1.699E-04	4.205E-06
T BODY	0.612	0.164	6.934E-06	5.493E-05	1.157E-04	2.741E-04	8.423E-06	265.	25.6	0.569	1.794E-02
ADREN	5.245E-04	1.210E-04	1.120E-06	2.119E-06	5.048E-06	4.517E-06	6.555E-06	2.365E-02	4.701E-02	2.353E-03	4.284E-05
BL WALL	1.078E-05	2.596E-06	1.430E-07	4.501E-06	1.108E-05	6.661E-05	6.555E-06	8.980E-03	1.817E-03	6.530E-05	9.995E-07
KIDNEYS	1.880E-04	4.402E-05	1.618E-06	5.013E-06	1.487E-05	9.201E-06	6.555E-06	1.557E-02	3.687E-02	129.	6.032E-05
LIVER	5.169E-04	1.191E-04	9.316E-07	2.962E-06	1.373E-05	2.993E-06	6.555E-06	1.163E-02	997.	8.267E-04	6.696E-06
OVARIES	2.508E-05	5.942E-06	2.441E-07	1.688E-05	6.390E-05	1.966E-04	6.555E-06	1.401E-02	3.969E-03	2.496E-04	4.192E-06
PANCREAS	5.450E-04	1.262E-04	8.547E-06	3.299E-06	1.176E-05	7.319E-06	6.555E-06	1.685E-02	3.989E-02	1.378E-03	1.305E-04
BONE	2.701E-04	6.136E-05	3.541E-07	1.684E-06	5.052E-06	1.445E-05	3.260E-05	7.715E 03	9.083E-03	2.627E-04	6.568E-06
R MAR	3.409E-04	7.743E-05	6.188E-07	5.602E-06	1.603E-05	4.502E-05	6.556E-06	612.	1.294E-02	6.831E-04	9.765E-06
Y MAR	2.822E-04	6.412E-05	4.955E-07	2.353E-06	7.234E-06	1.799E-05	6.555E-06	7.435E-02	1.356E-02	3.231E-04	9.834E-06
ENDOST	2.701E-04	6.136E-05	3.541E-07	1.684E-06	5.052E-06	1.445E-05	6.556E-06	6.211E 03	9.083E-03	2.627E-04	6.568E-06
SPLEEN	4.737E-04	1.090E-04	4.704E-06	2.470E-06	7.306E-06	8.688E-06	6.555E-06	1.211E-02	8.860E-03	1.880E-03	6.98
TESTES	3.016E-06	7.473E-07	2.485E-08	5.496E-07	1.932E-06	2.046E-05	6.555E-06	1.042E-02	8.072E-04	2.400E-05	4.475E-07
THYMUS	8.442E-04	1.944E-04	1.323E-07	1.736E-07	6.485E-07	4.243E-07	6.555E-06	9.778E-03	7.343E-03	4.906E-05	2.432E-06
THYROID	1.957E-04	4.659E-05	5.563E-08	4.200E-08	1.506E-07	1.137E-07	6.555E-06	1.589E-02	1.813E-03	1.410E-05	7.448E-07
UTERUS	1.890E-05	4.416E-06	3.800E-07	1.518E-05	2.624E-05	6.976E-05	6.556E-06	1.035E-02	3.696E-03	2.022E-04	2.660E-06

DOSE EQUIVALENT (REM/MICROCURIE)

SOURCE	TESTES	OVARIES	OTHER	TOTAL
TARGET				
LUNGS	9.850E-08	2.112E-07	1.617E-03	42.9
RES LYM	9.850E-08	2.112E-07	1.617E-03	764.
S WALL	5.152E-07	2.177E-06	1.669E-03	3.397E-02
SI WALL	3.692E-06	3.382E-05	1.899E-03	3.738E-02
ULI WALL	2.945E-06	3.238E-05	1.963E-03	7.411E-02
LLI WALL	2.453E-05	4.169E-05	2.078E-03	0.134
T BODY	2.367E-02	7.441E-03	3.37	295.
ADREN	4.143E-07	1.121E-06	6.98	7.05
BL WALL	4.326E-05	1.941E-05	3.49	3.50
KIDNEYS	5.479E-07	2.693E-06	1.761E-03	129.
LIVER	3.548E-07	1.568E-06	1.323E-03	997.
OVARIES	0.0	47.4	2.454E-03	47.4
PANCREAS	5.303E-07	1.364E-06	6.99	7.05
BONE	6.868E-06	3.528E-06	2.361E-03	3.715E 03
R MAR	5.525E-06	1.238E-05	6.98	619.
Y MAR	2.665E-06	4.761E-06	6.98	7.07
ENDOST	6.868E-06	3.528E-06	8.880E-03	6.211E 03
SPLEEN	3.872E-07	1.523E-06	1.785E-03	7.01
TESTES	47.3	0.0	1.434E-03	47.3
THYMUS	4.876E-08	1.098E-07	6.99	7.01
THYROID	1.287E-08	2.667E-08	6.99	7.01
UTERUS	0.0	5.746E-05	6.99	7.00

PERCENT DOSE EQUIVALENT..

NUCLIDE	AC-227	TH-227	RA-223	RN-219	PO-215	PB-211	BI-211	PO-211	TL-207
TARGET									
LUNGS	0.9	36.7	18.5	14.3	15.5	0.1	13.7	0.0	0.1
RES LYM	0.3	20.6	17.2	20.2	21.9	0.1	19.5	0.1	0.1
S WALL	0.2	62.2	16.7	6.9	1.2	5.8	5.8	0.0	1.2
SI WALL	0.4	57.6	17.5	7.8	2.3	6.5	6.7	0.0	1.3
ULI WALL	0.9	46.2	15.1	9.8	7.0	7.2	8.9	0.0	4.8
LLI WALL	1.4	29.0	14.7	13.0	12.4	8.9	12.2	0.0	8.3
T BODY	0.5	39.6	14.1	15.0	16.3	0.0	14.4	0.0	0.0
ADREN	0.7	64.1	8.5	8.7	9.4	0.1	8.4	0.0	0.1
BL WALL	0.7	64.0	8.5	8.7	9.4	0.1	8.4	0.0	0.1
KIDNEYS	0.7	64.6	8.4	8.7	9.4	0.1	8.1	0.0	0.1
LIVER	0.7	64.5	8.3	8.6	9.4	0.1	8.3	0.0	0.1
OVARIES	0.7	64.0	8.5	8.7	9.4	0.1	8.4	0.0	0.1
PANCREAS	0.7	64.0	8.5	8.7	9.4	0.1	8.4	0.0	0.1
BONE	0.4	37.0	14.6	15.7	17.0	0.0	15.1	0.1	0.0
R MAR	0.4	37.1	14.6	15.7	17.0	0.0	15.2	0.1	0.0
Y MAR	0.7	64.0	8.6	8.7	9.4	0.1	8.4	0.0	0.1
ENDOST	0.2	41.0	17.4	13.9	13.1	0.0	14.3	0.0	0.0
SPLEEN	0.7	64.2	8.4	8.7	9.4	0.1	8.4	0.0	0.1
TESTES	0.7	64.3	8.4	8.6	9.4	0.1	8.3	0.0	0.1
THYMUS	0.7	64.0	8.4	8.8	9.5	0.1	8.4	0.0	0.1
THYROID	0.7	64.0	8.4	8.8	9.5	0.1	8.4	0.0	0.1
UTERUS	0.7	64.0	8.4	8.8	9.5	0.1	8.4	0.0	0.1

CASE 3.. INGESTION

INGESTION TRANSFER FRACTIONS (G. I. TRACT TO BLOOD)

	AC-227	TH-227	RA-223	RN-219	PO-215	PB-211	BI-211	PO-211	TL-207
STOMACH	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
S INT	1.000E-03	1.000E-03	0.200	0.0	1.000E-01	8.000E-02	5.000E-02	1.000E-01	0.950
U L INT	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
L L INT	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

DOSE EQUIVALENT (REM/MICROCURIE)

SOURCE	S CONT	SI CONT	ULI CONT	LLI CONT	EXCRET.	BONE	LIVER	KIDNEYS	SPLEEN	TESTES	OVARIES
TARGET											
LUNGS	3.882E-09	7.131E-09	8.846E-08	1.229E-07	5.420E-08	1.398E-04	1.991E-04	1.502E-06	1.240E-07	8.133E-10	1.744E-09
RES LYM	3.882E-09	7.131E-09	8.846E-08	1.229E-07	5.420E-08	1.398E-04	1.991E-04	1.502E-06	1.240E-07	8.133E-10	1.744E-09
S WALL	8.800E-05	1.064E-07	1.224E-06	2.569E-06	5.420E-08	8.096E-05	1.615E-04	5.960E-06	5.422E-07	4.254E-09	1.798E-08
SI WALL	5.916E-09	2.626E-04	5.617E-06	1.386E-05	5.420E-08	1.100E-04	1.286E-04	4.951E-06	7.635E-08	3.049E-08	2.793E-07
ULI WALL	7.957E-09	1.063E-06	2.533E-03	6.459E-06	5.420E-08	1.026E-04	1.962E-04	4.986E-06	7.160E-08	2.432E-08	2.674E-07
LLI WALL	2.674E-09	2.443E-07	9.957E-07	1.419E-02	5.420E-08	1.471E-04	1.924E-05	1.403E-06	3.460E-08	2.026E-07	3.443E-07
T BODY	1.939E-07	2.459E-06	8.250E-06	3.534E-05	6.963E-08	2.19	0.212	4.701E-03	1.475E-04	1.954E-04	6.143E-05
ADREN	5.711E-09	3.801E-08	2.950E-07	6.233E-07	5.420E-08	1.954E-04	3.883E-04	1.943E-05	3.526E-07	3.421E-09	9.255E-09
BL WALL	6.011E-10	7.827E-08	6.681E-07	9.341E-06	5.420E-08	7.417E-05	1.501E-05	5.392E-07	8.227E-09	3.572E-07	1.603E-07
KIDNEYS	7.667E-09	8.933E-08	8.387E-07	1.288E-06	5.420E-08	1.286E-04	3.046E-04	1.06	4.965E-07	4.524E-09	2.224E-08
LIVER	4.435E-09	5.315E-08	8.277E-07	4.035E-07	5.420E-08	9.608E-05	8.23	6.828E-06	5.511E-08	2.930E-09	1.295E-08
OVARIES	1.068E-09	3.191E-07	3.922E-06	2.835E-05	5.420E-08	1.157E-04	3.278E-05	2.061E-06	3.450E-08	0.0	0.391
PANCREAS	4.184E-08	5.986E-08	7.241E-07	9.972E-07	5.420E-08	1.391E-04	3.295E-04	1.138E-05	1.074E-06	4.370E-09	1.126E-08
BONE	1.888E-09	3.196E-08	3.091E-07	2.029E-06	2.695E-07	30.7	7.502E-05	2.169E-06	5.406E-08	5.671E-08	2.914E-08
R MAR	3.330E-09	1.075E-07	9.857E-07	6.339E-06	5.420E-08	5.06	1.069E-04	5.641E-06	8.038E-08	4.562E-08	1.023E-07
Y MAR	2.648E-09	4.473E-08	4.427E-07	2.525E-06	5.420E-08	6.141E-04	1.120E-04	2.669E-06	3.094E-08	2.200E-08	3.932E-08
ENDOST	1.888E-09	3.196E-08	3.091E-07	2.029E-06	5.420E-08	51.3	7.502E-05	2.169E-06	5.406E-08	5.671E-08	2.914E-08
SPLEEN	2.223E-08	4.400E-08	4.416E-07	1.167E-06	5.420E-08	1.000E-04	7.318E-05	1.553E-05	5.740E-02	3.197E-09	1.258E-08
TESTES	1.084E-10	9.459E-09	1.076E-07	2.858E-06	5.420E-08	8.610E-05	6.667E-06	1.982E-07	3.682E-09	0.391	0.0
THYMUS	5.739E-10	2.867E-09	3.731E-08	5.551E-08	5.420E-08	8.076E-05	6.065E-05	4.052E-07	2.002E-08	4.026E-10	9.065E-10
THYROID	2.130E-10	6.374E-10	8.193E-09	1.412E-03	5.420E-08	1.313E-04	1.498E-05	1.164E-07	6.129E-09	1.063E-10	2.202E-10
UTERUS	1.705E-09	2.752E-07	1.574E-06	9.835E-06	5.420E-08	8.548E-05	3.053E-05	1.670E-06	2.189E-08	0.0	4.745E-07

DOSE EQUIVALENT (REM/MICROCURIE)

SOURCE	OTHER	TOTAL
TARGET		
LUNGS	1.331E-05	3.542E-04
RES LYM	1.331E-05	3.542E-04
S WALL	1.374E-05	3.446E-04
SI WALL	1.563E-05	5.417E-04
ULI WALL	1.616E-05	2.861E-03
LLI WALL	1.711E-05	1.438E-02
T BODY	2.768E-02	2.43
ADREN	5.737E-02	5.798E-02
BL WALL	2.868E-02	2.878E-02
KIDNEYS	1.449E-05	1.06
LIVER	1.089E-05	8.23
OVARIES	2.020E-05	0.392
PANCREAS	5.746E-02	5.794E-02
BONE	1.938E-05	30.7
R MAR	5.740E-02	5.12
Y MAR	5.737E-02	5.810E-02
ENDOST	7.278E-05	51.3
SPLEEN	1.470E-05	5.761E-02
TESTES	1.180E-05	0.391
THYMUS	5.746E-02	5.760E-02
THYROID	5.745E-02	5.760E-02
UTERUS	5.746E-02	5.759E-02

PERCENT DOSE EQUIVALENT..

NUCLIDE	AC-227	TH-227	RA-223	RN-219	PO-215	PB-211	BI-211	PO-211	TL-207
TARGET									
LUNGS	0.1	64.6	18.1	6.4	0.0	5.5	5.1	0.0	0.2
RES LYM	0.1	64.6	18.1	6.4	0.0	5.5	5.1	0.0	0.2
S WALL	24.4	51.0	12.4	4.5	0.0	3.9	3.6	0.0	0.2
SI WALL	38.6	43.2	9.0	3.4	0.1	2.9	2.7	0.0	0.2
ULI WALL	43.1	45.7	3.2	2.1	1.5	1.5	1.8	0.0	1.0
LLI WALL	25.8	52.4	4.1	4.1	4.3	2.7	3.8	0.0	2.8
T BODY	0.5	39.7	14.0	15.0	16.3	0.0	14.4	0.0	0.0
ADREN	0.7	64.3	8.4	8.6	9.3	0.1	8.4	0.0	0.1
BL WALL	0.7	64.3	8.4	8.7	9.4	0.1	8.4	0.0	0.1
KIDNEYS	0.7	64.5	8.3	8.7	9.3	0.1	8.3	0.0	0.1
LIVER	0.7	64.5	8.3	8.6	9.4	0.1	8.3	0.0	0.1
OVARIES	0.7	64.5	8.3	8.6	9.3	0.1	8.3	0.0	0.1
PANCREAS	0.7	64.3	8.4	8.7	9.3	0.1	8.3	0.0	0.1
BONE	0.4	37.0	14.6	15.7	17.0	0.0	15.1	0.1	0.0
R MAR	0.4	37.2	14.6	15.6	16.9	0.0	15.1	0.1	0.0
Y MAR	0.7	64.2	8.5	8.6	9.3	0.1	8.3	0.0	0.1
ENDOST	0.2	41.0	17.4	13.9	13.1	0.0	14.3	0.0	0.0
SPLEEN	0.7	64.4	8.4	8.6	9.3	0.1	8.3	0.0	0.1
TESTES	0.8	64.5	8.4	8.6	9.4	0.1	8.3	0.0	0.1
THYMUS	0.7	64.3	8.4	8.7	9.4	0.1	8.4	0.0	0.1
THYROID	0.7	64.3	8.4	8.7	9.4	0.1	8.4	0.0	0.1
UTERUS	0.7	64.3	8.4	8.7	9.4	0.1	8.4	0.0	0.1

RADIONUCLIDE: AC-228

PHYSICAL AND METABOLIC PARAMETERS FOR DOSIMETRICALLY SIGNIFICANT PROGENY:

NUCLIDE	RADIOACTIVE HALF-LIFE (DAYS)
AC-228	0.2550
TH-228	698.0
RA-224	3.660
RN-220	6.4400E-04
PO-216	1.7400E-06
PB-212	0.4430
BI-212	4.2000E-02
PO-212	3.5300E-12
TL-208	2.1300E-03

BRANCHING RATIOS:

FROM	TO	FRACTION
AC-228	TH-228	1.000
TH-228	RA-224	1.000
RA-224	RN-220	1.000
RN-220	PO-216	1.000
PO-216	PB-212	1.000
PB-212	BI-212	1.000
BI-212	PO-212	0.6400
BI-212	TL-208	0.3600

ORGAN	NUCLIDE	BLOOD TRANSFER FRACTION F2-PRIME	COMPARTMENT DEPOSITION FRACTION	COMPARTMENT BIOLOGICAL HALF-TIME (DAYS)
ABSORBED	AC-228	1.00	4.000E-02	0.500
			0.460	1.460E 04
			0.500	3.650E 04
	TH-228	1.00	0.460	1.460E 04
			0.540	3.650E 04
	RA-224	1.00	0.917	5.50
			5.360E-02	81.0
			2.000E-02	955.
			1.760E-04	3.140E 03
			9.390E-03	7.620E 03
	RN-220	0.0	0.874	2.650E-04
			9.130E-02	3.110E-03
			1.980E-02	2.280E-02
			8.630E-03	0.146
			6.120E-03	0.963
	PO-216	1.00	1.000E-02	0.500
			0.990	50.0
	PB-212	1.00	1.000E-01	1.00
			0.200	10.0
			0.300	320.
			0.200	2.000E 03
			0.200	8.000E 03
	BI-212	1.00	-1.720E-02	1.000E-01
			1.10	5.78
	PO-212	1.00	1.000E-02	0.500
			0.990	50.0
	TL-208	1.00	1.00	4.00
EXCRET.	AC-228	4.000E-02	1.00	0.500
	TH-228	0.0	1.00	0.500
	RA-224	0.0	1.00	0.500
	RN-220	0.0	0.874	2.650E-04
			9.130E-02	3.110E-03
			1.980E-02	2.280E-02
			8.630E-03	0.146
			6.120E-03	0.963
	PO-216	0.0	1.00	0.500
	PB-212	0.0	1.00	0.500
	BI-212	0.0	1.00	0.500
	PO-212	0.0	1.00	0.500
	TL-208	0.0	1.00	0.500

β^- decay (6.13 H)

Case 1 represents inhalation of oxides, hydroxides, and carbides; case 2 inhalation of nitrates; and case 3 ingestion of any compound.

*Retention data derived from "other tissues" compartment.

ACTINIUM-228 CONTINUED

ORGAN	NUCLIDE	BLOOD TRANSFER FRACTION F2-PRIME	COMPARTMENT DEPOSITION FRACTION	COMPARTMENT BIOLOGICAL HALF-TIME (DAYS)
BONE	AC-228	0.450	1.00	3.650E 04
	TH-228	0.450	1.00	3.650E 04
	RA-224	0.172	0.880	5.68
			1.360E-02	240.
			2.030E-03	1.610E 03
			5.730E-02	1.490E 03
			4.600E-02	8.380E 03
	RN-220	0.0	0.700	2.650E-04
			0.300	1.000E 50
	*PO-216	9.000E-02	1.000E-02	0.500
			0.990	50.0
	PB-212	0.562	0.375	320.
			0.310	2.000E 03
			0.315	8.000E 03
	*BI-212	7.340E-02	-1.000E-01	1.000E-01
			1.10	5.78
	*PO-212	9.000E-02	1.000E-02	0.500
			0.990	50.0
	*TL-208	0.118	1.00	4.00
LIVER	AC-228	0.450	1.00	1.460E 04
	TH-228	0.450	1.00	1.460E 04
	*RA-224	4.540E-02	0.890	0.630
			7.090E-02	28.9
			3.040E-02	160.
			7.430E-03	776.
			7.940E-04	4.040E 03
	*RN-220	0.0	0.849	2.650E-04
			9.900E-02	3.110E-03
			4.400E-02	2.880E-02
			7.790E-04	0.146
			2.030E-05	0.963
	PO-216	1.000E-01	1.000E-02	0.500
			0.990	50.0
	PB-212	0.106	0.843	10.0
			7.870E-02	320.
			4.010E-02	2.000E 03
			3.820E-02	8.000E 03
	*BI-212	2.640E-02	-1.000E-01	1.000E-01
			1.10	5.78
	PO-212	1.000E-01	1.000E-02	0.500
			0.990	50.0
	*TL-208	4.240E-02	1.00	4.00
KIDNEYS	AC-228	1.000E-02	1.00	1.460E 04
	TH-228	1.000E-02	1.00	1.460E 04
	*RA-224	7.820E-03	0.890	0.630
			7.090E-02	28.9
			3.040E-02	160.
			7.430E-03	776.
			7.940E-04	4.040E 03
	*RN-220	0.0	0.849	2.650E-04
			9.900E-02	3.110E-03
			4.400E-02	2.880E-02
			7.790E-04	0.146
			2.030E-05	0.963
	PO-216	1.000E-01	1.000E-02	0.500
			0.990	50.0
	PB-212	5.090E-02	0.962	10.0
			2.000E-02	320.
			9.600E-03	2.000E 03
			8.290E-03	8.000E 03
	BI-212	0.400	1.00	5.78
	PO-212	1.000E-01	1.000E-02	0.500
			0.990	50.0
	TL-208	3.760E-02	1.00	4.00

ACTINIUM-228 CONTINUED

ORGAN	NUCLIDE	BLOOD TRANSFER FRACTION F2-PRIME	COMPARTMENT DEPOSITION FRACTION	COMPARTMENT BIOLOGICAL HALF-TIME (DAYS)
SPLEEN	*AC-228	2.640E-04	1.00	3.650E 04
	*TH-228	4.760E-04	1.00	3.650E 04
	*RA-224	4.540E-03	0.890	0.630
			7.090E-02	28.9
			3.040E-02	160.
			7.430E-03	776.
			7.940E-04	4.040E 03
	*RN-220	0.0	0.849	2.650E-04
			9.900E-02	3.110E-03
			4.400E-02	2.880E-02
			7.790E-04	0.146
			2.030E-05	0.963
	PO-216	1.000E-01	1.000E-02	0.500
			0.990	50.0
	*PB-212	2.960E-04	0.375	320.
			0.310	2.000E 03
			0.315	8.000E 03
	*BI-212	2.640E-03	-1.000E-01	1.000E-01
			1.10	5.78
	PO-212	1.000E-01	1.000E-02	0.500
			0.990	50.0
	*TL-208	4.240E-03	1.00	4.00
TESTES	AC-228	3.500E-04	1.00	3.650E 04
	TH-228	3.500E-04	1.00	3.650E 04
	*RA-224	8.830E-04	0.890	0.630
			7.090E-02	28.9
			3.040E-02	160.
			7.430E-03	776.
			7.940E-04	4.040E 03
	*RN-220	0.0	0.910	2.650E-04
			8.660E-02	3.110E-03
			3.040E-04	2.880E-02
			3.170E-03	0.146
			6.810E-06	0.963
	*PO-216	6.300E-04	1.000E-02	0.500
			0.990	50.0
	*PB-212	5.760E-05	0.375	320.
			0.310	2.000E 03
			0.315	8.000E 03
	*BI-212	5.140E-04	-1.000E-01	1.000E-01
			1.10	5.78
	*PO-212	6.300E-04	1.000E-02	0.500
			0.990	50.0
	*TL-208	8.240E-04	1.00	4.00
OVARIES	AC-228	1.100E-04	1.00	3.650E 04
	TH-228	1.100E-04	1.00	3.650E 04
	*RA-224	2.770E-04	0.890	0.630
			7.090E-02	28.9
			3.040E-02	160.
			7.430E-03	776.
			7.940E-04	4.040E 03
	*RN-220	0.0	0.910	2.650E-04
			8.660E-02	3.110E-03
			3.040E-04	2.880E-02
			3.170E-03	0.146
			6.810E-06	0.963
	*PO-216	1.980E-04	1.000E-02	0.500
			0.990	50.0
	*PB-212	1.810E-05	0.375	320.
			0.310	2.000E 03
			0.315	8.000E 03
	*BI-212	1.610E-04	-1.000E-01	1.000E-01
			1.10	5.78
	*PO-212	1.980E-04	1.000E-02	0.500
			0.990	50.0
	*TL-208	2.590E-04	1.00	4.00
OTHER	AC-228	4.970E-02	1.00	3.650E 04
	TH-228	8.950E-02	1.00	3.650E 04
	RA-224	0.854	0.890	0.630
			7.090E-02	28.9
			3.040E-02	160.
			7.430E-03	776.
			7.940E-04	4.040E 03

ORGAN	NUCLIDE	BLOOD TRANSFER FRACTION F2-PRIME	COMPARTMENT DEPOSITION FRACTION	COMPARTMENT BIOLOGICAL HALF-TIME (DAYS)
	RN-220	0.0	0.872	2.650E-04
			9.140E-02	3.110E-03
			2.050E-02	2.880E-02
			9.080E-03	0.146
			6.790E-03	0.963
	PO-216	0.610	1.000E-02	0.500
			0.990	50.0
	PB-212	5.580E-02	0.375	320.
			0.310	2.000E 03
			0.315	8.000E 03
	BI-212	0.500	-1.000E-01	1.000E-01
			1.10	5.78
	PO-212	0.610	1.000E-02	0.500
			0.990	50.0
	TL-208	0.814	1.00	4.00

S FACTORS (REM/MICROCURIE-DAY) FOR AC-228

TARGET ORGANS	SOURCE ORGANS									
	LUNGS	RES LYM	S CONT	SI CONT	ULI CONT	LLI CONT	EXCRET.	BONE	LIVER	KIDNEYS
LUNGS	0.242E-01	0.242E-01	0.275E-03	0.533E-04	0.623E-04	0.237E-04	0.535E-03	0.155E-03	0.378E-03	0.152E-03
RES LYM	0.242E-01	0.146E 01	0.275E-03	0.533E-04	0.623E-04	0.237E-04	0.535E-03	0.155E-03	0.378E-03	0.152E-03
S WALL	0.299E-03	0.299E-03	0.516E-01	0.540E-03	0.545E-03	0.250E-03	0.573E-03	0.875E-04	0.303E-03	0.502E-03
SI WALL	0.485E-04	0.485E-04	0.392E-03	0.321E-01	0.243E-02	0.137E-02	0.616E-03	0.128E-03	0.248E-03	0.432E-03
ULI WALL	0.633E-04	0.633E-04	0.493E-03	0.356E-02	0.563E-01	0.627E-03	0.602E-03	0.119E-03	0.369E-03	0.442E-03
LLI WALL	0.140E-04	0.140E-04	0.212E-03	0.106E-02	0.489E-03	0.888E-01	0.617E-03	0.162E-03	0.464E-04	0.140E-03
T BODY	0.538E-03	0.538E-03	0.370E-03	0.553E-03	0.446E-03	0.480E-03	0.539E-03	0.538E-03	0.577E-03	0.577E-03
ADREN	0.357E-03	0.357E-03	0.373E-03	0.190E-03	0.181E-03	0.769E-04	0.637E-03	0.282E-03	0.241E-03	0.187E-02
BL WALL	0.138E-04	0.138E-04	0.726E-04	0.402E-03	0.316E-03	0.848E-03	0.618E-03	0.830E-04	0.351E-04	0.695E-04
KIDNEYS	0.157E-03	0.157E-03	0.506E-03	0.481E-03	0.437E-03	0.144E-03	0.589E-03	0.171E-03	0.572E-03	0.820E-01
LIVER	0.368E-03	0.368E-03	0.307E-03	0.287E-03	0.386E-03	0.605E-04	0.588E-03	0.113E-03	0.161E-01	0.590E-03
OVARIES	0.263E-04	0.263E-04	0.181E-03	0.149E-02	0.132E-02	0.261E-02	0.557E-03	0.149E-03	0.105E-03	0.226E-03
PANCREAS	0.366E-03	0.366E-03	0.256E-02	0.306E-03	0.320E-03	0.114E-03	0.580E-03	0.158E-03	0.654E-03	0.103E-02
BONE	0.155E-03	0.155E-03	0.932E-04	0.124E-03	0.111E-03	0.161E-03	0.542E-03	0.461E-02	0.114E-03	0.153E-03
R MAR	0.196E-03	0.196E-03	0.158E-03	0.386E-03	0.325E-03	0.478E-03	0.568E-03	0.167E-02	0.163E-03	0.384E-03
Y MAR	0.162E-03	0.162E-03	0.130E-03	0.171E-03	0.157E-03	0.199E-03	0.529E-03	0.483E-03	0.170E-03	0.189E-03
ENDOST	0.155E-03	0.155E-03	0.932E-04	0.124E-03	0.111E-03	0.161E-03	0.544E-03	0.360E-02	0.114E-03	0.153E-03
SPLEEN	0.330E-03	0.330E-03	0.145E-02	0.245E-03	0.214E-03	0.159E-03	0.582E-03	0.129E-03	0.168E-03	0.128E-02
TESTES	0.534E-05	0.534E-05	0.217E-04	0.793E-04	0.819E-04	0.259E-03	0.579E-03	0.107E-03	0.317E-04	0.262E-04
THYMUS	0.637E-03	0.637E-03	0.105E-03	0.244E-04	0.265E-04	0.112E-04	0.548E-03	0.118E-03	0.135E-03	0.304E-04
THYROID	0.195E-03	0.195E-03	0.265E-04	0.817E-05	0.866E-05	0.411E-05	0.547E-03	0.120E-04	0.174E-04	0.174E-04
UTERUS	0.221E-04	0.221E-04	0.149E-03	0.130E-02	0.731E-03	0.879E-03	0.651E-03	0.125E-03	0.692E-04	0.140E-03

S FACTORS (REM/MICROCURIE-DAY) FOR AC-228

TARGET ORGANS	SOURCE ORGANS			
	SPLEEN	TESTES	OVARIES	OTHER
LUNGS	0.329E-03	0.453E-05	0.234E-04	0.196E-03
RES LYM	0.329E-03	0.453E-05	0.234E-04	0.196E-03
S WALL	0.145E-02	0.148E-04	0.128E-03	0.209E-03
SI WALL	0.219E-03	0.836E-04	0.173E-02	0.232E-03
ULI WALL	0.219E-03	0.625E-04	0.164E-02	0.239E-03
LLI WALL	0.102E-03	0.379E-03	0.209E-02	0.256E-03
T BODY	0.576E-03	0.537E-03	0.621E-03	0.532E-03
ADREN	0.105E-02	0.135E-04	0.866E-04	0.910E-03
BL WALL	0.469E-04	0.791E-03	0.106E-02	0.631E-03
KIDNEYS	0.127E-02	0.218E-04	0.171E-03	0.222E-03
LIVER	0.168E-03	0.151E-04	0.102E-03	0.169E-03
OVARIES	0.997E-04	0.0	0.212E 01	0.292E-03
PANCREAS	0.280E-02	0.157E-04	0.121E-03	0.998E-03
BONE	0.121E-03	0.104E-03	0.143E-03	0.235E-03
R MAR	0.178E-03	0.819E-04	0.469E-03	0.729E-03
Y MAR	0.180E-03	0.453E-04	0.189E-03	0.848E-03
ENDOST	0.121E-03	0.104E-03	0.143E-03	0.546E-03
SPLEEN	0.142E 00	0.123E-04	0.970E-04	0.221E-03
TESTES	0.175E-04	0.683E 00	0.0	0.185E-03
THYMUS	0.891E-04	0.280E-05	0.118E-04	0.113E-02
THYROID	0.258E-04	0.108E-05	0.420E-05	0.887E-03
UTERUS	0.819E-04	0.0	0.262E-02	0.134E-02

CASE 1.. INHALATION

AMAD (MICRON).. 1.00 D3 =0.310 D4 =8.000E-02 D5 =0.249

	SOLUBILITY CLASS	G.I. UPTAKE FRACTIONS STOMACH	S INT	U L INT	L L INT
AC-228	Y	0.0	1.000E-03	0.0	0.0
TH-228	Y	0.0	1.000E-03	0.0	0.0
RA-224	W	0.0	0.200	0.0	0.0
RN-220	*	0.0	0.0	0.0	0.0
PO-216	W	0.0	1.000E-01	0.0	0.0
PB-212	W	0.0	8.000E-02	0.0	0.0
BI-212	W	0.0	5.000E-02	0.0	0.0
PO-212	W	0.0	1.000E-01	0.0	0.0
TL-208	W	0.0	0.950	0.0	0.0

*SPECIAL LUNG CLEARANCE PARAMETERS. T=HALF-TIME (DAYS), F=DEPOSITION FRACTION.

	CLEARANCE PATHWAY..	A	B	C	D	E	F	G	H	I
RN-220	F	1.0	0.0	1.0	0.0	1.0	0.0	0.0	0.0	1.0
	T	8.20E-05	1.0	8.20E-05	1.0	3.80E-05	0.0	0.0	0.0	3.96E-03

DOSE EQUIVALENT (REM/MICROCURIE)

SOURCE	LUNGS	RES LYM	S CONT	SI CONT	ULI CONT	LLI CONT	EXCRET.	BONE	LIVER	KIDNEYS	SPLEEN
TARGET											
LUNGS	0.126	1.738E-04	1.814E-06	9.693E-07	1.518E-06	3.165E-07	2.156E-08	4.126E-07	4.165E-07	5.334E-09	7.405E-10
RES LYM	4.190E-03	4.43	1.814E-06	9.693E-07	1.518E-06	3.165E-07	2.156E-08	4.126E-07	4.165E-07	5.334E-09	7.405E-10
S WALL	5.136E-05	1.663E-06	3.533E-04	9.815E-06	1.320E-05	3.296E-06	2.299E-08	3.774E-07	3.404E-07	1.804E-08	2.157E-09
SI WALL	8.340E-06	3.017E-07	2.587E-06	6.115E-04	5.915E-05	1.781E-05	2.461E-08	3.315E-07	2.759E-07	1.505E-08	4.795E-10
ULI WALL	1.089E-05	3.938E-07	3.252E-06	6.470E-05	1.534E-03	8.146E-06	2.408E-08	3.106E-07	4.093E-07	1.498E-08	4.891E-10
LLI WALL	2.404E-06	7.534E-08	1.398E-06	1.927E-05	1.189E-05	1.608E-03	2.465E-08	4.081E-07	5.474E-08	5.037E-09	2.396E-10
T BODY	1.837E-03	9.515E-04	2.469E-06	1.031E-05	1.135E-05	7.290E-06	2.211E-08	2.174E-03	2.129E-04	5.337E-06	1.133E-07
ADREN	6.117E-05	1.612E-06	2.461E-06	3.456E-05	4.406E-06	1.002E-05	2.540E-08	6.392E-07	8.664E-07	6.236E-08	2.146E-09
BL WALL	2.374E-06	8.733E-08	4.786E-07	7.311E-06	7.712E-06	1.105E-05	2.469E-08	2.497E-07	4.400E-08	2.433E-09	9.635E-11
KIDNEYS	2.694E-05	8.078E-07	3.338E-06	8.741E-06	1.063E-05	1.895E-06	2.356E-08	3.926E-07	6.357E-07	1.203E-03	2.772E-09
LIVER	5.320E-05	2.022E-06	2.026E-06	5.217E-06	9.409E-06	7.889E-07	2.356E-08	7.165E-07	8.266E-03	2.065E-08	3.720E-10
OVARIES	4.521E-06	1.583E-07	1.192E-06	2.707E-05	3.239E-05	3.795E-05	2.239E-08	3.670E-07	1.122E-07	6.630E-09	1.491E-10
PANCREAS	6.287E-05	2.029E-06	1.689E-05	5.563E-06	7.825E-06	1.487E-06	2.325E-08	4.171E-07	7.010E-07	3.372E-08	6.309E-09
BONE	2.665E-05	9.017E-07	6.151E-07	2.255E-06	2.708E-06	2.103E-06	2.738E-08	3.045E-02	1.301E-07	5.429E-09	2.698E-10
R MAR	3.370E-05	1.137E-06	1.043E-06	7.019E-06	7.929E-06	6.234E-06	2.280E-08	8.029E-03	1.662E-07	1.356E-08	3.955E-10
Y MAR	2.785E-05	9.473E-07	8.582E-07	3.109E-06	3.329E-06	2.586E-06	2.123E-08	1.926E-05	6.676E-09	4.007E-10	
ENDOST	2.665E-05	9.017E-07	6.151E-07	2.255E-06	2.708E-06	2.103E-06	2.190E-08	5.524E-02	1.301E-07	5.429E-09	2.698E-10
SPLEEN	5.671E-05	1.877E-06	9.564E-06	4.454E-06	5.210E-06	2.063E-06	2.333E-08	3.085E-07	1.810E-07	4.360E-08	1.604E-04
TESTES	9.199E-07	3.782E-08	1.432E-07	1.442E-06	1.997E-06	3.409E-06	2.322E-08	3.621E-07	3.142E-08	9.639E-10	4.220E-11
THYMUS	1.093E-04	3.384E-06	6.916E-07	4.438E-07	6.471E-07	1.490E-07	2.205E-08	3.167E-07	1.617E-07	1.241E-09	3.023E-10
THYROID	3.342E-05	9.329E-07	1.749E-07	1.487E-07	2.122E-07	5.512E-08	2.201E-08	2.456E-07	3.630E-08	6.560E-10	6.044E-11
UTERUS	3.810E-06	1.599E-07	9.832E-07	2.363E-05	1.782E-05	1.142E-05	2.593E-08	2.703E-07	8.229E-08	4.941E-09	1.963E-10

DOSE EQUIVALENT (REM/MICROCURIE)

SOURCE	TESTES	OVARIES	OTHER	TOTAL
TARGET				
LUNGS	5.434E-12	8.604E-12	7.912E-08	0.126
RES LYM	5.434E-12	8.604E-12	7.912E-08	4.44
S WALL	1.949E-11	4.805E-11	8.485E-08	4.334E-04
SI WALL	9.364E-11	5.861E-10	9.435E-08	7.004E-04
ULI WALL	8.182E-11	5.520E-10	9.697E-08	1.622E-03
LLI WALL	4.288E-10	7.158E-10	1.045E-07	1.644E-03
T BODY	2.030E-07	6.382E-08	7.671E-05	5.289E-03
ADREN	1.565E-11	2.918E-11	1.590E-04	2.347E-04
BL WALL	8.179E-10	3.452E-10	7.952E-05	1.089E-04
KIDNEYS	2.402E-11	5.962E-11	9.036E-08	1.257E-03
LIVER	1.735E-11	3.574E-11	6.893E-08	8.349E-03
OVARIES	0.0	4.053E-04	1.187E-07	5.051E-04
PANCREAS	2.090E-11	3.501E-11	1.590E-04	2.568E-04
BONE	1.141E-10	4.959E-11	1.01CE-07	3.048E-02
R MAR	9.120E-11	1.612E-10	1.589E-04	8.245E-03
Y MAR	5.200E-11	6.534E-11	1.590E-04	1.996E-04
ENDOST	1.141E-10	4.959E-11	2.587E-07	5.527E-02
SPLEEN	1.793E-11	3.633E-11	8.936E-08	2.409E-04
TESTES	4.056E-04	0.0	8.146E-08	4.141E-04
THYMUS	3.670E-12	4.339E-12	1.591E-04	2.742E-04
THYROID	1.573E-12	1.664E-12	1.589E-04	1.942E-04
UTERUS	0.0	8.994E-10	1.591E-04	2.173E-04

PERCENT DOSE EQUIVALENT..

NUCLIDE	AC-228	TH-228	RA-224	RN-220	PO-216	PB-212	BI-212	PO-212	TL-208
TARGET									
LUNGS	3.2	47.9	33.3	5.0	5.4	0.0	1.5	7.5	0.1
RES LYM	0.1	20.1	19.6	18.9	19.5	0.0	6.2	16.0	0.1
S WALL	95.7	0.1	0.7	0.8	0.8	0.2	0.5	0.3	0.0
SI WALL	94.5	0.1	0.9	1.0	1.0	0.3	0.8	0.5	0.0
ULI WALL	87.6	0.4	2.0	2.2	2.4	0.6	2.1	1.7	0.0
LLI WALL	55.7	1.3	5.3	5.8	6.3	1.7	5.4	5.2	0.4
T BODY	2.3	35.9	25.7	10.8	11.7	0.0	3.8	0.6	0.1
ADREN	30.8	31.9	19.3	7.8	8.4	0.2	2.1	7.4	1.1
BL WALL	25.4	23.6	20.7	8.4	9.1	0.2	3.3	8.0	1.3
KIDNEYS	4.3	53.1	15.5	6.5	6.9	0.0	3.9	0.7	0.3
LIVER	1.1	62.0	15.5	6.4	6.9	0.0	2.7	4.8	0.1
OVARIES	18.9	42.1	16.7	6.3	6.8	0.1	2.4	5.3	0.3
PANCREAS	35.5	20.0	17.6	7.1	7.7	0.2	2.6	6.8	1.2
BONE	0.1	31.4	23.7	13.2	14.3	0.0	4.8	12.5	0.0
R MAR	1.1	31.1	23.6	13.0	14.1	0.0	4.8	12.3	0.1
Y MAR	19.0	25.8	22.6	9.2	9.9	0.2	3.6	8.7	1.0
ENDOST	0.1	37.4	26.0	12.3	11.7	0.0	6.6	5.9	0.0
SPLEEN	32.9	21.4	18.8	7.7	8.4	0.2	3.1	7.3	1.1
TESTES	1.9	51.4	20.4	7.7	8.3	0.0	2.9	7.2	0.2
THYMUS	40.1	18.9	16.5	6.7	7.2	0.2	2.7	6.3	1.2
THYROID	17.4	26.5	23.2	9.4	10.2	0.1	3.6	8.9	0.7
UTERUS	25.9	23.7	20.8	8.4	9.1	0.2	3.3	8.0	0.9

CASE 2.. INHALATION

AMAD (MICRON).. 1.00 D3 =0.310 D4 =8.000E-02 D5 =0.249

	SOLUBILITY CLASS	G.I. UPTAKE FRACTIONS STOMACH	S INT	U L INT	L L INT
AC-228	W	0.0	1.000E-03	0.0	0.0
TH-228	W	0.0	1.000E-03	0.0	0.0
RA-224	W	0.0	0.200	0.0	0.0
RN-220	*	0.0	0.0	0.0	0.0
PO-216	W	0.0	1.000E-01	0.0	0.0
PB-212	W	0.0	8.000E-02	0.0	0.0
BI-212	W	0.0	5.000E-02	0.0	0.0
PO-212	W	0.0	1.000E-01	0.0	0.0
TL-208	W	0.0	0.950	0.0	0.0

*SPECIAL LUNG CLEARANCE PARAMETERS. T=HALF-TIME (DAYS), F=DEPOSITION FRACTION.

CLEARANCE PATHWAY..		A	B	C	D	E	F	G	H	I
RN-220	F	1.0	0.0	1.0	0.0	1.0	0.0	0.0	0.0	1.0
	T	8.20E-05	1.0	8.20E-05	1.0	8.20E-05	0.0	0.0	0.0	2.96E-03

DOSE EQUIVALENT (REM/MICROCURIE)

SOURCE	LUNGS	RES LYM	S CONT	SI CONT	ULI CONT	LLI CONT	EXCRET.	BONE	LIVER	KIDNEYS	SPLEEN
TARGET											
LUNGS	2.371E-02	1.069E-05	1.470E-06	7.842E-07	1.210E-06	2.347E-07	3.824E-07	3.614E-06	5.399E-06	4.817E-08	3.146E-09
RES LYM	3.825E-03	0.257	1.470E-06	7.842E-07	1.210E-06	2.347E-07	3.824E-07	3.614E-06	5.399E-06	4.817E-08	3.146E-09
S WALL	4.719E-05	1.039E-07	2.783E-04	7.944E-06	1.359E-05	2.467E-06	4.078E-06	3.067E-06	4.869E-06	1.609E-07	1.371E-08
SI WALL	7.656E-06	1.873E-08	2.096E-06	4.778E-04	4.719E-05	1.347E-05	4.365E-07	2.930E-06	3.559E-06	1.370E-07	2.072E-09
ULI WALL	9.992E-06	2.444E-08	2.636E-06	5.237E-05	1.128E-03	6.164E-06	4.272E-07	2.738E-06	3.288E-06	1.386E-07	2.086E-09
LLI WALL	2.209E-06	4.719E-09	1.133E-06	1.559E-05	9.493E-06	9.827E-04	4.372E-07	3.641E-06	6.856E-07	4.488E-08	9.890E-10
T BODY	3.692E-04	5.520E-05	1.983E-06	8.186E-06	8.767E-06	4.970E-06	3.921E-07	1.361E-02	1.410E-03	3.134E-05	1.226E-06
ADREN	5.632E-05	1.022E-07	1.994E-06	2.796E-06	3.515E-06	7.565E-07	4.506E-07	5.915E-06	1.090E-05	5.860E-07	9.705E-09
BL WALL	2.178E-06	5.415E-09	3.881E-07	5.915E-06	6.140E-06	8.344E-06	4.379E-07	2.105E-06	5.380E-07	2.200E-08	4.324E-10
KIDNEYS	2.477E-05	5.075E-08	2.705E-06	7.076E-06	8.485E-06	1.420E-06	4.178E-07	3.616E-06	8.205E-06	7.062E-03	1.203E-08
LIVER	5.808E-05	1.265E-07	1.641E-06	4.222E-06	7.498E-06	5.553E-07	4.178E-07	2.727E-06	5.477E-02	1.874E-07	1.595E-09
OVARIES	4.151E-06	9.845E-09	9.673E-07	2.192E-05	2.568E-05	2.565E-05	3.971E-07	3.416E-06	1.477E-06	6.783E-08	8.392E-10
PANCREAS	5.776E-05	1.267E-07	1.369E-05	4.502E-06	6.221E-06	1.122E-06	4.125E-07	3.663E-06	9.217E-06	7.201E-07	2.635E-08
BONE	2.447E-05	5.619E-08	4.983E-07	1.824E-06	2.157E-06	1.585E-06	4.857E-07	0.191	1.657E-06	4.897E-08	1.156E-09
R MAR	3.094E-05	7.088E-08	8.447E-07	5.679E-06	6.315E-06	4.704E-06	4.044E-07	3.148E-02	2.371E-06	1.228E-07	1.700E-09
Y MAR	2.557E-05	5.901E-08	6.950E-07	2.516E-06	3.050E-06	1.949E-06	3.784E-07	1.111E-05	2.463E-06	6.040E-08	1.719E-09
ENDOST	2.447E-05	5.619E-08	4.983E-07	1.824E-06	2.157E-06	1.585E-06	3.884E-07	0.248	1.657E-06	4.897E-08	1.156E-09
SPLEEN	5.208E-05	1.171E-07	7.751E-06	3.604E-06	4.156E-06	1.563E-06	4.138E-07	2.801E-06	2.373E-06	4.034E-07	4.757E-04
TESTES	8.432E-07	2.331E-09	1.160E-07	1.167E-06	1.391E-06	2.548E-06	4.118E-07	2.951E-06	4.304E-07	8.437E-09	1.708E-10
THYMUS	1.005E-04	2.121E-07	5.611E-07	3.590E-07	5.150E-07	1.106E-07	3.911E-07	2.766E-06	2.010E-06	1.019E-08	8.507E-10
THYROID	3.076E-05	5.892E-08	1.417E-07	1.202E-07	1.684E-07	4.075E-08	3.904E-07	2.316E-06	4.642E-07	5.642E-09	2.492E-10
UTERUS	3.490E-06	9.838E-09	7.966E-07	1.912E-05	1.420E-05	8.641E-06	4.599E-07	2.545E-06	1.027E-06	4.461E-08	7.983E-10

DOSE EQUIVALENT (REM/MICROCURIE)

SOURCE	TESTES	OVARIES	OTHER	TOTAL
TARGET				
LUNGS	5.233E-11	8.417E-11	3.470E-07	2.373E-02
RES LYM	5.233E-11	8.417E-11	3.470E-07	0.261
S WALL	1.778E-10	4.650E-10	3.700E-07	3.540E-04
SI WALL	9.416E-10	6.047E-09	4.112E-07	5.557E-04
ULI WALL	7.494E-10	5.722E-09	4.236E-07	1.208E-03
LLI WALL	4.292E-09	7.339E-09	4.543E-07	1.016E-03
T BODY	1.115E-06	3.507E-07	2.284E-04	1.573E-02
ADREN	1.539E-10	3.015E-10	4.729E-04	5.563E-04
BL WALL	8.656E-09	3.650E-09	2.368E-04	2.629E-04
KIDNEYS	2.437E-10	6.034E-10	3.936E-07	7.119E-03
LIVER	1.715E-10	3.606E-10	2.997E-07	5.480E-02
OVARIES	0.0	2.224E-03	5.180E-07	2.308E-03
PANCREAS	1.894E-10	3.990E-10	4.731E-04	5.701E-04
BONE	1.164E-09	5.050E-10	4.288E-07	0.191
R MAR	9.222E-10	1.652E-09	4.726E-04	3.201E-02
Y MAR	5.157E-10	6.667E-10	4.728E-04	5.207E-04
ENDOST	1.164E-09	5.050E-10	1.072E-06	0.348
SPLEEN	1.543E-10	3.519E-10	3.910E-07	5.514E-04
TESTES	2.225E-03	0.0	3.369E-07	2.236E-03
THYMUS	3.353E-11	4.244E-11	4.734E-04	5.808E-04
THYROID	1.353E-11	1.556E-11	4.728E-04	5.073E-04
UTERUS	0.0	9.206E-09	4.737E-04	5.240E-04

PERCENT DOSE EQUIVALENT..

NUCLIDE	AC-228	TH-228	RA-224	RN-220	PO-216	PB-212	BI-212	PO-212	TL-208
TARGET									
LUNGS	16.1	41.8	28.7	4.4	4.7	0.0	1.2	0.0	0.0
RES LYM	1.5	19.3	19.7	17.9	19.3	0.0	6.3	15.9	0.1
S WALL	98.5	0.1	0.2	0.2	0.2	0.1	0.2	0.1	0.6
SI WALL	98.3	0.2	0.2	0.2	0.2	0.1	0.2	0.1	0.4
ULI WALL	96.4	0.5	0.5	0.6	0.6	0.2	0.5	0.4	0.4
LLI WALL	86.9	1.8	1.8	2.0	2.2	0.6	2.1	1.7	0.5
T BODY	0.8	36.7	22.4	12.0	13.0	0.0	4.3	10.9	0.0
ADREN	14.2	52.5	13.7	5.5	6.0	0.1	2.1	5.1	0.8
BL WALL	9.6	55.6	14.5	5.9	6.3	0.1	2.2	5.4	0.5
KIDNEYS	1.0	62.7	15.3	6.4	6.8	0.0	2.2	5.5	0.1
LIVER	0.5	63.1	15.4	6.3	6.9	0.0	2.2	5.6	0.0
OVARIES	3.8	61.6	15.2	5.7	6.2	0.0	2.1	5.3	0.1
PANCREAS	16.5	51.2	13.4	5.4	5.8	0.1	2.1	5.0	0.6
BONE	0.0	33.5	23.1	12.9	13.9	0.0	4.6	11.8	0.0
R MAR	0.2	33.9	23.0	12.8	13.8	0.0	4.6	11.7	0.0
Y MAR	8.2	56.1	14.6	5.9	6.4	0.2	2.3	5.4	0.9
ENDOST	0.0	39.7	25.2	11.9	11.4	0.0	6.2	5.6	0.0
SPLEEN	13.5	53.1	13.8	5.7	6.2	0.1	2.1	5.2	0.3
TESTES	0.6	63.6	15.7	5.9	6.4	0.0	2.2	5.4	0.1
THYMUS	18.3	50.2	13.1	5.3	5.7	0.1	2.0	4.9	0.4
THYROID	6.8	57.5	15.0	6.1	6.6	0.1	2.2	5.6	0.2
UTERUS	9.6	55.7	14.5	5.9	6.3	0.1	2.2	5.4	0.3

CASE 3.. INGESTION

INGESTION TRANSFER FRACTIONS (G. I. TRACT TO BLOOD)

	AC-228	TH-228	RA-224	RN-220	PO-216	PB-212	BI-212	PO-212	TL-208
STOMACH	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
S INT	1.000E-03	1.000E-03	0.200	0.0	1.000E-01	8.000E-02	5.000E-02	1.000E-01	0.950
U L INT	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
L L INT	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

DOSE EQUIVALENT (REM/MICROCURIE)

SOURCE	S CONT	SI CONT	ULI CONT	LLI CONT	EXCRET.	BONE	LIVER	KIDNEYS	SPLEEN	TESTES	OVARIES
TARGET											
LUNGS	1.029E-05	5.488E-06	8.433E-06	1.595E-06	3.447E-09	2.937E-08	4.674E-08	4.170E-10	2.681E-11	4.518E-13	7.276E-13
RES LYM	1.029E-05	5.488E-06	8.433E-06	1.595E-06	3.447E-09	2.937E-08	4.674E-08	4.170E-10	2.681E-11	4.518E-13	7.276E-13
S WALL	1.931E-03	5.560E-05	7.377E-05	1.682E-05	3.676E-09	1.677E-08	7.777E-08	1.391E-09	1.170E-10	1.526E-12	4.014E-12
SI WALL	1.467E-05	3.306E-03	3.285E-04	9.217E-05	3.935E-09	2.386E-08	3.079E-08	1.186E-09	1.769E-11	8.159E-12	5.250E-11
ULI WALL	1.845E-05	3.665E-04	7.634E-03	4.218E-05	3.851E-09	2.229E-08	4.576E-08	1.202E-09	1.779E-11	6.476E-12	4.968E-11
LLI WALL	7.935E-06	1.091E-04	6.619E-05	6.048E-03	3.941E-09	2.970E-08	5.903E-09	3.877E-10	8.414E-12	3.716E-11	6.367E-11
T BODY	1.385E-05	5.695E-05	6.041E-05	3.246E-05	3.535E-09	9.906E-05	1.026E-05	2.284E-07	8.617E-09	8.163E-09	2.568E-09
ADREN	1.396E-05	1.956E-05	2.450E-05	5.174E-06	4.062E-09	4.863E-08	9.393E-08	5.082E-09	8.309E-11	1.331E-12	2.619E-12
BL WALL	2.717E-06	4.139E-05	4.277E-05	5.706E-05	3.947E-09	1.696E-08	4.585E-09	1.905E-10	3.704E-12	7.532E-11	3.176E-11
KIDNEYS	1.894E-05	4.952E-05	5.915E-05	9.690E-06	3.767E-09	2.970E-08	7.099E-08	5.143E-05	1.026E-10	2.114E-12	5.231E-12
LIVER	1.149E-05	2.955E-05	5.225E-05	4.071E-06	3.767E-09	2.208E-08	3.980E-04	1.622E-09	1.361E-11	1.485E-12	3.125E-12
OVARIES	6.774E-06	1.534E-04	1.787E-04	1.756E-04	3.580E-09	2.781E-08	1.282E-08	5.925E-10	7.283E-12	0.0	1.628E-05
PANCREAS	9.581E-05	3.151E-05	4.331E-05	7.670E-06	3.718E-09	2.979E-08	7.997E-08	2.780E-09	2.251E-10	1.626E-12	3.495E-12
BONE	3.488E-06	1.277E-05	1.502E-05	1.083E-05	4.379E-09	1.387E-03	1.431E-08	4.223E-10	9.854E-12	1.010E-11	4.377E-12
R MAR	5.914E-06	3.974E-05	4.399E-05	3.216E-05	3.646E-09	2.292E-04	2.046E-08	1.061E-09	1.449E-11	7.991E-12	1.432E-11
Y MAR	4.866E-06	1.761E-05	2.125E-05	1.332E-05	3.411E-09	9.045E-08	2.127E-08	5.222E-10	1.465E-11	4.462E-12	5.780E-12
ENDOST	3.488E-06	1.277E-05	1.502E-05	1.083E-05	3.501E-09	2.534E-03	1.431E-08	4.223E-10	9.854E-12	1.010E-11	4.377E-12
SPLEEN	5.427E-05	2.523E-05	2.897E-05	1.070E-05	3.730E-09	2.294E-08	2.058E-08	3.495E-09	3.342E-06	1.317E-12	3.038E-12
TESTES	8.122E-07	8.165E-06	1.109E-05	1.736E-05	3.712E-09	2.360E-08	3.757E-09	7.285E-11	1.452E-12	1.629E-05	0.0
THYMUS	3.930E-06	2.512E-06	3.587E-06	7.537E-07	3.526E-09	2.247E-08	1.729E-08	8.743E-11	7.253E-12	2.880E-13	3.669E-13
THYROID	9.918E-07	8.412E-07	1.172E-06	2.766E-07	3.519E-09	1.911E-08	4.009E-09	4.866E-11	2.122E-12	1.155E-13	1.340E-13
UTERUS	5.577E-06	1.339E-04	9.895E-05	5.914E-05	4.146E-09	2.100E-08	8.834E-09	3.858E-10	6.787E-12	0.0	7.986E-11

DOSE EQUIVALENT (REM/MICROCURIE)

SOURCE	OTHER	TOTAL
TARGET		
LUNGS	2.963E-09	2.589E-05
RES LYM	2.963E-09	2.589E-05
S WALL	3.161E-09	2.078E-03
SI WALL	3.511E-09	3.742E-03
ULI WALL	3.617E-09	8.062E-03
LLI WALL	3.879E-09	6.231E-03
T BODY	1.605E-06	2.748E-04
ADREN	3.323E-06	6.667E-05
BL WALL	1.664E-06	1.456E-04
KIDNEYS	3.361E-09	1.888E-04
LIVER	2.559E-09	4.954E-04
OVARIES	4.423E-09	5.308E-04
PANCREAS	3.324E-06	1.817E-04
BONE	3.646E-09	1.429E-03
R MAR	3.320E-06	3.544E-04
Y MAR	3.322E-06	6.048E-05
ENDOST	9.005E-09	2.576E-03
SPLEEN	3.340E-09	1.226E-04
TESTES	2.867E-09	5.375E-05
THYMUS	3.326E-06	1.415E-05
THYROID	3.322E-06	6.630E-06
UTERUS	3.329E-06	3.009E-04

PERCENT DOSE EQUIVALENT..

NUCLIDE	AC-228	TH-228	RA-224	RN-220	PO-216	PB-212	BI-212	PO-212	TL-208
TARGET									
LUNGS	99.9	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1
RES LYM	99.9	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1
S WALL	100.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
SI WALL	100.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
ULI WALL	99.8	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0
LLI WALL	98.7	0.6	0.1	0.1	0.2	0.0	0.1	0.1	0.0
T BODY	59.5	14.9	9.0	5.0	5.3	0.0	1.8	4.5	0.0
ADREN	95.0	3.0	0.8	0.3	0.4	0.0	0.1	0.3	0.1
BL WALL	98.8	0.7	0.2	0.1	0.1	0.0	0.0	0.1	0.0
KIDNEYS	72.8	17.2	4.2	1.8	1.9	0.0	0.6	1.5	0.0
LIVER	20.0	50.7	12.3	5.1	5.5	0.0	1.8	4.5	0.0
OVARIES	96.9	1.9	0.5	0.2	0.2	0.0	0.1	0.2	0.0
PANCREAS	98.2	1.1	0.3	0.1	0.1	0.0	0.0	0.1	0.0
BONE	3.0	32.5	22.5	12.5	13.5	0.0	4.5	11.5	0.0
R MAR	34.4	22.2	15.1	8.4	9.1	0.0	3.0	7.7	0.0
Y MAR	94.4	3.3	0.9	0.4	0.4	0.0	0.2	0.3	0.1
ENDOST	1.6	39.0	24.9	11.7	11.2	0.0	6.1	5.5	0.0
SPLEEN	97.3	1.6	0.5	0.2	0.2	0.0	0.1	0.2	0.0
TESTES	69.7	19.2	4.8	1.8	2.0	0.0	0.7	1.7	0.1
THYMUS	76.5	14.0	4.0	1.6	1.7	0.0	0.6	1.5	0.1
THYROID	49.9	29.8	8.5	3.5	3.7	0.0	1.3	3.2	0.1
UTERUS	98.9	0.7	0.2	0.1	0.1	0.0	0.0	0.1	0.0

RADIONUCLIDE: TH-227

PHYSICAL AND METABOLIC PARAMETERS FOR DOSIMETRICALLY SIGNIFICANT PROGENY:

NUCLIDE	RADIOACTIVE HALF-LIFE (DAYS)
TH-227	18.70
RA-223	11.40
RN-219	4.5800E-05
PO-215	2.0600E-08
PB-211	2.5100E-02
BI-211	1.4800E-03
PO-211	6.4800E-06
TL-207	3.3100E-03

BRANCHING RATIOS:

FROM	TO	FRACTION
TH-227	RA-223	1.000
RA-223	RN-219	1.000
RN-219	PO-215	1.000
PO-215	PB-211	1.000
PB-211	BI-211	1.000
BI-211	PO-211	3.0000E-03
BI-211	TL-207	0.9970

ORGAN	NUCLIDE	BLOOD TRANSFER FRACTION F2-PRIME	COMPARTMENT DEPOSITION FRACTION	COMPARTMENT BIOLOGICAL HALF-TIME (DAYS)
ABSORBED	TH-227	1.00	4.000E-02	0.500
			0.460	1.460E 04
			0.500	3.650E 04
	RA-223	1.00	0.917	5.50
			5.360E-02	81.0
			2.000E-02	955.
			1.760E-04	3.140E 03
			9.390E-03	7.620E 03
	RN-219	0.0	0.874	2.650E-04
			9.130E-02	3.110E-03
			1.980E-02	2.280E-02
			8.630E-03	0.146
			6.120E-03	0.963
	PO-215	1.00	1.000E-02	0.500
			0.990	50.0
	PB-211	1.00	1.000E-01	1.00
			0.200	10.0
			0.300	320.
			0.200	2.000E 03
			0.200	8.000E 03
	BI-211	1.00	-1.720E-02	1.000E-01
			1.02	5.78
	PO-211	1.00	1.000E-02	0.500
			0.990	50.0
	TL-207	1.00	1.00	4.00
EXCRET.	TH-227	4.000E-02	1.00	0.500
	RA-223	0.0	1.00	0.500
	RN-219	0.0	0.874	2.650E-04
			9.130E-02	3.110E-03
			1.980E-02	2.280E-02
			8.630E-03	0.146
			6.120E-03	0.963
	PO-215	0.0	1.00	0.500
	PB-211	0.0	1.00	0.500
	BI-211	0.0	1.00	0.500
	PO-211	0.0	1.00	0.500
	TL-207	0.0	1.00	0.500

α decay (18.718 D 5)

Case 1 represents inhalation of oxides, hydroxides, and carbides; case 2 inhalation of nitrates; and case 3 ingestion of any compound.

• Retention data derived from "other tissues" compartment.

ORGAN	NUCLIDE	BLOOD TRANSFER FRACTION F2-PRIME	COMPARTMENT DEPOSITION FRACTION	COMPARTMENT BIOLOGICAL HALF-TIME (DAYS)
BONE	TH-227	0.450	1.00	3.650E 04
	RA-223	0.172	0.880	5.68
			1.360E-02	240.
			2.030E-03	1.610E 03
			5.730E-02	1.490E 03
			4.600E-02	8.380E 03
	RN-219	0.0	0.700	2.650E-04
			0.300	1.000E 50
	•PO-215	9.000E-02	1.000E-02	0.500
			0.990	50.0
	PB-211	0.562	0.375	320.
			0.310	2.000E 03
			0.315	8.000E 03
	•BI-211	7.340E-02	-1.000E-01	1.000E-01
			1.10	5.78
	•PO-211	9.000E-02	1.000E-02	0.500
			0.990	50.0
	•TL-207	0.118	1.00	4.00
LIVER	TH-227	0.450	1.00	1.460E 04
	•RA-223	4.540E-02	0.890	0.630
			7.090E-02	28.9
			3.040E-02	160.
			7.430E-03	776.
			7.940E-04	4.040E 03
	•RN-219	0.0	0.849	2.650E-04
			9.900E-02	3.110E-03
			4.400E-02	2.880E-02
			7.790E-04	0.146
			2.030E-05	0.963
	PO-215	1.000E-01	1.000E-02	0.500
			0.990	50.0
	PB-211	0.106	0.843	10.0
			7.870E-02	320.
			4.010E-02	2.000E 03
			3.800E-02	8.000E 03
	•BI-211	2.640E-02	-1.000E-01	1.000E-01
			1.10	5.78
	PO-211	1.000E-01	1.000E-02	0.500
			0.990	50.0
	•TL-207	4.240E-02	1.00	4.00
KIDNEYS	TH-227	1.000E-02	1.00	1.460E 04
	•RA-223	7.820E-03	0.890	0.630
			7.090E-02	28.9
			3.040E-02	160.
			7.430E-03	776.
			7.940E-04	4.040E 03
	•RN-219	0.0	0.849	2.650E-04
			9.900E-02	3.110E-03
			4.400E-02	2.880E-02
			7.790E-04	0.146
			2.030E-05	0.963
	PO-215	1.000E-01	1.000E-02	0.500
			0.990	50.0
	PB-211	5.090E-02	0.962	10.0
			2.000E-02	320.
			9.600E-03	2.000E 03
			8.290E-03	8.000E 03
	BI-211	0.400	1.00	5.78
	PO-211	1.000E-01	1.000E-02	0.500
			0.990	50.0
	TL-207	3.760E-02	1.00	4.00

ORGAN	NUCLIDE	BLOOD TRANSFER FRACTION F2-PRIME	COMPARTMENT DEPOSITION FRACTION	COMPARTMENT BIOLOGICAL HALF-TIME (DAYS)
SPLEEN	•TH-227	2.640E-04	1.00	3.650E 04
	•RA-223	4.540E-03	0.890	0.630
			7.090E-02	28.9
			3.040E-02	160.
			7.430E-03	776.
			7.940E-04	4.040E 03
	•RN-219	0.0	0.849	2.650E-04
			9.900E-02	3.110E-03
			4.400E-02	2.880E-02
			7.790E-04	0.146
			2.030E-05	0.963
	PO-215	1.000E-01	1.000E-02	0.500
			0.990	50.0
	•PB-211	2.960E-04	0.375	320.
			0.310	2.000E 03
			0.315	8.000E 03
	•BI-211	2.640E-03	-1.000E-01	1.000E-01
			1.10	5.78
	PO-211	1.000E-01	1.000E-02	0.500
			0.990	50.0
	•TL-207	4.240E-03	1.00	4.00
TESTES	TH-227	3.500E-04	1.00	3.650E 04
	•RA-223	8.830E-04	0.890	0.630
			7.090E-02	28.9
			3.040E-02	160.
			7.430E-03	776.
			7.940E-04	4.040E 03
	•RN-219	0.0	0.910	2.650E-04
			8.660E-02	3.110E-03
			3.040E-04	2.880E-02
			3.170E-03	0.146
			6.810E-06	0.963
	•PO-215	6.300E-04	1.000E-02	0.500
			0.990	50.0
	•PB-211	5.760E-05	0.375	320.
			0.310	2.000E 03
			0.315	8.000E 03
	•BI-211	5.140E-04	-1.000E-01	1.000E-01
			1.10	5.78
	•PO-211	6.300E-04	1.000E-02	0.500
			0.990	50.0
	•TL-207	8.240E-04	1.00	4.00
OVARIES	TH-227	1.100E-04	1.00	3.650E 04
	•RA-223	2.770E-04	0.890	0.630
			7.090E-02	28.9
			3.040E-02	160.
			7.430E-03	776.
			7.940E-04	4.040E 03
	•RN-219	0.0	0.910	2.650E-04
			8.660E-02	3.110E-03
			3.040E-04	2.880E-02
			3.170E-03	0.146
			6.810E-06	0.963
	•PO-215	1.980E-04	1.000E-02	0.500
			0.990	50.0
	•PB-211	1.810E-05	0.375	0.0
			0.310	2.000E 03
			0.315	8.000E 03
	•BI-211	1.610E-04	-1.000E-01	1.000E-01
			1.10	5.78
	•PO-211	1.980E-04	1.000E-02	0.500
			0.990	50.0
	•TL-207	2.590E-04	1.00	4.00

ORGAN	NUCLIDE	BLOOD TRANSFER FRACTION F2-PRIME	COMPARTMENT DEPOSITION FRACTION	COMPARTMENT BIOLOGICAL HALF-TIME (DAYS)
OTHER	TH-227	4.970E-02	1.00	3.650E 04
	RA-223	0.854	0.890	0.630
			7.090E-02	28.9
			3.040E-02	160.
			7.430E-03	776.
			7.940E-04	4.040E 03
	RN-219	0.0	0.872	2.650E-04
			9.140E-02	3.110E-03
			2.050E-02	2.880E-02
			9.080E-03	0.146
			6.790E-03	0.963
	PO-215	0.610	1.000E-02	0.500
			0.990	50.0
	PB-211	5.580E-02	0.375	0.0
			0.310	2.000E 03
			0.315	8.000E 03
	BI-211	0.500	-1.000E-01	1.000E-01
			1.10	5.78
	PO-211	0.610	1.000E-02	0.500
			0.990	50.0
	TL-207	0.814	1.00	4.00

S FACTORS (REM/MICROCURIE-DAY) FOR TH-227

TARGET ORGANS	SOURCE ORGANS									
	LUNGS	RES LYM	S CONT	SI CONT	ULI CONT	LLI CONT	EXCRET.	BONE	LIVER	KIDNEYS
LUNGS	0.313E 01	0.242E-02	0.337E-04	0.485E-05	0.528E-05	0.162E-05	0.447E-01	0.188E-04	0.489E-04	0.164E-04
RES LYM	0.242E-02	0.209E 03	0.337E-04	0.485E-05	0.528E-05	0.162E-05	0.447E-01	0.188E-04	0.489E-04	0.164E-04
S WALL	0.360E-04	0.360E-04	0.654E-01	0.703E-04	0.731E-04	0.343E-04	0.447E-01	0.109E-04	0.372E-04	0.655E-04
SI WALL	0.391E-05	0.391E-05	0.506E-04	0.409E-01	0.334E-03	0.185E-03	0.447E-01	0.147E-04	0.316E-04	0.546E-04
ULI WALL	0.489E-05	0.489E-05	0.684E-04	0.572E-03	0.740E-01	0.961E-04	0.447E-01	0.139E-04	0.479E-04	0.549E-04
LLI WALL	0.181E-05	0.181E-05	0.243E-04	0.149E-03	0.591E-04	0.120E 00	0.447E-01	0.200E-04	0.464E-05	0.155E-04
T BODY	0.447E-01	0.447E-01	0.176E-03	0.410E-03	0.260E-03	0.313E-03	0.575E-01	0.223E 00	0.447E-01	0.447E-01
ADREN	0.482E-04	0.482E-04	0.462E-04	0.268E-04	0.176E-04	0.836E-05	0.447E-01	0.255E-04	0.958E-04	0.212E-03
BL WALL	0.970E-06	0.970E-06	0.506E-05	0.524E-04	0.399E-04	0.125E-03	0.447E-01	0.964E-05	0.353E-05	0.585E-05
KIDNEYS	0.171E-04	0.171E-04	0.672E-04	0.589E-04	0.531E-04	0.173E-04	0.447E-01	0.172E-04	0.746E-04	0.101E 02
LIVER	0.480E-04	0.480E-04	0.380E-04	0.353E-04	0.496E-04	0.535E-05	0.447E-01	0.128E-04	0.174E 01	0.751E-04
OVARIES	0.230E-05	0.230E-05	0.878E-05	0.206E-03	0.233E-03	0.382E-03	0.447E-01	0.148E-04	0.818E-05	0.227E-04
PANCREAS	0.499E-04	0.499E-04	0.356E-03	0.391E-04	0.435E-04	0.132E-04	0.447E-01	0.193E-04	0.796E-04	0.125E-03
BONE	0.246E-04	0.246E-04	0.147E-04	0.203E-04	0.183E-04	0.270E-04	0.223E 00	0.213E 01	0.184E-04	0.239E-04
R MAR	0.311E-04	0.311E-04	0.258E-04	0.679E-04	0.593E-04	0.844E-04	0.447E-01	0.515E 00	0.262E-04	0.622E-04
Y MAR	0.257E-04	0.257E-04	0.206E-04	0.284E-04	0.262E-04	0.336E-04	0.447E-01	0.919E-04	0.275E-04	0.294E-04
ENDOST	0.246E-04	0.246E-04	0.147E-04	0.203E-04	0.183E-04	0.270E-04	0.447E-01	0.581E 01	0.184E-04	0.239E-04
SPLEEN	0.440E-04	0.440E-04	0.155E-03	0.293E-04	0.264E-04	0.154E-04	0.447E-01	0.132E-04	0.178E-04	0.172E-03
TESTES	0.260E-06	0.260E-06	0.102E-05	0.640E-05	0.644E-05	0.384E-04	0.447E-01	0.115E-04	0.157E-05	0.216E-05
THYMUS	0.774E-04	0.774E-04	0.490E-05	0.199E-05	0.224E-05	0.732E-06	0.447E-01	0.101E-04	0.143E-04	0.424E-05
THYROID	0.171E-04	0.171E-04	0.220E-05	0.453E-06	0.494E-06	0.183E-06	0.447E-01	0.178E-04	0.375E-05	0.126E-05
UTERUS	0.176E-05	0.176E-05	0.153E-04	0.182E-03	0.936E-04	0.132E-03	0.447E-01	0.114E-04	0.743E-05	0.187E-04

S FACTORS (REM/MICROCURIE-DAY) FOR TH-227

TARGET ORGANS	SOURCE ORGANS			
	SPLEEN	TESTES	OVARIES	OTHER
LUNGS	0.436E-04	0.212E-06	0.142E-05	0.250E-04
RES LYM	0.436E-04	0.212E-06	0.142E-05	0.250E-04
S WALL	0.190E-03	0.108E-05	0.151E-04	0.257E-04
SI WALL	0.268E-04	0.799E-05	0.236E-03	0.292E-04
ULI WALL	0.248E-04	0.649E-05	0.228E-03	0.303E-04
LLI WALL	0.121E-04	0.538E-04	0.293E-03	0.319E-04
T BODY	0.447E-01	0.447E-01	0.447E-01	0.445E-01
ADREN	0.124E-03	0.885E-06	0.761E-05	0.922E-01
BL WALL	0.289E-05	0.942E-04	0.135E-03	0.461E-01
KIDNEYS	0.175E-03	0.115E-05	0.186E-04	0.271E-04
LIVER	0.193E-04	0.754E-06	0.109E-04	0.203E-04
OVARIES	0.119E-04	0.0	0.285E 03	0.379E-04
PANCREAS	0.378E-03	0.119E-05	0.928E-05	0.923E-01
BONE	0.190E-04	0.150E-04	0.246E-04	0.262E-04
R MAR	0.283E-04	0.121E-04	0.864E-04	0.922E-01
Y MAR	0.284E-04	0.581E-05	0.332E-04	0.922E-01
ENDOST	0.190E-04	0.150E-04	0.246E-04	0.607E-04
SPLEEN	0.174E 02	0.761E-06	0.105E-04	0.275E-04
TESTES	0.127E-05	0.894E 02	0.0	0.220E-04
THYMUS	0.689E-05	0.990E-07	0.744E-06	0.923E-01
THYROID	0.213E-05	0.249E-07	0.175E-06	0.923E-01
UTERUS	0.754E-05	0.0	0.404E-03	0.923E-01

CASE 1.. INHALATION

AMAD (MICRON).. 1.00 D3 =0.310 D4 =8.000E-02 D5 =0.240

	SOLUBILITY CLASS	G.I. UPTAKE FRACTIONS STOMACH	S INT	U L INT	L L INT
TH-227	Y	0.0	1.000E-03	0.0	0.0
RA-223	W	0.0	0.200	0.0	0.0
RN-219	*	0.0	0.0	0.0	0.0
PO-215	W	0.0	1.000E-01	0.0	0.0
PB-211	W	0.0	8.000E-02	0.0	0.0
BI-211	W	0.0	5.000E-02	0.0	0.0
PO-211	W	0.0	1.000E-01	0.0	0.0
TL-207	W	0.0	0.950	0.0	0.0

*SPECIAL LUNG CLEARANCE PARAMETERS. T=HALF-TIME (DAYS), F=DEPOSITION FRACTION.

	CLEARANCE PATHWAY..	A	B	C	D	E	F	G	H	I
RN-219	F	1.0	0.0	1.0	0.0	1.0	0.0	0.0	0.0	1.0
	T	8.20E-05	1.0	8.20E-05	1.0	8.20E-05	0.0	0.0	0.0	2.96E-03

DOSE EQUIVALENT (REM/MICROCURIE)

SOURCE	LUNGS	RES LYM	S CONT	SI CONT	ULI CONT	LLI CONT	EXCRET.	BONE	LIVER	KIDNEYS	SPLEEN
TARGET											
LUNGS	35.0	3.237E-03	1.143E-06	6.149E-07	2.236E-06	1.338E-06	7.102E-06	4.167E-06	4.245E-06	5.472E-08	3.913E-08
RES LYM	8.713E-02	62.8	1.143E-06	6.149E-07	2.236E-06	1.338E-06	7.102E-06	4.167E-06	4.245E-06	5.472E-08	3.913E-08
S WALL	3.227E-04	7.051E-06	3.253E-03	8.625E-06	2.991E-05	2.721E-05	7.102E-06	2.407E-06	3.230E-06	2.150E-07	1.727E-07
SI WALL	3.641E-05	8.311E-07	1.706E-06	6.978E-03	1.358E-04	1.452E-04	7.102E-06	3.287E-06	2.741E-06	1.778E-07	2.420E-08
ULI WALL	4.604E-05	1.061E-06	2.277E-06	6.624E-05	4.402E-02	6.710E-05	7.102E-06	3.049E-06	4.190E-06	1.796E-07	2.353E-08
LLI WALL	1.515E-05	3.240E-07	8.161E-07	1.795E-05	2.438E-05	0.144	7.102E-06	4.363E-06	4.125E-07	5.041E-08	1.109E-08
T BODY	0.500	1.344E-02	8.137E-06	6.812E-05	1.473E-04	3.578E-04	9.135E-06	7.174E-02	4.655E-03	1.991E-04	6.348E-05
ADREN	4.337E-04	9.460E-06	1.550E-06	3.190E-06	7.377E-06	6.629E-06	7.102E-06	5.898E-06	8.266E-06	7.082E-07	1.113E-07
BL WALL	8.917E-06	2.052E-07	1.873E-07	6.556E-06	1.637E-05	9.807E-05	7.102E-06	2.242E-06	3.240E-07	1.987E-08	2.608E-09
KIDNEYS	1.555E-04	3.457E-06	2.246E-06	7.328E-06	2.190E-05	1.356E-05	7.102E-06	3.842E-06	6.497E-06	4.473E-02	1.555E-07
LIVER	4.275E-04	9.292E-06	1.284E-06	4.354E-06	2.031E-05	4.353E-06	7.102E-06	2.875E-06	0.181	2.462E-07	1.759E-08
OVARIES	2.075E-05	4.670E-07	3.215E-07	2.504E-05	9.479E-05	2.921E-04	7.102E-06	3.523E-06	6.956E-07	7.432E-08	1.149E-08
PANCREAS	4.507E-04	9.884E-06	1.187E-05	4.839E-06	1.753E-05	1.067E-05	7.102E-06	4.090E-06	7.057E-06	4.112E-07	3.377E-07
BONE	2.233E-04	4.793E-06	4.914E-07	2.486E-06	7.478E-06	2.125E-05	7.543E-05	1.00	1.599E-06	7.783E-08	1.706E-08
R MAR	2.818E-04	6.046E-06	8.602E-07	8.288E-06	2.375E-05	6.626E-05	7.103E-06	0.166	2.278E-06	2.021E-07	2.524E-08
Y MAR	2.333E-04	5.009E-06	6.880E-07	3.476E-06	1.071E-05	2.645E-05	7.102E-06	1.735E-05	2.387E-06	9.576E-08	2.567E-08
ENDOST	2.233E-04	4.793E-06	4.914E-07	2.486E-05	7.479E-06	2.125E-05	7.103E-06	1.63	1.599E-06	7.783E-08	1.706E-08
SPLEEN	3.918E-04	8.507E-06	6.524E-06	3.624E-06	1.081E-05	1.261E-05	7.102E-06	3.006E-06	1.565E-06	5.540E-07	2.469E-02
TESTES	2.493E-06	5.971E-08	3.430E-08	8.006E-07	2.782E-06	3.013E-05	7.102E-06	2.573E-06	1.440E-07	7.269E-09	1.227E-09
THYMUS	6.980E-04	1.521E-05	1.760E-07	2.513E-07	9.449E-07	6.118E-07	7.102E-06	2.480E-06	1.309E-06	1.516E-08	6.702E-09
THYROID	1.617E-04	3.693E-06	7.577E-08	5.944E-08	2.158E-07	1.613E-07	7.102E-06	3.898E-06	3.176E-07	4.312E-09	2.001E-09
UTERUS	1.564E-05	3.454E-07	5.211E-07	2.236E-05	3.964E-05	1.029E-04	7.103E-06	2.557E-06	6.526E-07	5.875E-08	7.303E-09

DOSE EQUIVALENT (REM/MICROCURIE)

SOURCE	TESTES	OVARIES	OTHER	TOTAL
TARGET				
LUNGS	5.085E-11	1.128E-10	4.122E-06	35.0
RES LYM	5.085E-11	1.128E-10	4.122E-06	62.8
S WALL	2.800E-10	1.091E-09	4.310E-06	3.665E-03
SI WALL	1.882E-09	1.671E-08	4.925E-06	7.316E-03
ULI WALL	1.443E-09	1.568E-08	5.036E-06	4.423E-02
LLI WALL	1.215E-08	2.026E-08	8.416E-06	0.144
T BODY	1.501E-05	4.714E-06	1.193E-02	0.603
ADREN	2.170E-10	5.872E-10	2.475E-02	2.523E-02
BL WALL	2.174E-08	9.667E-09	1.237E-02	1.251E-02
KIDNEYS	2.972E-10	1.361E-09	4.551E-06	4.495E-02
LIVER	1.878E-10	7.822E-10	3.452E-06	0.182
OVARIES	0.0	2.999E-02	6.280E-06	3.044E-02
PANCREAS	2.495E-10	7.112E-10	2.480E-02	2.533E-02
BONE	3.428E-09	1.746E-09	1.114E-05	1.01
R MAR	2.742E-09	6.118E-09	2.478E-02	0.191
Y MAR	1.335E-09	2.355E-09	2.474E-02	2.505E-02
ENDOST	3.428E-09	1.746E-09	5.420E-05	1.63
SPLEEN	2.354E-10	7.738E-10	4.606E-06	2.514E-02
TESTES	3.001E-02	0.0	3.741E-06	3.006E-02
THYMUS	2.812E-11	5.778E-11	2.480E-02	2.553E-02
THYROID	8.030E-12	1.492E-11	2.480E-02	2.497E-02
UTERUS	0.0	2.794E-08	2.480E-02	2.499E-02

PERCENT DOSE EQUIVALENT..

NUCLIDE	TH-227	RA-223	RN-219	PO-215	PB-211	BI-211	PO-211	TL-207
TARGET								
LUNGS	38.0	18.4	14.2	15.5	0.1	13.7	0.0	0.1
RES LYM	11.9	19.1	22.5	24.3	0.2	21.6	0.1	0.2
S WALL	43.9	12.3	10.5	10.2	7.7	10.9	0.0	7.6
SI WALL	46.6	10.3	10.2	10.5	7.2	10.3	0.0	4.8
ULI WALL	42.2	10.3	10.8	11.5	7.2	10.4	0.0	7.6
LLI WALL	37.3	11.0	11.8	12.6	7.7	11.2	0.0	8.3
T BODY	34.5	18.6	15.3	16.6	0.1	14.7	0.1	0.1
ADREN	3.3	23.4	23.8	25.8	0.3	23.1	0.1	0.2
BL WALL	3.0	23.3	24.0	26.0	0.2	23.2	0.1	0.2
KIDNEYS	29.6	16.6	17.1	18.4	0.2	17.9	0.1	0.2
LIVER	56.4	10.5	10.8	11.7	0.1	10.4	0.0	0.1
OVARIES	14.3	20.7	21.2	22.9	0.2	20.4	0.1	0.2
PANCREAS	3.4	23.4	23.9	25.7	0.3	23.0	0.1	0.2
BONE	18.3	19.1	20.4	22.2	0.0	19.9	0.1	0.0
R MAR	16.3	19.7	20.9	22.6	0.1	20.3	0.1	0.1
Y MAR	3.0	23.4	23.9	26.0	0.2	23.2	0.1	0.2
ENDOST	21.0	23.3	18.6	17.6	0.0	19.4	0.1	0.0
SPLEEN	3.2	23.5	23.9	25.8	0.3	23.0	0.1	0.2
TESTES	13.7	20.7	21.4	23.2	0.2	20.7	0.1	0.2
THYMUS	3.7	23.5	23.8	25.5	0.4	22.9	0.1	0.2
THYROID	2.7	23.3	24.1	26.1	0.2	23.3	0.1	0.2
UTERUS	2.8	23.2	24.1	26.1	0.2	23.3	0.1	0.2

CASE 2.. INHALATION

AMAD (MICRON).. 1.00 D3 =0.310 D4 =8.000E-02 D5 =0.249

	SOLUBILITY CLASS	G.I. UPTAKE FRACTIONS STOMACH	S INT	U L INT	L L INT
TH-227	W	0.0	1.000E-03	0.0	0.0
RA-223	W	0.0	0.200	0.0	0.0
RN-219	*	0.0	0.0	0.0	0.0
PO-215	W	0.0	1.000E-01	0.0	0.0
PB-211	W	0.0	8.000E-02	0.0	0.0
BI-211	W	0.0	5.000E-02	0.0	0.0
PO-211	W	0.0	1.000E-01	0.0	0.0
TL-207	W	0.0	0.950	0.0	0.0

*SPECIAL LUNG CLEARANCE PARAMETERS. T=HALF-TIME (DAYS), F=DEPOSITION FRACTION.

	CLEARANCE PATHWAY..	A	B	C	D	E	F	G	H	I
RN-219	F	1.0	0.0	1.0	0.0	1.0	0.0	0.0	0.0	1.0
	T	8.20E-05	1.0	8.20E-05	1.0	8.20E-05	0.0	0.0	0.0	2.96E-03

DOSE EQUIVALENT (REM/MICROCURIE)

SOURCE	LUNGS	RES LYM	S CONT	SI CONT	ULI CONT	LLI CONT	EXCRET.	BONE	LIVER	KIDNEYS	SPLEEN
TARGET											
LUNGS	26.8	4.259E-03	9.783E-07	5.305E-07	1.937E-06	1.165E-06	1.210E-04	4.011E-05	6.556E-05	5.124E-07	6.365E-08
RES LYM	6.662E-02	85.8	9.783E-07	5.305E-07	1.937E-06	1.165E-06	1.210E-04	4.011E-05	6.556E-05	5.124E-07	6.365E-08
S WALL	2.476E-04	9.895E-06	2.704E-03	7.465E-06	2.597E-05	2.374E-05	1.210E-04	2.319E-05	4.988E-05	2.032E-06	2.795E-07
SI WALL	2.794E-05	1.160E-06	1.461E-06	5.882E-03	1.180E-04	1.268E-04	1.210E-04	3.156E-05	4.234E-05	1.687E-06	3.928E-08
ULI WALL	3.532E-05	1.478E-06	1.952E-06	5.764E-05	3.733E-02	5.860E-05	1.210E-04	2.943E-05	6.461E-05	1.700E-06	3.749E-08
LLI WALL	1.163E-05	4.578E-07	6.991E-07	1.556E-05	2.116E-05	0.123	1.210E-04	4.218E-05	6.338E-06	4.784E-07	1.790E-08
T BODY	0.383	1.838E-02	6.798E-06	5.753E-05	1.252E-04	3.069E-04	1.556E-04	0.631	6.933E-02	1.616E-03	8.889E-05
ADREN	3.328E-04	1.327E-05	1.328E-06	2.768E-06	6.395E-06	5.793E-06	1.210E-04	5.610E-05	1.278E-04	6.629E-06	1.810E-07
BL WALL	6.841E-06	2.864E-07	1.591E-07	5.664E-06	1.421E-05	8.562E-05	1.210E-04	2.130E-05	4.944E-06	1.842E-07	4.233E-09
KIDNEYS	1.193E-04	4.840E-06	1.925E-06	6.334E-06	1.901E-05	1.183E-05	1.210E-04	3.690E-05	1.003E-04	0.365	2.539E-07
LIVER	3.281E-04	1.305E-05	1.099E-06	3.766E-06	1.764E-05	3.793E-06	1.210E-04	3.757E-05	2.70	2.328E-06	2.844E-08
OVARIES	1.592E-05	6.536E-07	2.733E-07	2.169E-05	8.236E-05	2.554E-04	1.210E-04	3.325E-05	1.079E-05	7.028E-07	1.319E-08
PANCREAS	3.458E-04	1.386E-05	1.018E-05	4.184E-06	1.524E-05	9.296E-06	1.210E-04	3.987E-05	1.085E-04	3.881E-06	5.503E-07
BONE	1.713E-04	6.728E-06	4.212E-07	2.152E-06	6.495E-06	1.855E-05	6.037E-04	8.84	2.469E-05	7.391E-07	2.775E-08
R MAR	2.162E-04	8.489E-06	7.375E-07	7.177E-06	2.064E-05	5.784E-05	1.210E-04	1.46	3.517E-05	1.922E-06	4.116E-08
Y MAR	1.790E-04	7.031E-06	5.898E-07	3.009E-06	9.300E-06	2.309E-05	1.210E-04	1.751E-04	3.687E-05	9.032E-07	4.164E-08
ENDOST	1.713E-04	6.728E-06	4.212E-07	2.152E-06	6.495E-06	1.855E-05	1.210E-04	14.8	2.469E-05	7.391E-07	2.775E-08
SPLEEN	3.007E-04	1.195E-05	5.591E-06	3.134E-06	9.385E-06	1.098E-05	1.210E-04	2.871E-05	2.410E-05	5.288E-06	3.458E-02
TESTES	1.912E-06	8.289E-08	2.937E-08	6.916E-07	2.437E-06	2.631E-05	1.210E-04	2.470E-05	2.197E-06	6.769E-08	1.942E-09
THYMUS	5.356E-04	2.134E-05	1.499E-07	2.169E-07	8.189E-07	5.323E-07	1.210E-04	2.722E-05	1.998E-05	1.386E-07	1.058E-08
THYROID	1.241E-04	5.146E-06	6.476E-08	5.113E-08	1.865E-07	1.399E-07	1.210E-04	3.765E-05	4.931E-06	3.979E-08	3.200E-09
UTERUS	1.200E-05	4.846E-07	4.459E-07	1.935E-05	3.353E-05	8.630E-05	1.210E-04	2.453E-05	1.005E-05	5.682E-07	1.155E-08

DOSE EQUIVALENT (REM/MICROCURIE)

SOURCE	TESTES	OVARIES	OTHER	TOTAL
TARGET				
LUNGS	2.544E-10	5.483E-10	6.769E-06	26.8
RES LYM	2.544E-10	5.483E-10	6.769E-06	85.9
S WALL	1.342E-09	5.594E-09	7.032E-06	3.222E-03
SI WALL	9.515E-09	8.671E-08	8.018E-06	6.362E-03
ULI WALL	7.543E-09	8.276E-08	8.244E-06	3.771E-02
LLI WALL	6.293E-08	1.066E-07	8.795E-06	0.123
T BODY	6.298E-05	1.979E-05	1.669E-02	1.12
ADREN	1.072E-09	2.901E-09	3.462E-02	3.529E-02
BL WALL	1.112E-07	4.984E-08	1.730E-02	1.756E-02
KIDNEYS	1.426E-09	6.930E-09	7.421E-06	0.365
LIVER	9.200E-10	4.027E-09	5.602E-06	2.70
OVARIES	0.0	0.126	1.029E-05	0.127
PANCREAS	1.350E-09	3.527E-09	3.469E-02	3.536E-02
BONE	1.764E-08	9.048E-09	1.393E-05	8.84
R MAR	1.417E-08	3.175E-08	3.465E-02	1.49
Y MAR	6.846E-09	1.221E-08	3.462E-02	3.517E-02
ENDOST	1.764E-08	9.048E-09	6.068E-05	14.8
SPLEEN	1.028E-09	3.924E-09	7.518E-06	3.511E-02
TESTES	0.126	0.0	6.072E-06	0.125
THYMUS	1.283E-10	2.844E-10	3.469E-02	3.541E-02
THYROID	3.434E-11	6.979E-11	3.468E-02	3.497E-02
UTERUS	0.0	1.470E-07	3.469E-02	3.500E-02

PERCENT DOSE EQUIVALENT..

NUCLIDE	TH-227	RA-223	RN-219	PO-215	PB-211	BI-211	PO-211	TL-207
TARGET								
LUNGS	38.2	18.3	14.2	15.4	0.1	13.5	0.0	0.1
RES LYM	16.2	18.2	21.4	23.2	0.2	20.6	0.1	0.2
S WALL	46.3	11.4	9.6	9.2	7.0	9.8	0.0	6.7
SI WALL	51.0	9.6	9.4	9.6	6.5	9.4	0.0	4.4
ULI WALL	45.4	9.7	10.2	10.9	6.7	9.8	0.0	7.2
LLI WALL	39.7	10.6	11.3	12.1	7.4	10.8	0.0	8.0
T BODY	37.8	15.9	15.1	16.4	0.1	14.6	0.0	0.1
ADREN	30.0	16.9	17.2	18.7	0.2	16.7	0.1	0.1
BL WALL	30.1	16.8	17.3	18.7	0.2	16.7	0.1	0.1
KIDNEYS	61.5	9.2	9.5	10.3	0.1	9.3	0.0	0.1
LIVER	64.5	8.5	9.8	9.6	0.1	8.5	0.0	0.1
OVARIES	55.4	10.7	11.1	12.0	0.1	10.7	0.0	0.1
PANCREAS	30.0	16.9	17.3	18.7	0.2	16.7	0.1	0.1
BONE	35.4	15.1	16.2	17.6	0.0	15.5	0.1	0.0
R MAR	35.2	15.2	16.2	17.6	0.0	15.7	0.1	0.0
Y MAR	29.9	16.9	17.2	18.8	0.2	16.8	0.1	0.1
ENDOST	39.4	17.9	14.3	13.5	0.0	14.9	0.0	0.0
SPLEEN	30.0	17.0	17.3	18.7	0.2	16.7	0.1	0.1
TESTES	55.3	10.7	11.1	12.0	0.1	10.7	0.0	0.1
THYMUS	29.9	17.0	17.3	18.6	0.2	16.7	0.1	0.1
THYROID	29.7	16.8	17.5	18.9	0.2	16.8	0.1	0.1
UTERUS	29.8	16.8	17.4	18.9	0.2	16.8	0.1	0.1

CASE 3.. INGESTION

INGESTION TRANSFER FRACTIONS (G. I. TRACT TO BLOOD)

	TH-227	RA-223	RN-219	PO-215	PB-211	BI-211	PO-211	TL-207
STOMACH	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
S INT	1.000E-03	0.200	0.0	1.000E-01	8.000E-02	5.000E-02	1.000E-01	0.950
U L INT	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
L L INT	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

DOSE EQUIVALENT (REM/MICROCURIE)

SOURCE	S CONT	SI CONT	ULI CONT	LLI CONT	EXCRET.	BONE	LIVER	KIDNEYS	SPLEEN	TESTES	OVARIES
TARGET											
LUNGS	1.410E-06	8.232E-07	3.112E-06	1.955E-06	1.456E-06	6.041E-07	8.152E-07	7.786E-09	3.144E-09	5.474E-12	1.201E-11
RES LYM	1.410E-06	8.232E-07	3.112E-06	1.955E-06	1.456E-06	6.041E-07	8.152E-07	7.786E-09	3.144E-09	5.474E-12	1.201E-11
S WALL	2.752E-03	1.191E-05	4.271E-05	4.060E-05	1.456E-06	3.491E-07	6.203E-07	3.075E-08	1.386E-09	2.966E-11	1.185E-10
SI WALL	2.117E-06	7.106E-03	1.949E-04	2.179E-04	1.456E-06	4.758E-07	5.265E-07	2.549E-08	1.944E-09	2.034E-10	1.824E-09
ULI WALL	2.862E-06	9.653E-05	4.820E-02	1.011E-04	1.456E-06	4.427E-07	8.039E-07	2.570E-08	1.884E-09	1.580E-10	1.723E-09
LLI WALL	1.017E-06	2.521E-05	3.461E-05	0.176	1.456E-06	6.340E-07	7.896E-08	7.223E-09	8.899E-10	1.325E-09	2.223E-09
T BODY	7.397E-06	7.107E-05	1.667E-04	4.480E-04	1.872E-06	9.919E-03	8.732E-04	2.623E-05	4.983E-06	1.518E-06	4.768E-07
ADRFN	1.933E-06	4.530E-06	1.035E-05	9.893E-06	1.456E-06	8.495E-07	1.589E-06	1.008E-07	8.940E-09	2.325E-11	6.291E-11
BL WALL	2.120E-07	8.888E-06	2.333E-05	1.472E-04	1.456E-06	3.227E-07	6.174E-08	2.811E-09	2.094E-10	2.360E-09	1.052E-09
KIDNEYS	2.812E-06	9.987E-06	3.109E-05	2.036E-05	1.456E-06	5.563E-07	1.247E-06	5.923E-07	1.250E-08	3.150E-11	1.476E-10
LIVER	1.590E-06	5.982E-06	2.899E-05	6.410E-06	1.456E-06	4.159E-07	3.398E-02	3.522E-08	1.411E-09	2.006E-11	8.512E-11
OVARIES	3.677E-07	3.488E-05	1.360E-04	4.445E-04	1.456E-06	5.053E-07	1.340E-07	1.063E-08	9.187E-10	0.0	3.034E-03
PANCREAS	1.489E-05	6.627E-06	2.532E-05	1.576E-05	1.456E-06	5.969E-07	1.351E-06	5.876E-08	2.714E-08	2.768E-11	7.630E-11
BONE	6.151E-07	3.439E-06	1.069E-05	3.185E-05	7.263E-06	0.139	3.071E-07	1.117E-08	1.370E-09	3.729E-10	1.905E-10
R MAR	1.080E-06	1.150E-05	3.404E-05	9.943E-05	1.456E-06	2.292E-02	4.374E-07	2.902E-08	2.029E-09	2.988E-10	6.677E-10
Y MAR	8.620E-07	4.811E-06	1.531E-05	3.963E-05	1.456E-06	2.581E-06	4.585E-07	1.374E-08	2.061E-09	1.451E-10	2.570E-10
ENDOST	6.151E-07	3.439E-06	1.069E-05	3.185E-05	1.456E-06	0.229	3.071E-07	1.117E-08	1.370E-09	3.729E-10	1.905E-10
SPLEEN	8.159E-06	4.966E-06	1.543E-05	1.851E-05	1.456E-06	4.339E-07	2.999E-07	1.967E-06	1.938E-03	2.413E-11	8.371E-11
TESTES	4.267E-08	1.085E-06	3.815E-06	4.522E-05	1.456E-06	3.724E-07	2.743E-08	1.031E-09	9.810E-11	3.035E-03	0.0
THYMUS	2.052E-07	3.376E-07	1.319E-06	8.883E-07	1.456E-06	3.543E-07	2.495E-07	2.128E-09	5.358E-10	2.926E-12	6.182E-12
THYROID	9.206E-08	7.704E-08	2.934E-07	2.279E-07	1.456E-06	5.661E-07	6.120E-08	6.083E-10	1.603E-10	8.171E-13	1.567E-12
UTERUS	6.402E-07	3.084E-05	5.482E-05	1.550E-04	1.456E-06	3.700E-07	1.251E-07	8.508E-09	5.840E-10	0.0	3.066E-09

DOSE EQUIVALENT (REM/MICROCURIE)

SOURCE	OTHER	TOTAL
TARGET		
LUNGS	3.317E-07	1.052E-05
RES LYM	3.317E-07	1.052E-05
S WALL	3.464E-07	2.850E-03
SI WALL	3.957E-07	7.524E-03
ULI WALL	4.050E-07	4.840E-02
LLI WALL	4.350E-07	0.176
T BODY	9.361E-04	1.246E-02
ADREN	1.942E-03	1.973E-03
BL WALL	9.707E-04	1.152E-03
KIDNEYS	3.658E-07	5.990E-03
LIVER	2.772E-07	3.403E-02
OVARIES	5.051E-07	3.653E-03
PANCREAS	1.947E-03	2.013E-03
BONE	8.620E-07	0.139
R MAR	1.945E-03	2.501E-02
Y MAR	1.942E-03	2.007E-03
ENDOST	4.136E-06	0.229
SPLEEN	3.702E-07	1.988E-03
TESTES	3.004E-07	3.087E-03
THYMUS	1.947E-03	1.951E-03
THYROID	1.946E-03	1.949E-03
UTERUS	1.947E-03	2.190E-03

PERCENT DOSE EQUIVALENT..

NUCLIDE	TH-227	RA-223	RN-219	PO-215	PB-211	BI-211	PO-211	TL-207
TARGET								
LUNGS	81.8	8.2	3.6	0.5	3.0	2.9	0.0	0.1
RES LYM	81.8	8.2	3.6	0.5	3.0	2.9	0.0	0.1
S WALL	98.4	0.5	0.4	0.3	0.2	0.2	0.0	0.1
SI WALL	94.5	1.4	1.1	1.0	0.7	0.9	0.0	0.4
ULI WALL	80.9	3.5	3.7	3.9	2.3	3.3	0.0	2.4
LLI WALL	63.8	6.4	6.8	7.3	4.4	6.4	0.0	4.7
T BODY	30.5	16.3	17.3	18.8	0.2	16.7	0.1	0.2
ADREN	7.5	22.1	22.8	24.9	0.2	22.2	0.1	0.2
BL WALL	18.2	20.3	20.1	21.3	0.5	19.3	0.1	0.2
KIDNEYS	46.1	12.9	13.4	14.4	0.1	13.1	0.0	0.1
LIVER	61.6	9.2	9.5	10.3	0.1	9.2	0.0	0.1
OVARIES	37.1	15.8	15.5	16.1	0.5	14.8	0.0	0.1
PANCREAS	9.0	21.7	22.6	24.4	0.2	21.8	0.1	0.2
BONE	27.1	17.0	18.3	19.8	0.0	17.7	0.1	0.0
R MAR	25.8	17.4	18.6	20.1	0.1	18.0	0.1	0.1
Y MAR	8.8	22.0	22.5	24.5	0.2	21.8	0.1	0.2
ENDOST	30.6	20.5	16.4	15.5	0.0	17.0	0.0	0.0
SPLEEN	8.3	22.0	22.7	24.6	0.2	21.9	0.1	0.2
TESTES	28.5	17.2	17.7	19.2	0.2	17.1	0.1	0.1
THYMUS	6.5	22.3	23.2	25.2	0.2	22.4	0.1	0.2
THYROID	6.4	22.3	23.3	25.2	0.2	22.4	0.1	0.2
UTERUS	15.0	20.7	21.0	22.4	0.4	20.2	0.1	0.2

RADIONUCLIDE: TH-228

PHYSICAL AND METABOLIC PARAMETERS FOR DOSIMETRICALLY SIGNIFICANT PROGENY:

NUCLIDE	RADIOACTIVE HALF-LIFE (DAYS)
TH-228	698.0
RA-224	3.660
RN-220	6.4400E-04
PO-216	1.7400E-06
PB-212	0.4430
BI-212	4.2000E-02
PO-212	3.5300E-12
TL-208	2.1300E-03

BRANCHING RATIOS:

FROM	TO	FRACTION
TH-228	RA-224	1.000
RA-224	RN-220	1.000
RN-220	PO-216	1.000
PO-216	PB-212	1.000
PB-212	BI-212	1.000
BI-212	PO-212	0.6400
BI-212	TL-208	0.3600

ORGAN	NUCLIDE	BLOOD TRANSFER FRACTION F2-PRIME	COMPARTMENT DEPOSITION FRACTION	COMPARTMENT BIOLOGICAL HALF-TIME (DAYS)
ABSORBED	TH-228	1.00	4.000E-02	0.500
			0.460	1.460E 04
			0.500	3.650E 04
	RA-224	1.00	0.917	5.50
			5.360E-02	81.0
			2.000E-02	955.
			1.760E-04	3.140E 03
			9.390E-03	7.620E 03
	RN-220	0.0	0.874	2.650E-04
			9.130E-02	3.110E-03
			1.980E-02	2.280E-02
			8.630E-03	0.146
			6.120E-03	0.963
	PO-216	1.00	1.000E-02	0.500
			0.990	50.0
	PB-212	1.00	1.000E-01	1.00
			0.200	10.0
			0.300	320.
			0.200	2.000E 03
			0.200	8.000E 03
	BI-212	1.00	-1.720E-02	1.000E-01
			1.02	5.78
	PO-212	1.00	1.000E-02	0.500
			0.990	50.0
	TL-208	1.00	1.00	4.00
EXCRET.	TH-228	4.000E-02	1.00	0.500
	RA-224	0.0	1.00	0.500
	RN-220	0.0	0.874	2.650E-04
			9.130E-02	3.110E-03
			1.980E-02	2.280E-02
			8.630E-03	0.146
			6.120E-03	0.963
	PO-216	0.0	1.00	0.500
	PB-212	0.0	1.00	0.500
	BI-212	0.0	1.00	0.500
	PO-212	0.0	1.00	0.500
	TL-208	0.0	1.00	0.500

α decay (1.9131 Y 9)

Case 1 represents inhalation of oxides, hydroxides, and carbides; case 2 inhalation of nitrates; and case 3 ingestion of any compound.

* Retention data derived from "other tissues" compartment.

ORGAN	NUCLIDE	BLOOD TRANSFER FRACTION F2-PRIME	COMPARTMENT DEPOSITION FRACTION	COMPARTMENT BIOLOGICAL HALF-TIME (DAYS)
BONE	TH-228	0.450	1.00	3.650E 04
	RA-224	0.172	0.880	5.68
			1.360E-02	240.
			2.030E-03	1.610E 03
			5.730E-02	1.490E 03
			4.600E-02	8.380E 03
	RN-220	0.0	0.910	2.650E-04
			8.660E-02	3.110E-03
			3.040E-04	2.880E-02
			3.170E-03	0.146
			6.810E-06	0.963
	•PO-216	9.000E-02	1.000E-02	0.500
			0.990	50.0
	PB-212	0.562	0.375	320.
			0.310	2.000E 03
			0.315	8.000E 03
	•BI-212	7.340E-02	-1.000E-01	1.000E-01
			1.10	5.78
	•PO-212	9.000E-02	1.000E-02	0.500
			0.990	50.0
	•TL-208	0.118	1.00	4.00
LIVER	TH-228	0.450	1.00	1.460E 04
	•RA-224	4.540E-02	0.890	0.630
			7.090E-02	28.9
			3.040E-02	160.
			7.430E-03	776.
			7.940E-04	4.040E 03
	•RN-220	0.0	0.849	2.650E-04
			9.900E-02	3.110E-03
			4.400E-02	2.880E-02
			7.790E-04	0.146
			2.030E-05	0.963
	PO-216	1.000E-01	1.000E-02	0.500
			0.990	50.0
	PB-212	0.106	0.843	10.0
			7.870E-03	320.
			4.010E-03	2.000E 03
			3.820E-03	8.000E 03
	•BI-212	2.640E-02	-1.000E-01	1.000E-01
			1.10	5.78
	PO-212	1.000E-01	1.000E-02	0.500
			0.990	50.0
	•TL-208	4.240E-02	1.00	4.00
KIDNEYS	TH-228	1.000E-02	1.00	1.460E 04
	•RA-224	7.820E-03	0.890	0.630
			7.090E-02	28.9
			3.040E-02	160.
			7.430E-03	776.
			7.940E-04	4.040E 03
	•RN-220	0.0	0.849	2.650E-04
			9.900E-02	3.110E-03
			4.400E-02	2.880E-02
			7.790E-04	0.146
			2.030E-05	0.963
	PO-216	1.000E-01	1.000E-02	0.500
			0.990	50.0
	PB-212	5.090E-02	0.962	10.0
			2.000E-02	320.
			9.600E-03	2.000E 03
			8.290E-03	8.000E 03
	BI-212	0.400	1.00	5.78
	PO-212	1.000E-01	1.000E-02	0.500
			0.990	50.0
	TL-208	3.760E-02	1.00	4.00

ORGAN	NUCLIDE	BLOOD TRANSFER FRACTION F2-PRIME	COMPARTMENT DEPOSITION FRACTION	COMPARTMENT BIOLOGICAL HALF-TIME (DAYS)
SPLEEN	• TH-228	2.640E-04	1.00	3.650E 04
	• RA-224	4.540E-03	0.890	0.630
			7.090E-02	28.9
			3.040E-02	160.
			7.430E-03	776.
			7.940E-04	4.040E 03
	• RN-220	0.0	0.849	2.650E-04
			9.900E-02	3.110E-03
			4.400E-02	2.880E-02
			7.790E-04	0.146
			2.030E-05	0.963
	PO-216	1.000E-01	1.000E-02	0.500
			0.990	50.0
	• PB-212	2.960E-04	0.375	320.
			0.310	2.000E 03
			0.315	8.000E 03
	• BI-212	2.640E-03	-1.000E-01	1.000E-01
			1.10	5.78
	PO-212	1.000E-01	1.000E-02	0.500
			0.990	50.0
	• TL-208	4.240E-03	1.00	4.00
TESTES	TH-228	3.500E-04	1.00	3.650E 04
	• RA-224	8.830E-04	0.890	0.630
			7.090E-02	28.9
			3.040E-02	160.
			7.430E-03	776.
			7.940E-04	4.040E 03
	• RN-220	0.0	0.910	2.650E-04
			8.660E-02	3.110E-03
			3.040E-04	2.880E-02
			3.170E-03	0.146
			6.810E-06	0.963
	• PO-216	6.300E-04	1.000E-02	0.500
			0.990	50.0
	• PB-212	5.760E-05	0.375	320.
			0.310	2.000E 03
			0.315	8.000E 03
	• BI-212	5.140E-04	-1.000E-01	1.000E-01
			1.10	5.78
	• PO-212	6.300E-04	1.000E-02	0.500
			0.990	50.0
	• TL-208	8.240E-04	1.00	4.00
OVARIES	TH-228	1.100E-04	1.00	3.650E 04
	• RA-224	2.770E-04	0.890	0.630
			7.090E-02	28.9
			3.040E-02	160.
			7.430E-03	776.
			7.940E-04	4.040E 03
	• RN-220	0.0	0.910	2.650E-04
			8.660E-02	3.110E-03
			3.040E-04	2.880E-02
			3.170E-03	0.146
			6.810E-06	0.963
	• PO-216	1.980E-04	1.000E-02	0.500
			0.990	50.0
	• PB-212	1.810E-05	0.375	320.
			0.310	2.000E 03
			0.315	8.000E 03
	• BI-212	1.610E-04	-1.000E-01	1.000E-01
			1.10	5.78
	• PO-212	1.980E-04	1.000E-02	0.500
			0.990	50.0
	• TL-208	2.590E-04	1.00	4.00

ORGAN	NUCLIDE	BLOOD TRANSFER FRACTION F2-PRIME	COMPARTMENT DEPOSITION FRACTION	COMPARTMENT BIOLOGICAL HALF-TIME (DAYS)
OTHER	TH-228	4.970E-02	1.00	3.650E 04
	RA-224	0.854	0.890	0.630
			7.090E-02	28.9
			3.040E-02	160.
			7.430E-03	776.
			7.940E-04	4.040E 03
	RN-220	0.0	0.872	2.650E-04
			9.140E-02	3.110E-03
			2.050E-02	2.880E-02
			9.080E-03	0.146
			6.790E-03	0.963
	PO-216	0.610	1.000E-02	0.500
			0.990	50.0
	PB-212	5.580E-02	0.375	320.
			0.310	2.000E 03
			0.315	8.000E 03
	BI-212	0.500	-1.000E-01	1.000E-01
			1.10	5.78
	PO-212	0.610	1.000E-02	0.500
			0.990	50.0
	TL-208	0.814	1.00	4.00

S FACTORS (REM/MICROCURIE-DAY) FOR TH-228

TARGET ORGANS — SOURCE ORGANS

	LUNGS	RES LYM	S CONT	SI CONT	ULI CONT	LLI CONT	EXCRET.	BONE	LIVER	KIDNEYS	SPLEEN	TESTES	OVARIES	OTHER
LUNGS	0.286E 01	0.102E-02	0.715E-06	0.792E-07	0.937E-07	0.272E-07	0.409E-01	0.385E-06	0.112E-05	0.325E-06	0.960E-06	0.235E-08	0.210E-07	0.744E-06
RES LYM	0.102E-02	0.191E 03	0.715E-06	0.792E-07	0.937E-07	0.272E-07	0.409E-01	0.385E-06	0.112E-05	0.325E-06	0.960E-06	0.235E-08	0.210E-07	0.744E-06
S WALL	0.775E-06	0.775E-06	0.572E-01	0.152E-05	0.158E-05	0.692E-06	0.409E-01	0.215E-06	0.764E-06	0.139E-05	0.417E-05	0.121E-07	0.295E-06	0.532E-06
SI WALL	0.663E-07	0.663E-07	0.106E-05	0.358E-01	0.848E-05	0.467E-05	0.409E-01	0.295E-06	0.635E-06	0.112E-05	0.533E-06	0.129E-06	0.568E-05	0.653E-06
ULI WALL	0.803E-07	0.803E-07	0.149E-05	0.365E-04	0.650E-01	0.262E-05	0.409E-01	0.278E-06	0.100E-05	0.110E-05	0.544E-06	0.111E-06	0.663E-05	0.819E-06
LLI WALL	0.254E-07	0.254E-07	0.460E-06	0.528E-05	0.143E-05	0.106E 00	0.409E-01	0.442E-06	0.788E-07	0.269E-06	0.228E-06	0.108E-05	0.853E-05	0.684E-06
T BODY	0.409E-01	0.409E-01	0.124E-03	0.328E-33	0.197E-03	0.244E-03	0.536E-01	0.204E 00	0.409E-01	0.409E-01	0.409E-01	0.409E-01	0.409E-01	0.407E-01
ADRN	0.111E-05	0.111E-05	0.105E-05	0.394E-06	0.343E-06	0.129E-06	0.409E-01	0.478E-06	0.197E-03	0.567E-05	0.255E-05	0.110E-07	0.117E-06	0.843E-01
BL WALL	0.130E-07	0.130E-07	0.933E-07	0.993E-06	0.819E-06	0.372E-05	0.409E-01	0.186E-06	0.540E-07	0.964E-07	0.426E-07	0.193E-05	0.392E-05	0.423E-01
KIDNEYS	0.319E-06	0.319E-06	0.137E-05	0.122E-05	0.110E-05	0.318E-06	0.409E-01	0.340E-06	0.162E-05	0.923E 01	0.423E-05	0.142E-07	0.338E-06	0.667E-06
LIVER	0.105E-05	0.105E-05	0.767E-06	0.719E-06	0.102E-05	0.883E-07	0.409E-01	0.256E-06	0.199E 01	0.157E-05	0.362E-06	0.107E-07	0.155E-06	0.463E-06
OVARIES	0.350E-07	0.350E-07	0.194E-06	0.543E-05	0.605E-05	0.104E-04	0.409E-01	0.279E-06	0.167E-06	0.420E-06	0.155E-06	0.0	0.260E 03	0.107E-05
PANCREAS	0.103E-05	0.103E-05	0.812E-05	0.780E-06	0.876E-06	0.262E-06	0.409E-01	0.360E-06	0.179E-05	0.269E-05	0.913E-05	0.195E-07	0.173E-06	0.843E-01
BONE	0.667E-06	0.667E-06	0.372E-06	0.548E-06	0.481E-06	0.749E-06	0.204E 00	0.286E 01	0.487E-06	0.629E-06	0.495E-06	0.356E-06	0.659E-06	0.169E-05
R MAR	0.834E-06	0.834E-06	0.639E-06	0.191E-05	0.150E-05	0.247E-05	0.409E-01	0.473E 00	0.667E-06	0.166E-05	0.709E-06	0.279E-06	0.241E-05	0.843E-01
Y MAR	0.703E-06	0.703E-06	0.526E-06	0.771E-06	0.694E-06	0.952E-06	0.409E-01	0.722E-05	0.732E-05	0.767E-06	0.751E-06	0.128E-06	0.362E-06	0.843E-01
ENDOST	0.667E-06	0.667E-06	0.372E-06	0.548E-06	0.481E-06	0.749E-06	0.409E-01	0.618E 01	0.487E-06	0.628E-06	0.495E-06	0.356E-06	0.659E-06	0.163E-04
SPLEEN	0.954E-06	0.954E-06	0.415E-05	0.568E-06	0.555E-06	0.306E-06	0.409E-01	0.780E-06	0.339E-06	0.402E-05	0.159E 02	0.661E-08	0.176E-06	0.671E-06
TESTES	0.286E-08	0.286E-08	0.174E-07	0.108E-06	0.967E-07	0.708E-06	0.409E-01	0.231E-06	0.214E-07	0.302E-07	0.166E-07	0.818E 02	0.0	0.464E-06
THYMUS	0.171E-05	0.171E-05	0.109E-06	0.277E-07	0.340E-07	0.922E-08	0.409E-01	0.216E-06	0.232E-06	0.701E-07	0.999E-07	0.923E-09	0.906E-08	0.843E-01
THYROID	0.329E-06	0.328E-06	0.301E-07	0.520E-08	0.574E-08	0.191E-08	0.409E-01	0.313E-06	0.512E-07	0.164E-07	0.297E-07	0.191E-09	0.176E-08	0.843E-01
UTERUS	0.296E-07	0.296E-07	0.271E-06	0.405E-05	0.213E-05	0.283E-05	0.409E-01	0.209E-06	0.138E-06	0.332E-06	0.139E-06	0.0	0.872E-05	0.843E-01

CASE 1.. INHALATION

AMAD (MICRON).. 1.00 D3 =0.310 D4 =8.000E-02 D5 =0.249

	SOLUBILITY CLASS	G.I. UPTAKE FRACTIONS STOMACH	S INT	U L INT	L L INT
TH-228	Y	0.0	1.000E-03	0.0	0.0
RA-224	W	0.0	0.200	0.0	0.0
RN-220	*	0.0	0.0	0.0	0.0
PO-216	W	0.0	1.000E-01	0.0	0.0
PB-212	W	0.0	8.000E-02	0.0	0.0
BI-212	W	0.0	5.000E-02	0.0	0.0
PO-212	W	0.0	1.000E-01	0.0	0.0
TL-208	W	0.0	0.950	0.0	0.0

*SPECIAL LUNG CLEARANCE PARAMETERS. T=HALF-TIME (DAYS), F=DEPOSITION FRACTION.

	CLEARANCE PATHWAY..	A	B	C	D	E	F	G	H	I
RN-220	F	1.0	0.0	1.0	0.0	1.0	0.0	0.0	0.0	1.0
	T	8.20E-05	1.0	8.20E-05	1.0	8.20E-05	0.0	0.0	0.0	2.96E-03

DOSE EQUIVALENT (REM/MICROCURIE)

SOURCE	LUNGS	RES LYM	S CONT	SI CONT	ULI CONT	LLI CONT	EXCRET.	BONE	LIVER	KIDNEYS	SPLEEN
TARGET											
LUNGS	364.	0.517	3.151E-05	2.278E-05	1.208E-04	1.117E-04	2.944E-05	5.796E-04	4.611E-04	8.860E-06	1.627E-06
RES LYM	0.279	1.320E 04	3.151E-05	2.278E-05	1.208E-04	1.117E-04	2.944E-05	5.796E-04	4.611E-04	8.860E-06	1.627E-06
S WALL	2.222E-03	4.945E-03	4.461E-02	2.146E-04	1.050E-03	1.050E-03	2.944E-05	3.356E-04	3.870E-04	3.073E-05	6.890E-06
SI WALL	3.902E-04	8.974E-04	4.713E-05	9.697E-02	4.549E-03	4.997E-03	2.944E-05	4.615E-04	3.096E-04	2.511E-05	1.048E-06
ULI WALL	5.079E-04	1.171E-03	5.667E-05	1.407E-03	0.594	2.276E-03	2.944E-05	4.335E-04	4.575E-04	2.421E-05	1.074E-06
LLI WALL	1.015E-04	2.240E-04	2.348E-05	4.351E-04	8.629E-04	1.67	2.944E-05	5.635E-04	6.618E-05	8.645E-06	5.314E-07
T BODY	5.21	2.83	1.256E-04	9.916E-04	2.312E-03	4.844E-03	3.786E-05	4.93	0.559	1.423E-02	9.417E-04
ADREN	2.220E-03	4.791E-03	4.409E-05	8.407E-05	3.390E-04	2.870E-04	2.944E-05	8.476E-04	1.036E-03	1.022E-04	4.619E-06
BL WALL	1.121E-04	2.597E-04	7.383E-06	1.727E-04	6.500E-04	3.188E-03	2.944E-05	3.630E-04	5.691E-05	4.074E-06	2.082E-07
KIDNEYS	1.076E-03	2.402E-03	5.752E-05	1.859E-04	7.922E-04	5.939E-04	2.944E-05	5.236E-04	7.125E-04	3.21	6.051E-06
LIVER	2.722E-03	6.013E-03	3.685E-05	1.155E-04	7.560E-04	2.282E-04	2.944E-05	4.511E-04	21.7	3.456E-05	8.155E-07
OVARIES	2.058E-04	4.709E-04	1.561E-05	5.663E-04	3.236E-03	9.294E-03	2.944E-05	5.385E-04	1.189E-04	9.623E-06	2.940E-07
PANCREAS	2.734E-03	6.030E-03	2.886E-04	1.262E-04	7.043E-04	4.320E-04	2.944E-05	5.845E-04	7.461E-04	5.374E-05	1.307E-05
BONE	1.230E-03	2.682E-03	1.142E-05	5.234E-05	2.241E-04	6.169E-04	1.468E-04	69.0	1.510E-04	9.163E-06	5.911E-07
R MAR	1.552E-03	3.382E-03	1.904E-05	1.622E-04	6.596E-04	1.807E-03	2.944E-05	11.4	2.164E-04	2.279E-05	8.685E-07
Y MAR	1.291E-03	2.817E-03	1.596E-05	7.180E-05	3.135E-04	7.574E-04	2.944E-05	1.772E-03	2.215E-04	1.123E-05	8.773E-07
ENDOST	1.230E-03	2.682E-03	1.142E-05	5.234E-05	2.241E-04	6.169E-04	2.944E-05	129.	1.510E-04	9.163E-06	5.911E-07
SPLEEN	2.525E-03	5.582E-03	1.606E-04	1.006E-04	4.010E-04	5.700E-04	2.944E-05	4.176E-04	1.941E-04	7.155E-05	0.365
TESTES	4.779E-05	1.125E-04	2.693E-06	3.367E-05	1.628E-04	1.106E-03	2.944E-05	5.417E-04	2.940E-05	1.674E-06	9.423E-08
THYMUS	4.543E-03	1.006E-02	8.865E-06	1.048E-05	5.547E-05	4.795E-05	2.944E-05	4.450E-04	1.991E-04	2.279E-06	4.465E-07
THYROID	1.230E-03	2.774E-03	3.301E-06	3.856E-06	2.019E-05	2.005E-05	2.944E-05	3.208E-04	4.205E-05	1.153E-06	1.342E-07
UTERUS	2.055E-04	4.755E-04	1.787E-05	5.150E-04	1.445E-03	3.185E-03	2.944E-05	3.519E-04	1.004E-04	8.313E-06	4.374E-07

DOSE EQUIVALENT (REM/MICROCURIE)

SOURCE	TESTES	OVARIES	OTHER	TOTAL
TARGET				
LUNGS	8.843E-09	1.375E-08	1.721E-04	365.
RES LYM	8.843E-09	1.375E-08	1.721E-04	1.320E 04
S WALL	3.373E-08	7.789E-08	1.850E-04	5.507E-02
SI WALL	1.446E-07	8.763E-07	2.057E-04	0.109
ULI WALL	1.410E-07	8.205E-07	2.113E-04	0.600
LLI WALL	6.671E-07	1.080E-06	2.282E-04	1.68
T BODY	5.461E-04	1.716E-04	0.175	13.7
ADREN	2.483E-08	4.347E-08	0.362	0.372
BL WALL	1.178E-06	4.983E-07	0.181	0.186
KIDNEYS	3.662E-08	9.134E-08	1.971E-04	3.22
LIVER	2.735E-08	5.497E-08	1.504E-04	21.7
OVARIES	0.0	1.09	2.586E-04	1.11
PANCREAS	3.639E-08	4.468E-08	0.362	0.374
BONE	1.731E-07	7.558E-08	2.219E-04	69.0
R MAR	1.401E-07	2.439E-07	0.362	11.8
Y MAR	8.185E-08	9.931E-08	0.362	0.369
ENDOST	1.731E-07	7.558E-08	5.688E-04	129.
SPLEEN	3.285E-08	5.881E-08	1.946E-04	0.376
TESTES	1.09	0.0	1.806E-04	1.09
THYMUS	6.334E-09	6.934E-09	0.362	0.378
THYROID	2.881E-09	2.802E-09	0.362	0.366
UTERUS	0.0	1.360E-06	0.362	0.369

PERCENT DOSE EQUIVALENT..

NUCLIDE	TH-228	RA-224	RN-220	PO-216	PB-212	BI-212	PO-212	TL-208
TARGET								
LUNGS	49.6	34.4	5.2	5.6	0.0	1.5	3.6	0.1
RES LYM	20.1	19.9	18.0	19.5	0.0	6.3	16.0	0.1
S WALL	2.5	17.2	18.2	19.6	4.9	11.9	7.7	18.0
SI WALL	3.0	16.7	18.3	19.8	5.0	14.5	10.5	12.2
ULI WALL	3.2	16.5	18.2	19.6	4.6	17.0	13.5	7.5
LLI WALL	3.4	15.5	17.0	18.3	4.9	18.7	15.1	7.1
T BODY	38.9	28.2	9.9	10.7	0.0	3.4	8.7	0.1
ADREN	22.0	31.7	12.8	13.8	0.4	5.2	12.2	1.9
BL WALL	22.0	31.6	12.8	13.8	0.4	5.1	12.2	2.1
KIDNEYS	54.5	16.3	6.8	7.3	0.1	4.2	10.7	0.2
LIVER	62.5	15.7	6.5	7.0	0.0	2.3	5.9	0.1
OVARIES	50.5	21.2	8.0	8.6	0.2	3.1	7.4	1.0
PANCREAS	21.9	31.5	12.7	13.7	0.4	5.2	12.2	2.4
BONE	36.4	27.8	10.5	11.3	0.0	3.9	10.1	0.0
R MAR	35.9	27.9	10.5	11.4	0.0	4.0	10.2	0.1
Y MAR	22.2	31.8	12.9	13.9	0.3	5.1	12.3	1.5
ENDOST	42.1	29.6	9.4	9.0	0.0	5.2	4.7	0.0
SPLEEN	21.8	31.3	12.9	14.0	0.4	5.2	12.3	2.1
TESTES	51.1	21.4	8.1	8.7	0.0	3.0	7.5	0.2
THYMUS	21.7	31.2	12.6	13.6	0.5	5.3	12.0	3.1
THYROID	22.3	32.1	13.0	14.0	0.2	5.1	12.4	1.0
UTERUS	22.2	31.9	12.9	13.9	0.3	5.1	12.3	1.4

CASE 2.. INHALATION

AMAD (MICRON).. 1.00 D3 =0.310 D4 =8.000E-02 D5 =0.249

	SOLUBILITY CLASS	G.I. UPTAKE FRACTIONS STOMACH	S INT	U L INT	L L INT
TH-228	W	0.0	1.000E-03	0.0	0.0
RA-224	W	0.0	0.200	0.0	0.0
RN-220	*	0.0	0.0	0.0	0.0
PO-216	W	0.0	1.000E-01	0.0	0.0
PB-212	W	0.0	8.000E-02	0.0	0.0
BI-212	W	0.0	5.000E-02	0.0	0.0
PO-212	W	0.0	1.000E-01	0.0	0.0
TL-208	W	0.0	0.950	0.0	0.0

*SPECIAL LUNG CLEARANCE PARAMETERS. T=HALF-TIME (DAYS), F=DEPOSITION FRACTION.

CLEARANCE PATHWAY..		A	B	C	D	E	F	G	H	I
RN-220	F	1.0	0.0	1.0	0.0	1.0	0.0	0.0	0.0	1.0
	T	8.20E-05	1.0	8.20E-05	1.0	8.20E-05	0.0	0.0	0.0	2.96E-03

DOSE EQUIVALENT (REM/MICROCURIE)

SOURCE	LUNGS	RES LYM	S CONT	SI CONT	ULI CONT	LLI CONT	EXCRET.	BONE	LIVER	KIDNEYS	SPLEEN
TARGET											
LUNGS	59.7	3.013E-02	5.297E-06	3.881E-06	2.188E-05	2.270E-05	1.747E-04	2.949E-03	2.581E-03	2.302E-05	1.686E-06
RES LYM	4.554E-02	764.	5.297E-06	3.881E-06	2.188E-05	2.270E-05	1.747E-04	2.949E-03	2.581E-03	2.302E-05	1.686E-06
S WALL	3.617E-04	2.883E-04	8.667E-03	3.662E-05	1.904E-04	2.137E-04	1.747E-04	1.707E-03	2.166E-03	8.040E-05	7.148E-06
SI WALL	6.350E-05	5.233E-05	7.922E-06	1.942E-02	8.256E-04	1.017E-03	1.748E-04	2.548E-03	1.733E-03	6.577E-05	1.083E-06
ULI WALL	8.266E-05	6.830E-05	9.530E-06	2.419E-04	0.125	4.636E-04	1.748E-04	2.206E-03	2.561E-03	6.356E-05	1.108E-06
LLI WALL	1.653E-05	1.306E-05	3.946E-06	7.441E-05	1.565E-04	0.395	1.748E-04	2.869E-03	3.700E-04	2.241E-05	5.469E-07
T BODY	0.854	0.164	2.362E-05	1.955E-04	4.725E-04	1.111E-03	2.247E-04	27.3	3.27	7.281E-02	2.076E-03
ADREN	3.613E-04	2.794E-04	7.412E-06	1.434E-05	6.143E-05	5.836E-05	1.748E-04	4.312E-03	5.797E-03	2.678E-04	4.786E-06
BL WALL	1.824E-05	1.515E-05	1.239E-06	2.945E-05	1.178E-04	6.490E-04	1.748E-04	1.846E-03	3.181E-04	1.048E-05	2.121E-07
KIDNEYS	1.751E-04	1.401E-04	9.670E-06	3.173E-05	1.437E-04	1.208E-04	1.747E-04	2.665E-03	3.988E-03	16.4	6.296E-06
LIVER	4.431E-04	3.506E-04	6.199E-06	1.971E-05	1.371E-04	4.638E-05	1.747E-04	2.294E-03	127.	9.050E-05	8.405E-07
OVARIES	3.350E-05	2.746E-05	2.620E-06	9.677E-05	5.373E-04	1.893E-03	1.748E-04	2.739E-03	6.650E-04	2.534E-05	3.088E-07
PANCREAS	4.451E-04	3.516E-04	4.854E-05	2.153E-05	1.277E-04	8.789E-05	1.748E-04	2.974E-03	4.177E-03	1.413E-04	1.360E-05
BONE	2.003E-04	1.564E-04	1.922E-06	8.948E-06	4.068E-05	1.257E-04	8.716E-04	382.	8.459E-04	2.431E-05	6.181E-07
R MAR	2.527E-04	1.972E-04	3.204E-06	2.775E-05	1.198E-04	3.683E-04	1.747E-04	63.1	1.212E-03	6.068E-05	9.078E-07
Y MAR	2.102E-04	1.643E-04	2.687E-06	1.228E-05	5.693E-05	1.544E-04	1.747E-04	9.066E-03	1.241E-03	2.981E-05	9.179E-07
ENDOST	2.003E-04	1.564E-04	1.922E-06	8.948E-06	4.068E-05	1.257E-04	1.747E-04	720.	8.459E-04	2.431E-05	6.181E-07
SPLEEN	4.111E-04	3.255E-04	2.701E-05	1.717E-05	7.273E-05	1.159E-04	1.747E-04	2.125E-03	1.086E-03	1.887E-04	0.806
TESTES	7.776E-06	6.561E-06	4.517E-07	5.734E-05	2.949E-05	2.250E-04	1.747E-04	2.754E-03	1.643E-04	4.286E-06	9.583E-08
THYMUS	7.396E-04	5.868E-04	1.488E-06	1.785E-06	1.005E-05	9.741E-06	1.748E-04	2.263E-03	1.113E-03	5.912E-06	4.547E-07
THYROID	2.001E-04	1.617E-04	5.538E-07	6.560E-07	3.653E-06	4.070E-06	1.747E-04	1.636E-03	2.352E-04	2.938E-06	1.368E-07
UTERUS	3.344E-05	2.772E-05	3.001E-06	8.794E-05	2.620E-04	6.487E-04	1.748E-04	1.791E-03	5.616E-04	2.178E-05	4.468E-07

DOSE EQUIVALENT (REM/MICROCURIE)

SOURCE	TESTES	OVARIES	OTHER	TOTAL
TARGET				
LUNGS	2.889E-08	4.504E-08	1.788E-04	59.7
RES LYM	2.889E-08	4.504E-08	1.788E-04	764.
S WALL	1.103E-07	2.571E-07	1.908E-04	1.408E-02
SI WALL	4.762E-07	2.918E-06	2.125E-04	2.593E-02
ULI WALL	4.627E-07	2.740E-06	2.189E-04	0.131
LLI WALL	2.213E-06	3.603E-06	2.355E-04	0.399
T BODY	2.593E-03	8.149E-04	0.387	32.0
ADREN	8.130E-08	1.432E-07	0.802	0.813
BL WALL	3.912E-06	1.658E-06	0.401	0.404
KIDNEYS	1.199E-07	3.018E-07	2.037E-04	16.4
LIVER	8.947E-08	1.815E-07	1.552E-04	127.
OVARIES	0.0	5.18	2.683E-04	5.19
PANCREAS	1.190E-07	1.480E-07	0.802	0.810
BONE	5.762E-07	2.532E-07	2.365E-04	382.
R MAR	4.660E-07	8.197E-07	0.801	63.9
Y MAR	2.710E-07	3.330E-07	0.802	0.813
ENDOST	5.762E-07	2.532E-07	6.772E-04	720.
SPLEEN	1.071E-07	1.937E-07	2.012E-04	0.811
TESTES	5.18	0.0	1.855E-04	5.19
THYMUS	2.063E-08	2.271E-08	0.802	0.807
THYROID	9.366E-09	9.145E-09	0.802	0.804
UTERUS	0.0	4.531E-06	0.802	0.806

PERCENT DOSE EQUIVALENT..

NUCLIDE	TH-228	RA-224	RN-220	PO-216	PB-212	BI-212	PO-212	TL-208
TARGET								
LUNGS	50.0	34.2	5.2	5.6	0.0	1.4	3.6	0.9
RES LYM	19.6	20.0	18.2	19.6	0.0	6.4	16.1	0.1
S WALL	10.1	12.3	12.4	13.4	5.8	10.8	5.1	30.2
SI WALL	12.5	12.9	13.7	14.7	5.4	12.4	7.5	20.9
ULI WALL	13.9	14.5	15.9	17.1	4.2	14.5	11.2	8.8
LLI WALL	13.6	14.2	15.6	16.8	4.3	16.0	12.9	6.6
T BODY	42.0	25.8	9.6	10.4	0.0	3.4	8.8	0.0
ADREN	59.7	16.5	6.7	7.2	0.2	2.6	6.1	1.1
BL WALL	60.1	16.5	6.7	7.2	0.1	2.5	6.2	0.6
KIDNEYS	63.3	15.5	6.4	6.9	0.0	2.2	5.6	0.1
LIVER	63.4	15.4	6.4	6.9	0.0	2.2	5.6	0.0
OVARIES	63.9	15.9	6.0	6.5	0.0	2.2	5.5	0.1
PANCREAS	59.9	16.5	6.7	7.2	0.1	2.6	6.2	0.8
BONE	39.0	26.9	10.1	11.0	0.0	3.6	9.3	0.0
R MAR	39.3	26.8	10.1	10.9	0.0	3.6	9.3	0.0
Y MAR	59.8	16.5	6.7	7.2	0.2	2.6	6.1	0.9
ENDOST	44.8	28.5	9.1	8.7	0.0	4.7	4.3	0.0
SPLEEN	60.0	16.5	6.8	7.4	0.1	2.5	6.3	0.4
TESTES	63.9	15.9	6.0	6.5	0.0	2.2	5.5	0.1
THYMUS	60.2	16.6	6.7	7.2	0.1	2.5	6.2	0.5
THYROID	60.4	16.6	6.7	7.3	0.1	2.5	6.2	0.2
UTERUS	60.3	16.6	6.7	7.3	0.1	2.5	6.2	0.4

CASE 3.. INGESTION

INGESTION TRANSFER FRACTIONS (G. I. TRACT TO BLOOD)

	TH-228	RA-224	RN-220	PO-216	PB-212	BI-212	PO-212	TL-208
STOMACH	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
S INT	1.000E-03	0.200	0.0	1.000E-01	8.000E-02	5.000E-02	1.000E-01	0.950
U L INT	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
L L INT	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

DOSE EQUIVALENT (REM/MICROCURIE)

SOURCE	S CONT	SI CONT	ULI CONT	LLI CONT	EXCRET.	BONE	LIVER	KIDNEYS	SPLEEN	TESTES	OVARIES
TARGET											
LUNGS	3.456E-08	7.081E-08	2.877E-06	8.252E-05	1.490E-06	2.549E-05	2.210E-05	2.034E-07	2.158E-08	2.671E-10	4.163E-10
RES LYM	3.456E-08	7.081E-08	2.877E-06	8.252E-06	1.490E-06	2.549E-05	2.210E-05	2.034E-07	2.158E-08	2.671E-10	4.163E-10
S WALL	2.447E-03	8.142E-07	2.564E-05	7.833E-05	1.490E-06	1.476E-05	1.854E-05	7.101E-07	9.149E-08	1.020E-09	2.375E-09
SI WALL	5.133E-08	6.657E-03	1.118E-04	3.743E-04	1.490E-06	2.030E-05	1.484E-05	5.809E-07	1.388E-08	4.401E-09	2.693E-08
ULI WALL	7.104E-08	9.756E-06	5.523E-02	1.710E-04	1.490E-06	1.936E-05	2.192E-05	5.613E-07	1.420E-08	4.277E-09	2.527E-08
LLI WALL	2.271E-08	2.014E-06	2.109E-05	0.255	1.490E-06	2.479E-05	3.168E-06	1.980E-07	7.017E-09	2.043E-08	3.324E-08
T BODY	5.307E-06	6.125E-05	1.792E-04	6.588E-04	1.916E-06	0.234	2.796E-02	6.274E-04	2.128E-05	2.277E-05	7.157E-06
ADREN	5.041E-08	2.855E-07	8.134E-06	2.133E-05	1.490E-06	3.727E-05	4.963E-05	2.365E-06	6.129E-08	7.517E-10	1.324E-09
BL WALL	4.874E-09	6.135E-07	1.572E-05	2.387E-04	1.490E-06	1.596E-05	2.724E-06	9.237E-08	2.726E-09	3.612E-08	1.531E-08
KIDNEYS	6.610E-08	6.880E-07	1.925E-05	4.419E-05	1.490E-06	2.303E-05	3.414E-05	0.142	8.051E-08	1.108E-09	2.787E-09
LIVER	3.833E-08	4.201E-07	1.834E-05	1.692E-05	1.490E-06	1.983E-05	1.09	7.993E-07	1.078E-08	8.273E-10	1.677E-09
OVARIES	1.009E-08	2.398E-06	7.951E-05	6.986E-04	1.490E-06	2.367E-05	5.693E-06	2.238E-07	3.956E-09	0.0	4.549E-02
PANCREAS	3.841E-07	4.583E-07	1.704E-05	3.218E-05	1.490E-06	2.571E-05	3.576E-06	1.248E-06	1.739E-07	1.100E-09	1.367E-09
BONE	1.734E-08	2.303E-07	5.555E-06	4.646E-05	7.434E-06	3.28	7.241E-06	2.147E-07	7.894E-09	5.318E-09	2.335E-09
R MAR	2.975E-08	7.523E-07	1.648E-05	1.364E-04	1.490E-06	0.542	1.038E-05	5.257E-07	1.160E-08	4.301E-09	7.557E-09
Y MAR	2.448E-08	3.195E-07	7.787E-06	5.708E-05	1.490E-06	7.832E-05	1.062E-05	2.602E-07	1.172E-08	2.502E-09	3.071E-09
ENDOST	1.734E-08	2.303E-07	5.555E-06	4.646E-05	1.490E-06	6.18	7.241E-06	2.147E-07	7.894E-09	5.318E-09	2.335E-09
SPLEEN	1.984E-07	3.552E-07	9.740E-06	4.239E-05	1.490E-06	1.837E-05	9.298E-06	1.666E-06	8.264E-07	9.904E-10	1.790E-09
TESTES	1.051E-09	1.026E-07	3.857E-06	8.249E-05	1.490E-06	2.380E-05	1.407E-06	3.788E-08	1.232E-09	4.552E-02	0.0
THYMUS	5.676E-09	3.096E-08	1.315E-06	3.539E-06	1.490E-06	1.956E-05	9.531E-06	5.843E-09	1.908E-10	2.100E-10	
THYROID	1.697E-09	1.034E-08	4.727E-07	1.475E-06	1.490E-06	1.414E-05	2.014E-06	2.597E-08	1.758E-09	8.664E-11	8.457E-11
UTERUS	1.385E-08	2.031E-06	3.514E-05	2.388E-04	1.490E-06	1.548E-05	4.308E-06	1.924E-07	5.736E-09	0.0	4.181E-08

DOSE EQUIVALENT (REM/MICROCURIE)

SOURCE	OTHER	TOTAL
TARGET		
LUNGS	2.283E-06	6.282E-05
RES LYM	2.283E-06	6.282E-05
S WALL	2.443E-06	2.589E-03
SI WALL	2.720E-06	7.183E-03
ULI WALL	2.798E-06	5.546E-02
LLI WALL	3.015E-06	0.255
T BODY	3.961E-03	0.268
ADREN	8.209E-03	8.329E-03
BL WALL	4.106E-03	4.382E-03
KIDNEYS	2.606E-06	0.142
LIVER	1.987E-06	1.09
OVARIES	3.428E-06	4.630E-02
PANCREAS	8.209E-03	8.324E-03
BONE	3.002E-06	3.28
R MAR	8.205E-03	0.551
Y MAR	8.208E-03	8.364E-03
ENDOST	8.307E-06	6.18
SPLEEN	2.574E-06	8.350E-03
TESTES	2.377E-06	4.563E-02
THYMUS	8.212E-03	8.247E-03
THYROID	8.206E-03	8.226E-03
UTERUS	8.213E-03	8.511E-03

PERCENT DOSE EQUIVALENT..

NUCLIDE	TH-228	RA-224	RN-220	PO-216	PB-212	BI-212	PO-212	TL-208
TARGET								
LUNGS	3.2	2.0	0.1	0.1	9.8	11.8	0.0	73.0
RES LYM	3.2	2.0	0.1	0.1	9.8	11.8	0.0	73.0
S WALL	92.2	0.8	0.8	0.9	0.6	0.7	0.0	4.0
SI WALL	93.1	2.7	2.9	3.1	1.1	1.4	0.4	5.4
ULI WALL	63.4	7.9	8.6	9.3	1.3	4.3	3.4	2.0
LLI WALL	41.5	11.0	12.2	13.1	2.4	9.0	7.3	3.4
T BODY	41.5	25.7	9.8	10.6	0.0	3.5	8.9	0.1
ADREN	49.7	20.7	8.4	9.0	0.2	3.2	7.7	1.1
BL WALL	47.4	19.7	8.0	8.6	0.9	3.7	7.3	4.6
KIDNEYS	62.6	15.7	6.5	7.0	0.0	2.3	5.7	0.1
LIVER	63.3	15.5	6.4	6.9	0.0	2.2	5.6	0.0
OVARIES	61.1	16.5	6.2	6.7	0.3	2.4	5.7	1.3
PANCREAS	49.8	20.7	8.4	9.0	0.2	3.2	7.7	1.1
BONE	38.7	27.1	10.2	11.0	0.0	3.6	9.4	0.0
R MAR	33.9	27.0	10.2	11.0	0.0	3.6	9.3	0.0
Y MAR	49.6	20.6	8.3	9.0	0.3	3.2	7.7	1.3
ENDOST	44.5	28.7	9.1	8.7	0.0	4.7	4.3	0.0
SPLEEN	49.7	20.6	8.5	9.2	0.1	3.2	7.8	0.8
TESTES	62.0	16.7	6.3	6.8	0.0	2.3	5.7	0.2
THYMUS	50.2	20.9	8.5	9.1	0.1	3.1	7.8	0.4
THYROID	50.3	20.9	8.5	9.1	0.1	3.1	7.8	0.2
UTERUS	48.7	20.3	8.2	8.8	0.5	3.4	7.5	2.5

RADIONUCLIDE: TH-229

PHYSICAL AND METABOLIC PARAMETERS FOR DOSIMETRICALLY SIGNIFICANT PROGENY:

NUCLIDE	RADIOACTIVE HALF-LIFE (DAYS)
TH-229	2.6600E 06
RA-225	14.80
AC-225	10.00
FR-221	3.3300E-03
AT-217	3.7400E-07
BI-213	3.1700E-02
PO-213	4.8600E-11
PB-209	0.1380
TL-209	1.9300E-03

BRANCHING RATIOS:

FROM	TO	FRACTION
TH-229	RA-225	1.000
RA-225	AC-225	1.000
AC-225	FR-221	1.000
FR-221	AT-217	1.000
AT-217	BI-213	1.000
BI-213	PO-213	2.1600E-02
BI-213	TL-209	0.9780
PO-213	PB-209	1.000
TL-209	PB-209	1.000

ORGAN	NUCLIDE	BLOOD TRANSFER FRACTION F2-PRIME	COMPARTMENT DEPOSITION FRACTION	COMPARTMENT BIOLOGICAL HALF-TIME (DAYS)
ABSORBED	TH-229	1.00	4.000E-02	0.500
			0.460	1.460E 04
			0.500	3.650E 04
	RA-225	1.00	0.917	5.50
			5.360E-02	81.0
			2.000E-02	955.
			1.760E-04	3.140E 03
			9.390E-03	7.620E 03
	AC-225	1.00	0.460	1.460E 04
			0.540	3.650E 04
	FR-221	1.00	0.130	1.40
			0.870	135.
	AT-217	1.00	0.284	0.300
			0.716	30.0
	BI-213	1.00	-1.720E-02	1.000E-01
			1.02	5.78
	PO-213	1.00	1.000E-02	0.500
			0.990	50.0
	PB-209	1.00	1.000E-01	1.00
			0.200	10.0
			0.300	320.
			0.200	2.000E 03
			0.200	8.000E 03
	TL-209	1.00	1.00	4.00
EXCRET.	TH-229	4.000E-02	1.00	0.500
	RA-225	0.0	1.00	0.500
	AC-225	0.0	1.00	0.500
	FR-221	0.0	1.00	0.500
	AT-217	0.0	1.00	0.500
	BI-213	0.0	1.00	0.500
	PO-213	0.0	1.00	0.500
	PB-209	0.0	1.00	0.500
	TL-209	0.0	1.00	0.500

α decay (7.34E3 Y 16)

Case 1 represents inhalation of oxides, hydroxides, and carbides; case 2 inhalation of nitrates; and case 3 ingestion of any compound.

* Retention data derived from "other tissues" compartment.

ORGAN	NUCLIDE	BLOOD TRANSFER FRACTION F2-PRIME	COMPARTMENT DEPOSITION FRACTION	COMPARTMENT BIOLOGICAL HALF-TIME (DAYS)
BONE	TH-229	0.450	1.00	3.650E 04
	RA-225	0.172	0.880	5.68
			1.360E-02	240.
			5.730E-02	1.490E 03
			2.030E-03	1.610E 03
			4.600E-02	8.380E 03
	AC-225	0.450	1.00	3.650E 04
	• FR-221	0.121	0.130	1.40
			0.870	135.
	• AT-217	9.000E-02	0.444	0.200
			0.556	30.0
	• BI-213	7.340E-02	-1.000E-01	1.000E-01
			1.10	5.78
	• PO-213	9.000E-02	1.000E-02	0.500
			0.990	50.0
	PB-209	0.562	0.375	320.
			0.310	2.000E 03
			0.315	8.000E 03
	• TL-209	0.118	1.00	4.00
LIVER	TH-229	0.450	1.00	1.460E 04
	• RA-225	4.540E-02	0.890	0.630
			7.090E-02	28.9
			3.040E-02	160.
			7.430E-03	776.
			7.940E-04	4.040E 03
	AC-225	0.450	1.00	1.460E 04
	• FR-221	4.370E-02	0.130	1.40
			0.870	135.
	• AT-217	4.780E-02	0.293	0.200
			0.707	30.0
	• BI-213	2.640E-02	-1.000E-01	1.000E-01
			1.10	5.78
	PO-213	1.000E-01	1.000E-02	0.500
			0.990	50.0
	PB-209	0.106	0.843	10.0
			7.870E-02	320.
			4.010E-02	2.000E 03
			3.820E-02	8.000E 03
	• TL-209	4.240E-02	1.00	4.00
KIDNEYS	TH-229	1.000E-02	1.00	1.460E 04
	• RA-225	7.820E-03	0.890	0.630
			7.090E-02	28.9
			3.040E-02	160.
			7.430E-03	776.
			7.940E-04	4.040E 03
	AC-225	1.000E-02	1.00	1.460E 04
	• FR-221	7.520E-03	0.130	1.40
			0.870	135.
	• AT-217	8.220E-03	0.293	0.200
			0.707	30.0
	BI-213	0.400	1.00	5.78
	PO-213	1.000E-01	1.000E-02	0.500
			0.990	50.0
	PB-209	5.090E-02	0.962	10.0
			2.000E-02	320.
			9.600E-03	2.000E 03
			8.290E-03	8.000E 03
	TL-209	3.760E-02	1.00	4.00
SPLEEN	• TH-229	2.640E-04	1.00	3.650E 04
	• RA-225	4.540E-03	0.890	0.630
			7.090E-02	28.9
			3.040E-02	160.
			7.430E-03	776.
			7.940E-04	4.040E 03
	• AC-225	4.760E-04	1.00	3.650E 04
	• FR-221	4.370E-03	0.130	1.40
			0.870	135.
	• AT-217	4.780E-03	0.293	0.200
			0.707	30.0
	• BI-213	2.640E-03	-1.000E-01	1.000E-01
			1.10	5.78
	PO-213	1.000E-01	1.000E-02	0.500
			0.990	50.0
	• PB-209	2.960E-04	0.375	320.
			0.310	2.000E 03
			0.315	8.000E 03
	• TL-209	4.240E-03	1.00	4.00

ORGAN	NUCLIDE	BLOOD TRANSFER FRACTION F2-PRIME	COMPARTMENT DEPOSITION FRACTION	COMPARTMENT BIOLOGICAL HALF-TIME (DAYS)
THYROID	• TH-229	2.940E-05	1.00	3.650E 04
	• RA-225	5.040E-04	0.890	0.630
			7.090E-02	28.9
			3.040E-02	160.
			7.430E-03	776.
			7.940E-04	4.040E 03
	• AC-225	5.290E-05	1.00	3.650E 04
	• FR-221	4.850E-04	0.130	1.40
			0.870	135.
	AT-217	1.030E-02	-1.94	0.200
			2.94	30.0
	• BI-213	2.930E-04	-1.000E-01	1.000E-01
			1.10	5.78
	• PO-213	3.600E-04	1.000E-02	0.500
			0.990	50.0
	• PB-209	3.290E-05	0.375	320.
			0.310	2.000E 03
			0.315	8.000E 03
	• TL-209	4.700E-04	1.00	4.00
TESTES	TH-229	3.500E-04	1.00	3.650E 04
	• RA-225	8.830E-04	0.890	0.630
			7.090E-02	28.9
			3.040E-02	160.
			7.430E-03	776.
			7.940E-04	4.040E 03
	AC-225	3.500E-04	1.00	3.650E 04
	• FR-221	8.490E-04	0.130	1.40
			0.870	135.
	• AT-217	9.290E-04	0.293	0.200
			0.707	30.0
	• BI-213	5.140E-04	-1.000E-01	1.000E-01
			1.10	5.78
	• PO-213	6.300E-04	1.000E-02	0.500
			0.990	50.0
	• PB-209	5.760E-05	0.375	320.
			0.310	2.000E 03
			0.315	8.000E 03
	• TL-209	8.240E-04	1.00	4.00
OVARIES	TH-229	1.100E-04	1.00	3.650E 04
	• RA-225	2.770E-04	0.890	0.630
			7.090E-02	28.9
			3.040E-02	160.
			7.430E-03	776.
			7.940E-04	4.040E 03
	AC-225	1.100E-04	1.00	3.650E 04
	• FR-221	2.670E-04	0.130	1.40
			0.870	135.
	• AT-217	2.920E-04	0.293	0.200
			0.707	30.0
	• BI-213	1.610E-04	-1.000E-01	1.000E-01
			1.10	5.78
	• PO-213	1.980E-04	1.000E-02	0.500
			0.990	50.0
	• PB-209	1.810E-05	0.375	320.
			0.310	2.000E 03
			0.315	8.000E 03
	• TL-209	2.590E-04	1.00	4.00
OTHER	TH-229	4.970E-02	1.00	3.650E 04
	RA-225	0.854	0.890	0.630
			7.090E-02	28.9
			3.040E-02	160.
			7.430E-03	776.
			7.940E-04	4.040E 03
	AC-225	8.950E-02	1.00	3.650E 04
	FR-221	0.822	0.130	1.40
			0.870	135.
	AT-217	0.898	0.293	0.200
			0.707	30.0
	BI-213	0.500	-1.000E-01	1.000E-01
			1.10	5.78
	PO-213	0.610	1.000E-02	0.500
			0.990	50.0
	PB-209	5.580E-02	0.375	320.
			0.310	2.000E 03
			0.315	8.000E 03
	TL-209	0.814	1.00	4.00

S FACTORS (REM/MICROCURIE-DAY) FOR TH-229

TARGET ORGANS	SOURCE ORGANS									
	LUNGS	RES LYM	S CONT	SI CONT	ULI CONT	LLI CONT	EXCRET.	BONE	LIVER	KIDNEYS
LUNGS	0.259E 01	0.603E-02	0.318E-04	0.342E-05	0.412E-05	0.119E-05	0.370E-01	0.167E-04	0.478E-04	0.143E-04
RES LYM	0.603E-02	0.172E 03	0.318E-04	0.342E-05	0.412E-05	0.119E-05	0.370E-01	0.167E-04	0.478E-04	0.143E-04
S WALL	0.335E-04	0.335E-04	0.618E-01	0.659E-04	0.798E-04	0.309E-04	0.370E-01	0.919E-05	0.326E-04	0.623E-04
SI WALL	0.292E-05	0.292E-05	0.471E-04	0.388E-01	0.335E-03	0.185E-03	0.370E-01	0.127E-04	0.277E-04	0.498E-04
ULI WALL	0.351E-05	0.351E-05	0.649E-04	0.697E-03	0.699E-01	0.858E-04	0.370E-01	0.117E-04	0.446E-04	0.491E-04
LLI WALL	0.101E-05	0.101E-05	0.201E-04	0.159E-03	0.594E-04	0.113E 00	0.370E-01	0.181E-04	0.349E-05	0.113E-04
T BODY	0.370E-01	0.370E-01	0.170E-03	0.391E-03	0.250E-03	0.300E-03	0.475E-01	0.184E 00	0.370E-01	0.370E-01
ADREN	0.470E-04	0.470E-04	0.472E-04	0.157E-04	0.153E-04	0.538E-05	0.370E-01	0.195E-04	0.815E-04	0.220E-03
BL WALL	0.529E-06	0.529E-06	0.429E-05	0.442E-04	0.369E-04	0.123E-03	0.370E-01	0.840E-05	0.240E-05	0.424E-05
KIDNEYS	0.141E-04	0.141E-04	0.609E-04	0.549E-04	0.492E-04	0.138E-04	0.370E-01	0.141E-04	0.712E-04	0.834E 01
LIVER	0.453E-04	0.453E-04	0.346E-04	0.316E-04	0.450E-04	0.382E-05	0.370E-01	0.111E-04	0.144E 01	0.696E-04
OVARIES	0.146E-05	0.146E-05	0.869E-05	0.210E-03	0.223E-03	0.364E-03	0.370E-01	0.127E-04	0.722E-05	0.182E-04
PANCREAS	0.462E-04	0.462E-04	0.361E-03	0.346E-04	0.337E-04	0.119E-04	0.370E-01	0.142E-04	0.778E-04	0.117E-03
BONE	0.302E-04	0.302E-04	0.169E-04	0.243E-04	0.218E-04	0.337E-04	0.184E 00	0.258E 01	0.219E-04	0.284E-04
R MAR	0.379E-04	0.379E-04	0.292E-04	0.845E-04	0.726E-04	0.111E-03	0.370E-01	0.426E 00	0.301E-04	0.749E-04
Y MAR	0.318E-04	0.318E-04	0.240E-04	0.342E-04	0.315E-04	0.427E-04	0.370E-01	0.135E-07	0.329E-04	0.347E-04
ENDOST	0.302E-04	0.302E-04	0.169E-04	0.243E-04	0.219E-04	0.337E-04	0.370E-01	0.639E 01	0.219E-04	0.284E-04
SPLEEN	0.418E-04	0.418E-04	0.187E-03	0.253E-04	0.246E-04	0.135E-04	0.370E-01	0.105E-04	0.150E-04	0.167E-03
TESTES	0.111E-06	0.111E-06	0.732E-06	0.467E-05	0.412E-05	0.305E-04	0.370E-01	0.104E-04	0.889E-06	0.127E-05
THYMUS	0.778E-04	0.778E-04	0.471E-05	0.116E-05	0.147E-05	0.376E-06	0.370E-01	0.902E-05	0.102E-04	0.313E-05
THYROID	0.149E-04	0.149E-04	0.124E-05	0.206E-06	0.228E-06	0.738E-07	0.370E-01	0.132E-04	0.205E-05	0.676E-06
UTERUS	0.126E-05	0.126E-05	0.119E-04	0.180E-03	0.965E-04	0.126E-03	0.370E-01	0.927E-05	0.612E-05	0.144E-04

S FACTORS (REM/MICROCURIE-DAY) FOR TH-229

TARGET ORGANS	SOURCE ORGANS				
	SPLEEN	THYROID	TESTES	OVARIES	OTHER
LUNGS	0.420E-04	0.159E-04	0.878E-07	0.896E-06	0.246E-04
RES LYM	0.420E-04	0.159E-04	0.878E-07	0.896E-06	0.246E-04
S WALL	0.188E-03	0.785E-06	0.476E-06	0.132E-04	0.225E-04
SI WALL	0.236E-04	0.124E-06	0.553E-05	0.236E-03	0.270E-04
ULI WALL	0.248E-04	0.163E-06	0.475E-05	0.228E-03	0.288E-04
LLI WALL	0.100E-04	0.595E-07	0.477E-04	0.303E-03	0.295E-04
T BODY	0.370E-01	0.370E-01	0.370E-01	0.370E-01	0.368E-01
ADREN	0.115E-03	0.182E-05	0.446E-06	0.503E-05	0.763E-01
BL WALL	0.171E-05	0.282E-07	0.862E-04	0.131E-03	0.382E-01
KIDNEYS	0.176E-03	0.494E-06	0.579E-06	0.149E-04	0.252E-04
LIVER	0.159E-04	0.143E-05	0.448E-06	0.851E-05	0.187E-04
OVARIES	0.620E-05	0.671E-07	0.0	0.235E 03	0.373E-04
PANCREAS	0.380E-03	0.103E-05	0.772E-06	0.777E-05	0.763E-01
BONE	0.225E-04	0.190E-04	0.162E-04	0.304E-04	0.293E-04
R MAR	0.321E-04	0.205E-04	0.126E-04	0.112E-03	0.763E-01
Y MAR	0.342E-04	0.968E-05	0.574E-05	0.417E-04	0.763E-01
ENDOST	0.225E-04	0.190E-04	0.162E-04	0.304E-04	0.118E-03
SPLEEN	0.144E 02	0.157E-05	0.271E-06	0.760E-05	0.261E-04
TESTES	0.683E-06	0.674E-08	0.739E 02	0.0	0.198E-04
THYMUS	0.422E-05	0.753E-04	0.344E-07	0.365E-05	0.763E-01
THYROID	0.124E-05	0.129E 03	0.674E-08	0.672E-07	0.249E-04
UTERUS	0.625E-05	0.621E-07	0.0	0.392E-03	0.763E-01

CASE 1.. INHALATION

AMAD (MICRON).. 1.00 D3 =0.310 D4 =8.000E-02 D5 =0.249

	SOLUBILITY CLASS	G.I. UPTAKE FRACTIONS STOMACH	S INT	U L INT	L L INT
TH-229	Y	0.0	1.000E-03	0.0	0.0
RA-225	W	0.0	0.200	0.0	0.0
AC-225	Y	0.0	1.000E-03	0.0	0.0
FR-221	D	0.0	0.950	0.0	0.0
AT-217	D	0.0	0.950	0.0	0.0
BI-213	W	0.0	5.000E-02	0.0	0.0
PO-213	W	0.0	1.000E-01	0.0	0.0
PB-209	W	0.0	8.000E-02	0.0	0.0
TL-209	W	0.0	0.950	0.0	0.0

DOSE EQUIVALENT (REM/MICROCURIE)

SOURCE	LUNGS	RES LYM	S CONT	SI CONT	ULI CONT	LLI CONT	EXCRET.	BONE	LIVER	KIDNEYS	SPLEEN
TARGET											
LUNGS	624.	5.92	4.883E-05	1.713E-05	1.021E-04	7.420E-05	5.425E-05	5.217E-02	4.354E-02	3.578E-04	4.538E-05
RES LYM	3.05	7.221E 04	4.883E-05	1.713E-05	1.021E-04	7.420E-05	5.425E-05	5.217E-02	4.354E-02	3.578E-04	4.538E-05
S WALL	2.770E-02	5.848E-02	2.255E-02	1.848E-04	8.500E-04	8.054E-04	5.425E-05	3.141E-02	3.274E-02	1.246E-03	2.133E-04
SI WALL	4.085E-03	8.916E-03	6.799E-05	3.762E-02	3.956E-03	4.307E-03	5.425E-05	4.085E-02	2.759E-02	1.119E-03	3.035E-05
ULI WALL	5.487E-03	1.203E-02	9.752E-05	1.244E-03	0.286	2.100E-03	5.425E-05	3.882E-02	4.038E-02	1.130E-03	3.072E-05
LLI WALL	1.003E-03	2.150E-03	3.728E-05	3.668E-04	7.394E-04	0.869	5.425E-05	5.222E-02	5.344E-03	3.545E-04	1.399E-05
T BODY	8.94	15.5	9.380E-05	4.336E-04	1.314E-03	2.864E-03	6.964E-05	155.	14.9	0.335	1.411E-02
ADREN	3.042E-02	6.290E-02	8.497E-05	6.372E-05	2.688E-04	2.348E-04	5.425E-05	9.246E-02	7.938E-02	4.715E-03	1.331E-04
BL WALL	1.182E-03	2.622E-03	1.175E-05	1.723E-04	4.563E-04	3.071E-03	5.425E-05	3.745E-02	4.095E-03	1.474E-04	4.486E-06
KIDNEYS	1.465E-02	3.146E-02	8.791E-05	1.558E-04	6.983E-04	4.548E-04	5.425E-05	5.004E-02	6.556E-02	75.5	1.835E-04
LIVER	3.395E-02	7.104E-02	5.472E-05	9.662E-05	6.337E-04	2.014E-04	5.425E-05	3.840E-02	577.	1.519E-03	2.232E-05
OVARIES	2.255E-03	4.942E-03	2.184E-05	4.454E-04	2.254E-03	8.088E-03	5.425E-05	4.806E-02	1.171E-02	4.570E-04	1.364E-05
PANCREAS	3.583E-02	7.528E-02	4.608E-04	9.644E-05	5.200E-04	3.361E-04	5.425E-05	5.656E-02	7.195E-02	2.525E-03	3.877E-04
BONE	1.598E-02	3.216E-02	1.716E-05	4.507E-05	1.945E-04	5.376E-04	2.698E-04	2.165E 03	1.559E-02	4.680E-04	1.874E-05
R MAR	2.026E-02	4.084E-02	2.855E-05	1.422E-04	5.789E-04	1.613E-03	5.425E-05	358.	2.209E-02	1.199E-03	2.698E-05
Y MAR	1.655E-02	3.320E-02	2.423E-05	6.192E-05	2.759E-04	6.702E-04	5.425E-05	0.192	2.326E-02	5.738E-04	2.803E-05
ENDOST	1.598E-02	3.216E-02	1.716E-05	4.507E-05	1.945E-04	5.376E-04	5.425E-05	4.263E 03	1.559E-02	4.680E-04	1.874E-05
SPLEEN	2.823E-02	5.853E-02	2.533E-04	8.662E-05	3.614E-04	4.652E-04	5.425E-05	3.664E-02	1.604E-02	3.330E-03	5.48
TESTES	4.665E-04	1.048E-03	3.679E-06	2.725E-05	1.104E-04	8.526E-04	5.425E-05	7.885E-02	1.890E-03	5.696E-05	2.175E-06
THYMUS	5.975E-02	0.125	1.473E-05	8.161E-06	4.331E-05	3.580E-05	5.425E-05	2.940E-02	1.336E-02	1.162E-04	5.857E-06
THYROID	1.352E-02	2.881E-02	4.641E-06	2.835E-06	1.470E-05	1.385E-05	5.425E-05	5.457E-02	3.106E-03	3.722E-05	3.202E-06
UTERUS	2.790E-03	6.187E-03	2.623E-05	4.440E-04	1.251E-03	2.853E-03	5.425E-05	3.201E-02	8.768E-03	3.838E-04	6.817E-06

DOSE EQUIVALENT (REM/MICROCURIE)

SOURCE	THYROID	TESTES	OVARIES	OTHER	TOTAL
TARGET					
LUNGS	2.429E-06	5.217E-07	7.257E-07	5.082E-03	630.
RES LYM	2.429E-06	5.217E-07	7.257E-07	5.082E-03	7.221E 04
S WALL	3.361E-07	1.747E-06	5.238E-06	5.286E-03	0.182
SI WALL	8.695E-08	8.861E-06	6.776E-05	5.957E-03	0.135
ULI WALL	1.029E-07	6.516E-06	6.454E-05	6.152E-03	0.394
LLI WALL	5.080E-08	4.877E-05	8.328E-05	6.576E-03	0.938
T BODY	1.569E-03	1.507E-02	4.739E-03	2.64	197.
ADREN	4.650E-07	1.343E-06	2.740E-06	5.48	5.75
BL WALL	3.653E-08	8.662E-05	3.922E-05	2.74	2.79
KIDNEYS	2.782E-07	2.096E-06	5.861E-06	5.681E-03	75.6
LIVER	4.348E-07	1.519E-06	3.537E-06	4.292E-03	577.
OVARIES	5.993E-08	0.0	30.1	7.705E-03	30.1
PANCREAS	6.439E-07	1.771E-06	2.935E-06	5.48	5.72
BONE	1.962E-06	1.355E-05	6.663E-06	6.448E-03	2.165E 03
R MAR	2.147E-06	1.052E-05	2.284E-05	5.47	363.
Y MAR	1.065E-06	5.634E-06	8.909E-06	5.47	5.74
ENDOST	1.962E-06	1.355E-05	6.663E-06	1.773E-02	4.263E 03
SPLEEN	3.667E-07	1.325E-06	3.133E-06	5.656E-03	5.63
TESTES	1.678E-08	30.1	0.0	4.754E-03	30.1
THYMUS	1.022E-05	2.883E-07	3.704E-07	5.48	5.71
THYROID	5.48	1.170E-07	1.332E-07	5.079E-03	5.58
UTERUS	5.763E-08	0.0	1.054E-04	5.48	5.54

PERCENT DOSE EQUIVALENT..

NUCLIDE	TH-229	RA-225	AC-225	FR-221	AT-217	BI-213	PO-213	PB-209	TL-209
TARGET									
LUNGS	44.5	0.1	16.1	17.7	19.6	0.7	0.5	0.0	0.7
RES LYM	27.6	0.0	21.6	23.3	25.9	0.6	0.7	0.0	0.2
S WALL	12.3	1.1	2.3	3.0	2.1	6.5	0.1	0.0	72.7
SI WALL	13.2	1.8	6.3	5.0	4.5	7.6	0.1	0.1	61.3
ULI WALL	10.2	3.0	12.1	13.3	14.2	10.7	0.4	0.1	36.2
LLI WALL	16.7	7.8	3.5	15.3	16.7	18.3	12.4	0.5	0.1	25.4
T BODY	41.7	0.0	17.2	18.9	21.1	0.4	0.5	0.0	0.1
ADREN	50.4	0.0	0.1	12.7	15.1	16.8	0.7	0.4	0.0	3.9
BL WALL	51.3	0.0	13.0	15.5	17.2	0.5	0.5	0.0	1.9
KIDNEYS	66.2	0.0	9.8	10.9	12.1	0.3	0.3	0.0	0.3
LIVER	67.3	0.0	9.6	10.6	11.8	0.3	0.3	0.0	0.2
OVARIES	64.5	0.0	10.2	11.5	12.8	0.3	0.3	0.0	0.4
PANCREAS	50.5	0.0	12.8	15.2	16.9	0.7	0.4	0.0	3.5
BONE	40.3	0.0	17.6	19.4	21.6	0.4	0.6	0.0	0.0
R MAR	40.5	0.0	17.5	19.3	21.6	0.4	0.6	0.0	0.1
Y MAR	50.8	0.1	12.7	15.1	16.8	0.6	0.4	0.0	3.3
ENDOST	50.7	0.0	17.4	16.4	15.2	0.0	0.3	0.0	0.0
SPLEEN	51.2	0.0	13.0	15.4	17.1	0.6	0.4	0.0	2.3
TESTES	64.6	0.0	10.2	11.5	12.8	0.3	0.3	0.0	0.3
THYMUS	50.4	0.1	12.8	15.2	16.9	0.6	0.4	0.0	3.6
THYROID	51.3	0.0	13.1	15.6	17.3	0.5	0.5	0.0	1.7
UTERUS	51.6	0.0	13.2	15.6	17.4	0.5	0.5	0.0	1.2

CASE 2.. INHALATION

AMAD (MICRON).. 1.00 D3 =0.310 D4 =8.000E-02 D5 =0.249

	SOLUBILITY CLASS	G.I. UPTAKE FRACTIONS STOMACH	S INT	U L INT	L L INT
TH-229	W	0.0	1.000E-03	0.0	0.0
RA-225	W	0.0	0.200	0.0	0.0
AC-225	W	0.0	1.000E-03	0.0	0.0
FR-221	D	0.0	0.950	0.0	0.0
AT-217	D	0.0	0.950	0.0	0.0
BI-213	W	0.0	5.000E-02	0.0	0.0
PO-213	W	0.0	1.000E-01	0.0	0.0
PB-209	W	0.0	8.000E-02	0.0	0.0
TL-209	W	0.0	0.950	0.0	0.0

DOSE EQUIVALENT (REM/MICROCURIE)

SOURCE	LUNGS	RES LYM	S CONT	SI CONT	ULI CONT	LLI CONT	EXCRET.	BONE	LIVER	KIDNEYS	SPLEEN
TARGET											
LUNGS	59.0	5.427E-02	6.403E-06	2.410E-06	1.421E-05	1.020E-05	1.304E-04	0.127	0.106	8.256E-04	6.842E-05
RES LYM	0.282	636.	6.403E-06	2.410E-06	1.421E-05	1.020E-05	1.304E-04	0.127	0.106	8.256E-04	6.842E-05
S WALL	2.485E-03	5.366E-04	3.953E-03	2.815E-05	1.271E-04	1.187E-04	1.304E-04	7.653E-02	7.978E-02	2.891E-03	3.193E-04
SI WALL	3.625E-04	8.213E-05	8.970E-06	7.680E-03	5.926E-04	6.440E-04	1.304E-04	9.956E-02	6.723E-02	2.590E-03	4.467E-05
ULI WALL	4.862E-04	1.109E-04	1.281E-05	2.082E-04	5.383E-02	3.121E-04	1.304E-04	9.461E-02	9.844E-02	2.612E-03	4.544E-05
LLI WALL	8.946E-05	1.975E-05	4.810E-06	5.794E-05	1.100E-04	0.164	1.304E-04	0.127	1.300E-02	8.143E-04	2.039E-05
T BODY	0.845	0.137	1.459E-05	8.420E-05	2.301E-04	5.069E-04	1.674E-04	379.	36.4	0.810	2.716E-02
ADREN	2.746E-03	5.752E-04	1.099E-05	9.191E-06	3.849E-05	3.299E-05	1.304E-04	0.225	0.193	1.092E-02	1.987E-04
BL WALL	1.043E-04	2.421E-05	1.477E-06	2.497E-05	6.795E-05	4.551E-04	1.304E-04	9.121E-02	9.963E-03	3.380E-04	6.178E-06
KIDNEYS	1.306E-03	2.892E-04	1.160E-05	2.369E-05	1.022E-04	6.542E-05	1.304E-04	0.122	0.160	182.	2.781E-04
LIVER	3.054E-03	6.512E-04	7.157E-06	1.451E-05	9.286E-05	2.795E-05	1.304E-04	9.357E-02	1.416E 03	3.516E-03	3.251E-05
OVARIES	1.998E-04	4.555E-05	2.758E-06	7.163E-05	3.453E-04	1.217E-03	1.304E-04	0.117	2.849E-02	1.055E-03	1.903E-05
PANCREAS	3.219E-03	6.902E-04	6.138E-05	1.471E-05	7.664E-05	4.910E-05	1.304E-04	0.138	0.175	5.849E-03	5.897E-04
BONE	1.455E-03	2.933E-04	2.359E-06	7.475E-06	3.042E-05	8.511E-05	6.482E-04	5.309E 03	3.806E-02	1.092E-03	2.949E-05
R MAR	1.843E-03	3.725E-04	3.944E-06	2.416E-05	9.237E-05	2.598E-04	1.304E-04	877.	5.392E-02	2.801E-03	4.238E-05
Y MAR	1.508E-03	3.027E-04	3.333E-06	1.033E-05	4.328E-05	1.064E-04	1.304E-04	0.469	5.679E-02	1.339E-03	4.424E-05
ENDOST	1.455E-03	2.933E-04	2.359E-06	7.475E-06	3.042E-05	8.511E-05	1.304E 04	3.806E-02	1.092E-03	2.949E-05	
SPLEEN	2.547E-03	5.357E-04	3.364E-05	1.278E-05	5.271E-05	6.664E-05	1.304E-04	8.928E-02	3.908E-02	7.730E-03	10.6
TESTES	4.101E-05	9.692E-06	4.508E-07	3.778E-06	1.528E-05	1.247E-04	1.304E-04	9.465E-02	4.594E-03	1.301E-04	2.961E-06
THYMUS	5.369E-03	1.150E-03	1.839E-06	1.114E-06	5.963E-06	4.835E-06	1.304E-04	7.165E-02	3.251E-02	2.662E-04	8.541E-06
THYROID	1.209E-03	2.645E-04	5.749E-07	3.722E-07	1.959E-06	1.839E-06	1.304E-04	0.133	7.558E-03	8.484E-05	4.415E-06
UTERUS	2.463E-04	5.712E-05	3.342E-06	6.923E-05	1.852E-04	4.279E-04	1.304E-04	7.800E-02	2.134E-02	8.844E-04	1.026E-05

DOSE EQUIVALENT (REM/MICROCURIE)

SOURCE	THYROID	TESTES	OVARIES	OTHER	TOTAL
TARGET					
LUNGS	3.551E-06	1.139E-06	1.598E-06	7.647E-03	59.3
RES LYM	3.551E-06	1.139E-06	1.598E-06	7.647E-03	636.
S WALL	4.537E-07	3.831E-06	1.171E-05	7.814E-03	0.175
SI WALL	1.153E-07	1.969E-05	1.533E-04	8.879E-03	0.188
ULI WALL	1.368E-07	1.453E-05	1.460E-04	9.212E-03	0.260
LLI WALL	6.700E-08	1.098E-04	1.886E-04	9.789E-03	0.315
T BODY	3.024E-03	3.582E-02	1.126E-02	5.08	423.
ADREN	6.472E-07	2.950E-06	6.077E-06	10.5	11.0
BL WALL	4.779E-08	1.951E-04	8.852E-05	5.28	5.38
KIDNEYS	3.714E-07	4.596E-06	1.311E-05	8.444E-03	183.
LIVER	5.979E-07	3.334E-06	7.898E-06	6.364E-03	1.416E 03
OVARIES	7.896E-08	0.0	71.4	1.159E-02	71.6
PANCREAS	8.566E-07	3.908E-06	6.571E-06	10.5	10.9
BONE	3.032E-06	3.075E-05	1.525E-05	9.622E-03	5.309E 03
R MAR	3.310E-06	2.388E-05	5.248E-05	10.5	888.
Y MAR	1.629E-06	1.270E-05	2.042E-05	10.5	11.1
ENDOST	3.032E-06	3.075E-05	1.525E-05	2.819E-02	1.049E 04
SPLEEN	5.139E-07	2.898E-06	6.998E-06	8.453E-03	10.7
TESTES	2.179E-08	71.5	0.0	7.008E-03	71.6
THYMUS	1.516E-05	6.285E-07	8.134E-07	10.6	10.7
THYROID	10.6	2.545E-07	2.909E-07	7.657E-03	10.7
UTERUS	7.587E-08	0.0	2.391E-04	10.6	10.7

PERCENT DOSE EQUIVALENT..

NUCLIDE	TH-229	RA-225	AC-225	FR-221	AT-217	BI-213	PO-213	PB-209	TL-209
TARGET									
LUNGS	48.8	0.1	15.0	16.4	18.3	0.5	0.5	0.0	0.5
RES LYM	24.3	0.0	22.2	24.5	27.3	0.7	0.7	0.0	0.3
S WALL	19.7	0.4	0.8	1.4	0.3	5.1	0.0	0.0	72.2
SI WALL	19.2	0.5	1.2	1.6	0.4	5.4	0.0	0.0	71.7
ULI WALL	24.1	0.9	2.9	3.5	2.8	5.9	0.1	0.0	59.8
LLI WALL	25.1	1.7	6.3	7.1	7.1	7.3	0.2	0.0	45.3
T BODY	43.5	0.0	16.6	18.4	20.5	0.4	0.5	0.0	0.1
ADREN	45.2	0.0	9.2	10.2	11.4	0.5	0.3	0.0	3.2
BL WALL	66.0	0.0	9.4	10.4	11.6	0.4	0.3	0.0	1.9
KIDNEYS	67.5	0.0	9.5	10.5	11.7	0.3	0.3	0.0	0.2
LIVER	67.7	0.0	9.5	10.5	11.6	0.3	0.3	0.0	0.2
OVARIES	65.7	0.0	9.4	10.5	11.6	0.4	0.3	0.0	2.0
PANCREAS	65.8	0.0	9.3	10.3	11.5	0.4	0.3	0.0	2.3
BONE	40.8	0.0	17.4	19.3	21.4	0.4	0.8	0.0	0.0
R MAR	41.0	0.0	17.4	19.2	21.4	0.4	0.6	0.0	0.1
Y MAR	65.2	0.1	9.2	10.2	11.3	0.5	0.3	0.0	3.2
ENDOST	51.2	0.0	17.2	16.2	15.0	0.0	0.3	0.0	0.0
SPLEEN	66.6	0.0	9.5	10.5	11.6	0.4	0.3	0.0	1.2
TESTES	67.1	0.0	9.5	10.5	11.7	0.3	0.3	0.0	0.6
THYMUS	66.5	0.0	9.5	10.5	11.7	0.4	0.3	0.0	1.1
THYROID	66.3	0.0	9.5	10.5	11.7	0.4	0.3	0.0	1.3
UTERUS	66.6	0.0	9.5	10.5	11.7	0.3	0.3	0.0	1.0

CASE 3.. INGESTION

INGESTION TRANSFER FRACTIONS (G. I. TRACT TO BLOOD)

	TH-229	RA-225	AC-225	FR-221	AT-217	BI-213	PO-213	PB-209	TL-209
STOMACH	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
S INT	1.000E-03	0.200	1.000E-03	0.950	0.950	5.000E-02	1.000E-01	8.000E-02	0.950
U L INT	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
L L INT	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

DOSE EQUIVALENT (REM/MICROCURIE)

SOURCE	S CONT	SI CONT	ULI CONT	LLI CONT	EXCRET.	BONE	LIVER	KIDNEYS	SPLEEN	THYROID	TESTES
TARGET											
LUNGS	1.325E-06	5.704E-07	2.327E-06	1.527E-06	1.074E-06	1.048E-03	8.741E-04	6.803E-06	5.739E-07	2.983E-08	9.415E-09
RES LYM	1.325E-06	5.704E-07	2.327E-06	1.527E-06	1.074E-06	1.048E-03	8.741E-04	6.803E-06	5.739E-07	2.983E-08	9.415E-09
S WALL	2.576E-03	1.099E-05	3.930E-05	3.473E-05	1.074E-06	6.309E-04	6.569E-04	2.382E-05	2.679E-06	3.825E-09	3.166E-08
SI WALL	1.963E-06	6.471E-03	1.862E-04	2.068E-04	1.074E-06	8.207E-04	5.535E-04	2.134E-05	3.751E-07	9.727E-10	1.626E-07
ULI WALL	2.705E-06	1.163E-04	3.829E-02	9.626E-05	1.074E-06	7.799E-04	8.105E-04	2.152E-05	3.815E-07	1.155E-09	1.200E-07
LLI WALL	8.377E-07	2.654E-05	3.299E-05	0.118	1.074E-06	1.049E-03	1.070E-04	6.709E-06	1.713E-07	5.655E-10	9.065E-07
T BODY	7.086E-06	6.521E-05	1.372E-04	3.159E-04	1.379E-06	3.13	0.300	6.675E-03	2.258E-04	2.514E-05	2.955E-04
ADREN	1.967E-06	2.618E-06	8.548E-06	6.448E-06	1.074E-06	1.856E-03	1.593E-03	8.999E-05	1.668E-06	5.449E-09	2.438E-08
BL WALL	1.798E-07	7.373E-06	2.044E-05	1.378E-04	1.074E-06	7.519E-04	8.201E-05	2.785E-06	5.203E-08	4.035E-10	1.611E-06
KIDNEYS	2.538E-06	9.155E-06	2.735E-05	1.590E-05	1.074E-06	1.035E-03	1.316E-03	1.50	2.332E-06	3.133E-09	3.797E-08
LIVER	1.442E-06	5.270E-06	2.503E-05	4.736E-06	1.074E-06	7.713E-04	11.7	2.897E-05	2.731E-07	5.036E-09	2.755E-08
OVARIES	3.622E-07	3.504E-05	1.234E-04	4.057E-04	1.074E-06	9.653E-04	2.345E-04	8.689E-06	1.602E-07	6.665E-10	0.0
PANCREAS	1.463E-05	5.769E-06	2.147E-05	1.344E-05	1.074E-06	1.136E-03	1.444E-03	4.819E-05	4.944E-06	7.227E-09	3.223E-08
BONE	7.044E-07	4.053E-06	1.203E-05	3.657E-05	5.342E-06	43.8	3.134E-04	9.001E-06	2.469E-07	2.540E-08	2.539E-07
R MAR	1.217E-06	1.410E-05	4.003E-05	1.200E-04	1.074E-06	7.23	4.440E-04	2.308E-05	3.548E-07	2.774E-08	1.971E-07
Y MAR	1.000E-06	5.704E-06	1.738E-05	4.632E-05	1.074E-06	3.864E-03	4.676E-04	1.104E-05	3.703E-07	1.366E-08	1.049E-07
ENDOST	7.044E-07	4.053E-06	1.203E-05	3.657E-05	1.074E-06	86.4	3.134E-04	9.001E-06	2.469E-07	2.540E-08	2.539E-07
SPLEEN	7.795E-06	4.219E-06	1.368E-05	1.565E-05	1.074E-06	7.359E-04	3.217E-04	6.369E-05	8.774E-02	4.325E-09	2.394E-08
TESTES	3.051E-08	7.790E-07	2.334E-06	3.455E-05	1.074E-06	7.802E-04	3.782E-05	1.072E-06	2.495E-08	1.840E-10	0.590
THYMUS	1.963E-07	1.935E-07	8.358E-07	5.383E-07	1.074E-06	5.996E-04	2.677E-04	2.193E-06	7.175E-09	1.272E-07	5.194E-09
THYROID	5.167E-08	3.443E-08	1.371E-07	1.368E-07	1.074E-06	1.096E-03	6.222E-05	6.990E-07	3.718E-08	8.773E-02	2.103E-09
UTERUS	4.959E-07	3.003E-05	5.357E-05	1.398E-04	1.074E-06	6.430E-04	1.757E-04	7.287E-06	8.607E-08	6.404E-10	0.0

DOSE EQUIVALENT (REM/MICROCURIE)

SOURCE	OVARIES	OTHER	TOTAL
TARGET			
LUNGS	1.321E-08	6.415E-05	2.001E-03
RES LYM	1.321E-08	6.415E-05	2.001E-03
S WALL	9.672E-08	6.560E-05	4.042E-03
SI WALL	1.266E-06	7.451E-05	8.339E-03
ULI WALL	1.206E-06	7.729E-05	4.020E-02
LLI WALL	1.558E-06	8.215E-05	0.119
T BODY	9.292E-05	4.227E-02	3.48
ADREN	5.020E-08	8.765E-02	9.121E-02
BL WALL	7.310E-07	4.388E-02	4.489E-02
KIDNEYS	1.082E-07	7.087E-05	1.51
LIVER	6.523E-08	5.342E-05	11.7
OVARIES	0.589	9.725E-05	0.591
PANCREAS	5.427E-08	8.767E-02	9.036E-02
BONE	1.259E-07	8.075E-05	43.8
R MAR	4.332E-07	8.759E-02	7.32
Y MAR	1.686E-07	8.764E-02	9.205E-02
ENDOST	1.259E-07	2.360E-04	86.4
SPLEEN	5.780E-08	7.093E-05	8.897E-02
TESTES	0.0	5.884E-05	0.591
THYMUS	6.721E-09	8.772E-02	8.859E-02
THYROID	2.404E-09	6.423E-05	8.896E-02
UTERUS	1.974E-06	8.772E-02	8.877E-02

PERCENT DOSE EQUIVALENT..

NUCLIDE	TH-229	RA-225	AC-225	FR-221	AT-217	BI-213	PO-213	PB-209	TL-209
TARGET									
LUNGS	20.2	0.6	0.6	1.2	0.0	5.0	0.0	0.0	72.3
RES LYM	20.2	0.6	0.6	1.2	0.0	5.0	0.0	0.0	72.3
S WALL	72.3	0.2	0.2	0.4	0.0	1.7	0.0	0.0	25.2
SI WALL	85.1	0.2	0.1	0.2	0.0	0.9	0.0	0.0	13.4
ULI WALL	95.5	0.6	0.1	0.2	0.1	0.3	0.0	0.0	3.2
LLI WALL	94.3	1.3	0.6	0.6	0.7	0.5	0.0	0.0	1.5
T BODY	43.4	0.0	16.6	18.4	20.5	0.4	0.5	0.0	0.1
ADREN	64.7	0.0	9.4	10.4	11.6	0.5	0.3	0.0	3.1
BL WALL	65.6	0.0	9.6	10.6	11.7	0.4	0.3	0.0	1.9
KIDNEYS	67.5	0.0	9.5	10.5	11.7	0.3	0.3	0.0	0.2
LIVER	67.7	0.0	9.5	10.5	11.6	0.3	0.3	0.0	0.2
OVARIES	67.4	0.0	9.5	10.5	11.7	0.3	0.3	0.0	0.3
PANCREAS	55.2	0.0	9.5	10.5	11.7	0.4	0.3	0.0	2.3
BONE	40.8	0.0	17.4	19.3	21.4	0.4	0.6	0.0	0.0
R MAR	41.1	0.0	17.4	19.1	21.3	0.4	0.6	0.0	0.1
Y MAR	64.7	0.1	9.4	10.3	11.5	0.5	0.3	0.0	3.2
ENDOST	51.2	0.0	17.2	16.2	15.0	0.0	0.3	0.0	0.0
SPLEEN	65.0	0.0	9.7	10.6	11.8	0.4	0.3	0.0	1.1
TESTES	67.4	0.0	9.5	10.5	11.7	0.3	0.3	0.0	0.2
THYMUS	66.0	0.0	9.7	10.7	11.9	0.4	0.3	0.0	1.0
THYROID	65.7	0.0	9.7	10.7	11.9	0.4	0.3	0.0	1.3
UTERUS	66.1	0.0	9.7	10.7	11.9	0.3	0.3	0.0	1.0

RADIONUCLIDE: TH-230

PHYSICAL AND METABOLIC PARAMETERS FOR DOSIMETRICALLY SIGNIFICANT PROGENY:

NUCLIDE	RADIOACTIVE HALF-LIFE (DAYS)
TH-230	2.8100E 07

ORGAN ABSORBED	NUCLIDE	BLOOD TRANSFER FRACTION F2-PRIME	COMPARTMENT DEPOSITION FRACTION	COMPARTMENT BIOLOGICAL HALF-TIME (DAYS)
		1.00	4.000E-02	0.500
			0.460	1.460E 04
			0.500	3.650E 04
EXCRET.	TH-230	4.000E-02	1.00	0.500
BONE	TH-230	0.450	1.00	3.650E 04
LIVER	TH-230	0.450	1.00	1.460E 04
KIDNEYS	TH-230	1.000E-02	1.00	1.460E 04
TESTES	TH-230	3.500E-04	1.00	3.650E 04
OVARIES	TH-230	1.100E-04	1.00	3.650E 04
OTHER	TH-230	5.000E-02	1.00	3.650E 04

S FACTORS (REM/MICROCURIE-DAY) FOR TH-230

TARGET ORGANS	SOURCE ORGANS												
	LUNGS	RES LYM	S CONT	SI CONT	ULI CONT	LLI CONT	EXCRET.	BONE	LIVER	KIDNEYS	TESTES	OVARIES	OTHER
LUNGS	9.247E 01	0.708E-03	0.167E-06	0.135E-07	0.165E-07	0.438E-08	0.353E-01	0.893E-07	0.311E-06	0.666E-07	0.308E-09	0.332E-08	0.338E-06
RES LYM	9.708E-03	0.165E 03	0.167E-06	0.135E-07	0.165E-07	0.439E-08	0.353E-01	0.893E-07	0.311E-06	0.666E-07	0.303E-09	0.332E-08	0.338E-06
S WALL	0.194E-06	0.194E-06	0.491E-01	0.369E-06	0.474E-06	0.145E-06	0.353E-01	0.480E-07	0.181E-06	0.289E-06	0.192E-08	0.552E-07	0.145E-06
SI WALL	0.112E-07	0.112E-07	0.232E-06	0.307E-01	0.299E-05	0.161E-05	0.353E-01	0.678E-07	0.135E-06	0.229E-06	0.223E-07	0.176E-05	0.165E-06
ULI WALL	0.139E-07	0.139E-07	0.366E-06	0.262E-04	0.557E-01	0.121E-05	0.353E-01	0.655E-07	0.221E-06	0.223E-06	0.191E-07	0.293E-05	0.329E-06
LLI WALL	0.396E-08	0.396E-08	0.921E-07	0.274E-05	0.427E-06	0.908E-01	0.353E-01	0.122E-06	0.127E-07	0.465E-07	0.227E-06	0.366E-05	0.172E-06
T BODY	0.353E-01	0.353E-01	0.106E-03	0.281E-03	0.158E-03	0.208E-03	0.454E-01	0.176E 00	0.353E-01	0.353E-01	0.353E-01	0.353E-01	0.351E-01
ADREN	0.291E-06	0.291E-06	0.219E-06	0.689E-07	0.665E-07	0.215E-07	0.353E-01	0.124E-06	0.537E-06	0.211E-05	0.149E-08	0.196E-07	0.724E-01
BL WALL	0.202E-08	0.202E-08	0.160E-07	0.198E-06	0.158E-06	0.588E-06	0.353E-01	0.348E-07	0.846E-08	0.149E-07	0.419E-06	0.648E-06	0.362E-01
KIDNEYS	0.616E-07	0.616E-07	0.250E-06	0.246E-06	0.228E-06	0.592E-07	0.353E-01	0.832E-07	0.390E-06	0.797E 01	0.203E-08	0.622E-07	0.245E-06
LIVER	0.273E-06	0.273E-06	0.171E-06	0.155E-06	0.221E-06	0.147E-07	0.353E-01	0.565E-07	0.137E 01	0.361E-06	0.159E-08	0.346E-07	0.139E-06
OVARIES	0.608E-08	0.608E-08	0.413E-07	0.192E-05	0.229E-05	0.436E-05	0.353E-01	0.538E-07	0.321E-07	0.799E-07	0.0	0.225E 03	0.447E-06
PANCREAS	0.220E-06	0.220E-06	0.227E-05	0.156E-06	0.170E-06	0.462E-07	0.353E-01	0.903E-07	0.463E-06	0.556E-06	0.263E-08	0.288E-07	0.724E-01
BONE	0.182E-06	0.182E-06	0.878E-07	0.147E-06	0.121E-06	0.214E-06	0.176E 00	0.247E 01	0.129E-06	0.164E-06	0.763E-07	0.164E-06	0.844E-06
R MAR	0.223E-06	0.223E-06	0.144E-06	0.540E-06	0.424E-06	0.757E-06	0.353E-01	0.408E 00	0.163E-06	0.434E-06	0.587E-07	0.622E-06	0.724E-01
Y MAR	0.198E-06	0.198E-06	0.126E-06	0.207E-06	0.176E-06	0.281E-06	0.353E-01	0.537E-05	0.196E-06	0.193E-06	0.260E-07	0.229E-06	0.724E-01
ENDOST	0.182E-06	0.182E-06	0.878E-07	0.147E-06	0.121E-06	0.214E-06	0.353E-01	0.643E 01	0.129E-06	0.164E-06	0.763E-07	0.164E-06	0.114E-04
SPLEEN	0.235E-06	0.235E-06	0.945E-06	0.109E-06	0.114E-06	0.615E-07	0.353E-01	0.912E-07	0.643E-07	0.123E-05	0.933E-09	0.299E-07	0.724E-01
TESTES	0.395E-09	0.395E-09	0.268E-08	0.175E-07	0.160E-07	0.149E-06	0.353E-01	0.424E-07	0.302E-03	0.431E-08	3.705E 02	0.0	0.120E-06
THYMUS	0.377E-06	0.377E-06	0.247E-07	0.394E-38	0.489E-08	0.126E-08	0.353E-01	0.569E-07	0.414E-07	0.116E-07	0.115E-09	0.122E-08	0.724E-01
THYROID	0.589E-07	0.589E-07	0.431E-08	0.687E-09	0.762E-09	0.246E-09	0.353E-01	0.675E-07	0.726E-08	0.227E-08	0.227E-10	0.224E-09	0.724E-01
UTERUS	0.513E-08	0.513E-08	0.455E-07	0.987E-06	0.469E-06	0.614E-06	0.353E-01	0.385E-07	0.244E-07	0.563E-07	0.0	0.208E-05	0.724E-01

α decay (7.7E4 Y 2)

Case 1 represents inhalation of oxides, hydroxides, and carbides; case 2 inhalation of nitrates; and case 3 ingestion of any compound.

CASE 1.. INHALATION

AMAD (MICRON).. 1.00 D3 =0.310 D4 =8.000E-02 D5 =0.249

	SOLUBILITY CLASS	G.I. UPTAKE FRACTIONS STOMACH	S INT	U L INT	L L INT
TH-230	Y	0.0	1.000E-03	0.0	0.0

DOSE EQUIVALENT (REM/MICROCURIE)

SOURCE	LUNGS	RES LYM	S CONT	SI CONT	ULI CONT	LLI CONT	EXCRET.	BONE	LIVER	KIDNEYS	TESTES
TARGET											
LUNGS	267.	8.207E-02	4.073E-09	1.316E-09	5.226E-09	2.561E-09	5.146E-05	3.031E-05	8.413E-05	4.004E-07	8.131E-11
RES LYM	7.655E-02	1.913E 04	4.073E-09	1.316E-09	5.226E-09	2.561E-09	5.146E-05	3.031E-05	8.413E-05	4.004E-07	8.131E-11
S WALL	2.098E-05	2.249E-05	1.197E-03	3.596E-08	1.501E-07	8.478E-08	5.146E-05	1.629E-05	4.897E-05	1.731E-06	5.069E-10
SI WALL	1.211E-06	1.298E-06	5.658E-09	2.992E-03	9.470E-07	9.414E-07	5.146E-05	2.301E-05	3.652E-05	1.377E-06	5.887E-09
ULI WALL	1.503E-06	1.611E-06	8.926E-09	2.553E-06	1.764E-02	7.075E-07	5.146E-05	2.223E-05	5.979E-05	1.341E-06	5.042E-09
LLI WALL	4.174E-07	4.474E-07	2.246E-09	2.670E-07	1.352E-07	5.309E-02	5.146E-05	4.141E-05	3.436E-06	2.795E-07	6.045E-08
T BODY	3.82	4.09	2.585E-06	2.738E-05	5.321E-05	1.216E-04	6.619E-05	59.7	9.55	0.212	9.319E-03
ADREN	3.146E-05	3.373E-05	5.341E-09	6.714E-09	2.106E-08	1.257E-08	5.146E-05	4.209E-05	1.453E-04	1.268E-05	3.933E-10
BL WALL	2.184E-07	2.341E-07	3.902E-10	1.930E-08	5.004E-08	3.438E-07	5.146E-05	1.181E-05	2.289E-06	8.957E-08	1.106E-07
KIDNEYS	6.660E-06	7.140E-06	7.072E-09	2.397E-08	7.221E-08	3.461E-08	5.146E-05	2.824E-05	1.055E-04	47.9	5.491E-10
LIVER	2.952E-05	3.164E-05	4.170E-09	1.510E-08	7.000E-08	8.595E-09	5.146E-05	1.918E-05	371.	2.170E-06	4.171E-10
OVARIES	6.574E-07	7.048E-07	1.007E-09	1.871E-07	7.253E-07	2.549E-06	5.146E-05	1.996E-05	8.684E-06	4.803E-07	0.0
PANCREAS	2.379E-05	2.550E-05	5.536E-08	1.520E-08	5.384E-08	2.701E-08	5.146E-05	3.065E-05	1.253E-04	3.743E-06	6.916E-10
BONE	1.968E-05	2.110E-05	2.141E-09	1.433E-08	3.832E-08	1.251E-07	2.566E-04	838.	3.490E-05	9.859E-07	2.014E-08
R MAR	2.411E-05	2.585E-05	3.512E-09	5.262E-08	1.343E-07	4.426E-07	5.146E-05	138.	4.410E-05	2.609E-06	1.550E-08
Y MAR	2.141E-05	2.295E-05	3.073E-09	2.017E-08	5.574E-08	1.643E-07	5.146E-05	1.823E-03	5.302E-05	1.196E-06	6.864E-09
ENDOST	1.968E-05	2.110E-05	2.141E-09	1.433E-08	3.832E-08	1.251E-07	5.146E-05	2.182E 03	3.490E-05	9.859E-07	2.014E-08
SPLEEN	2.541E-05	2.724E-05	2.305E-08	1.062E-08	3.611E-08	3.596E-08	5.146E-05	3.095E-05	1.739E-05	7.394E-06	2.463E-10
TESTES	4.271E-08	4.579E-08	6.536E-11	1.705E-09	5.068E-09	8.712E-08	5.146E-05	1.439E-05	8.170E-07	2.591E-08	18.6
THYMUS	4.076E-05	4.370E-05	6.024E-10	3.840E-10	1.549E-09	7.367E-10	5.146E-05	1.931E-05	1.120E-05	6.974E-08	3.036E-11
THYROID	6.369E-06	6.827E-06	1.051E-10	6.695E-11	2.413E-10	1.438E-10	5.146E-05	2.291E-05	1.964E-06	1.365E-08	5.992E-12
UTERUS	5.547E-07	5.946E-07	1.110E-09	9.618E-08	1.482E-07	3.590E-07	5.146E-05	1.307E-05	6.601E-06	3.385E-07	0.0

DOSE EQUIVALENT (REM/MICROCURIE)

SOURCE	OVARIES	OTHER	TOTAL
TARGET			
LUNGS	2.755E-10	1.275E-05	267.
RES LYM	2.755E-10	1.275E-05	1.913E 04
S WALL	4.580E-09	5.468E-06	1.365E-03
SI WALL	1.460E-07	6.977E-06	3.116E-03
ULI WALL	2.431E-07	1.241E-05	1.780E-02
LLI WALL	3.037E-07	6.487E-06	5.320E-02
T BODY	2.929E-03	1.32	78.7
ADREN	1.626E-09	2.73	2.73
BL WALL	5.376E-08	1.37	1.37
KIDNEYS	5.161E-09	9.240E-06	47.9
LIVER	2.871E-09	5.242E-06	371.
OVARIES	18.7	1.686E-05	18.7
PANCREAS	2.389E-09	2.73	2.73
BONE	1.361E-08	3.183E-05	838.
R MAR	5.161E-08	2.73	141.
Y MAR	1.892E-08	2.73	2.73
ENDOST	1.361E-08	4.299E-04	2.182E 03
SPLEEN	2.481E-09	2.73	2.73
TESTES	0.0	4.525E-06	18.6
THYMUS	1.012E-10	2.73	2.73
THYROID	1.858E-11	2.73	2.73
UTERUS	1.726E-07	2.73	2.73

CASE 2.. INHALATION

AMAD (MICRON).. 1.00 D3 =0.310 D4 =8.000E-02 D5 =0.249

	SOLUBILITY CLASS	G.I. UPTAKE FRACTIONS STOMACH	S INT	U L INT	L L INT
TH-230	W	0.0	1.000E-03	0.0	0.0

DOSE EQUIVALENT (REM/MICROCURIE)

SOURCE	LUNGS	RES LYM	S CONT	SI CONT	ULI CONT	LLI CONT	EXCRET.	BONE	LIVER	KIDNEYS	TESTES
TARGET											
LUNGS	27.6	6.362E-04	3.606E-09	1.165E-09	4.628E-09	2.268E-09	1.236E-04	7.519E-05	2.073E-04	9.863E-07	2.017E-10
RES LYM	7.900E-03	148.	3.606E-09	1.165E-09	4.628E-09	2.268E-09	1.236E-04	7.519E-05	2.073E-04	9.863E-07	2.017E-10
S WALL	2.165E-06	1.743E-07	1.060E-03	3.184E-08	1.329E-07	7.508E-08	1.236E-04	4.042E-05	1.206E-04	4.265E-06	1.257E-09
SI WALL	1.250E-07	1.006E-08	5.010E-09	2.649E-03	8.386E-07	8.336E-07	1.236E-04	5.709E-05	8.997E-05	3.391E-06	1.460E-08
ULI WALL	1.551E-07	1.249E-08	7.904E-09	2.261E-06	1.562E-02	6.265E-07	1.236E-04	5.515E-05	1.473E-04	3.303E-06	1.251E-08
LLI WALL	4.307E-08	3.469E-09	1.989E-09	2.365E-07	1.198E-07	4.701E-02	1.236E-04	1.027E-04	8.464E-06	6.887E-07	1.500E-07
T BODY	0.394	3.172E-02	2.289E-06	2.425E-05	4.712E-05	1.077E-04	1.590E-04	148.	23.5	0.523	2.312E-02
ADREN	3.247E-06	2.615E-07	4.729E-09	5.946E-09	1.865E-08	1.113E-08	1.236E-04	1.044E-04	3.579E-04	3.125E-05	9.758E-10
BL WALL	2.254E-08	1.815E-09	3.455E-10	1.709E-08	4.431E-08	3.045E-07	1.236E-04	2.930E-05	5.638E-06	2.207E-07	2.744E-07
KIDNEYS	6.873E-07	5.535E-08	6.263E-09	2.123E-08	6.395E-08	3.065E-08	1.236E-04	7.005E-05	2.599E-04	118.	1.362E-09
LIVER	3.046E-06	2.453E-07	3.693E-09	1.338E-09	6.198E-08	7.611E-09	1.236E-04	4.757E-05	913.	5.346E-06	1.035E-09
OVARIES	6.784E-08	5.464E-09	8.919E-10	1.657E-07	6.423E-07	2.258E-06	1.236E-04	4.951E-05	2.139E-05	1.183E-06	0.0
PANCREAS	2.455E-06	1.977E-07	4.902E-08	1.346E-08	4.769E-08	2.392E-08	1.236E-04	7.603E-05	3.086E-04	8.234E-06	1.716E-09
BONE	2.031E-06	1.635E-07	1.896E-09	1.269E-08	3.394E-08	1.108E-07	6.162E-04	2.080E 03	8.597E-05	2.429E-06	4.997E-08
R MAR	2.488E-06	2.004E-07	3.110E-09	4.660E-08	1.189E-07	3.920E-07	1.236E-04	344.	1.086E-04	6.428E-06	3.844E-08
Y MAR	2.209E-06	1.779E-07	2.721E-09	1.786E-08	4.936E-08	1.455E-07	1.236E-04	4.522E-03	1.306E-04	2.947E-06	1.703E-08
ENDOST	2.031E-06	1.635E-07	1.896E-09	1.269E-08	3.394E-08	1.108E-07	1.236E-04	5.414E 03	8.597E-05	2.429E-06	4.997E-08
SPLEEN	2.622E-06	2.112E-07	2.041E-08	9.406E-09	3.197E-08	3.184E-08	1.236E-04	7.679E-05	4.285E-05	1.822E-05	6.110E-10
TESTES	4.408E-09	3.550E-10	5.788E-11	1.510E-09	4.487E-09	7.715E-08	1.236E-04	3.570E-05	2.013E-06	6.783E-08	46.2
THYMUS	4.207E-06	3.388E-07	5.334E-10	3.400E-10	1.371E-09	6.524E-10	1.236E-04	4.791E-05	2.759E-05	1.718E-07	7.531E-11
THYROID	6.572E-07	5.293E-08	9.308E-11	5.929E-11	2.137E-10	1.274E-10	1.236E-04	5.684E-05	4.838E-06	3.362E-08	1.487E-11
UTERUS	5.724E-08	4.610E-09	9.826E-10	8.517E-08	1.313E-07	3.179E-07	1.236E-04	3.242E-05	1.626E-05	8.338E-07	0.0

DOSE EQUIVALENT (REM/MICROCURIE)

SOURCE	OVARIES	OTHER	TOTAL
TARGET			
LUNGS	6.833E-10	3.162E-05	27.6
RES LYM	6.833E-10	3.162E-05	148.
S WALL	1.136E-08	1.357E-05	1.365E-03
SI WALL	3.622E-07	1.731E-05	2.943E-03
ULI WALL	6.031E-07	3.078E-05	1.599E-02
LLI WALL	7.533E-07	1.609E-05	4.727E-02
T BODY	7.266E-03	3.28	176.
ADREN	4.034E-09	6.77	6.77
BL WALL	1.334E-07	3.39	3.39
KIDNEYS	1.280E-08	2.292E-05	118.
LIVER	7.121E-09	1.300E-05	913.
OVARIES	46.3	4.182E-05	46.3
PANCREAS	5.928E-09	6.77	6.77
BONE	3.375E-08	7.896E-05	2.080E 03
R MAR	1.280E-07	6.77	350.
Y MAR	4.693E-08	6.77	6.78
ENDOST	3.375E-08	1.067E-03	5.414E 03
SPLEEN	6.154E-09	6.77	6.77
TESTES	0.0	1.123E-05	46.2
THYMUS	2.511E-10	6.77	6.77
THYROID	4.610E-11	6.77	6.77
UTERUS	4.281E-07	6.77	6.77

CASE 3.. INGESTION

INGESTION TRANSFER FRACTIONS (G. I. TRACT TO BLOOD)

	TH-230
STOMACH	0.0
S INT	1.000E-03
U L INT	0.0
L L INT	0.0

DOSE EQUIVALENT (REM/MICROCURIE)

SOURCE	S CONT	SI CONT	ULI CONT	LLI CONT	EXCRET.	BONE	LIVER	KIDNEYS	TESTES	OVARIES	OTHER
TARGET											
LUNGS	6.958E-09	2.248E-09	8.929E-09	4.376E-09	1.019E-06	6.196E-07	1.708E-06	8.128E-09	1.662E-12	5.631E-12	2.606E-07
RES LYM	6.958E-09	2.248E-09	8.929E-09	4.376E-09	1.019E-06	6.196E-07	1.708E-06	8.128E-09	1.662E-12	5.631E-12	2.606E-07
S WALL	2.046E-03	6.144E-08	2.565E-07	1.449E-07	1.019E-06	3.331E-07	9.941E-07	3.515E-08	1.036E-11	9.363E-11	1.118E-07
SI WALL	9.667E-09	5.112E-03	1.618E-06	1.608E-06	1.019E-06	4.705E-07	7.414E-07	2.795E-08	1.204E-10	2.985E-09	1.426E-07
ULI WALL	1.525E-08	4.362E-06	3.014E-02	1.209E-06	1.019E-06	4.545E-07	1.214E-06	2.722E-08	1.031E-10	4.970E-09	2.537E-07
LLI WALL	3.837E-09	4.562E-07	2.311E-07	9.071E-02	1.019E-06	8.466E-07	6.975E-08	5.675E-09	1.236E-09	6.208E-09	1.326E-07
T BODY	4.417E-06	4.679E-05	9.091E-05	2.078E-04	1.310E-06	1.22	0.194	4.308E-03	1.905E-04	5.988E-05	2.706E-02
ADREN	9.125E-09	1.147E-08	3.599E-08	2.148E-08	1.019E-06	8.604E-07	2.949E-06	2.575E-07	8.041E-12	3.325E-11	5.582E-02
BL WALL	6.667E-10	3.297E-08	8.550E-08	5.874E-07	1.019E-06	2.415E-07	4.646E-08	1.819E-09	2.261E-09	1.099E-09	2.791E-02
KIDNEYS	1.208E-08	4.096E-08	1.234E-07	5.914E-08	1.019E-06	5.773E-07	2.142E-06	0.973	1.123E-11	1.055E-10	1.889E-07
LIVER	7.125E-09	2.581E-08	1.196E-07	1.469E-08	1.019E-06	3.921E-07	7.52	4.406E-08	8.527E-12	5.869E-11	1.072E-07
OVARIES	1.721E-09	3.197E-07	1.239E-06	4.356E-06	1.019E-06	4.080E-07	1.763E-07	9.752E-09	0.0	0.382	3.446E-07
PANCREAS	9.458E-08	2.597E-08	9.199E-08	4.615E-08	1.019E-06	6.266E-07	2.543E-06	6.786E-08	1.414E-11	4.885E-11	5.582E-02
BONE	3.658E-09	2.448E-08	6.548E-08	2.138E-07	5.078E-06	17.1	7.085E-07	2.002E-08	4.118E-10	2.782E-10	6.507E-07
R MAR	6.000E-09	8.991E-08	2.294E-07	7.562E-07	1.019E-06	2.83	8.952E-07	5.297E-08	3.168E-10	1.055E-09	5.582E-02
Y MAR	5.250E-09	3.447E-08	9.524E-08	2.807E-07	1.019E-06	3.726E-05	1.076E-06	2.429E-08	1.403E-10	3.867E-10	5.582E-02
ENDOST	3.658E-09	2.448E-08	6.548E-08	2.138E-07	1.019E-06	44.6	7.085E-07	2.002E-08	4.118E-10	2.782E-10	8.789E-06
SPLEEN	3.937E-08	1.815E-08	6.169E-08	6.144E-08	1.019E-06	6.328E-07	3.531E-07	1.501E-07	5.035E-12	5.072E-11	5.582E-02
TESTES	1.117E-10	2.914E-09	8.658E-09	1.489E-07	1.019E-06	2.942E-07	1.659E-08	5.260E-10	0.381	0.0	9.252E-08
THYMUS	1.029E-09	6.560E-10	2.646E-09	1.259E-09	1.019E-06	3.948E-07	2.274E-07	1.416E-09	6.207E-13	2.069E-12	5.582E-02
THYROID	1.796E-10	1.144E-10	4.123E-10	2.458E-10	1.019E-06	4.684E-07	3.987E-08	2.771E-10	1.225E-13	3.799E-13	5.582E-02
UTERUS	1.896E-09	1.643E-07	2.532E-07	6.134E-07	1.019E-06	2.672E-07	1.340E-07	6.871E-09	0.0	3.528E-09	5.582E-02

DOSE EQUIVALENT (REM/MICROCURIE)

SOURCE	TOTAL
TARGET	
LUNGS	3.638E-06
RES LYM	3.638E-06
S WALL	2.049E-03
SI WALL	5.117E-03
ULI WALL	3.015E-02
LLI WALL	9.071E-02
T BODY	1.45
ADREN	5.583E-02
BL WALL	2.791E-02
KIDNEYS	0.973
LIVER	7.52
OVARIES	0.382
PANCREAS	5.582E-02
BONE	17.1
R MAR	2.89
Y MAR	5.586E-02
ENDOST	44.6
SPLEEN	5.582E-02
TESTES	0.381
THYMUS	5.582E-02
THYROID	5.582E-02
UTERUS	5.582E-02

RADIONUCLIDE: TH-231

PHYSICAL AND METABOLIC PARAMETERS FOR DOSIMETRICALLY SIGNIFICANT PROGENY:

NUCLIDE	RADIOACTIVE HALF-LIFE (DAYS)
TH-231	1.060
PA-231	1.1900E 07
AC-227	7950.
TH-227	18.70
RA-223	11.40
RN-219	4.5800E-05
PO-215	2.0600E-08
PB-211	2.5100E-02
BI-211	1.4800E-03
PO-211	6.4800E-06
TL-207	3.3100E-03

BRANCHING RATIOS:

FROM	TO	FRACTION
TH-231	PA-231	1.000
PA-231	AC-227	1.000
AC-227	TH-227	1.000
TH-227	RA-223	1.000
RA-223	RN-219	1.000
RN-219	PO-215	1.000
PO-215	PB-211	1.000
PB-211	BI-211	1.000
BI-211	PO-211	3.0000E-03
BI-211	TL-207	0.9970

ORGAN ABSORBED	NUCLIDE	BLOOD TRANSFER FRACTION F2-PRIME	COMPARTMENT DEPOSITION FRACTION	COMPARTMENT BIOLOGICAL HALF-TIME (DAYS)
	TH-231	1.00	4.000E-02	0.500
			0.460	1.460E 04
			0.500	3.650E 04
	PA-231	1.00	0.460	1.460E 04
			0.540	3.650E 04
	AC-227	1.00	0.460	1.460E 04
			0.540	3.650E 04
	TH-227	1.00	0.460	1.460E 04
			0.540	3.650E 04
	RA-223	1.00	0.917	5.50
			5.360E-02	81.0
			2.000E-02	955.
			1.760E-04	3.140E 03
			9.390E-03	7.620E 03
	RN-219	0.0	0.874	2.650E-04
			9.130E-02	3.110E-03
			1.980E-02	2.280E-02
			8.630E-03	0.146
			6.120E-03	0.963
	PO-215	1.00	1.000E-02	0.500
			0.990	50.0
	PB-211	1.00	1.000E-01	1.00
			0.200	10.0
			0.300	320.
			0.200	2.000E 03
			0.200	8.000E 03
	BI-211	1.00	-1.720E-02	1.000E-01
			1.02	5.78
	PO-211	1.00	1.000E-02	0.500
			0.990	50.0
	TL-207	1.00	1.00	4.00

β^- decay (25.52 H 1)

Case 1 represents inhalation of oxides, hydroxides, and carbides; case 2 inhalation of nitrates; and case 3 ingestion of any compound.

*Retention data derived from "other tissues" compartment.

ORGAN	NUCLIDE	BLOOD TRANSFER FRACTION F2-PRIME	COMPARTMENT DEPOSITION FRACTION	COMPARTMENT BIOLOGICAL HALF-TIME (DAYS)
EXCRET.	TH-231	4.000E-02	1.00	0.500
	PA-231	0.0	1.00	0.500
	AC-227	0.0	1.00	0.500
	TH-227	0.0	1.00	0.500
	RA-223	0.0	1.00	0.500
	RN-219	0.0	0.874	2.650E-04
			9.130E-02	3.110E-03
			1.980E-02	2.280E-02
			8.630E-03	0.146
			6.120E-03	0.963
	PO-215	0.0	1.00	0.500
	PB-211	0.0	1.00	0.500
	BI-211	0.0	1.00	0.500
	PO-211	0.0	1.00	0.500
	TL-207	0.0	1.00	0.500
BONE	TH-231	0.450	1.00	3.650E 04
	PA-231	0.450	1.00	3.650E 04
	AC-227	0.450	1.00	3.650E 04
	TH-227	0.450	1.00	3.650E 04
	RA-223	0.172	0.880	5.68
			1.360E-02	240.
			2.030E-03	1.610E 03
			5.730E-02	1.490E 03
			4.600E-02	8.380E 03
	RN-219	0.0	0.700	2.650E-04
			0.300	1.000E 50
	*PO-215	9.000E-02	1.000E-02	0.500
			0.990	50.0
	PB-211	0.562	0.375	320.
			0.310	2.000E 03
			0.315	8.000E 03
	*BI-211	7.340E-02	-1.000E-01	1.000E-01
			1.10	5.78
	*PO-211	9.000E-02	1.000E-02	0.500
			0.990	50.0
	*TL-207	0.118	1.00	4.00
LIVER	TH-231	0.450	1.00	1.460E 04
	PA-231	0.450	1.00	1.460E 04
	AC-227	0.450	1.00	1.460E 04
	TH-227	0.450	1.00	1.460E 04
	*RA-223	4.540E-02	0.890	0.630
			7.090E-02	28.9
			3.040E-02	160.
			7.430E-03	776.
			7.940E-04	4.040E 03
	*RN-219	0.0	0.849	2.650E-04
			9.900E-02	3.110E-03
			4.400E-02	2.880E-02
			7.790E-04	0.146
			2.030E-05	0.963
	PO-215	1.000E-01	1.000E-02	0.500
			0.990	50.0
	PB-211	0.106	0.843	10.0
			7.870E-02	320.
			4.010E-02	2.000E 03
			3.800E-02	8.000E 03
	*BI-211	2.640E-02	-1.000E-01	1.000E-01
			1.10	5.78
	PO-211	1.000E-01	1.000E-02	0.500
			0.990	50.0
	*TL-207	4.240E-02	1.00	4.00

ORGAN	NUCLIDE	BLOOD TRANSFER FRACTION F2-PRIME	COMPARTMENT DEPOSITION FRACTION	COMPARTMENT BIOLOGICAL HALF-TIME (DAYS)
KIDNEYS	TH-231	1.000E-02	1.00	1.460E 04
	PA-231	1.000E-02	1.00	1.460E 04
	AC-227	1.000E-02	1.00	1.460E 04
	TH-227	1.000E-02	1.00	1.460E 04
	*RA-223	7.820E-03	0.890	0.630
			7.090E-02	28.9
			3.040E-02	160.
			7.430E-03	776.
			7.940E-04	4.040E 03
	*RN-219	0.0	0.849	2.650E-04
			9.900E-02	3.110E-03
			4.400E-02	2.880E-02
			7.790E-04	0.146
			2.030E-05	0.963
	PO-215	1.000E-01	1.000E-02	0.500
			0.990	50.0
	PB-211	5.090E-02	0.962	10.0
			2.000E-02	320.
			9.600E-03	2.000E 03
			8.290E-03	8.000E 03
	BI-211	0.400	1.00	5.78
	PO-211	1.000E-01	1.000E-02	0.500
			0.990	50.0
	TL-207	3.760E-02	1.00	4.00
SPLEEN	TH-231	2.640E-04	1.00	3.650E 04
	PA-231	4.760E-04	1.00	3.650E 04
	AC-227	4.760E-04	1.00	3.650E 04
	TH-227	4.760E-04	1.00	3.650E 04
	*RA-223	4.540E-03	0.890	0.630
			7.090E-02	28.9
			3.040E-02	160.
			7.430E-03	776.
			7.940E-04	4.040E 03
	*RN-219	0.0	0.849	2.650E-04
			9.900E-02	3.110E-03
			4.400E-02	2.880E-02
			7.790E-04	0.146
			2.030E-05	0.963
	PO-215	1.000E-01	1.000E-02	0.500
			0.990	50.0
	*PB-211	2.960E-04	0.375	320.
			0.310	2.000E 03
			0.315	8.000E 03
	*BI-211	2.640E-03	-1.000E-01	1.000E-01
			1.10	5.78
	PO-211	1.000E-01	1.000E-02	0.500
			0.990	50.0
	*TL-207	4.240E-03	1.00	4.00
TESTES	TH-231	3.500E-04	1.00	3.650E 04
	PA-231	3.500E-04	1.00	3.650E 04
	AC-227	3.500E-04	1.00	3.650E 04
	TH-227	3.500E-04	1.00	3.650E 04
	*RA-223	8.830E-04	0.890	0.630
			7.090E-02	28.9
			3.040E-02	160.
			7.430E-03	776.
			7.940E-04	4.040E 03
	*RN-219	0.0	0.910	2.650E-04
			8.660E-02	3.110E-03
			3.040E-04	2.880E-02
			3.170E-03	0.146
			6.810E-06	0.963
	*PO-215	6.300E-04	1.000E-02	0.500
			0.990	50.0
	*PB-211	5.760E-05	0.375	320.
			0.310	2.000E 03
			0.315	8.000E 03
	*BI-211	5.140E-04	-1.000E-01	1.000E-01
			1.10	5.78
	*PO-211	6.300E-04	1.000E-02	0.500
			0.990	50.0
	*TL-207	8.240E-04	1.00	4.00

ORGAN	NUCLIDE	BLOOD TRANSFER FRACTION F2-PRIME	COMPARTMENT DEPOSITION FRACTION	COMPARTMENT BIOLOGICAL HALF-TIME (DAYS)
OVARIES	TH-231	1.100E-04	1.00	3.650E 04
	PA-231	1.100E-04	1.00	3.650E 04
	AC-227	1.100E-04	1.00	3.650E 04
	TH-227	1.100E-04	1.00	3.650E 04
	* RA-223	2.770E-04	0.890	0.630
			7.090E-02	28.9
			3.040E-02	160.
			7.430E-03	776.
			7.940E-04	4.040E 03
	RN-219	0.0	0.910	2.650E-04
			8.660E-02	3.110E-03
			3.040E-04	2.880E-02
			3.170E-03	0.146
			6.810E-06	0.963
	* PO-215	1.980E-04	1.000E-02	0.500
			0.990	50.0
	* PB-211	1.810E-05	0.375	0.0
			0.310	2.000E 03
			0.315	8.000E 03
	* BI-211	1.610E-04	-1.000E-01	1.000E-01
			1.10	5.78
	* PO-211	1.580E-04	1.000E-02	0.500
			0.990	50.0
	* TL-207	2.590E-04	1.00	4.00
OTHER	TH-231	4.970E-02	1.00	3.650E 04
	PA-231	8.950E-02	1.00	3.650E 04
	AC-227	8.950E-02	1.00	3.650E 04
	TH-227	8.950E-02	1.00	3.650E 04
	RA-223	0.854	0.890	0.630
			7.090E-02	28.9
			3.040E-02	160.
			7.430E-03	776.
			7.940E-04	4.040E 03
	RN-219	0.0	0.872	2.650E-04
			9.140E-02	3.110E-03
			2.050E-02	2.880E-02
			9.080E-03	0.146
			6.790E-03	0.963
	PO-215	0.610	1.000E-02	0.500
			0.990	50.0
	PB-211	5.580E-02	0.375	0.0
			0.310	2.000E 03
			0.315	8.000E 03
	BI-211	0.500	-1.000E-01	1.000E-01
			1.10	5.78
	PO-211	0.610	1.000E-02	0.500
			0.990	50.0
	TL-207	0.814	1.00	4.00

S FACTORS (REM/MICROCURIE-DAY) FOR TH-231

TARGET ORGANS	SOURCE ORGANS														
	LUNGS	RES LYM	S CONT	SI CONT	ULI CONT	LLI CONT	EXCRET.	BONE	LIVER	KIDNEYS	SPLEEN	TESTES	OVARIES	OTHER
LUNGS	0.891E-02	0.391E-02	0.685E-05	0.488E-06	0.613E-06	0.163E-06	0.135E-03	0.337E-05	0.124E-04	0.248E-05	0.972E-05	0.730E-08	0.119E-06	0.866E-05
RES LYM	0.891E-02	0.557E-00	0.685E-05	0.488E-06	0.613E-06	0.163E-06	0.135E-03	0.337E-05	0.124E-04	0.248E-05	0.972E-05	0.730E-08	0.119E-06	0.866E-05
S WALL	0.736E-05	0.736E-05	0.174E-01	0.143E-04	0.173E-04	0.981E-05	0.136E-03	0.168E-05	0.619E-05	0.114E-04	0.418E-04	0.363E-07	0.211E-05	0.545E-05
SI WALL	0.423E-06	0.423E-06	0.892E-05	0.111E-01	0.109E-03	0.584E-04	0.137E-03	0.240E-05	0.497E-05	0.904E-05	0.393E-05	0.779E-05	0.677E-04	0.642E-05
ULI WALL	0.517E-06	0.517E-06	0.142E-04	0.430E-03	0.197E-01	0.312E-04	0.137E-03	0.220E-05	0.885E-05	0.877E-05	0.445E-05	0.662E-06	0.888E-04	0.828E-05
LLI WALL	0.111E-06	0.111E-06	0.340E-05	0.654E-04	0.152E-04	0.318E-01	0.136E-03	0.398E-05	0.495E-06	0.169E-05	0.160E-05	0.983E-05	0.117E-03	0.673E-05
T BODY	0.136E-03	0.136E-03	0.533E-04	0.114E-03	0.759E-04	0.888E-04	0.135E-03	0.136E-03	0.137E-03	0.136E-03	0.137E-03	0.134E-03	0.139E-03	0.133E-03
ADREN	0.983E-05	0.983E-05	0.938E-05	0.200E-05	0.250E-05	0.710E-06	0.136E-03	0.421E-05	0.197E-04	0.738E-04	0.247E-04	0.481E-07	0.693E-06	0.268E-03
BL WALL	0.636E-07	0.636E-07	0.666E-06	0.787E-05	0.637E-05	0.250E-04	0.136E-03	0.136E-05	0.340E-06	0.574E-06	0.207E-06	0.170E-04	0.263E-04	0.137E-03
KIDNEYS	0.215E-05	0.735E-05	0.111E-04	0.994E-05	0.886E-05	0.217E-05	0.136E-03	0.270E-05	0.151E-04	0.293E-01	0.476E-04	0.549E-07	0.231E-05	0.737E-05
LIVER	0.110E-04	0.110E-04	0.634E-05	0.597E-05	0.864E-05	0.944E-05	0.136E-03	0.211E-05	0.511E-02	0.144E-04	0.249E-05	0.541E-07	0.127E-05	0.470E-05
OVARIES	0.196E-06	0.196E-06	0.151E-05	0.585E-04	0.663E-04	0.129E-03	0.141E-03	0.271E-05	0.111E-05	0.280E-05	0.820E-06	0.0	0.912E-00	0.120E-04
PANCREAS	0.900E-05	0.900E-05	0.819E-04	0.584E-05	0.637E-05	0.189E-05	0.137E-03	0.262E-05	0.169E-04	0.233E-04	0.119E-03	0.981E-07	0.114E-05	0.283E-03
BONE	0.772E-05	0.772E-05	0.354E-05	0.559E-05	0.487E-05	0.916E-05	0.138E-03	0.172E-02	0.520E-05	0.663E-05	0.521E-05	0.393E-05	0.691E-05	0.156E-04
R MAR	0.940E-05	0.940E-05	0.570E-05	0.204E-04	0.171E-04	0.329E-04	0.143E-03	0.230E-03	0.651E-05	0.176E-04	0.684E-05	0.221E-05	0.264E-04	0.250E-03
Y MAR	0.946E-05	0.946E-05	0.505E-05	0.786E-05	0.703E-05	0.120E-04	0.141E-03	0.892E-04	0.797E-05	0.804E-05	0.797E-05	0.980E-06	0.958E-05	0.265E-03
ENDOST	0.772E-05	0.772E-05	0.354E-05	0.559E-05	0.487E-05	0.916E-05	0.141E-03	0.103E-02	0.520E-05	0.663E-05	0.521E-05	0.393E-05	0.691E-05	0.149E-03
SPLEEN	0.956E-05	0.956E-05	0.431E-04	0.431E-05	0.422E-05	0.225E-05	0.136E-03	0.253E-05	0.242E-05	0.456E-04	0.504E-01	0.341E-07	0.109E-05	0.747E-05
TESTES	0.112E-07	0.112E-07	0.905E-07	0.642E-06	0.566E-06	0.548E-05	0.133E-03	0.172E-05	0.103E-06	0.149E-06	0.766E-07	0.254E-00	0.0	0.466E-05
THYMUS	0.160E-04	0.160E-04	0.816E-06	0.137E-05	0.183E-05	0.411E-07	0.138E-03	0.182E-05	0.155E-05	0.457E-06	0.522E-06	0.292E-08	0.388E-07	0.285E-03
THYROID	0.242E-05	0.242E-05	0.141E-06	0.209E-07	0.234E-07	0.994E-09	0.134E-03	0.237E-05	0.217E-06	0.759E-07	0.147E-06	0.478E-09	0.607E-08	0.270E-03
UTERUS	0.174E-06	0.174E-06	0.172E-05	0.414E-04	0.180E-04	0.244E-04	0.137E-03	0.155E-05	0.919E-06	0.204E-05	0.914E-06	0.0	0.930E-04	0.298E-03

CASE 1.. INHALATION

AMAD (MICRON).. 1.00 D3 =0.310 D4 =8.000E-02 D5 =0.249

	SOLUBILITY CLASS	G.I. UPTAKE FRACTIONS STOMACH	S INT	U L INT	L L INT
TH-231	Y	0.0	1.000E-03	0.0	0.0
PA-231	Y	0.0	1.000E-03	0.0	0.0
AC-227	Y	0.0	1.000E-03	0.0	0.0
TH-227	Y	0.0	1.000E-03	0.0	0.0
RA-223	W	0.0	0.200	0.0	0.0
RN-219	*	0.0	0.0	0.0	0.0
PO-215	W	0.0	1.000E-01	0.0	0.0
PB-211	W	0.0	8.000E-02	0.0	0.0
BI-211	W	0.0	5.000E-02	0.0	0.0
PO-211	W	0.0	1.000E-01	0.0	0.0
TL-207	W	0.0	0.950	0.0	0.0

*SPECIAL LUNG CLEARANCE PARAMETERS. T=HALF-TIME (DAYS), F=DEPOSITION FRACTION.

CLEARANCE PATHWAY..		A	B	C	D	E	F	G	H	I
RN-219	F	1.0	0.0	1.0	0.0	1.0	0.0	0.0	0.0	1.0
	T	8.20E-05	1.0	8.20E-05	1.0	8.20E-05	0.0	0.0	0.0	2.96E-03

DOSE EQUIVALENT (REM/MICROCURIE)

SOURCE	LUNGS	RES LYM	S CONT	SI CONT	ULI CONT	LLI CONT	EXCRET.	BONE	LIVER	KIDNEYS	SPLEEN
TARGET											
LUNGS	4.142E-03	1.149E-06	9.245E-08	2.374E-08	7.155E-08	2.124E-08	1.107E-08	1.036E-08	3.667E-08	1.658E-10	1.757E-11
RES LYM	4.121E-03	2.640E-03	9.245E-08	2.374E-08	7.155E-08	2.124E-08	1.107E-08	1.036E-08	3.667E-08	1.658E-10	1.757E-11
S WALL	3.404E-06	1.115E-09	2.348E-04	6.955E-07	2.043E-06	7.570E-07	1.115E-08	5.220E-09	1.854E-08	7.576E-10	7.529E-11
SI WALL	1.956E-07	7.645E-11	1.204E-07	5.399E-04	1.272E-05	7.609E-06	1.123E-08	7.429E-09	1.492E-08	6.019E-10	7.334E-12
ULI WALL	2.391E-07	9.466E-11	1.917E-07	2.091E-05	2.300E-03	4.055E-06	1.123E-08	6.820E-09	2.641E-08	5.848E-10	8.169E-12
LLI WALL	5.134E-08	2.393E-11	4.589E-08	3.181E-06	1.774E-06	4.143E-03	1.115E-08	1.216E-08	1.517E-09	1.148E-10	3.019E-12
T BODY	6.320E-05	5.676E-07	7.194E-07	5.545E-06	8.755E-06	1.157E-05	1.107E-08	1.331E-05	1.857E-06	4.125E-08	2.163E-09
ADREN	4.546E-06	1.489E-09	1.131E-07	9.728E-08	2.988E-07	9.251E-08	1.115E-08	1.305E-08	5.861E-08	4.819E-09	4.499E-11
BL WALL	2.941E-08	1.398E-11	8.989E-09	3.829E-07	7.436E-07	3.257E-06	1.115E-08	4.264E-09	1.052E-09	3.930E-11	4.245E-13
KIDNEYS	1.087E-06	3.914E-10	1.498E-07	4.835E-07	1.034E-06	2.827E-07	1.115E-08	8.382E-09	4.493E-08	9.234E-06	8.510E-11
LIVER	5.087E-06	1.632E-09	8.557E-08	2.904E-07	1.009E-06	6.945E-08	1.115E-08	6.529E-09	7.162E-05	9.540E-10	4.709E-12
OVARIES	9.065E-08	3.815E-11	2.038E-08	2.845E-06	7.739E-06	1.681E-05	1.156E-08	8.352E-09	3.348E-09	1.889E-10	1.706E-12
PANCREAS	4.162E-06	1.399E-09	1.240E-06	2.840E-07	7.436E-07	2.463E-07	1.123E-08	8.204E-09	5.023E-08	1.545E-09	2.113E-10
BONE	3.570E-06	1.087E-09	4.778E-08	2.719E-07	5.685E-07	1.193E-06	1.132E-08	1.860E-04	1.533E-08	4.345E-10	9.296E-12
R MAR	4.347E-06	1.330E-09	7.693E-08	9.922E-07	1.996E-06	4.237E-06	1.172E-08	7.051E-05	1.925E-08	1.153E-09	1.229E-11
Y MAR	3.912E-06	1.185E-09	6.816E-08	3.823E-07	9.206E-07	1.564E-06	1.156E-08	2.603E-07	2.348E-08	5.270E-10	1.420E-11
ENDOST	3.570E-06	1.087E-09	4.778E-08	2.719E-07	5.685E-07	1.193E-06	1.156E-08	3.565E-04	1.533E-08	4.345E-10	9.296E-12
SPLEEN	4.421E-06	1.431E-09	5.412E-07	2.096E-07	4.926E-07	2.932E-07	1.115C-08	7.761E-09	7.314E-09	2.093E-09	8.363E-07
TESTES	5.180E-09	3.142E-12	1.221E-09	3.123E-09	6.607E-08	7.114E-07	1.090E-08	5.357E-09	3.284E-10	1.049E-11	1.635E-13
THYMUS	7.400E-06	2.415E-09	1.101E-08	6.663E-09	2.159E-08	5.355E-09	1.131E-08	5.621E-09	4.754E-09	3.120E-11	1.066E-12
THYROID	1.119E-06	4.044E-10	1.930E-09	1.017E-09	2.731E-09	9.042E-10	1.099E-08	7.448E-09	6.965E-10	5.417E-12	3.049E-13
UTERUS	8.047E-08	3.180E-11	2.321E-08	2.014E-06	2.171E-06	3.179E-06	1.123E-08	4.865E-09	2.791E-09	1.385E-10	1.744E-12

DOSE EQUIVALENT (REM/MICROCURIE)

SOURCE	TESTES	OVARIES	OTHER	TOTAL
TARGET				
LUNGS	2.063E-14	9.222E-14	2.883E-09	4.143E-03
RES LYM	2.063E-14	9.222E-14	2.883E-09	6.760E-03
S WALL	1.488E-13	1.579E-12	1.861E-09	2.418E-04
SI WALL	1.902E-12	4.916E-11	2.187E-09	5.606E-04
ULI WALL	1.609E-12	6.400E-11	2.787E-09	2.325E-03
LLI WALL	2.083E-11	8.428E-11	2.299E-09	4.148E-03
T BODY	1.769E-09	5.588E-10	4.039E-07	1.060E-04
ADREN	1.258E-13	5.408E-13	8.347E-07	6.072E-06
BL WALL	3.994E-11	1.935E-11	4.180E-07	4.857E-06
KIDNEYS	1.737E-13	1.742E-12	2.482E-09	1.233E-05
LIVER	1.365E-13	9.615E-13	1.597E-09	7.818E-05
OVARIES	0.0	3.507E-06	4.010E-09	3.104E-05
PANCREAS	2.201E-13	8.610E-13	8.401E-07	7.589E-06
BONE	6.854E-12	5.015E-12	5.137E-09	1.917E-04
R MAR	5.184E-12	1.911E-11	8.292E-07	4.307E-05
Y MAR	2.308E-12	6.947E-12	8.338E-07	7.878E-06
ENDOST	6.854E-12	5.015E-12	4.775E-08	3.622E-04
SPLEEN	9.376E-14	8.263E-13	2.515E-09	6.827E-06
TESTES	3.504E-06	0.0	1.592E-09	4.337E-06
THYMUS	8.681E-15	3.211E-14	8.407E-07	8.309E-06
THYROID	1.635E-15	5.444E-15	8.359E-07	1.981E-06
UTERUS	0.0	6.798E-11	8.401E-07	8.327E-06

PERCENT DOSE EQUIVALENT..

NUCLIDE	TH-231	PA-231	AC-227	TH-227	RA-223	RN-219	PO-215	PB-211	BI-211
TARGET									
LUNGS	99.5	0.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0
RES LYM	61.9	21.1	0.0	3.7	2.9	3.4	3.6	0.0	3.2
S WALL	100.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
SI WALL	100.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
ULI WALL	100.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
LLI WALL	100.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
T BODY	85.2	5.9	0.0	3.5	1.3	1.3	1.5	0.0	1.3
ADREN	37.6	6.1	0.0	4.0	0.6	0.6	0.6	0.0	0.6
BL WALL	92.3	3.8	0.0	2.5	0.3	0.4	0.4	0.0	0.3
KIDNEYS	30.4	30.4	0.2	18.8	2.4	2.5	2.7	0.0	2.4
LIVER	27.2	37.2	0.3	22.9	3.0	3.1	3.3	0.0	3.0
OVARIES	90.5	4.7	0.0	3.1	0.4	0.4	0.5	0.0	0.4
PANCREAS	90.1	4.9	0.0	3.2	0.4	0.5	0.5	0.0	0.4
BONE	5.5	34.3	0.3	22.2	8.8	9.5	10.3	0.0	9.1
R MAR	29.0	26.0	0.2	16.8	6.6	7.0	7.6	0.0	6.9
Y MAR	90.4	4.7	0.0	3.1	0.4	0.4	0.5	0.0	0.4
ENDOST	2.4	44.3	0.1	21.8	9.3	7.4	7.0	0.0	7.6
SPLEEN	89.0	5.4	0.0	3.5	0.5	0.5	0.6	0.0	0.5
TESTES	32.3	33.6	0.3	21.8	2.9	3.0	3.2	0.0	3.0
THYMUS	91.0	4.4	0.0	2.9	0.4	0.4	0.5	0.0	0.4
THYROID	62.1	18.6	0.1	12.1	1.7	1.9	1.9	0.0	1.7
UTERUS	91.0	4.4	0.0	2.9	0.4	0.4	0.5	0.0	0.4

CASE 2.. INHALATION

AMAD (MICRON).. 1.00 D3 =0.310 D4 =8.000E-02 D5 =0.249

	SOLUBILITY CLASS	G.I. UPTAKE FRACTIONS STOMACH	S INT	U L INT	L L INT
TH-231	W	0.0	1.000E-03	0.0	0.0
PA-231	W	0.0	1.000E-03	0.0	0.0
AC-227	W	0.0	1.000E-03	0.0	0.0
TH-227	W	0.0	1.000E-03	0.0	0.0
RA-223	W	0.0	0.200	0.0	0.0
RN-219	*	0.0	0.0	0.0	0.0
PO-215	W	0.0	1.000E-01	0.0	0.0
PB-211	W	0.0	8.000E-02	0.0	0.0
BI-211	W	0.0	5.000E-02	0.0	0.0
PO-211	W	0.0	1.000E-01	0.0	0.0
TL-207	W	0.0	0.950	0.0	0.0

*SPECIAL LUNG CLEARANCE PARAMETERS. T=HALF-TIME (DAYS), F=DEPOSITION FRACTION.

	CLEARANCE PATHWAY..	A	B	C	D	E	F	G	H	I
RN-219	F	1.0	0.0	1.0	0.0	1.0	0.0	0.0	0.0	1.0
	T	8.20E-05	1.0	8.20E-05	1.0	8.20E-05	0.0	0.0	0.0	2.96E-03

DOSE EQUIVALENT (REM/MICROCURIE)

SOURCE	LUNGS	RES LYM	S CONT	SI CONT	ULI CONT	LLI CONT	EXCRET.	BONE	LIVER	KIDNEYS	SPLEEN
TARGET											
LUNGS	3.908E-03	3.451E-06	7.810E-08	2.005E-08	6.044E-08	1.794E-08	1.889E-07	1.673E-07	6.116E-07	2.726E-09	2.825E-10
RES LYM	3.906E-03	2.274E-04	7.810E-08	2.005E-08	6.044E-08	1.794E-08	1.889E-07	1.673E-07	6.116E-07	2.726E-09	2.825E-10
S WALL	3.227E-06	2.851E-09	1.984E-04	5.875E-07	1.726E-06	6.395E-07	1.903E-07	8.354E-08	3.059E-07	1.252E-08	1.209E-09
SI WALL	1.854E-07	1.639E-10	1.017E-07	4.560E-04	1.075E-05	6.428E-06	1.917E-07	1.193E-07	2.457E-07	9.928E-09	1.147E-10
ULI WALL	2.267E-07	2.003E-10	1.619E-07	1.767E-05	1.942E-03	3.434E-06	1.917E-07	1.094E-07	4.371E-07	9.634E-09	1.296E-10
LLI WALL	4.866E-08	4.302E-11	3.876E-08	2.687E-06	1.499E-06	3.500E-03	1.903E-07	1.974E-07	2.456E-08	1.862E-09	4.676E-11
T BODY	5.965E-05	5.517E-08	6.077E-07	4.684E-06	7.395E-06	9.774E-06	1.889E-07	4.238E-05	1.078E-05	2.385E-07	8.092E-09
ADREN	4.310E-06	3.808E-09	9.554E-08	8.217E-08	2.524E-07	7.814E-08	1.903E-07	2.093E-07	9.725E-07	8.080E-08	7.185E-10
BL WALL	2.788E-08	2.465E-11	7.593E-09	3.233E-07	6.281E-07	2.752E-06	1.903E-07	6.774E-08	1.689E-08	6.333E-10	6.120E-12
KIDNEYS	1.030E-06	9.104E-10	1.266E-07	4.084E-07	8.736E-07	2.388E-07	1.903E-07	1.342E-07	7.455E-07	5.232E-05	1.381E-09
LIVER	4.822E-06	4.261E-09	7.228E-08	2.453E-07	8.519E-07	5.866E-08	1.903E-07	1.049E-07	4.087E-04	1.580E-08	7.279E-11
OVARIES	8.593E-08	7.595E-11	1.722E-08	2.403E-06	6.537E-06	1.420E-05	1.973E-07	1.346E-07	5.492E-08	3.082E-09	2.429E-11
PANCREAS	3.946E-06	3.486E-09	1.048E-06	2.399E-07	6.281E-07	2.080E-07	1.917E-07	1.305E-07	8.342E-07	2.557E-08	3.450E-09
BONE	3.384E-06	2.990E-09	4.036E-08	2.297E-07	4.802E-07	1.008E-06	1.931E-07	5.850E-04	2.563E-07	7.263E-09	1.511E-10
R MAR	4.121E-06	3.641E-09	6.499E-08	8.381E-07	1.686E-06	3.621E-06	2.001E-07	9.379E-05	3.211E-07	1.928E-08	1.986E-10
Y MAR	3.709E-06	3.277E-09	5.758E-08	3.229E-07	6.932E-07	1.321E-06	1.973E-07	4.390E-06	3.928E-07	8.808E-09	2.312E-10
ENDOST	3.384E-06	2.990E-09	4.036E-08	2.297E-07	4.802E-07	1.008E-06	1.973E-07	1.039E-03	2.563E-07	7.263E-09	1.511E-10
SPLEEN	4.191E-06	3.703E-09	4.572E-07	1.771E-07	4.161E-07	2.476E-07	1.903E-07	1.255E-07	1.198E-07	4.997E-08	3.064E-06
TESTES	4.910E-09	4.343E-12	1.032E-09	2.638E-08	5.581E-08	6.009E-07	1.861E-07	8.557E-08	5.144E-09	1.652E-10	2.278E-12
THYMUS	7.014E-06	6.198E-09	9.303E-09	5.629E-09	1.824E-08	4.524E-09	1.931E-07	9.041E-08	7.690E-08	5.040E-10	1.542E-11
THYROID	1.061E-06	9.376E-10	1.630E-09	8.587E-10	2.307E-09	7.638E-10	1.875E-07	1.181E-07	1.085E-08	8.433E-11	4.353E-12
UTERUS	7.628E-08	6.742E-11	1.961E-08	1.701E-06	1.834E-06	2.686E-06	1.917E-07	7.721E-08	4.552E-08	2.248E-09	2.675E-11

DOSE EQUIVALENT (REM/MICROCURIE)

SOURCE	TESTES	OVARIES	OTHER	TOTAL
TARGET				
LUNGS	2.905E-13	1.442E-12	4.724E-08	3.913E-03
RES LYM	2.905E-13	1.442E-12	4.724E-08	4.135E-03
S WALL	2.213E-12	2.559E-11	2.983E-08	2.052E-04
SI WALL	3.016E-11	8.169E-10	3.513E-08	4.741E-04
ULI WALL	2.563E-11	1.070E-09	4.523E-08	1.965E-03
LLI WALL	3.402E-10	1.410E-09	3.684E-08	3.505E-03
T BODY	9.239E-09	2.952E-09	1.498E-06	1.373E-04
ADREN	1.887E-12	8.525E-12	3.063E-06	9.338E-06
BL WALL	6.545E-10	3.180E-10	1.547E-06	5.562E-06
KIDNEYS	2.621E-12	2.805E-11	4.026E-08	5.611E-05
LIVER	2.108E-12	1.543E-11	2.571E-08	4.151E-04
OVARIES	0.0	1.796E-05	6.550E-08	4.166E-05
PANCREAS	3.427E-12	1.385E-11	3.145E-06	1.040E-05
BONE	1.127E-10	8.337E-11	8.498E-08	5.907E-04
R MAR	8.506E-11	3.184E-10	2.966E-06	1.076E-04
Y MAR	3.774E-11	1.156E-10	3.047E-06	1.414E-05
ENDOST	1.127E-10	8.337E-11	8.042E-07	1.046E-03
SPLEEN	1.350E-12	1.315E-11	4.081E-08	9.084E-06
TESTES	1.794E-05	0.0	2.551E-08	1.893E-05
THYMUS	1.174E-13	4.789E-13	3.156E-06	1.058E-05
THYROID	1.980E-14	7.607E-14	3.075E-06	4.459E-06
UTERUS	0.0	1.123E-09	3.145E-06	9.780E-06

PERCENT DOSE EQUIVALENT..

NUCLIDE	TH-231	PA-231	AC-227	TH-227	RA-223	RN-219	PO-215	PB-211	BI-211
TARGET									
LUNGS	99.9	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0
RES LYM	99.7	0.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0
S WALL	100.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
SI WALL	100.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
ULI WALL	100.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
LLI WALL	100.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
T BODY	70.4	12.2	0.1	6.9	2.5	2.6	2.8	0.0	2.5
ADREN	82.7	9.1	0.1	5.3	0.7	0.7	0.8	0.0	0.7
BL WALL	85.5	7.7	0.1	4.4	0.6	0.6	0.6	0.0	0.6
KIDNEYS	63.7	19.9	0.1	10.6	1.4	1.4	1.5	0.0	1.4
LIVER	62.0	20.8	0.1	11.1	1.4	1.5	1.6	0.0	1.4
OVARIES	80.2	10.5	0.1	6.0	0.8	0.8	0.9	0.0	0.8
PANCREAS	84.5	8.2	0.1	4.7	0.6	0.6	0.7	0.0	0.6
BONE	15.3	33.3	0.2	19.0	7.5	8.1	8.8	0.0	7.8
R MAR	21.9	30.9	0.2	17.6	6.9	7.4	8.0	0.0	7.1
Y MAR	88.5	6.1	0.0	3.5	0.5	0.5	0.5	0.0	0.5
ENDOST	5.4	45.9	0.1	20.0	8.4	6.7	6.4	0.0	7.0
SPLEEN	82.2	9.4	0.1	5.4	0.7	0.7	0.8	0.0	0.7
TESTES	56.5	23.1	0.2	13.2	1.7	1.8	1.9	0.0	1.7
THYMUS	84.8	8.1	0.1	4.6	0.6	0.6	0.7	0.0	0.6
THYROID	83.8	10.1	0.1	11.0	1.4	1.5	1.6	0.0	1.4
UTERUS	83.5	8.7	0.1	5.0	0.6	0.7	0.7	0.0	0.6

CASE 3.. INGESTION

INGESTION TRANSFER FRACTIONS (G. I. TRACT TO BLOOD)

	TH-231	PA-231	AC-227	TH-227	RA-223	RN-219	PO-215	PB-211	BI-211	PO-211	TL-207
STOMACH	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
S INT	1.000E-03	1.000E-03	1.000E-03	1.000E-03	0.200	0.0	1.000E-01	8.000E-02	5.000E-02	1.000E-01	0.950
U L INT	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
L L INT	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

DOSE EQUIVALENT (REM/MICROCURIE)

SOURCE	S CONT	SI CONT	ULI CONT	LLI CONT	EXCRET.	BONE	LIVER	KIDNEYS	SPLEEN	TESTES	OVARIES
TARGET											
LUNGS	2.778E-07	7.133E-08	2.150E-07	6.383E-08	2.324E-09	2.051E-09	7.512E-09	3.345E-11	3.461E-12	3.526E-15	1.763E-14
RES LYM	2.778E-07	7.133E-08	2.150E-07	6.383E-08	2.324E-09	2.051E-09	7.512E-09	3.345E-11	3.461E-12	3.526E-15	1.763E-14
S WALL	7.058E-04	2.090E-06	6.139E-06	2.275E-06	2.341E-09	1.023E-09	3.755E-09	1.537E-10	1.481E-11	2.696E-14	3.137E-13
SI WALL	3.618E-07	1.622E-03	3.824E-05	2.287E-05	2.358E-09	1.461E-09	3.016E-09	1.219E-10	1.403E-12	3.692E-13	1.003E-11
ULI WALL	5.760E-07	6.285E-05	6.911E-03	1.222E-05	2.358E-09	1.340E-09	5.367E-09	1.183E-10	1.586E-12	3.139E-13	1.315E-11
LLI WALL	1.379E-07	9.559E-06	5.332E-06	1.245E-02	2.341E-09	2.420E-09	3.011E-10	2.284E-11	5.715E-13	4.173E-12	1.732E-11
T BODY	2.162E-06	1.666E-05	2.631E-05	3.477E-05	2.324E-09	3.748E-07	1.160E-07	2.564E-09	7.654E-11	9.675E-11	3.100E-11
ADREN	3.399E-07	2.923E-07	8.980E-07	2.780E-07	2.341E-09	2.564E-09	1.194E-08	9.929E-10	8.800E-12	2.301E-14	1.043E-13
BL WALL	2.701E-08	1.150E-06	2.235E-06	9.789E-06	2.341E-09	8.294E-10	2.070E-10	7.763E-12	7.442E-14	8.030E-12	3.903E-12
KIDNEYS	4.502E-07	1.453E-06	3.108E-06	8.497E-07	2.341E-09	1.645E-09	9.154E-09	5.601E-07	1.694E-11	3.197E-14	3.437E-13
LIVER	2.572E-07	8.726E-07	3.031E-06	2.087E-07	2.341E-09	1.285E-09	4.380E-06	1.940E-10	8.896E-13	2.577E-14	1.891E-13
OVARIES	6.125E-08	8.551E-06	2.326E-05	5.051E-05	2.427E-09	1.649E-09	6.739E-10	3.780E-11	2.951E-13	0.0	1.872E-07
PANCREAS	3.728E-06	8.536E-07	2.235E-06	7.401E-07	2.358E-09	1.598E-09	1.024E-08	3.140E-10	4.232E-11	4.191E-14	1.697E-13
BONE	1.436E-07	8.171E-07	1.708E-06	3.587E-06	2.375E-09	5.142E-06	3.149E-09	8.923E-11	1.854E-12	1.383E-12	1.024E-12
R MAR	2.312E-07	2.982E-06	5.999E-06	1.288E-05	2.461E-09	8.151E-07	3.944E-09	2.369E-10	2.435E-12	1.044E-12	3.911E-12
Y MAR	2.048E-07	1.149E-06	2.466E-06	4.699E-06	2.427E-09	5.397E-08	4.827E-09	1.082E-10	2.835E-12	4.630E-13	1.419E-12
ENDOST	1.436E-07	8.171E-07	1.708E-06	3.587E-06	2.427E-09	8.727E-06	3.149E-09	8.923E-11	1.854E-12	1.383E-12	1.024E-12
SPLEEN	1.627E-06	6.300E-07	1.480E-06	8.810E-07	2.341E-09	1.539E-09	1.470E-09	6.139E-10	2.875E-08	1.641E-14	1.610E-13
TESTES	3.671E-09	9.384E-08	1.986E-07	2.138E-06	2.289E-09	1.048E-09	6.292E-11	2.021E-12	2.763E-14	1.869E-07	0.0
THYMUS	3.310E-08	2.003E-08	6.490E-08	1.609E-08	2.375E-09	1.108E-09	9.428E-10	6.178E-12	1.876E-13	1.420E-15	5.838E-15
THYROID	5.800E-09	3.055E-09	8.209E-09	2.718E-09	2.306E-09	1.446E-09	1.327E-10	1.031E-12	5.290E-14	2.372E-16	9.227E-16
UTERUS	6.977E-08	6.051E-06	6.525E-06	9.554E-06	2.358E-09	9.454E-10	5.584E-10	2.756E-11	3.268E-13	0.0	1.379E-11

DOSE EQUIVALENT (REM/MICROCURIE)

SOURCE	OTHER	TOTAL
TARGET		
LUNGS	5.797E-10	6.405E-07
RES LYM	5.797E-10	6.405E-07
S WALL	3.655E-10	7.163E-04
SI WALL	4.304E-10	1.684E-03
ULI WALL	5.546E-10	6.986E-03
LLI WALL	4.513E-10	1.247E-02
T BODY	1.412E-08	8.042E-05
ADREN	2.875E-08	1.855E-06
BL WALL	1.457E-08	1.322E-05
KIDNEYS	4.937E-10	6.435E-06
LIVER	3.150E-10	8.753E-06
OVARIES	8.034E-10	8.258E-05
PANCREAS	2.976E-08	7.600E-06
BONE	1.043E-09	1.140E-05
R MAR	2.755E-08	2.294E-05
Y MAR	2.855E-08	8.609E-06
ENDOST	9.885E-09	1.500E-05
SPLEEN	5.004E-10	4.653E-06
TESTES	3.125E-10	2.625E-06
THYMUS	2.989E-08	1.684E-07
THYROID	2.889E-08	5.256E-08
UTERUS	2.976E-08	2.223E-05

PERCENT DOSE EQUIVALENT..

NUCLIDE	TH-231	PA-231	AC-227	TH-227	RA-223	RN-219	PO-215	PB-211	BI-211
TARGET									
LUNGS	100.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
RES LYM	100.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
S WALL	100.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
SI WALL	100.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
ULI WALL	100.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
LLI WALL	100.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
T BODY	99.6	0.2	0.0	0.1	0.0	0.0	0.0	0.0	0.0
ADREN	99.4	0.3	0.0	0.2	0.0	0.0	0.0	0.0	0.0
BL WALL	100.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
KIDNEYS	97.4	1.4	0.0	0.8	0.1	0.1	0.1	0.0	0.1
LIVER	85.2	8.1	0.1	4.3	0.6	0.6	0.6	0.0	0.6
OVARIES	99.9	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
PANCREAS	99.9	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0
BONE	64.0	14.1	0.1	8.1	3.2	3.4	3.7	0.0	3.3
R MAR	97.0	1.2	0.0	0.7	0.3	0.3	0.3	0.0	0.3
Y MAR	99.9	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0
ENDOST	46.0	26.3	0.1	11.4	4.8	3.8	3.6	0.0	4.0
SPLEEN	99.8	0.1	0.0	0.1	0.0	0.0	0.0	0.0	0.0
TESTES	97.4	1.4	0.0	0.8	0.1	0.1	0.1	0.0	0.1
THYMUS	93.5	3.4	0.0	2.0	0.3	0.3	0.3	0.0	0.3
THYROID	79.3	11.0	0.1	6.3	0.8	0.8	0.9	0.0	0.8
UTERUS	100.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

RADIONUCLIDE: TH-232

PHYSICAL AND METABOLIC PARAMETERS FOR DOSIMETRICALLY SIGNIFICANT PROGENY:

NUCLIDE	RADIOACTIVE HALF-LIFE (DAYS)
TH-232	5.1300E 12
RA-228	2100.
AC-228	0.2550
TH-228	698.0
RA-224	3.660
RN-220	6.4400E-04
PO-216	1.7400E-06
PB-212	0.4430
BI-212	4.2000E-02
PO-212	3.5300E-12
TL-208	2.1300E-03

BRANCHING RATIOS:

FROM	TO	FRACTION
TH-232	RA-228	1.000
RA-228	AC-228	1.000
AC-228	TH-228	1.000
TH-228	RA-224	1.000
RA-224	RN-220	1.000
RN-220	PO-216	1.000
PO-216	PB-212	1.000
PB-212	BI-212	1.000
BI-212	PO-212	0.6400
BI-212	TL-208	0.3600

ORGAN ABSORBED	NUCLIDE	BLOOD TRANSFER FRACTION F2-PRIME	COMPARTMENT DEPOSITION FRACTION	COMPARTMENT BIOLOGICAL HALF-TIME (DAYS)
	TH-232	1.00	4.000E-02	0.500
			0.460	1.460E 04
			0.500	3.650E 04
	RA-228	1.00	0.917	5.50
			5.360E-02	81.0
			2.000E-02	955.
			1.760E-04	3.140E 03
			9.390E-03	7.620E 03
	AC-228	1.00	0.460	1.460E 04
			0.540	3.650E 04
	TH-228	1.00	0.460	1.460E 04
			0.540	3.650E 04
	RA-224	1.00	0.917	5.50
			5.360E-02	81.0
			1.990E-03	955.
			1.750E-05	3.140E 03
			9.390E-04	7.620E 03
	RN-220	0.0	0.874	2.650E-04
			9.130E-02	3.110E-03
			1.980E-02	2.280E-02
			8.630E-03	0.146
			6.120E-03	0.963
	PO-216	1.00	1.000E-02	0.500
			0.990	50.0
	PB-212	1.00	1.000E-01	1.00
			0.200	10.0
			0.300	320.
			0.200	2.000E 03
			0.200	8.000E 03
	BI-212	1.00	-1.720E-02	1.000E-01
			1.02	5.78
	PO-212	1.00	1.000E-02	0.500
			0.990	50.0
	TL-208	1.00	1.00	4.00

α decay (1.405E10 Y 6)

Case 1 represents inhalation of oxides, hydroxides, and carbides; case 2 inhalation of nitrates; and case 3 ingestion of any compound.

*Retention data derived from "other tissues" compartment.

ORGAN	NUCLIDE	BLOOD TRANSFER FRACTION F2-PRIME	COMPARTMENT DEPOSITION FRACTION	COMPARTMENT BIOLOGICAL HALF-TIME (DAYS)
EXCRET.	TH-232	4.000E-02	1.00	0.500
	RA-228	0.0	1.00	0.500
	AC-228	0.0	1.00	0.500
	TH-228	0.0	1.00	0.500
	RA-224	0.0	1.00	0.500
	RN-220	0.0	0.874	2.650E-04
			9.130E-02	3.110E-03
			1.980E-02	2.280E-02
			8.630E-03	0.146
			6.120E-03	0.963
	PO-216	0.0	1.00	0.500
	PB-212	0.0	1.00	0.500
	BI-212	0.0	1.00	0.500
	PO-212	0.0	1.00	0.500
	TL-208	0.0	1.00	0.500
BONE	TH-232	0.450	1.00	3.650E 04
	RA-228	0.172	0.880	5.68
			1.360E-02	240.
			2.030E-03	1.610E 03
			5.730E-02	1.490E 03
			4.600E-02	8.380E 03
	AC-228	0.450	1.00	3.650E 04
	TH-228	0.450	1.00	3.650E 04
	RA-224	0.172	0.880	5.68
			1.360E-02	240.
			2.030E-03	1.610E 03
			5.730E-02	1.490E 03
			4.600E-02	8.380E 03
	RN-220	0.0	0.700	2.650E-04
			0.300	1.000E 50
	•PO-216	9.000E-02	1.000E-02	0.500
			0.990	50.0
	PB-212	0.562	0.375	320.
			0.310	2.000E 03
			0.315	8.000E 03
	•BI-212	7.340E-02	-1.000E-01	1.000E-01
			1.10	5.78
	•PO-212	9.000E-02	1.000E-02	0.500
			0.990	50.0
	•TL-208	0.118	1.00	4.00
LIVER	TH-232	0.450	1.00	1.460E 04
	•RA-228	4.540E-02	0.890	0.630
			7.090E-02	28.9
			3.040E-02	160.
			7.430E-03	776.
			7.940E-04	4.040E 03
	AC-228	0.450	1.00	1.460E 04
	TH-228	0.450	1.00	1.460E 04
	•RA-224	4.540E-02	0.890	0.630
			7.090E-02	28.9
			3.040E-02	160.
			7.430E-03	776.
			7.940E-04	4.040E 03
	•RN-220	0.0	0.849	2.650E-04
			9.900E-02	3.110E-03
			4.400E-02	2.880E-02
			7.790E-04	0.146
			2.030E-05	0.963
	PO-216	1.000E-01	1.000E-02	0.500
			0.990	50.0
	PB-212	0.106	0.843	10.0
			7.870E-02	320.
			4.010E-02	2.000E 03
			3.820E-02	8.000E 03
	•BI-212	2.640E-02	-1.000E-01	1.000E-01
			1.10	5.78
	PO-212	1.000E-01	1.000E-02	0.500
			0.990	50.0
	•TL-208	4.240E-02	1.00	4.00

ORGAN	NUCLIDE	BLOOD TRANSFER FRACTION F2-PRIME	COMPARTMENT DEPOSITION FRACTION	COMPARTMENT BIOLOGICAL HALF-TIME (DAYS)
KIDNEYS	TH-232	1.000E-02	1.00	1.460E 04
	• RA-228	7.820E-03	0.890	0.630
			7.090E-02	28.9
			3.040E-02	160.
			7.430E-03	776.
			7.940E-04	4.040E 03
	AC-228	1.000E-02	1.00	1.460E 04
	TH-228	1.000E-02	1.00	1.460E 04
	• RA-224	7.820E-03	0.890	0.630
			7.090E-02	28.9
			3.040E-02	160.
			7.430E-03	776.
			7.940E-04	4.040E 03
	• RN-220	0.0	0.849	2.650E-04
			9.900E-02	3.110E-03
			4.400E-02	2.880E-02
			7.790E-04	0.146
			2.030E-05	0.963
	PO-216	1.000E-01	1.000E-02	0.500
			0.990	50.0
	PB-212	5.090E-02	0.962	10.0
			2.000E-02	320.
			9.600E-03	2.000E 03
			8.290E-03	8.000E 03
	BI-212	0.400	1.00	5.78
	PO-212	1.000E-01	1.000E-02	0.500
			0.990	50.0
	TL-208	3.760E-02	1.00	4.00
SPLEEN	• TH-232	2.640E-04	1.00	3.650E 04
	• RA-228	4.540E-03	0.890	0.630
			7.090E-02	28.9
			3.040E-02	160.
			7.430E-03	776.
			7.940E-04	4.040E 03
	• AC-228	4.760E-04	1.00	3.650E 04
	• TH-228	4.760E-04	1.00	3.650E 04
	• RA-224	4.540E-03	0.890	0.630
			7.090E-02	28.9
			3.040E-02	160.
			7.430E-03	776.
			7.940E-04	4.040E 03
	• RN-220	0.0	0.849	2.650E-04
			9.900E-02	3.110E-03
			4.400E-02	2.880E-02
			7.790E-04	0.146
			2.030E-05	0.963
	PO-216	1.000E-01	1.000E-02	0.500
			0.990	50.0
	• PB-212	2.960E-04	0.375	320.
			0.310	2.000E 03
			0.315	8.000E 03
	• BI-212	2.640E-03	1.000E-01	1.000E-01
			1.10	5.78
	PO-212	1.000E-01	1.000E-02	0.500
			0.990	50.0
	• TL-208	4.240E-03	1.00	4.00
TESTES	TH-232	3.500E-04	1.00	3.650E 04
	• RA-228	8.830E-04	0.890	0.630
			7.090E-02	28.9
			3.040E-02	160.
			7.430E-03	776.
			7.940E-04	4.040E 03
	AC-228	3.500E-04	1.00	3.650E 04
	TH-228	3.500E-04	1.00	3.650E 04
	• RA-224	8.830E-04	0.890	0.630
			7.090E-02	28.9
			3.040E-02	160.
			7.430E-03	776.
			7.940E-04	4.040E 03
	• RN-220	0.0	0.910	2.650E-04
			8.660E-02	3.110E-03
			3.040E-04	2.880E-02
			3.170E-03	0.146
			6.810E-06	0.963

ORGAN	NUCLIDE	BLOOD TRANSFER FRACTION F2-PRIME	COMPARTMENT DEPOSITION FRACTION	COMPARTMENT BIOLOGICAL HALF-TIME (DAYS)
	•PO-216	6.300E-04	1.000E-02	0.500
			0.990	50.0
	•PB-212	5.760E-05	0.375	320.
			0.310	2.000E 03
			0.315	8.000E 03
	•BI-212	5.140E-04	-1.000E-01	1.000E-01
			1.10	5.78
	•PO-212	6.300E-04	1.000E-02	0.500
			0.990	50.0
	•TL-208	8.240E-04	1.00	4.00
OVARIES	TH-232	1.100E-04	1.00	3.650E 04
	•RA-228	2.770E-04	0.890	0.630
			7.090E-02	28.9
			3.040E-02	160.
			7.430E-03	776.
			7.940E-04	4.040E 03
	AC-228	1.100E-04	1.00	3.650E 04
	TH-228	1.100E-04	1.00	3.650E 04
	•RA-224	2.770E-04	0.890	0.630
			7.090E-02	28.9
			3.040E-02	160.
			7.430E-03	776.
			7.940E-04	4.040E 03
	•RN-220	0.0	0.910	2.650E-04
			8.660E-02	3.110E-03
			3.040E-04	2.880E-02
			3.170E-03	0.146
			6.810E-06	0.963
	•PO-216	1.980E-04	1.000E-02	0.500
			0.990	50.0
	•PB-212	1.810E-05	0.375	320.
			0.310	2.000E 03
			0.315	8.000E 03
	•BI-212	1.610E-04	-1.000E-01	1.000E-01
			1.10	5.78
	•PO-212	1.980E-04	1.000E-02	0.500
			0.990	50.0
	•TL-208	2.590E-04	1.00	4.00
OTHER	TH-232	4.970E-02	1.00	3.650E 04
	RA-228	0.854	0.890	0.630
			7.090E-02	28.9
			3.040E-02	160.
			7.430E-03	776.
			7.940E-04	4.040E 03
	AC-228	8.950E-02	1.00	3.650E 04
	TH-228	8.950E-02	1.00	3.650E 04
	RA-224	0.854	0.890	0.630
			7.090E-02	28.9
			3.040E-02	160.
			7.430E-03	776.
			7.940E-04	4.040E 03
	RN-220	0.0	0.872	2.650E-04
			9.140E-02	3.110E-03
			2.050E-02	2.880E-02
			9.080E-03	0.146
			6.790E-03	0.963
	PO-216	0.610	1.000E-02	0.500
			0.990	50.0
	PB-212	5.580E-02	0.375	320.
			0.310	2.000E 03
			0.315	8.000E 03
	BI-212	0.500	-1.000E-01	1.000E-01
			1.10	5.78
	PO-212	0.610	1.000E-02	0.500
			0.990	50.0
	TL-208	0.814	1.00	4.00

S FACTORS (REM/MICROCURIE-DAY) FOR TH-232

TARGET ORGANS	SOURCE ORGANS									
	LUNGS	RES LYM	S CONT	SI CONT	ULI CONT	LLI CONT	EXCRET.	BONE	LIVER	KIDNEYS
LUNGS	0.212E 01	0.594E-03	0.822E-07	0.525E-08	0.667E-08	0.165E-08	0.302E-01	0.454E-07	0.184E-06	0.302E-07
RES LYM	0.594E-03	0.141E 03	0.822E-07	0.525E-08	0.667E-08	0.165E-08	0.302E-01	0.454E-07	0.184E-06	0.302E-07
S WALL	0.106E-06	0.106E-06	0.420E-01	0.197E-06	0.288E-06	0.643E-07	0.302E-01	0.255E-07	0.936E-07	0.129E-06
SI WALL	0.440E-08	0.440E-08	0.110E-06	0.263E-01	0.211E-05	0.113E-05	0.302E-01	0.350E-07	0.644E-07	0.101E-06
ULI WALL	0.560E-08	0.560E-08	0.194E-06	0.246E-04	0.477E-01	0.994E-06	0.302E-01	0.356E-07	0.105E-06	0.973E-07
LLI WALL	0.123E-08	0.123E-08	0.396E-07	0.235E-05	0.279E-06	0.778E-01	0.302E-01	0.762E-07	0.489E-08	0.184E-07
T BODY	0.302E-01	0.302E-01	0.908E-04	0.241E-03	0.144E-03	0.179E-03	0.389E-01	0.151E 00	0.302E-01	0.302E-01
ADREN	0.173E-06	0.173E-06	0.985E-07	0.253E-07	0.285E-07	0.802E-08	0.302E-01	0.691E-07	0.323E-06	0.155E-05
BL WALL	0.701E-09	0.701E-09	0.669E-08	0.862E-07	0.679E-07	0.269E-06	0.302E-01	0.149E-07	0.326E-08	0.549E-08
KIDNEYS	0.262E-07	0.262E-07	0.129E-06	0.109E-06	0.101E-06	0.243E-07	0.302E-01	0.465E-07	0.205E-06	0.683E 01
LIVER	0.154E-06	0.154E-06	0.826E-07	0.736E-07	0.103E-06	0.566E-08	0.302E-01	0.288E-07	0.118E 01	0.178E-06
OVARIES	0.233E-08	0.233E-08	0.188E-07	0.136E-05	0.173E-05	0.340E-05	0.302E-01	0.269E-07	0.134E-07	0.334E-07
PANCREAS	0.990E-07	0.990E-07	0.133E-05	0.676E-07	0.722E-07	0.191E-07	0.302E-01	0.519E-07	0.262E-06	0.250E-06
BONE	0.975E-07	0.975E-07	0.426E-07	0.820E-07	0.631E-07	0.121E-06	0.151E 00	0.212E 01	0.688E-07	0.858E-07
R MAR	0.117E-06	0.117E-06	0.680E-07	0.309E-06	0.226E-06	0.443E-06	0.302E-01	0.349E 00	0.837E-07	0.228E-06
Y MAR	0.109E-06	0.109E-06	0.614E-07	0.115E-06	0.914E-07	0.161E-06	0.302E-01	0.505E-05	0.105E-06	0.104E-06
ENDOST	0.975E-07	0.975E-07	0.426E-07	0.820E-07	0.631E-07	0.121E-06	0.302E-01	0.635E 01	0.688E-07	0.858E-07
SPLEEN	0.128E-06	0.128E-06	0.436E-06	0.464E-07	0.501E-07	0.270E-07	0.302E-01	0.633E-07	0.272E-07	0.775E-06
TESTES	0.116E-09	0.116E-09	0.921E-09	0.660E-08	0.609E-08	0.650E-07	0.302E-01	0.177E-07	0.966E-09	0.140E-08
THYMUS	0.178E-06	0.178E-06	0.114E-07	0.128E-08	0.167E-08	0.383E-09	0.302E-01	0.352E-07	0.172E-07	0.463E-08
THYROID	0.248E-07	0.248E-07	0.139E-08	0.195E-09	0.219E-09	0.558E-10	0.302E-01	0.331E-07	0.218E-08	0.704E-09
UTERUS	0.199E-08	0.199E-08	0.179E-07	0.500E-06	0.215E-06	0.276E-06	0.302E-01	0.158E-07	0.994E-09	0.217E-07

S FACTORS (REM/MICROCURIE-DAY) FOR TH-232

TARGET ORGANS	SOURCE ORGANS			
	SPLEEN	TESTES	OVARIES	OTHER
LUNGS	0.133E-06	0.764E-10	0.122E-08	0.277E-06
RES LYM	0.133E-06	0.764E-10	0.122E-08	0.277E-06
S WALL	0.482E-06	0.678E-09	0.233E-07	0.788E-07
SI WALL	0.448E-07	0.872E-08	0.114E-05	0.116E-06
ULI WALL	0.501E-07	0.739E-08	0.235E-05	0.257E-06
LLI WALL	0.183E-07	0.102E-06	0.288E-05	0.959E-07
T BODY	0.302E-01	0.302E-01	0.302E-01	0.301E-01
ADREN	0.259E-06	0.445E-09	0.758E-08	0.624E-01
BL WALL	0.249E-08	0.189E-06	0.296E-06	0.312E-01
KIDNEYS	0.838E-06	0.685E-09	0.258E-07	0.175E-06
LIVER	0.281E-07	0.533E-09	0.140E-07	0.917E-07
OVARIES	0.106E-07	0.0	0.192E 03	0.356E-06
PANCREAS	0.194E-05	0.818E-09	0.114E-07	0.624E-01
BONE	0.642E-07	0.349E-07	0.799E-07	0.666E-06
R MAR	0.837E-07	0.266E-07	0.307E-06	0.624E-01
Y MAR	0.983E-07	0.116E-07	0.111E-06	0.624E-01
ENDOST	0.642E-07	0.349E-07	0.799E-07	0.998E-05
SPLEEN	0.118E 02	0.339E-09	0.117E-07	0.162E-06
TESTES	0.712E-09	0.605E 02	0.0	0.689E-07
THYMUS	0.504E-08	0.286E-10	0.359E-09	0.624E-01
THYROID	0.138E-08	0.505E-11	0.581E-10	0.624E-01
UTERUS	0.920E-08	0.0	0.101E-05	0.624E-01

CASE 1.. INHALATION

AMAD (MICRON).. 1.00 D3 =0.310 D4 =8.000E-02 D5 =0.249

	SOLUBILITY CLASS	G.I. UPTAKE FRACTIONS STOMACH	S INT	U L INT	L L INT
TH-232	Y	0.0	1.000E-03	0.0	0.0
RA-228	W	0.0	0.200	0.0	0.0
AC-228	Y	0.0	1.000E-03	0.0	0.0
TH-228	Y	0.0	1.000E-03	0.0	0.0
RA-224	W	0.0	0.200	0.0	0.0
RN-220	*	0.0	0.0	0.0	0.0
PO-216	W	0.0	1.000E-01	0.0	0.0
PB-212	W	0.0	8.000E-02	0.0	0.0
BI-212	W	0.0	5.000E-02	0.0	0.0
PO-212	W	0.0	1.000E-01	0.0	0.0
TL-208	W	0.0	0.950	0.0	0.0

*SPECIAL LUNG CLEARANCE PARAMETERS. T=HALF-TIME (DAYS), F=DEPOSITION FRACTION.

	CLEARANCE PATHWAY..	A	B	C	D	E	F	G	H	I
RN-220	F	1.0	0.0	1.0	0.0	1.0	0.0	0.0	0.0	1.0
	T	8.20E-05	1.0	8.20E-05	1.0	8.20E-05	0.0	0.0	0.0	2.96E-03

DOSE EQUIVALENT (REM/MICROCURIE)

SOURCE	LUNGS	RES LYM	S CONT	SI CONT	ULI CONT	LLI CONT	EXCRET.	BONE	LIVER	KIDNEYS	SPLEEN
TARGET											
LUNGS	231.	0.186	2.018E-06	1.157E-06	2.557E-06	1.214E-06	4.402E-05	5.052E-03	7.512E-04	7.547E-06	1.829E-06
RES LYM	0.102	1.781E 04	2.018E-06	1.157E-06	2.557E-06	1.214E-06	4.402E-05	5.052E-03	7.512E-04	7.547E-06	1.829E-06
S WALL	4.580E-04	1.280E-03	1.551E-03	1.167E-05	2.241E-05	1.228E-05	4.402E-05	2.877E-03	5.912E-04	2.531E-05	7.996E-06
SI WALL	7.307E-05	2.167E-04	2.886E-06	3.571E-03	9.961E-05	6.456E-05	4.402E-05	4.122E-03	4.791E-04	2.155E-05	1.203E-06
ULI WALL	9.534E-05	2.828E-04	3.620E-06	7.912E-05	1.920E-02	2.977E-05	4.402E-05	3.846E-03	7.147E-04	2.182E-05	1.208E-06
LLI WALL	2.103E-05	5.869E-05	1.552E-06	2.315E-05	1.977E-05	5.443E-02	4.402E-05	5.166E-03	8.941E-05	6.956E-06	5.664E-07
T BODY	3.29	3.82	5.246E-06	3.830E-05	6.922E-05	1.380E-04	5.670E-05	63.7	8.29	0.185	6.352E-03
ADREN	5.495E-04	1.412E-03	2.743E-06	4.139E-06	7.380E-06	3.620E-06	4.402E-05	8.584E-03	1.490E-03	9.912E-05	5.710E-06
BL WALL	2.074E-05	6.207E-05	5.284E-07	8.738E-06	1.314E-05	4.011E-05	4.402E-05	2.858E-03	6.895E-05	3.400E-06	2.529E-07
KIDNEYS	2.368E-04	6.475E-04	3.711E-06	1.037E-05	1.771E-05	7.022E-06	4.402E-05	5.234E-03	1.120E-03	41.8	7.092E-06
LIVER	5.662E-04	1.570E-03	2.260E-06	6.206E-06	1.589E-05	2.857E-06	4.402E-05	3.766E-03	324.	2.971E-05	9.229E-07
OVARIES	3.958E-05	1.157E-04	1.305E-06	3.216E-05	5.759E-05	1.227E-04	4.402E-05	4.798E-03	1.965E-04	1.070E-05	5.163E-07
PANCREAS	5.574E-04	1.561E-03	1.878E-05	6.629E-06	1.351E-05	5.398E-06	4.402E-05	5.133E-03	1.274E-03	5.065E-05	1.561E-05
BONE	2.425E-04	6.816E-04	6.876E-07	2.696E-06	4.610E-06	7.705E-06	2.201E-04	994.	2.327E-04	7.979E-06	6.755E-07
R MAR	3.059E-04	8.602E-04	1.164E-06	8.396E-06	1.352E-05	2.282E-05	4.402E-05	147.	3.288E-04	2.008E-05	9.914E-07
Y MAR	2.542E-04	7.148E-04	9.593E-07	3.717E-05	6.506E-06	9.478E-06	4.402E-05	1.728E-02	3.469E-04	9.833E-06	1.005E-06
ENDOST	2.425E-04	6.816E-04	6.876E-07	2.696E-06	4.610E-06	7.705E-06	4.402E-05	2.474E 03	2.327E-04	7.979E-06	6.755E-07
SPLEEN	5.071E-04	1.428E-03	1.062E-05	5.305E-06	8.732E-06	7.391E-06	4.402E-05	4.025E-03	3.168E-04	6.638E-05	2.48
TESTES	8.031E-06	2.532E-05	1.600E-07	1.721E-06	3.378E-06	1.277E-05	4.402E-05	3.901E-03	5.714E-05	1.295E-06	9.699E-08
THYMUS	9.695E-04	2.670E-03	7.563E-07	5.300E-07	1.105E-06	5.528E-07	4.402E-05	3.860E-03	2.623E-04	1.567E-06	4.888E-07
THYROID	2.927E-04	7.802E-04	1.955E-07	1.789E-07	3.699E-07	2.132E-07	4.402E-05	3.404E-03	6.060E-05	8.635E-07	1.424E-07
UTERUS	3.344E-05	1.060E-04	1.096E-06	2.809E-05	3.016E-05	4.107E-05	4.402E-05	3.730E-03	1.344E-04	6.940E-06	4.548E-07

DOSE EQUIVALENT (REM/MICROCURIE)

SOURCE	TESTES	OVARIES	OTHER	TOTAL
TARGET				
LUNGS	1.177E-08	1.905E-08	2.108E-04	231.
RES LYM	1.177E-08	1.905E-08	2.108E-04	1.781E 04
S WALL	3.954E-08	1.062E-07	2.167E-04	7.098E-03
SI WALL	2.156E-07	1.470E-06	2.417E-04	8.938E-03
ULI WALL	1.680E-07	1.497E-06	2.542E-04	2.457E-02
LLI WALL	9.973E-07	1.906E-06	2.657E-04	6.013E-02
T BODY	8.130E-03	2.555E-03	1.19	80.5
ADREN	3.484E-08	6.932E-08	2.47	2.48
BL WALL	2.032E-06	8.595E-07	1.23	1.24
KIDNEYS	5.555E-08	1.389E-07	2.337E-04	41.8
LIVER	3.889E-08	8.285E-08	1.764E-04	324.
OVARIES	0.0	16.2	3.122E-04	16.2
PANCREAS	4.209E-08	9.373E-08	2.47	2.48
BONE	2.736E-07	1.211E-07	2.689E-04	894.
R MAR	2.160E-07	4.001E-07	2.47	150.
Y MAR	1.194E-07	1.604E-07	2.47	2.49
ENDOST	2.736E-07	1.211E-07	9.735E-04	2.474E 03
SPLEEN	3.375E-08	7.995E-08	2.320E-04	2.49
TESTES	16.3	0.0	1.944E-04	16.3
THYMUS	7.440E-09	9.585E-09	2.47	2.48
THYROID	2.954E-09	3.471E-09	2.47	2.47
UTERUS	0.0	2.174E-06	2.47	2.47

PERCENT DOSE EQUIVALENT..

NUCLIDE	TH-232	RA-228	AC-228	TH-228	PA-224	RN-220	PO-216	PB-212	BI-212	PO-212	TL-208
TARGET											
LUNGS	99.1	0.0	0.0	0.4	0.3	0.0	0.0	0.0	0.0	0.0	0.0
RES LYM	91.8	0.0	0.0	1.7	1.6	1.5	1.6	0.0	0.5	1.3	0.0
S WALL	15.7	0.0	58.2	0.1	0.9	0.6	0.7	2.6	3.3	0.3	17.7
SI WALL	29.1	0.0	48.4	0.1	1.1	1.0	1.0	2.0	2.9	0.6	13.6
ULI WALL	60.8	0.1	22.6	0.2	1.8	1.9	2.0	1.1	2.6	1.4	5.5
LLI WALL	74.5	0.1	11.1	0.2	1.8	2.0	2.1	0.9	2.6	1.8	2.6
T BODY	83.9	0.0	0.0	5.4	3.7	2.1	2.2	0.0	0.7	1.9	0.0
ADREN	94.3	0.0	0.4	3.2	0.9	0.3	0.4	0.0	0.1	0.3	0.1
BL WALL	94.5	0.0	0.2	3.2	0.9	0.3	0.4	0.0	0.1	0.3	0.1
KIDNEYS	98.3	0.0	0.0	1.0	0.3	0.1	0.1	0.0	0.0	0.1	0.0
LIVER	98.5	0.0	0.0	0.9	0.2	0.1	0.1	0.0	0.0	0.1	0.0
OVARIES	98.0	0.0	0.0	1.2	0.3	0.1	0.1	0.0	0.0	0.1	0.0
PANCREAS	94.4	0.0	0.3	3.2	0.9	0.3	0.4	0.0	0.1	0.3	0.1
BONE	80.5	0.0	0.0	6.6	4.5	2.5	2.7	0.0	0.9	2.3	0.0
R MAR	80.7	0.0	0.0	6.5	4.5	2.5	2.7	0.0	0.9	2.3	0.0
Y MAR	94.1	0.0	0.5	3.2	0.9	0.3	0.4	0.0	0.2	0.3	0.0
ENDOST	97.1	0.0	0.0	5.1	3.2	1.5	1.5	0.0	0.8	0.7	0.2
SPLEEN	94.5	0.0	0.2	3.2	0.9	0.4	0.4	0.0	0.1	0.3	0.0
TESTES	98.1	0.0	0.0	1.2	0.3	0.1	0.1	0.0	0.0	0.1	0.0
THYMUS	94.4	0.0	0.3	3.2	0.9	0.3	0.4	0.0	0.1	0.3	0.1
THYROID	94.6	0.0	0.2	3.2	0.9	0.4	0.4	0.0	0.1	0.3	0.0
UTERUS	94.6	0.0	0.2	3.2	0.9	0.4	0.4	0.0	0.1	0.3	0.0

CASE 2.. INHALATION

AMAD (MICRON).. 1.00 D3 =0.310 D4 =8.000E-02 D5 =0.249

	SOLUBILITY CLASS	G.I. UPTAKE FRACTIONS STOMACH	S INT	U L INT	L L INT
TH-232	W	0.0	1.000E-03	0.0	0.0
RA-228	W	0.0	0.200	0.0	0.0
AC-228	W	0.0	1.000E-03	0.0	0.0
TH-228	W	0.0	1.000E-03	0.0	0.0
RA-224	W	0.0	0.200	0.0	0.0
RN-220	*	0.0	0.0	0.0	0.0
PO-216	W	0.0	1.000E-01	0.0	0.0
PB-212	W	0.0	8.000E-02	0.0	0.0
BI-212	W	0.0	5.000E-02	0.0	0.0
PO-212	W	0.0	1.000E-01	0.0	0.0
TL-208	W	0.0	0.950	0.0	0.0

*SPECIAL LUNG CLEARANCE PARAMETERS. T=HALF-TIME (DAYS), F=DEPOSITION FRACTION.

CLEARANCE PATHWAY..		A	B	C	D	E	F	G	H	I
RN-220	F	1.0	0.0	1.0	0.0	1.0	0.0	0.0	0.0	1.0
	T	8.20E-05	1.0	8.20E-05	1.0	8.20E-05	0.0	0.0	0.0	2.96E-03

DOSE EQUIVALENT (REM/MICROCURIE)

SOURCE	LUNGS	RES LYM	S CONT	SI CONT	ULI CONT	LLI CONT	EXCRET.	BONE	LIVER	KIDNEYS	SPLEEN
TARGET											
LUNGS	23.7	1.457E-03	2.233E-07	1.257E-07	2.519E-07	1.025E-07	1.057E-04	1.166E-02	1.765E-03	1.511E-05	1.180E-06
RES LYM	1.032E-02	129.	2.233E-07	1.257E-07	2.519E-07	1.025E-07	1.057E-04	1.166E-02	1.765E-03	1.511E-05	1.180E-06
S WALL	4.550E-05	1.096E-05	9.525E-04	1.284E-06	2.267E-06	1.093E-06	1.057E-04	6.639E-03	1.385E-03	5.063E-05	5.125E-06
SI WALL	7.241E-06	1.785E-06	3.183E-07	2.354E-03	1.033E-05	6.315E-06	1.057E-04	9.515E-03	1.123E-03	4.318E-05	7.605E-07
ULI WALL	9.449E-06	2.329E-06	4.013E-07	1.048E-05	1.366E-02	3.136E-06	1.057E-04	8.877E-03	1.676E-03	4.384E-05	7.650E-07
LLI WALL	2.089E-06	5.084E-07	1.715E-07	2.691E-06	2.032E-06	4.080E-02	1.057E-04	1.193E-02	2.086E-04	1.386E-05	3.563E-07
T BODY	0.338	2.770E-02	2.267E-06	2.217E-05	4.233E-05	9.503E-05	1.362E-04	156.	20.4	0.453	1.510E-02
ADREN	5.481E-05	1.292E-05	3.027E-07	4.488E-07	7.332E-07	3.264E-07	1.057E-04	1.983E-02	3.486E-03	2.022E-04	3.635E-06
BL WALL	2.054E-06	5.081E-07	5.853E-08	9.519E-07	1.291E-06	3.696E-06	1.057E-04	6.590E-03	1.602E-04	6.780E-06	1.577E-07
KIDNEYS	2.356E-05	5.691E-06	4.103E-07	1.137E-06	1.777E-06	6.217E-07	1.057E-04	1.209E-02	2.627E-03	102.	4.697E-06
LIVER	5.626E-05	1.350E-05	2.492E-07	6.799E-07	1.579E-06	2.567E-07	1.057E-04	8.690E-03	796.	5.962E-05	5.810E-07
OVARIES	3.925E-06	9.646E-07	1.457E-07	3.611E-06	5.847E-06	1.265E-05	1.057E-04	1.108E-02	4.614E-04	2.168E-05	3.267E-07
PANCREAS	5.536E-05	1.338E-05	2.090E-06	7.242E-07	1.312E-06	4.883E-07	1.057E-04	1.185E-02	2.995E-03	1.020E-04	1.038E-05
BONE	2.407E-05	5.743E-06	7.606E-08	2.983E-07	4.640E-07	7.390E-07	5.287E-04	2.182E 03	5.458E-04	1.611E-05	4.413E-07
R MAR	3.037E-05	7.254E-06	1.288E-07	9.332E-07	1.370E-06	2.235E-06	1.057E-04	360.	7.708E-04	4.059E-05	6.438E-07
Y MAR	2.524E-05	6.011E-06	1.061E-07	4.115E-07	6.565E-07	9.150E-07	1.057E-04	4.017E-02	8.141E-04	1.985E-05	6.578E-07
ENDOST	2.407E-05	5.743E-06	7.606E-08	2.983E-07	4.640E-07	7.390E-07	1.057E-04	6.073E 03	5.458E-04	1.611E-05	4.413E-07
SPLEEN	5.035E-05	1.213E-05	1.177E-06	5.792E-07	8.715E-07	6.780E-07	1.057E-04	9.297E-03	7.436E-04	1.346E-04	5.90
TESTES	7.936E-07	1.988E-07	1.752E-08	1.868E-07	3.307E-07	1.129E-06	1.057E-04	8.988E-03	1.347E-04	2.569E-06	6.007E-08
THYMUS	9.639E-05	2.322E-05	8.452E-08	5.743E-08	1.072E-07	4.774E-08	1.057E-04	8.910E-03	6.114E-04	3.090E-06	3.039E-07
THYROID	2.916E-05	7.022E-06	2.140E-08	1.924E-08	3.514E-08	1.772E-08	1.057E-04	7.867E-03	1.416E-04	1.709E-06	8.837E-08
UTERUS	3.302E-06	8.259E-07	1.205E-07	3.093E-06	2.996E-06	3.817E-06	1.057E-04	8.619E-03	3.135E-04	1.386E-05	2.839E-07

DOSE EQUIVALENT (REM/MICROCURIE)

SOURCE	TESTES	OVARIES	OTHER	TOTAL
TARGET				
LUNGS	1.974E-08	3.206E-08	1.499E-04	23.7
RES LYM	1.974E-08	3.206E-08	1.499E-04	129.
S WALL	6.615E-08	1.797E-07	1.397E-04	9.339E-03
SI WALL	3.642E-07	2.551E-06	1.577E-04	1.333E-02
ULI WALL	2.820E-07	2.677E-06	1.753E-04	2.456E-02
LLI WALL	1.697E-06	3.398E-06	1.712E-04	5.325E-02
T BODY	2.001E-02	6.289E-03	2.83	180.
ADREN	5.856E-08	1.173E-07	5.87	5.90
BL WALL	3.465E-06	1.469E-06	2.94	2.94
KIDNEYS	9.356E-08	2.354E-07	1.569E-04	102.
LIVER	6.540E-08	1.403E-07	1.156E-04	796.
OVARIES	0.0	40.0	2.182E-04	40.0
PANCREAS	7.041E-08	1.595E-07	5.87	5.89
BONE	4.675E-07	2.090E-07	2.126E-04	2.182E 03
R MAR	3.686E-07	6.937E-07	5.87	365.
Y MAR	2.030E-07	2.771E-07	5.87	5.92
ENDOST	4.675E-07	2.090E-07	1.297E-03	6.073E 03
SPLEEN	5.615E-08	1.349E-07	1.550E-04	5.91
TESTES	40.1	0.0	1.249E-04	40.1
THYMUS	1.243E-08	1.611E-08	5.88	5.88
THYROID	4.911E-09	5.812E-09	5.87	5.88
UTERUS	0.0	3.726E-06	5.88	5.88

PERCENT DOSE EQUIVALENT..

NUCLIDE	TH-232	RA-228	AC-228	TH-228	RA-224	RN-220	PO-216	PB-212	BI-212	PO-212	TL-208
TARGET											
LUNGS	99.8	0.0	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0
RES LYM	98.0	0.0	0.0	0.4	0.4	0.4	0.4	0.0	0.1	0.3	0.0
S WALL	11.9	0.0	62.3	0.1	0.4	0.0	0.0	2.7	3.2	0.0	19.3
SI WALL	18.5	0.0	57.3	0.1	0.4	0.0	0.0	2.5	3.1	0.0	18.1
ULI WALL	55.4	0.0	31.8	0.1	0.2	0.0	0.0	1.3	1.6	0.0	9.4
LLI WALL	76.0	0.0	16.5	0.1	0.2	0.1	0.1	0.8	1.0	0.0	5.2
T BODY	84.1	0.0	0.0	5.4	3.7	2.0	2.2	0.0	0.7	1.9	0.0
ADREN	98.4	0.0	0.3	0.8	0.2	0.1	0.1	0.0	0.0	0.1	0.1
BL WALL	98.6	0.0	0.2	0.8	0.2	0.1	0.1	0.0	0.0	0.1	0.1
KIDNEYS	98.8	0.0	0.0	0.7	0.2	0.1	0.1	0.0	0.0	0.1	0.0
LIVER	98.9	0.0	0.0	0.7	0.2	0.1	0.1	0.0	0.0	0.1	0.0
OVARIES	98.5	0.0	0.2	0.8	0.2	0.1	0.1	0.0	0.0	0.1	0.1
PANCREAS	98.5	0.0	0.2	0.8	0.2	0.1	0.1	0.0	0.0	0.1	0.1
BONE	91.8	0.0	3.0	6.1	4.2	2.3	2.5	0.0	0.9	2.1	0.0
R MAR	81.9	0.0	0.0	6.1	4.2	2.3	2.5	0.0	0.8	2.1	0.0
Y MAR	98.2	0.0	0.4	0.8	0.2	0.1	0.1	0.0	0.1	0.1	0.1
ENDOST	88.1	0.0	0.0	4.7	3.0	1.4	1.4	0.0	0.7	0.7	0.0
SPLEEN	98.6	0.0	0.1	0.8	0.2	0.1	0.1	0.0	0.0	0.1	0.0
TESTES	98.8	0.0	0.1	0.7	0.2	0.1	0.1	0.0	0.0	0.1	0.0
THYMUS	98.6	0.0	0.1	0.8	0.2	0.1	0.1	0.0	0.0	0.1	0.0
THYROID	98.7	0.0	0.1	0.8	0.2	0.1	0.1	0.0	0.0	0.1	0.0
UTERUS	98.6	0.0	0.1	0.8	0.2	0.1	0.1	0.0	0.0	0.1	0.0

CASE 3.. INGESTION

INGESTION TRANSFER FRACTIONS (G. I. TRACT TO BLOOD)

	TH-232	RA-228	AC-228	TH-228	RA-224	PN-220	PO-216	PB-212	BI-212	PO-212	TL-208
STOMACH	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
S INT	1.000E-03	0.200	1.000E-03	1.000E-03	0.200	0.0	1.000E-01	8.000E-02	5.000E-02	1.000E-01	0.950
U L INT	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
L L INT	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

DOSE EQUIVALENT (REM/MICROCURIE)

SOURCE	S CONT	SI CONT	ULI CONT	LLI CONT	EXCRET.	BONE	LIVER	KIDNEYS	SPLEEN	TESTES	OVARIES
TARGET											
LUNGS	3.441E-09	1.036E-09	8.550E-09	1.234E-08	8.714E-07	9.609E-05	1.453E-05	1.244E-07	9.729E-09	1.626E-10	2.641E-10
RES LYM	3.441E-09	1.036E-09	8.550E-09	1.234E-08	8.714E-07	9.609E-05	1.453E-05	1.244E-07	9.729E-09	1.626E-10	2.641E-10
S WALL	1.750E-03	3.443E-08	1.991E-07	1.770E-07	8.714E-07	5.470E-05	1.141E-05	4.169E-07	4.227E-08	5.448E-10	1.481E-09
SI WALL	4.606E-09	4.379E-03	1.335E-06	1.747E-06	8.714E-07	7.840E-05	9.247E-06	3.556E-07	6.272E-09	3.001E-09	2.102E-08
ULI WALL	8.112E-09	4.107E-06	2.582E-02	1.276E-06	8.714E-07	7.315E-05	1.380E-05	3.610E-07	6.310E-09	2.323E-09	2.206E-08
LLI WALL	1.662E-09	3.945E-07	1.898E-07	7.776E-02	8.714E-07	9.830E-05	1.717E-06	1.141E-07	2.938E-09	1.398E-08	2.800E-08
T BODY	3.783E-06	4.013E-05	7.796E-05	1.790E-04	1.122E-06	1.28	0.168	3.729E-03	1.245E-04	1.649E-04	5.183E-05
ADREN	4.126E-09	4.785E-09	2.978E-08	4.271E-08	8.714E-07	1.634E-04	2.870E-05	1.666E-06	2.999E-08	4.824E-10	9.661E-10
BL WALL	2.830E-10	1.556E-08	6.175E-08	6.513E-07	8.714E-07	5.430E-05	1.319E-06	5.584E-08	1.301E-09	2.855E-08	1.210E-08
KIDNEYS	5.404E-09	1.960E-08	8.931E-08	8.924E-08	8.714E-07	9.964E-05	2.163E-05	0.843	3.874E-08	7.708E-10	1.939E-09
LIVER	3.460E-09	1.312E-08	8.635E-08	3.295E-08	8.714E-07	7.161E-05	6.56	4.910E-07	4.792E-09	5.388E-10	1.156E-09
OVARIES	7.939E-10	2.309E-07	1.041E-06	4.574E-06	8.714E-07	9.127E-05	3.799E-06	1.786E-07	2.695E-09	0.0	0.329
PANCREAS	5.557E-08	1.218E-08	6.445E-08	7.051E-08	8.714E-07	9.764E-05	2.467E-05	8.404E-07	8.560E-08	5.799E-10	1.314E-09
BONE	1.780E-09	1.403E-08	4.295E-08	1.935E-07	4.357E-06	18.0	4.495E-06	1.326E-07	3.640E-09	3.851E-09	1.721E-09
R MAR	2.843E-09	5.261E-08	1.481E-07	6.582E-07	8.714E-07	2.96	6.347E-06	3.343E-07	5.310E-09	3.037E-09	5.715E-09
Y MAR	2.566E-09	1.966E-08	6.191E-08	2.502E-07	8.714E-07	3.310E-04	6.704E-06	1.635E-07	5.425E-09	1.672E-09	2.283E-09
ENDOST	1.780E-09	1.403E-08	4.295E-08	1.935E-07	8.714E-07	50.0	4.495E-06	1.326E-07	3.640E-09	3.851E-09	1.721E-09
SPLEEN	1.825E-08	8.464E-09	4.408E-08	9.870E-08	8.714E-07	7.661E-05	6.123E-06	1.108E-06	4.863E-02	4.625E-10	1.111E-09
TESTES	3.964E-11	1.338E-09	9.791E-09	1.813E-07	8.714E-07	7.405E-05	1.109E-06	2.116E-08	4.954E-10	0.330	0.0
THYMUS	4.811E-10	2.867E-10	3.005E-09	5.436E-09	8.714E-07	7.341E-05	5.034E-06	2.544E-08	2.507E-09	1.024E-10	1.327E-10
THYROID	5.946E-11	5.710E-11	8.048E-10	1.920E-09	8.714E-07	6.483E-05	1.166E-06	1.407E-08	7.288E-10	4.045E-11	4.788E-11
UTERUS	7.545E-10	8.717E-08	1.743E-07	6.723E-07	8.714E-07	7.102E-05	2.581E-06	1.142E-07	2.342E-09	0.0	3.069E-08

DOSE EQUIVALENT (REM/MICROCURIE)

SOURCE	OTHER	TOTAL
TARGET		
LUNGS	1.236E-06	1.129E-04
RES LYM	1.236E-06	1.129E-04
S WALL	1.152E-06	1.819E-03
SI WALL	1.301E-06	4.472E-03
ULI WALL	1.446E-06	2.591E-02
LLI WALL	1.412E-06	7.787E-02
T BODY	2.335E-02	1.48
ADREN	4.841E-02	4.861E-02
BL WALL	2.421E-02	2.426E-02
KIDNEYS	1.294E-06	0.843
LIVER	9.535E-07	6.56
OVARIES	1.799E-06	0.330
PANCREAS	4.841E-02	4.854E-02
BONE	1.753E-06	18.0
R MAR	4.841E-02	3.01
Y MAR	4.841E-02	4.875E-02
ENDOST	1.069E-05	50.0
SPLEEN	1.278E-06	4.871E-02
TESTES	1.030E-06	0.330
THYMUS	4.841E-02	4.849E-02
THYROID	4.841E-02	4.848E-02
UTERUS	4.841E-02	4.849E-02

PERCENT DOSE EQUIVALENT..

NUCLIDE	TH-232	RA-228	AC-228	TH-228	RA-224	RN-220	PO-216	PB-212	BI-212	PO-212	TL-208
TARGET											
LUNGS	2.1	0.0	68.3	0.2	0.4	0.0	0.0	3.2	3.7	0.0	22.1
RES LYM	2.1	0.0	68.3	0.2	0.4	0.0	0.0	3.2	3.7	0.0	22.1
S WALL	96.3	0.0	2.6	0.0	0.0	0.0	0.0	0.1	0.1	0.0	0.8
SI WALL	98.0	0.0	1.4	0.0	0.0	0.0	0.0	0.1	0.1	0.0	0.4
ULI WALL	99.6	0.0	0.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1
LLI WALL	99.8	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
T BODY	84.0	0.0	0.0	5.4	3.7	2.0	2.2	0.0	0.7	1.9	0.0
ADREN	98.4	0.0	0.3	0.8	0.2	0.1	0.1	0.0	0.0	0.1	0.1
BL WALL	98.6	0.0	0.2	0.8	0.2	0.1	0.1	0.0	0.0	0.1	0.1
KIDNEYS	98.9	0.0	0.0	0.7	0.2	0.1	0.1	0.0	0.0	0.1	0.0
LIVER	98.9	0.0	0.0	0.7	0.2	0.1	0.1	0.0	0.0	0.1	0.0
OVARIES	98.8	0.0	0.0	0.7	0.2	0.1	0.1	0.0	0.0	0.1	0.0
PANCREAS	98.6	0.0	0.2	0.8	0.2	0.1	0.1	0.0	0.0	0.1	0.1
BONE	81.8	0.0	0.0	6.1	4.2	2.3	2.5	0.0	0.8	2.1	0.0
R MAR	82.0	0.0	0.0	6.0	4.1	2.3	2.5	0.0	0.8	2.1	0.0
Y MAR	98.2	0.0	0.4	0.8	0.2	0.1	0.1	0.0	0.1	0.1	0.1
ENDOST	88.1	0.0	0.0	4.7	3.0	1.4	1.4	0.0	0.7	0.7	0.0
SPLEEN	98.6	0.0	0.1	0.8	0.2	0.1	0.1	0.0	0.0	0.1	0.0
TESTES	98.8	0.0	0.0	0.7	0.2	0.1	0.1	0.0	0.0	0.1	0.0
THYMUS	98.6	0.0	0.1	0.8	0.2	0.1	0.1	0.0	0.0	0.1	0.0
THYROID	98.7	0.0	0.1	0.8	0.2	0.1	0.1	0.0	0.0	0.1	0.0
UTERUS	98.6	0.0	0.1	0.8	0.2	0.1	0.1	0.0	0.0	0.1	0.0

RADIONUCLIDE: TH-234

PHYSICAL AND METABOLIC PARAMETERS FOR DOSIMETRICALLY SIGNIFICANT PROGENY:

NUCLIDE	RADIOACTIVE HALF-LIFE (DAYS)
TH-234	24.10
PA-234M	8.1300E-04
PA-234	0.2790

BRANCHING RATIOS:

FROM	TO	FRACTION
TH-234	PA-234M	1.000
PA-234M	PA-234	1.3000E-03

ORGAN ABSORBED	NUCLIDE	BLOOD TRANSFER FRACTION F2-PRIME	COMPARTMENT DEPOSITION FRACTION	COMPARTMENT BIOLOGICAL HALF-TIME (DAYS)
	TH-234	1.00	4.000E-02	0.500
			0.460	1.460E 04
			0.500	3.650E 04
	PA-234M	1.00	0.460	1.460E 04
			0.540	3.650E 04
	PA-234	1.00	0.460	1.460E 04
			0.540	3.650E 04
EXCRET.	TH-234	4.000E-02	1.00	0.500
	PA-234M	0.0	1.00	0.500
	PA-234	0.0	1.00	0.500
BONE	TH-234	0.450	1.00	3.650E 04
	PA-234M	0.450	1.00	3.650E 04
	PA-234	0.450	1.00	3.650E 04
LIVER	TH-234	0.450	1.00	1.460E 04
	PA-234M	0.450	1.00	1.460E 04
	PA-234	0.450	1.00	1.460E 04
KIDNEYS	TH-234	1.000E-02	1.00	1.460E 04
	PA-234M	1.000E-02	1.00	1.460E 04
	PA-234	1.000E-02	1.00	1.460E 04
TESTES	TH-234	3.500E-04	1.00	3.650E 04
	PA-234M	3.500E-04	1.00	3.650E 04
	PA-234	3.500E-04	1.00	3.650E 04
OVARIES	TH-234	1.100E-04	1.00	3.650E 04
	PA-234M	1.100E-04	1.00	3.650E 04
	PA-234	1.100E-04	1.00	3.650E 04
OTHER	TH-234	5.000E-02	1.00	3.650E 04
	PA-234M	9.000E-02	1.00	3.650E 04
	PA-234	9.000E-02	1.00	3.650E 04

S FACTORS (REM/MICROCURIE-DAY) FOR TH-234

TARGET ORGANS	SOURCE ORGANS												
	LUNGS	RES LYM	S CONT	SI CONT	ULI CONT	LLI CONT	EXCRET.	BONE	LIVER	KIDNEYS	TESTES	OVARIES	OTHER
LUNGS	0.309E-02	0.309E-02	0.324E-05	0.283E-06	0.360E-06	0.955E-07	0.467E-04	0.162E-05	0.486E-05	0.138E-05	0.366E-08	0.689E-07	0.249E-05
RES LYM	0.309E-02	0.201E 00	0.324E-05	0.283E-06	0.360E-06	0.955E-07	0.467E-04	0.162E-05	0.486E-05	0.138E-05	0.366E-08	0.689E-07	0.249E-05
S WALL	0.333E-05	0.333E-05	0.617E-02	0.652E-05	0.711E-05	0.102E-05	0.468E-04	0.834E-06	0.321E-05	0.622E-05	0.324E-07	0.123E-05	0.231E-05
SI WALL	0.246E-06	0.246E-06	0.468E-05	0.387E-02	0.344E-04	0.188E-04	0.475E-04	0.121E-05	0.264E-05	0.485E-05	0.457E-06	0.242E-04	0.265E-05
ULI WALL	0.301E-06	0.301E-06	0.652E-05	0.732E-04	0.698E-02	0.869E-05	0.475E-04	0.108E-05	0.443E-05	0.473E-05	0.387E-06	0.234E-04	0.283E-05
LLI WALL	0.612E-07	0.612E-07	0.188E-05	0.165E-04	0.589E-05	0.113F-01	0.473E-04	0.172E-05	0.288E-06	0.940E-06	0.473E-05	0.315E-04	0.289E-05
T BODY	0.469E-04	0.469E-04	0.171E-04	0.391E-04	0.251E-04	0.301E-04	0.467E-04	0.469E-04	0.472E-04	0.471E-04	0.464E-04	0.479E-04	0.460E-04
ADREN	0.467E-05	0.467E-05	0.484F-05	0.112E-05	0.144E-05	0.411E-06	0.467E-04	0.190E-05	0.761E-05	0.229F-04	0.263E-07	0.411E-06	0.926E-04
BL WALL	0.364E-07	0.364E-07	0.397E-06	0.422E-05	0.348E-05	0.123E-04	0.472E-04	0.793E-06	0.199E-06	0.331E-06	0.867E-05	0.135E-04	0.483E-04
KIDNEYS	0.131E-05	0.131E-05	0.604E-05	0.536E-05	0.487E-05	0.122E-05	0.469E-04	0.131E-05	0.712E-05	0.101E-01	0.376E-07	0.134E-05	0.256E-05
LIVER	0.450E-05	0.450E-05	0.338E-05	0.305E-05	0.440E-05	0.311E-06	0.470E-04	0.104E-05	0.176E-02	0.694E-05	0.306E-07	0.738E-06	0.183E-05
OVARIES	0.115E-06	0.115E-06	0.912E-06	0.218E-04	0.220E-04	0.354E-04	0.476E-04	0.122E-05	0.657E-06	0.165E-05	0.0	0.280E 00	0.377E-05
PANCREAS	0.462E-05	0.462E-05	0.357E-04	0.333E-05	0.360E-05	0.108E-05	0.474E-04	0.125E-05	0.801E-05	0.117E-04	0.488E-07	0.669E-06	0.952E-04
BONE	0.348E-05	0.348E-05	0.186E-05	0.271E-05	0.242E-05	0.384E-05	0.484E-04	0.608E-03	0.245E-05	0.320E-05	0.170E-05	0.388E-05	0.435E-05
R MAR	0.433F-05	0.433E-05	0.314E-05	0.963E-05	0.822E-05	0.129E-04	0.496F-04	0.571E-04	0.327E-05	0.848E-05	0.130E-05	0.131E-04	0.889E-04
Y MAR	0.367E-05	0.367E-05	0.266E-05	0.383E-05	0.351E-05	0.494E-05	0.485E-04	0.152E-04	0.373E-05	0.390E-05	0.579E-06	0.482E-05	0.934E-04
ENDOST	0.348E-05	0.348E-05	0.186E-05	0.271E-05	0.242E-05	0.384E-05	0.487E-04	0.355E-03	0.245E-05	0.320E-05	0.170E-05	0.348E-05	0.522E-04
SPLEEN	0.406F-05	0.406E-05	0.191E-04	0.235E-05	0.244E-05	0.133E-05	0.469E-04	0.101E-05	0.139E-05	0.169E-04	0.197E-07	0.633E-06	0.939E-04
TESTES	0.607E-08	0.607E-08	0.515E-07	0.372E-06	0.328E-06	0.291E-05	0.461E-04	0.953E-06	0.575E-07	0.839E-07	0.881E-01	0.0	0.191E-05
THYMUS	0.782E-05	0.782E-05	0.512E-06	0.766E-07	0.105E-06	0.226E-07	0.472E-04	0.888E-06	0.921E-06	0.271E-06	0.148E-08	0.211E-07	0.968E-04
THYROID	0.138E-05	0.138E-05	0.801E-07	0.112E-07	0.126E-07	0.364E-08	0.460E-04	0.117E-05	0.118E-06	0.419E-07	0.226E-09	0.314E-08	0.927E-04
UTERUS	0.103E-06	0.103E-06	0.100E-05	0.186E-04	0.101E-04	0.127E-04	0.477E-04	0.807E-06	0.543E-06	0.117E-05	0.0	0.396E-04	0.979E-04

β^- decay (24.10 D)

Case 1 represents inhalation of oxides, hydroxides, and carbides; case 2 inhalation of nitrates; and case 3 ingestion of any compound.

CASE 1.. INHALATION

AMAD (MICRON).. 1.00 D3 =0.310 D4 =8.000E-02 D5 =0.243

	SOLUBILITY CLASS	G.I. UPTAKE FRACTIONS STOMACH	S INT	U L INT	L L INT
TH-234	Y	0.0	1.000E-03	0.0	0.0
PA-234M	Y	0.0	1.000E-03	0.0	0.0
PA-234	Y	0.0	1.000E-03	0.0	0.0

DOSE EQUIVALENT (REM)

SOURCE	LUNGS	RES LYM	S CONT	SI CONT	ULI CONT	LLI CONT	EXCRET.	BONE	LIVER	KIDNEYS	TESTES
TARGET											
LUNGS	0.241	2.645E-03	1.603E-07	9.402E-08	3.442E-07	2.115E-07	9.164E-08	3.104E-07	8.249E-07	6.443E-09	1.189E-12
RES LYM	0.241	0.176	1.603E-07	9.402E-08	3.442E-07	2.115E-07	9.164E-08	3.104E-07	8.249E-07	6.443E-09	1.189E-12
S WALL	4.157E-05	4.605E-07	1.808E-03	1.237E-06	4.042E-06	3.105E-06	9.166E-08	1.664E-07	6.093E-07	2.427E-08	4.091E-12
SI WALL	5.230E-05	5.807E-08	2.300E-07	4.492E-03	1.860E-05	1.620E-05	9.191E-08	2.491E-07	4.968E-07	1.970E-08	2.986E-11
ULI WALL	6.643E-06	7.377E-09	2.953E-07	1.057E-05	2.613E-02	3.277E-06	9.177E-08	2.275E-07	7.862E-07	1.976E-08	2.332E-11
LLI WALL	1.474E-06	1.637E-08	1.109E-07	2.716E-06	3.541E-06	7.037E-02	9.189E-08	3.307E-07	7.384E-08	5.161E-09	1.778E-10
T BODY	3.469E-03	3.813E-05	4.049E-06	4.178E-05	8.068E-05	4.745E-04	9.164E-08	5.085E-05	5.084E-05	1.129E-06	1.129E-08
ADREN	5.439E-05	6.023E-07	2.166E-07	3.321E-07	1.126E-06	7.228E-07	9.166E-08	4.848E-07	1.472E-06	8.984E-08	3.985E-12
BL WALL	1.294E-06	1.439E-08	3.403E-08	8.214E-07	2.212E-06	1.128E-05	9.187E-08	1.480E-07	5.289E-08	2.453E-09	3.647E-10
KIDNEYS	1.921E-05	2.130E-07	2.963E-07	1.077E-06	3.025E-06	1.561E-06	9.168E-08	3.158E-07	1.229E-06	2.532E-04	6.467E-12
LIVER	5.333E-05	5.906E-07	1.735E-07	6.262E-07	2.675E-06	3.391E-07	9.170E-08	2.153E-07	1.963E-03	2.752E-08	4.545E-12
OVARIES	2.692E-06	2.990E-08	8.897E-08	3.816E-06	1.073E-05	3.445E-05	9.177E-08	2.738E-07	1.741E-07	9.109E-09	0.0
PANCREAS	5.291E-05	5.861E-07	1.599E-06	6.807E-07	2.238E-06	1.305E-06	9.175E-08	2.791E-07	1.407E-06	4.806E-08	4.850E-12
BONE	3.102E-05	3.429E-07	6.977E-08	3.823E-07	1.063E-06	2.890E-06	9.188E-08	6.478E-04	3.259E-07	9.583E-09	5.706E-11
R MAR	3.885E-05	4.294E-07	1.181E-07	1.287E-06	3.407E-06	9.295E-06	9.206E-08	2.340E-04	4.454E-07	2.485E-08	4.433E-11
Y MAR	3.273E-05	3.617E-07	9.830E-08	5.351E-07	1.528E-06	3.650E-06	9.189E-08	1.766E-06	4.920E-07	1.176E-08	2.194E-11
ENDOST	3.102E-05	3.429E-07	6.977E-08	3.823E-07	1.063E-06	2.890E-06	9.192E-08	4.751E-04	3.259E-07	9.583E-09	5.706E-11
SPLEEN	4.868E-05	5.391E-07	8.892E-07	5.080E-07	1.480E-06	4.755E-06	9.169E-08	2.403E-07	3.154E-07	6.314E-08	3.318E-12
TESTES	4.537E-07	5.048E-09	8.812E-09	1.346E-07	4.306E-07	3.033E-06	9.157E-08	1.981E-07	4.736E-08	8.334E-10	2.234E-05
THYMUS	9.281E-05	1.028E-06	4.989E-08	3.834E-08	1.331E-07	3.333E-08	9.157E-04	2.223E-07	2.282E-07	1.046E-09	7.509E-13
THYROID	2.419E-05	2.683E-07	1.071E-08	1.161E-09	3.771E-08	3.005E-08	9.154E-08	2.030E-07	4.613E-08	5.272E-10	2.770E-13
UTERUS	2.040E-06	2.267E-08	7.169E-08	3.218E-06	5.512E-06	4.191E-05	9.195E-08	2.250E-07	1.166E-07	5.505E-09	0.0

DOSE EQUIVALENT (REM)

SOURCE	OVARIES	OTHER	TOTAL
TARGET			
LUNGS	7.442E-13	4.757E-09	0.243
RES LYM	7.442E-13	4.757E-09	0.416
S WALL	5.324E-12	4.847E-08	1.859E-03
SI WALL	8.753E-11	5.367E-08	4.535E-03
ULI WALL	8.361E-11	5.609E-08	2.615E-02
LLI WALL	1.092E-10	5.866E-08	7.638E-02
T BODY	1.134E-09	5.620E-06	3.921E-03
ADREN	2.994E-12	1.157E-05	7.110E-05
BL WALL	5.188E-11	5.807E-06	2.176E-05
KIDNEYS	6.843E-12	5.223E-08	2.803E-04
LIVER	3.940E-12	3.820E-08	2.021E-03
OVARIES	7.129E-06	7.093E-08	5.955E-05
PANCREAS	4.764E-12	1.160E-05	7.271E-05
BONE	9.828E-12	9.882E-07	6.953E-04
R MAR	3.520E-11	7.773E-06	2.957E-04
Y MAR	1.340E-11	1.158E-05	5.284E-05
ENDOST	9.828E-12	6.567E-06	5.178E-04
SPLEEN	3.663E-12	1.158E-05	6.614E-05
TESTES	0.0	4.084E-08	2.681E-05
THYMUS	3.471E-13	1.161E-05	1.063E-04
THYROID	1.147E-13	1.157E-05	3.645E-05
UTERUS	1.371E-10	1.163E-05	3.484E-05

PERCENT DOSE EQUIVALENT..

NUCLIDE	TH-234	PA-234M	PA-234
TARGET			
LUNGS	6.8	93.1	0.1
RES LYM	6.8	93.2	0.1
S WALL	7.8	91.7	0.4
SI WALL	7.2	92.6	0.3
ULI WALL	6.8	93.1	0.1
LLI WALL	6.8	93.2	0.1
T BODY	7.2	92.6	0.2
ADREN	38.6	53.2	8.1
BL WALL	34.6	58.9	8.5
KIDNEYS	9.8	89.0	1.2
LIVER	8.1	91.5	0.4
OVARIES	41.8	48.5	9.8
PANCREAS	39.6	51.7	8.7
BONE	10.1	89.5	0.5
R MAR	12.7	85.8	1.4
Y MAR	48.3	45.9	5.7
ENDOST	9.6	89.8	0.6
SPLEEN	37.3	54.5	8.2
TESTES	11.6	86.2	2.2
THYMUS	40.6	50.9	8.5
THYROID	22.9	69.3	7.8
UTERUS	33.6	59.6	7.8

CASE 2.. INHALATION

AMAD (MICRON).. 1.00 D3 =0.310 D4 =8.000E-02 D5 =0.249

	SOLUBILITY CLASS	G.I. UPTAKE FRACTIONS STOMACH	S INT	U L INT	L L INT
TH-234	W	0.0	1.000E-03	0.0	0.0
PA-234M	W	0.0	1.000E-03	0.0	0.0
PA-234	W	0.0	1.000E-03	0.0	0.0

DOSE EQUIVALENT (REM)

SOURCE	LUNGS	RES LYM	S CONT	SI CONT	ULI CONT	LLI CONT	EXCRET.	BONE	LIVER	KIDNEYS	TESTES
TARGET											
LUNGS	0.174	4.299E-03	1.429E-07	8.414E-08	3.127E-07	1.937E-07	1.561E-06	5.283E-06	1.404E-05	1.096E-07	2.022E-11
RES LYM	0.174	0.285	1.429E-07	8.414E-08	3.127E-07	1.937E-07	1.561E-06	5.283E-06	1.404E-05	1.096E-07	2.022E-11
S WALL	3.005E-05	7.483E-07	1.657E-03	1.113E-06	3.682E-06	2.346E-06	1.561E-06	2.832E-06	1.037E-05	4.131E-07	6.958E-11
SI WALL	3.780E-06	9.435E-08	2.051E-07	4.128E-03	1.695E-05	1.069E-05	1.565E-06	4.239E-06	8.454E-06	3.353E-07	5.080E-10
ULI WALL	4.801E-06	1.199E-07	2.636E-07	9.569E-06	2.402E-02	7.589E-06	1.563E-06	3.871E-06	1.339E-05	3.362E-07	3.968E-10
LLI WALL	1.066E-06	2.660E-08	5.861E-08	2.450E-06	3.235E-06	7.021E-02	1.565E-06	5.627E-06	1.256E-06	8.781E-08	3.026E-09
T BODY	2.510E-03	6.197E-05	3.708E-06	3.839E-05	7.415E-05	1.641E-04	1.561E-06	8.657E-04	8.654E-04	1.923E-05	1.922E-07
ADREN	3.933E-05	9.787E-07	1.934E-07	2.972E-07	1.024E-06	6.621E-07	1.561E-06	8.248E-06	2.504E-05	1.529E-06	6.779E-11
BL WALL	9.351E-07	2.337E-08	3.012E-08	7.372E-07	2.014E-06	1.034E-05	1.564E-06	2.518E-06	8.998E-07	4.173E-08	6.207E-09
KIDNEYS	1.389E-05	3.461E-07	2.643E-07	9.686E-07	2.754E-06	1.430E-06	1.561E-06	5.373E-06	2.091E-05	4.311E-03	1.100E-10
LIVER	3.856E-05	9.597E-07	1.545E-07	5.632E-07	2.435E-06	3.121E-07	1.561E-06	3.664E-06	3.341E-02	4.683E-07	7.732E-11
OVARIES	1.946E-06	4.858E-08	7.902E-08	3.442E-06	9.776E-06	3.158E-05	1.563E-06	4.658E-06	2.962E-06	1.565E-07	0.0
PANCREAS	3.826E-05	9.524E-07	1.428E-06	6.122E-07	2.010E-06	1.196E-06	1.562E-06	4.748E-06	2.394E-05	8.178E-07	8.251E-11
BONE	2.244E-05	5.572E-07	6.261E-08	3.459E-07	9.705E-07	2.632E-06	1.565E-06	1.103E-02	5.547E-06	1.631E-07	9.710E-10
R MAR	2.810E-05	6.978E-07	1.059E-07	1.165E-06	3.111E-06	3.529E-06	1.569E-06	3.983E-03	7.580E-06	4.230E-07	7.544E-10
Y MAR	2.367E-05	5.878E-07	8.823E-08	4.842E-07	1.395E-06	3.349E-06	1.565E-06	3.006E-05	8.373E-06	2.001E-07	3.733E-10
ENDOST	2.244E-05	5.572E-07	6.261E-08	3.459E-07	9.705E-07	2.632E-06	1.565E-06	8.088E-03	5.547E-06	1.631E-07	9.710E-10
SPLEEN	3.520E-05	8.760E-07	7.930E-07	4.563E-07	1.348E-06	1.609E-06	1.561E-06	4.089E-06	5.366E-06	1.074E-06	5.644E-11
TESTES	3.278E-07	8.201E-09	7.791E-09	1.204E-07	3.910E-07	2.803E-06	1.559E-06	3.371E-06	8.057E-07	1.418E-08	3.804E-04
THYMUS	6.710E-05	1.670E-06	4.430E-08	3.421E-08	1.208E-07	3.105E-08	1.559E-06	3.782E-06	3.883E-06	1.779E-08	1.277E-11
THYROID	1.749E-05	4.360E-07	9.433E-09	1.034E-08	3.418E-08	2.750E-08	1.559E-06	3.454E-06	7.848E-07	8.968E-09	4.711E-12
UTERUS	1.474E-06	3.683E-08	6.355E-09	2.901E-06	5.023E-06	1.092E-05	1.566E-06	3.828E-06	1.985E-06	9.367E-08	0.0

DOSE EQUIVALENT (REM)

SOURCE	OVARIES	OTHER	TOTAL
TARGET			
LUNGS	1.266E-11	8.090E-07	0.178
RES LYM	1.266E-11	8.090E-07	0.460
S WALL	9.059E-11	8.242E-07	1.712E-03
SI WALL	1.490E-09	9.128E-07	4.181E-03
ULI WALL	1.423E-09	9.538E-07	2.406E-02
LLI WALL	1.659E-09	9.976E-07	7.023E-02
T BODY	1.930E-08	9.566E-05	4.700E-03
ADREN	9.093E-11	1.969E-04	2.758E-04
BL WALL	8.829E-10	9.884E-05	1.183E-04
KIDNEYS	1.164E-10	8.883E-07	4.359E-03
LIVER	6.704E-11	6.496E-07	3.346E-02
OVARIES	1.214E-04	1.206E-06	1.788E-04
PANCREAS	8.105E-11	1.974E-04	2.729E-04
BONE	1.673E-10	1.682E-05	1.108E-02
R MAR	5.991E-10	1.323E-04	4.167E-03
Y MAR	2.280E-10	1.970E-04	2.668E-04
ENDOST	1.673E-10	1.118E-04	8.234E-03
SPLEEN	6.232E-11	1.972E-04	2.495E-04
TESTES	0.0	6.944E-07	3.905E-04
THYMUS	9.904E-12	1.976E-04	2.759E-04
THYROID	1.950E-12	1.969E-04	2.208E-04
UTERUS	2.333E-09	1.979E-04	2.258E-04

PERCENT DOSE EQUIVALENT..

NUCLIDE	TH-234	PA-234M	PA-234
TARGET			
LUNGS	6.8	93.1	0.1
RES LYM	6.7	93.2	0.1
S WALL	7.9	91.6	0.5
SI WALL	7.3	92.4	0.3
ULI WALL	6.9	93.0	0.1
LLI WALL	6.8	93.2	0.1
T BODY	7.2	92.6	0.2
ADREN	16.7	80.2	3.0
BL WALL	12.7	85.4	1.9
KIDNEYS	7.3	92.5	0.2
LIVER	7.0	92.8	0.1
OVARIES	18.7	77.8	3.5
PANCREAS	17.3	79.8	2.9
BONE	7.5	92.4	0.1
R MAR	2.9	97.0	0.2
Y MAR	21.3	76.8	1.9
ENDOST	6.1	93.8	0.1
SPLEEN	14.2	83.7	2.2
TESTES	7.4	92.2	0.3
THYMUS	17.3	79.9	2.9
THYROID	9.5	89.2	1.3
UTERUS	11.4	87.0	1.5

CASE 3.. INGESTION

INGESTION TRANSFER FRACTIONS (G. I. TRACT TO BLOOD)

	TH-234	PA-234M	PA-234
STOMACH	0.0	0.0	0.0
S INT	1.000E-03	1.000E-03	1.000E-03
U L INT	0.0	0.0	0.0
L L INT	0.0	0.0	0.0

DOSE EQUIVALENT (REM)

SOURCE	S CONT	SI CONT	ULI CONT	LLI CONT	EXCRET.	BONE	LIVER	KIDNEYS	TESTES	OVARIES	OTHER
TARGET											
LUNGS	2.750E-07	1.663E-07	6.701E-07	4.315E-07	1.828E-08	3.182E-08	1.643E-07	1.283E-09	2.365E-13	1.481E-13	9.463E-09
RES LYM	2.750E-07	1.663E-07	6.701E-07	4.315E-07	1.828E-08	3.182E-08	1.643E-07	1.283E-09	2.365E-13	1.481E-13	9.463E-09
S WALL	3.665E-03	2.273E-06	7.991E-06	6.365E-06	1.828E-08	3.314E-08	1.213E-07	4.834E-09	8.139E-13	1.060E-12	9.640E-09
SI WALL	3.949E-07	9.348E-03	3.684E-05	3.736E-05	1.833E-08	4.901E-08	9.893E-08	3.924E-09	5.943E-12	1.743E-11	1.068E-08
ULI WALL	5.106E-07	1.999E-05	5.442E-02	1.699E-05	1.830E-08	4.329E-08	1.566E-07	3.935E-09	4.643E-12	1.665E-11	1.116E-08
LLI WALL	1.865E-07	5.060E-06	6.993E-06	0.159	1.832E-08	3.535E-08	1.470E-08	1.027E-09	3.541E-11	2.176E-11	1.167E-08
T BODY	8.163E-06	8.680E-05	1.678E-04	3.718E-04	1.828E-08	1.013E-05	1.013E-05	2.251E-07	2.250E-09	2.260E-10	1.119E-06
ADREN	3.745E-07	5.871E-07	2.207E-06	1.475E-06	1.828E-08	3.631E-08	2.930E-07	1.789E-08	7.930E-13	5.958E-13	2.304E-06
BL WALL	5.550E-08	1.481E-06	4.361E-06	2.316E-05	1.832E-08	4.947E-08	1.053E-08	4.882E-10	7.263E-11	1.033E-11	1.156E-06
KIDNEYS	5.094E-07	1.971E-06	5.963E-06	3.194E-06	1.828E-08	3.287E-08	2.447E-07	5.046E-05	1.287E-12	1.362E-12	1.039E-08
LIVER	2.958E-07	1.143E-06	5.272E-06	1.141E-06	1.829E-08	4.288E-08	3.911E-04	5.481E-09	9.046E-13	7.845E-13	7.598E-09
OVARIES	1.483E-07	7.103E-06	2.125E-05	7.071E-05	1.830E-08	3.491E-08	3.466E-08	1.832E-09	0.0	1.421E-06	1.411E-08
PANCREAS	2.780E-06	1.243E-06	4.354E-06	2.671E-06	1.830E-08	3.556E-08	2.802E-07	9.571E-09	9.653E-13	9.484E-13	2.309E-06
BONE	1.250E-07	7.247E-07	2.127E-06	5.954E-06	1.832E-08	1.291E-04	6.493E-08	1.909E-09	1.136E-11	1.958E-12	1.968E-07
R MAR	2.114E-07	2.455E-06	6.835E-06	1.916E-05	1.836E-08	4.963E-05	8.872E-08	4.951E-09	8.829E-12	7.013E-12	1.548E-06
Y MAR	1.765E-07	1.016E-06	3.057E-06	7.523E-06	1.833E-08	3.519E-07	9.901E-08	2.342E-09	4.369E-12	2.669E-12	2.305E-06
ENDOST	1.250E-07	7.247E-07	2.127E-06	5.954E-06	1.833E-08	2.457E-05	6.493E-08	1.909E-09	1.136E-11	1.958E-12	1.308E-06
SPLEEN	1.539E-06	9.211E-07	2.920E-06	3.594E-06	1.828E-08	4.734E-08	6.279E-08	1.257E-08	6.601E-13	7.292E-13	2.307E-06
TESTES	1.421E-08	2.381E-07	8.341E-07	6.265E-06	1.826E-08	3.945E-08	9.425E-09	1.659E-10	4.453E-06	0.0	8.121E-09
THYMUS	8.306E-08	6.659E-08	2.573E-07	1.801E-07	1.826E-08	4.426E-09	4.543E-08	2.082E-10	1.494E-13	6.906E-14	2.313E-06
THYROID	1.684E-08	1.985E-08	7.223E-08	6.104E-08	1.826E-08	4.042E-08	9.182E-09	1.049E-10	5.511E-14	2.281E-14	2.304E-06
UTERUS	1.181E-07	5.963E-06	1.091E-05	2.444E-05	1.834E-08	4.479E-08	2.322E-08	1.096E-09	0.0	2.730E-11	2.316E-06

DOSE EQUIVALENT (REM)

SOURCE	TOTAL
TARGET	
LUNGS	1.798E-06
RES LYM	1.798E-06
S WALL	3.682E-03
SI WALL	9.423E-03
ULI WALL	8.446E-02
LLI WALL	0.159
T BODY	8.562E-04
ADREN	7.374E-06
BL WALL	3.027E-05
KIDNEYS	6.243E-05
LIVER	3.990E-04
OVARIES	1.008E-04
PANCREAS	1.372E-05
BONE	1.383E-04
R MAR	7.695E-05
Y MAR	1.455E-05
ENDOST	1.050E-04
SPLEEN	1.142E-05
TESTES	1.188E-05
THYMUS	3.008E-06
THYROID	2.542E-06
UTERUS	4.384E-05

PERCENT DOSE EQUIVALENT..

NUCLIDE	TH-234	PA-234M	PA-234
TARGET			
LUNGS	31.7	59.5	8.8
RES LYM	31.7	59.5	8.8
S WALL	7.2	92.8	0.0
SI WALL	7.2	92.7	0.1
ULI WALL	6.8	93.1	0.1
LLI WALL	6.8	93.2	0.1
T BODY	7.7	92.1	0.2
ADREN	25.2	68.5	6.3
BL WALL	47.4	44.2	8.4
KIDNEYS	13.6	84.8	1.6
LIVER	7.7	92.1	0.3
OVARIES	48.7	43.1	8.2
PANCREAS	38.5	56.0	5.5
BONE	10.8	88.7	0.5
R MAR	25.3	72.5	2.2
Y MAR	53.3	41.5	5.1
ENDOST	10.6	88.8	0.6
SPLEEN	34.6	59.4	6.1
TESTES	28.0	65.5	6.5
THYMUS	10.2	87.3	2.5
THYROID	7.7	91.1	1.1
UTERUS	47.3	45.3	7.4

RADIONUCLIDE: PA-231

PHYSICAL AND METABOLIC PARAMETERS FOR DOSIMETRICALLY SIGNIFICANT PROGENY:

NUCLIDE	RADIOACTIVE HALF-LIFE (DAYS)
PA-231	1.1900E 07
AC-227	7950.
TH-227	18.70
RA-223	11.40
RN-219	4.5800E-05
PO-215	2.0600E-08
PB-211	2.5100E-02
BI-211	1.4800E-03
PO-211	6.4800E-06
TL-207	3.3100E-03

BRANCHING RATIOS:

FROM	TO	FRACTION
PA-231	AC-227	1.000
AC-227	TH-227	1.000
TH-227	RA-223	1.000
RA-223	RN-219	1.000
RN-219	PO-215	1.000
PO-215	PB-211	1.000
PB-211	BI-211	1.000
BI-211	PO-211	3.0000E-03
BI-211	TL-207	0.9970

ORGAN ABSORBED	NUCLIDE	BLOOD TRANSFER FRACTION F2-PRIME	COMPARTMENT DEPOSITION FRACTION	COMPARTMENT BIOLOGICAL HALF-TIME (DAYS)
	PA-231	1.00	4.000E-02	0.500
			0.460	1.460E 04
			0.500	3.650E 04
	AC-227	1.00	0.460	1.460E 04
			0.540	3.650E 04
	TH-227	1.00	0.460	1.460E 04
			0.540	3.650E 04
	RA-223	1.00	0.917	5.50
			5.360E-02	81.0
			2.000E-02	955.
			1.760E-04	3.140E 03
			9.390E-03	7.620E 03
	RN-219	0.0	0.874	2.650E-04
			9.130E-02	3.110E-03
			1.980E-02	2.280E-02
			8.630E-03	0.146
			6.120E-03	0.963
	PO-215	1.00	1.000E-02	0.500
			0.990	50.0
	PB-211	1.00	1.000E-01	1.00
			0.200	10.0
			0.300	320.
			0.200	2.000E 03
			0.200	8.000E 03
	BI-211	1.00	-1.720E-02	1.000E-01
			1.02	5.78
	PO-211	1.00	1.000E-02	0.500
			0.990	50.0
	TL-207	1.00	1.00	4.00

α decay (3.248E4 Y 11)

Case 1 represents inhalation of oxides, hrdroxides, and carbides; case 2 inhalation of nitrates; and case 3 ingestion of any compound.

*Retention data derived from "other tissues" compartment.

ORGAN	NUCLIDE	BLOOD TRANSFER FRACTION F2-PRIME	COMPARTMENT DEPOSITION FRACTION	COMPARTMENT BIOLOGICAL HALF-TIME (DAYS)
EXCRET.	PA-231	4.000E-02	1.00	0.500
	AC-227	0.0	1.00	0.500
	TH-227	0.0	1.00	0.500
	RA-223	0.0	1.00	0.500
	RN-219	0.0	0.874	2.650E-04
			9.130E-02	3.110E-03
			1.980E-02	2.280E-02
			8.630E-03	0.146
			6.120E-03	0.963
	PO-215	0.0	1.00	0.500
	PB-211	0.0	1.00	0.500
	BI-211	0.0	1.00	0.500
	PO-211	0.0	1.00	0.500
	TL-207	0.0	1.00	0.500
BONE	PA-231	0.450	1.00	3.650E 04
	AC-227	0.450	1.00	3.650E 04
	TH-227	0.450	1.00	3.650E 04
	RA-223	0.172	0.880	5.68
			1.360E-02	240.
			2.030E-03	1.610E 03
			5.730E-02	1.490E 03
			4.600E-02	8.380E 03
	RN-219	0.0	0.700	2.650E-04
			0.300	1.000E 50
	*PO-215	9.000E-02	1.000E-02	0.500
			0.990	50.0
	PB-211	0.562	0.375	320.
			0.310	2.000E 03
			0.315	8.000E 03
	*BI-211	7.340E-02	-1.000E-01	1.000E-01
			1.10	5.78
	*PO-211	9.000E-02	1.000E-02	0.500
			0.990	50.0
	*TL-207	0.118	1.00	4.00
LIVER	PA-231	0.450	1.00	1.460E 04
	AC-227	0.450	1.00	1.460E 04
	TH-227	0.450	1.00	1.460E 04
	*RA-223	4.540E-02	0.890	0.630
			7.090E-02	28.9
			3.040E-02	160.
			7.430E-03	776.
			7.940E-04	4.040E 03
	RN-219	0.0	0.849	2.650E-04
			9.900E-02	3.110E-03
			4.400E-02	2.880E-02
			7.790E-04	0.146
			2.030E-05	0.963
	PO-215	1.000E-01	1.000E-02	0.500
			0.990	50.0
	PB-211	0.106	0.843	10.0
			7.870E-02	320.
			4.010E-02	2.000E 03
			3.800E-02	8.000E 03
	*BI-211	2.640E-02	-1.000E-01	1.000E-01
			1.10	5.78
	PO-211	1.000E-01	1.000E-02	0.500
			0.990	50.0
	*TL-207	4.240E-02	1.00	4.00

ORGAN	NUCLIDE	BLOOD TRANSFER FRACTION F2-PRIME	COMPARTMENT DEPOSITION FRACTION	COMPARTMENT BIOLOGICAL HALF-TIME (DAYS)
KIDNEYS	PA-231	1.000E-02	1.00	1.460E 04
	AC-227	1.000E-02	1.00	1.460E 04
	TH-227	1.000E-02	1.00	1.460E 04
	• RA-223	7.820E-03	0.890	0.630
			7.090E-02	28.9
			3.040E-02	160.
			7.430E-03	776.
			7.940E-04	4.040E 03
	•RN-219	0.0	0.849	2.650E-04
			9.900E-02	3.110E-03
			4.400E-02	2.880E-02
			7.790E-04	0.146
			2.030E-05	0.963
	PO-215	1.000E-01	1.000E-02	0.500
			0.990	50.0
	PB-211	5.090E-02	0.962	10.0
			2.000E-02	320.
			9.600E-03	2.000E 03
			8.290E-03	8.000E 03
	BI-211	0.400	1.00	5.78
	PO-211	1.000E-01	1.000E-02	0.500
			0.990	50.0
	TL-207	3.760E-02	1.00	4.00
SPLEEN	• PA-231	2.640E-04	1.00	3.650E 04
	• AC-227	4.760E-04	1.00	3.650E 04
	• TH-227	4.760E-04	1.00	3.650E 04
	• RA-223	4.540E-03	0.890	0.630
			7.090E-02	28.9
			3.040E-02	160.
			7.430E-03	776.
			7.940E-04	4.040E 03
	• RN-219	0.0	0.849	2.650E-04
			9.900E-02	3.110E-03
			4.400E-02	2.880E-02
			7.790E-04	0.146
			2.030E-05	0.963
	PO-215	1.000E-01	1.000E-02	0.500
			0.990	50.0
	•PB-211	2.960E-04	0.375	320.
			0.310	2.000E 03
			0.315	8.000E 03
	•BI-211	2.640E-03	-1.000E-01	1.000E-01
			1.10	5.78
	PO-211	1.000E-01	1.000E-02	0.500
			0.990	50.0
	•TL-207	4.240E-03	1.00	4.00
TESTES	PA-231	3.500E-04	1.00	3.650E 04
	AC-227	3.500E-04	1.00	3.650E 04
	TH-227	3.500E-04	1.00	3.650E 04
	• RA-223	8.830E-04	0.890	0.630
			7.090E-02	28.9
			3.040E-02	160.
			7.430E-03	776.
			7.940E-04	4.040E 03
	• RN-219	0.0	0.910	2.650E-04
			8.660E-02	3.110E-03
			3.040E-04	2.880E-02
			3.170E-03	0.146
			6.810E-06	0.963
	•PO-215	6.300E-04	1.000E-02	0.500
			0.990	50.0
	•PB-211	5.760E-05	0.375	320.
			0.310	2.000E 03
			0.315	8.000E 03
	•BI-211	5.140E-04	-1.000E-01	1.000E-01
			1.10	5.78
	•PO-211	6.300E-04	1.000E-02	0.500
			0.990	50.0
	•TL-207	8.240E-04	1.00	4.00

PROTACTINIUM-231 CONTINUED

ORGAN		NUCLIDE	BLOOD TRANSFER FRACTION F2-PRIME	COMPARTMENT DEPOSITION FRACTION	COMPARTMENT BIOLOGICAL HALF-TIME (DAYS)
OVARIES		PA-231	1.100E-04	1.00	3.650E 04
		AC-227	1.100E-04	1.00	3.650E 04
		TH-227	1.100E-04	1.00	3.650E 04
	*	RA-223	2.770E-04	0.890	0.630
				7.090E-02	28.9
				3.040E-02	160.
				7.430E-03	776.
				7.940E-04	4.040E 03
	*	RN-219	0.0	0.910	2.650E-04
				8.660E-02	3.110E-03
				3.040E-04	2.880E-02
				3.170E-03	0.146
				6.810E-06	0.963
	*	PO-215	1.980E-04	1.000E-02	0.500
				0.990	50.0
	*	PB-211	1.810E-05	0.375	0.0
				0.310	2.000E 03
				0.315	8.000E 03
	*	BI-211	1.610E-04	-1.000E-01	1.000E-01
				1.10	5.78
	*	PO-211	1.980E-04	1.000E-02	0.500
				0.990	50.0
	*	TL-207	2.590E-04	1.00	4.00
OTHER		PA-231	4.970E-02	1.00	3.650E 04
		AC-227	8.950E-02	1.00	3.650E 04
		TH-227	8.950E-02	1.00	3.650E 04
		RA-223	0.854	0.890	0.630
				7.090E-02	28.9
				3.040E-02	160.
				7.430E-03	776.
				7.940E-04	4.040E 03
		RN-219	0.0	0.872	2.650E-04
				9.140E-02	3.110E-03
				2.050E-02	2.880E-02
				9.080E-03	0.146
				6.790E-03	0.963
		PO-215	0.610	1.000E-02	0.500
				0.990	50.0
		PB-211	5.580E-02	0.375	0.0
				0.310	2.000E 03
				0.315	8.000E 03
		BI-211	0.500	-1.000E-01	1.000E-01
				1.10	5.78
		PO-211	0.610	1.000E-02	0.500
				0.990	50.0
		TL-207	0.814	1.00	4.00

S FACTORS (REM/MICROCURIE-DAY) FOR PA-231

TARGET ORGANS	SOURCE ORGANS													
	LUNGS	RES LYM	S CONT	SI CONT	ULI CONT	LLI CONT	EXCRET.	BONE	LIVER	KIDNEYS	SPLEEN	TESTES	OVARIES	OTHER
LUNGS	0.261E 01	0.224E-02	0.102E-04	0.144E-05	0.155E-05	0.475E-06	0.373E-01	0.561E-05	0.156E-04	0.476E-05	0.135E-04	0.626E-07	0.428E-06	0.932E-05
RES LYM	0.224E-02	0.174E 03	0.102E-04	0.144E-05	0.155E-05	0.475E-06	0.373E-01	0.561E-05	0.156E-04	0.476E-05	0.135E-04	0.626E-07	0.428E-06	0.902E-05
S WALL	0.110E-04	0.110E-04	0.547E-01	0.212E-04	0.231E-04	0.100E-04	0.373E-01	0.323E-05	0.108E-04	0.189E-04	0.577E-04	0.344E-06	0.433E-05	0.803E-05
SI WALL	0.116E-05	0.116E-05	0.147E-04	0.343E-01	0.116E-03	0.639E-04	0.373E-01	0.434E-05	0.912E-05	0.159E-04	0.764E-05	0.235E-05	0.786E-04	0.911E-05
ULI WALL	0.147E-05	0.147E-05	0.206E-04	0.291E-03	0.621E-01	0.314E-04	0.373E-01	0.408E-05	0.142E-04	0.159E-04	0.717E-05	0.184E-05	0.852E-04	0.101E-04
LLI WALL	0.508E-06	0.508E-06	0.696E-05	0.577E-04	0.192E-04	0.101E 00	0.373E-01	0.610F-05	0.138E-05	0.449E-05	0.349E-05	0.156F-04	0.110E-03	0.986E-05
T BODY	0.373E-01	0.373E-01	0.131E-03	0.326E-03	0.201E-03	0.245E-03	0.479E-01	0.186E 00	0.373E-01	0.373E-01	0.373E-01	0.373E-01	0.373E-01	0.371E-01
ADREN	0.145E-04	0.145E-04	0.130E-04	0.750E-05	0.510E-05	0.241E-05	0.373E-01	0.782F-05	0.302E-04	0.764E-04	0.375E-04	0.269E-06	0.230E-05	0.759E-01
BL WALL	0.291E-06	0.291E-06	0.157E-05	0.156E-04	0.114E-04	0.368E-04	0.373E-01	0.285E-05	0.112E-05	0.173E-05	0.808E-06	0.278E-04	0.394F-04	0.384E-01
KIDNEYS	0.501E-05	0.501E-05	0.192E-04	0.172E-04	0.153E-04	0.491E-05	0.373E-01	0.509E-05	0.224E-04	0.842E 01	0.573E-04	0.353E-06	0.540E-05	0.908E-05
LIVER	0.150E-04	0.150E-04	0.111E-04	0.103E-04	0.145E-04	0.157F-05	0.373E-01	0.782E-05	0.145E 01	0.225E-04	0.553E-05	0.224E-06	0.313E-05	0.647E-35
OVARIES	0.672E-06	0.672E-06	0.247E-05	0.665E-04	0.797E-04	0.137E-03	0.373E-01	0.471E-05	0.216E-05	0.639E-05	0.364E-05	0.0	0.237E 03	0.131E-04
PANCREAS	0.148E-04	0.148E-04	0.115E-03	0.112E-04	0.121E-04	0.385E-05	0.373E-01	0.561E-05	0.244E-04	0.370E-04	0.131E-03	0.326E-06	0.270E-05	0.769E-01
BONE	0.756E-05	0.756E-05	0.421E-05	0.598E-05	0.535E-05	0.855E-05	0.186E 00	0.261E 01	0.551E-05	0.709E-05	0.559E-05	0.418E-05	0.714E-05	0.103E-04
R MAR	0.944E-05	0.944E-05	0.726E-05	0.202E-04	0.173E-04	0.279E-04	0.373E-01	0.430E 00	0.765E-05	0.184E-04	0.815E-05	0.335E-05	0.252E-04	0.769E-01
Y MAR	0.804E-05	0.804E-05	0.588E-05	0.835E-05	0.765E-05	0.108E-04	0.373E-01	0.526E-04	0.822E-05	0.871E-05	0.835E-05	0.163E-05	0.962E-05	0.769E-01
ENDOST	0.756E-05	0.756E-05	0.421E-05	0.598E-05	0.535E-05	0.855E-05	0.373E-01	0.638E 01	0.551E-05	0.709E-05	0.559E-05	0.418E-05	0.714E-05	0.460E-04
SPLEEN	0.136E-04	0.136E-04	0.583E-04	0.850E-05	0.739E-05	0.444E-05	0.373E-01	0.416E-05	0.512E-05	0.560E-04	0.145E 02	0.274E-06	0.310E-05	0.910E-05
TESTES	0.810E-07	0.810E-07	0.274E-06	0.185E-05	0.195E-05	0.111E-04	0.373E-01	0.333E-05	0.471E-06	0.644E-06	0.383E-06	0.745E 02	0.0	0.683E-05
THYMUS	0.230E-04	0.230E-04	0.132E-05	0.594E-06	0.667E-06	0.223E-06	0.373E-01	0.316F-05	0.444E-05	0.135E-05	0.205E-05	0.319E-07	0.227E-06	0.763E-31
THYROID	0.511E-05	0.511E-05	0.656E-06	0.140E-06	0.152E-06	0.577E-07	0.373E-01	0.533E-05	0.107E-05	0.379E-06	0.634E-06	0.837E-08	0.557E-07	0.763E-01
UTERUS	0.502E-06	0.502E-06	0.444E-05	0.557E-04	0.268E-04	0.378E-04	0.373E-01	0.331E-05	0.215E-05	0.527E-05	0.220E-05	0.0	0.125E-03	0.769E-01

CASE 1.. INHALATION

AMAD (MICRON).. 1.00 D3 =0.310 D4 =8.000E-02 D5 =0.249

	SOLUBILITY CLASS	G.I. UPTAKE FRACTIONS STOMACH	S INT	U L INT	L L INT
PA-231	Y	0.0	1.000E-03	0.0	0.0
AC-227	Y	0.0	1.000E-03	0.0	0.0
TH-227	Y	0.0	1.000E-03	0.0	0.0
RA-223	W	0.0	0.200	0.0	0.0
RN-219	*	0.0	0.0	0.0	0.0
PO-215	W	0.0	1.000E-01	0.0	0.0
PB-211	W	0.0	8.000E-02	0.0	0.0
BI-211	W	0.0	5.000E-02	0.0	0.0
PO-211	W	0.0	1.000E-01	0.0	0.0
TL-207	W	0.0	0.950	0.0	0.0

*SPECIAL LUNG CLEARANCE PARAMETERS. T=HALF-TIME (DAYS), F=DEPOSITION FRACTION.

CLEARANCE PATHWAY..		A	B	C	D	E	F	G	H	I
RN-219	F	1.0	0.0	1.0	0.0	1.0	0.0	0.0	0.0	1.0
	T	8.20E-05	1.0	8.20E-05	1.0	8.20E-05	0.0	0.0	0.0	2.96E-03

DOSE EQUIVALENT (REM/MICROCURIE)

SOURCE	LUNGS	RES LYM	S CONT	SI CONT	ULI CONT	LLI CONT	EXCRET.	BONE	LIVER	KIDNEYS	SPLEEN
TARGET											
LUNGS	302.	1.03	4.669E-07	2.485E-07	8.690E-07	4.926E-07	5.436E-05	9.030E-03	1.335E-02	9.762E-05	9.933E-06
RES LYM	0.293	3.633E 04	4.669E-07	2.485E-07	8.690E-07	4.926E-07	5.436E-05	9.030E-03	1.335E-02	9.762E-05	9.933E-06
S WALL	1.367E-03	3.198E-03	2.113E-03	3.534E-06	1.222E-05	1.010E-05	5.436E-05	5.217E-03	9.870E-03	3.875E-04	4.317E-05
SI WALL	1.455E-04	3.581E-04	6.824E-07	4.835E-03	5.883E-05	5.975E-05	5.436E-05	7.078E-03	8.365E-03	3.225E-04	5.982E-06
ULI WALL	1.844E-04	4.550E-04	9.297E-07	3.876E-05	2.865E-02	2.866E-05	5.436E-05	6.615E-03	1.284E-02	3.247E-04	5.616E-06
LLI WALL	6.327E-05	1.486E-04	3.243E-07	8.600E-06	1.010E-05	8.598E-02	5.436E-05	9.568E-03	1.256E-03	9.148E-05	2.718E-06
T BODY	4.31	7.78	5.078E-06	4.613E-05	9.306E-05	2.093E-04	6.981E-05	175.	19.8	0.440	1.614E-02
ADREN	1.807E-03	4.260E-03	6.104E-07	1.258E-06	2.852E-06	2.446E-06	5.436E-05	1.261E-02	2.598E-02	1.352E-03	2.807E-05
BL WALL	3.638E-05	8.899E-05	7.666E-08	2.659E-06	6.306E-06	3.673E-05	5.436E-05	4.747E-03	9.912E-04	3.518E-05	6.416E-07
KIDNEYS	6.275E-04	1.519E-03	8.916E-07	2.942E-06	8.469E-06	4.974E-06	5.436E-05	8.281E-03	2.003E-02	99.4	4.041E-05
LIVER	1.858E-03	4.278E-03	5.151E-07	1.749E-06	7.929E-06	1.610E-06	5.436E-05	6.192E-03	770.	4.490E-04	4.322E-06
OVARIES	8.411E-05	2.045E-04	1.257E-07	1.070E-05	4.067E-05	1.244E-04	5.436E-05	7.496E-03	2.088E-03	1.331E-04	2.744E-06
PANCREAS	1.849E-03	4.406E-03	5.034E-06	1.923E-06	6.676E-06	3.939E-06	5.436E-05	8.994E-03	2.171E-02	7.454E-04	8.882E-05
BONE	9.407E-04	2.185E-03	1.953E-07	1.005E-06	2.921E-06	8.297E-06	2.711E-04	2.450E 03	4.931E-03	1.423E-04	4.271E-06
R MAR	1.176E-03	2.745E-03	3.388E-07	3.372E-06	9.363E-06	2.656E-05	5.436E-05	404.	6.970E-03	3.698E-04	6.318E-06
Y MAR	9.981E-04	2.299E-03	2.729E-07	1.404E-06	4.179E-06	1.042E-05	5.436E-05	4.914E-02	7.361E-03	1.750E-04	6.392E-06
ENDOST	9.407E-04	2.185E-03	1.953E-07	1.005E-06	2.921E-06	8.297E-06	5.436E-05	4.779E 03	4.931E-03	1.423E-04	4.271E-06
SPLEEN	1.687E-03	3.902E-03	2.652E-06	1.451E-06	4.117E-06	4.609E-06	5.436E-05	6.509E-03	4.741E-03	1.050E-03	6.28
TESTES	1.013E-05	2.527E-05	1.321E-08	3.194E-07	1.095E-06	1.117E-05	5.436E-05	5.518E-03	4.332E-04	1.298E-05	2.918E-07
THYMUS	2.872E-03	6.811E-03	6.753E-08	1.019E-07	3.704E-07	2.293E-07	5.436E-05	5.188E-03	3.983E-03	2.674E-05	1.580E-06
THYROID	6.418E-04	1.584E-03	3.067E-08	2.444E-08	8.550E-08	6.062E-08	5.436E-05	8.499E-03	9.763E-04	7.628E-06	4.847E-07
UTERUS	6.290E-05	1.523E-04	2.082E-07	9.239E-06	1.488E-05	3.801E-05	5.436E-05	5.479E-03	1.982E-03	1.084E-04	1.719E-06

DOSE EQUIVALENT (REM/MICROCURIE)

SOURCE	TESTES	OVARIES	OTHER	TOTAL
TARGET				
LUNGS	5.813E-08	1.247E-07	1.115E-03	303.
RES LYM	5.813E-08	1.247E-07	1.115E-03	3.633E 04
S WALL	3.085E-07	1.279E-06	1.103E-03	2.339E-02
SI WALL	2.180E-06	2.080E-05	1.254E-03	2.256E-02
ULI WALL	1.729E-06	2.074E-05	1.322E-03	5.055E-02
LLI WALL	1.448E-05	2.673E-05	1.369E-03	9.859E-02
T BODY	1.986E-02	6.241E-03	3.03	210.
ADREN	2.460E-07	6.643E-07	6.27	6.32
BL WALL	2.560E-05	1.147E-05	3.13	3.14
KIDNEYS	3.247E-07	1.585E-06	1.187E-03	99.6
LIVER	2.090E-07	9.219E-07	8.787E-04	770.
OVARIES	0.0	39.7	1.670E-03	39.7
PANCREAS	3.099E-07	8.001E-07	6.28	6.31
BONE	4.004E-06	2.082E-06	1.546E-03	2.450E 03
R MAR	3.217E-06	7.320E-06	6.27	410.
Y MAR	1.555E-06	2.809E-06	6.27	6.33
ENDOST	4.004E-06	2.082E-06	6.148E-03	4.779E 03
SPLEEN	2.360E-07	9.006E-07	1.199E-03	6.30
TESTES	39.7	0.0	9.473E-04	39.7
THYMUS	2.903E-08	6.521E-08	6.28	6.30
THYROID	7.652E-09	1.589E-08	6.28	6.29
UTERUS	0.0	3.463E-05	6.28	6.28

PERCENT DOSE EQUIVALENT..

NUCLIDE	PA-231	AC-227	TH-227	RA-223	RN-219	PO-215	PB-211	BI-211	PO-211	TL-207
TARGET										
LUNGS	93.3	0.0	2.4	1.2	0.9	1.0	0.1	0.9	0.0	0.1
RES LYM	55.5	0.1	9.8	7.5	6.8	9.6	0.1	8.5	0.0	0.1
S WALL	35.4	0.0	37.8	12.4	4.9	0.6	4.2	4.1	0.0	0.6
SI WALL	35.7	0.0	36.9	11.8	5.1	1.2	4.3	4.3	0.0	0.7
ULI WALL	50.4	0.0	23.2	8.2	4.9	3.1	3.7	4.4	0.0	2.1
LLI WALL	62.0	0.0	9.6	6.4	5.3	4.8	3.7	5.0	0.0	3.2
T BODY	39.6	0.3	23.5	8.6	9.2	10.0	0.0	8.8	0.0	0.0
ADREN	45.8	0.4	33.4	4.9	5.0	5.5	0.1	4.9	0.0	0.0
BL WALL	45.9	0.4	33.4	4.9	5.1	5.5	0.0	4.9	0.0	0.0
KIDNEYS	50.9	0.4	31.6	4.1	4.3	4.6	0.0	4.0	0.0	0.0
LIVER	50.9	0.4	31.6	4.1	4.2	4.6	0.0	4.1	0.0	0.0
OVARIES	47.7	0.4	31.3	5.0	5.1	5.5	0.1	4.9	0.0	0.0
PANCREAS	45.8	0.4	33.4	4.9	5.1	5.5	0.1	4.9	0.0	0.0
BONE	36.1	0.3	23.6	9.4	10.0	10.9	0.0	9.7	0.0	0.0
R MAR	36.2	0.3	23.6	9.3	10.0	10.8	0.0	9.7	0.0	0.0
Y MAR	45.9	0.4	33.4	5.0	5.0	5.4	0.1	4.9	0.0	0.0
ENDOST	45.3	0.1	22.4	9.5	7.6	7.2	0.0	7.8	0.0	0.0
SPLEEN	45.9	0.4	33.4	4.9	5.0	5.4	0.0	4.8	0.0	0.0
TESTES	49.1	0.4	32.0	4.4	4.6	5.0	0.0	4.4	0.0	0.0
THYMUS	45.9	0.4	33.3	4.9	5.1	5.5	0.1	4.9	0.0	0.0
THYROID	45.9	0.4	33.4	4.9	5.1	5.5	0.0	4.9	0.0	0.0
UTERUS	45.9	0.4	33.4	4.9	5.1	5.5	0.0	4.9	0.0	0.0

CASE 2.. INHALATION

AMAD (MICRON).. 1.00 D3 =0.310 D4 =8.000E-02 D5 =0.240

	SOLUBILITY CLASS	G.I. UPTAKE FRACTIONS STOMACH	S INT	U L INT	L L INT
PA-231	W	0.0	1.000E-03	0.0	0.0
AC-227	W	0.0	1.000E-03	0.0	0.0
TH-227	W	0.0	1.000E-03	0.0	0.0
RA-223	W	0.0	0.200	0.0	0.0
RN-219	*	0.0	0.0	0.0	0.0
PO-215	W	0.0	1.000E-01	0.0	0.0
PB-211	W	0.0	8.000E-02	0.0	0.0
BI-211	W	0.0	5.000E-02	0.0	0.0
PO-211	W	0.0	1.000E-01	0.0	0.0
TL-207	W	0.0	0.950	0.0	0.0

*SPECIAL LUNG CLEARANCE PARAMETERS. T=HALF-TIME (DAYS), F=DEPOSITION FRACTION.

	CLEARANCE PATHWAY..	A	B	C	D	E	F	G	H	I
RN-219	F	1.0	0.0	1.0	0.0	1.0	0.0	0.0	0.0	1.0
	T	8.20E-05	1.0	8.20E-05	1.0	8.20E-05	0.0	0.0	0.0	2.96E-03

DOSE EQUIVALENT (REM/MICROCURIE)

SOURCE	LUNGS	RES LYM	S CONT	SI CONT	ULI CONT	LLI CONT	EXCRET.	BONE	LIVER	KIDNEYS	SPLEEN
TARGET											
LUNGS	29.3	2.343E-03	2.234E-07	1.259E-07	4.404E-07	2.493E-07	1.306E-04	2.022E-02	2.969E-02	2.160E-04	2.044E-05
RES LYM	2.543E-02	163.	2.234E-07	1.259E-07	4.404E-07	2.493E-07	1.306E-04	2.022E-02	2.969E-02	2.160E-04	2.044E-05
S WALL	1.242E-04	1.070E-05	1.192E-03	1.851E-06	6.554E-06	5.245E-06	1.306E-04	1.168E-02	2.188E-02	8.574E-04	8.870E-05
SI WALL	1.311E-05	1.137E-06	3.221E-07	2.981E-03	3.287E-05	3.339E-05	1.306E-04	1.584E-02	1.854E-02	7.137E-04	1.225E-05
ULI WALL	1.662E-05	1.442E-06	4.511E-07	2.527E-05	1.735E-02	1.642E-05	1.306E-04	1.481E-02	2.848E-02	7.186E-04	1.149E-05
LLI WALL	5.738E-06	4.944E-07	1.525E-07	5.024E-06	5.446E-06	5.270E-02	1.306E-04	2.144E-02	2.784E-03	2.025E-04	5.566E-06
T BODY	0.419	3.499E-02	2.855E-06	2.834E-05	5.680E-05	1.279E-04	1.677E-04	399.	45.4	1.01	3.480E-02
ADREN	1.638E-04	1.412E-05	2.850E-07	6.552E-07	1.449E-06	1.264E-06	1.306E-04	2.824E-02	5.775E-02	3.014E-03	5.768E-05
BL WALL	3.288E-06	2.849E-07	3.445E-08	1.363E-06	3.238E-06	1.929E-05	1.306E-04	1.062E-02	2.200E-02	7.787E-05	1.313E-06
KIDNEYS	5.662E-05	4.899E-06	4.208E-07	1.503E-06	4.346E-06	2.576E-06	1.306E-04	1.854E-02	4.444E-02	229.	8.343E-05
LIVER	1.693E-04	1.455E-05	2.432E-07	9.000E-07	4.119E-06	8.238E-07	1.306E-04	1.386E-02	1.764E 03	9.948E-04	8.850E-06
OVARIES	7.594E-06	6.575E-07	5.426E-08	5.802E-06	2.259E-05	7.165E-05	1.306E-04	1.679E-02	4.616E-03	2.944E-04	5.628E-06
PANCREAS	1.672E-04	1.444E-05	2.516E-06	9.789E-07	3.437E-06	2.020E-06	1.306E-04	2.014E-02	4.819E-02	1.651E-03	1.839E-04
BONE	8.539E-05	7.349E-06	9.226E-08	5.224E-07	1.519E-06	4.479E-06	6.512E-04	5.597E 03	1.094E-02	3.152E-04	8.763E-06
R MAR	1.066E-04	9.182E-06	1.591E-07	1.764E-06	4.911E-06	1.461E-05	1.306E-04	923.	1.545E-02	8.191E-04	1.295E-05
Y MAR	9.079E-05	7.804E-06	1.289E-07	7.294E-07	2.172E-06	5.657E-06	1.306E-04	0.112	1.633E-02	3.876E-04	1.311E-05
ENDOST	8.539E-05	7.348E-06	9.226E-08	5.224E-07	1.519E-06	4.479E-06	1.306E-04	1.106E 04	1.094E-02	3.152E-04	8.763E-06
SPLEEN	1.536E-04	1.321E-05	1.277E-06	7.428E-07	2.100E-06	2.330E-06	1.306E-04	1.459E-02	1.050E-02	2.334E-03	13.5
TESTES	9.153E-07	7.952E-08	6.011E-09	1.617E-07	5.541E-07	5.821E-06	1.306E-04	1.235E-02	9.599E-04	2.874E-05	5.980E-07
THYMUS	2.599E-04	2.242E-05	2.901E-08	5.191E-08	1.895E-07	1.170E-07	1.306E-04	1.161E-02	8.836E-03	5.925E-05	3.235E-06
THYROID	5.777E-05	5.012E-06	1.438E-08	1.224E-03	4.319E-08	3.029E-08	1.306E-04	1.904E-02	2.164E-03	1.689E-05	9.937E-07
UTERUS	5.674E-06	4.910E-07	9.732E-08	4.864E-06	7.614E-06	1.982E-05	1.306E-04	1.226E-02	4.391E-03	2.399E-04	3.517E-06

DOSE EQUIVALENT (REM/MICROCURIE)

SOURCE	TESTES	OVARIES	OTHER	TOTAL
TARGET				
LUNGS	1.311E-07	2.813E-07	2.316E-03	29.3
RES LYM	1.311E-07	2.813E-07	2.316E-03	163.
S WALL	6.967E-07	2.884E-06	2.272E-03	3.825E-02
SI WALL	4.918E-06	4.713E-05	2.583E-03	4.094E-02
ULI WALL	3.900E-06	4.717E-05	2.734E-03	6.454E-02
LLI WALL	3.267E-05	6.079E-05	2.816E-03	8.019E-02
T BODY	4.608E-02	1.448E-02	6.52	453.
ADREN	5.553E-07	1.499E-06	13.5	13.6
BL WALL	5.779E-05	2.587E-05	6.75	6.77
KIDNEYS	7.326E-07	3.576E-06	2.453E-03	228.
LIVER	4.714E-07	2.079E-06	1.811E-03	1.764E 03
OVARIES	0.0	92.1	3.461E-03	92.2
PANCREAS	6.988E-07	1.804E-06	13.5	13.6
BONE	9.023E-06	4.699E-06	3.109E-03	5.597E 03
R MAR	7.250E-06	1.652E-05	13.5	936.
Y MAR	3.506E-06	6.337E-06	13.5	13.6
ENDOST	9.023E-06	4.699E-06	1.236E-02	1.106E 04
SPLEEN	5.337E-07	2.032E-06	2.478E-03	13.6
TESTES	92.1	0.0	1.950E-03	92.1
THYMUS	6.551E-08	1.472E-07	13.5	13.5
THYROID	1.726E-08	3.586E-08	13.5	13.5
UTERUS	0.0	7.831E-05	13.5	13.5

PERCENT DOSE EQUIVALENT..

NUCLIDE	PA-231	AC-227	TH-227	RA-223	RN-219	PO-215	PB-211	BI-211	PO-211	TL-207
TARGET										
LUNGS	99.3	0.0	0.3	0.1	0.1	0.1	0.0	0.1	0.0	0.0
RES LYM	95.8	0.0	0.9	0.7	0.8	0.9	0.0	0.8	0.0	0.0
S WALL	32.5	0.1	44.4	11.6	4.2	0.0	3.6	3.4	0.0	0.2
SI WALL	34.2	0.1	41.4	12.2	4.5	0.0	4.0	3.6	0.0	0.2
ULI WALL	49.1	0.0	33.3	8.8	3.2	0.0	2.8	2.6	0.0	0.1
LLI WALL	74.3	0.0	13.8	5.9	2.2	0.1	1.9	1.8	0.0	0.1
T BODY	41.1	0.3	23.2	8.3	8.9	9.6	0.0	8.5	0.0	0.0
ADREN	52.7	0.4	30.4	4.0	4.1	4.4	0.1	3.9	0.0	0.0
BL WALL	52.8	0.4	30.4	4.0	4.1	4.4	0.0	3.9	0.0	0.0
KIDNEYS	54.8	0.3	29.2	3.8	3.9	4.2	0.0	3.8	0.0	0.0
LIVER	54.8	0.3	29.2	3.8	3.9	4.2	0.0	3.7	0.0	0.0
OVARIES	52.8	0.4	30.4	4.0	4.1	4.4	0.0	3.9	0.0	0.0
PANCREAS	52.7	0.4	30.4	4.0	4.1	4.4	0.0	3.9	0.0	0.0
BONE	39.2	0.3	22.5	8.9	9.5	10.4	0.0	9.2	0.0	0.0
R MAR	39.3	0.3	22.5	8.9	9.5	10.3	0.0	9.2	0.0	0.0
Y MAR	52.7	0.4	30.4	4.0	4.1	4.4	0.1	3.9	0.0	0.0
ENDOST	48.6	0.1	21.1	8.9	7.1	6.7	0.0	7.4	0.0	0.0
SPLEEN	52.9	0.4	30.4	3.9	4.1	4.4	0.0	3.9	0.0	0.0
TESTES	52.9	0.4	30.3	3.9	4.0	4.4	0.0	3.9	0.0	0.0
THYMUS	52.8	0.4	30.3	3.9	4.1	4.4	0.0	3.9	0.0	0.0
THYROID	52.8	0.4	30.3	3.9	4.1	4.4	0.0	3.9	0.0	0.0
UTERUS	52.8	0.4	30.3	3.9	4.1	4.4	0.0	3.9	0.0	0.0

CASE 3.. INGESTION

INGESTION TRANSFER FRACTIONS (G. I. TRACT TO BLOOD)

	PA-231	AC-227	TH-227	RA-223	RN-219	PO-215	PB-211	BI-211	PO-211	TL-207
STOMACH	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
S INT	1.000E-03	1.000E-03	1.000E-03	0.200	0.0	1.000E-01	8.000E-02	5.000E-02	1.000E-01	0.950
U L INT	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
L L INT	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

DOSE EQUIVALENT (REM/MICROCURIE)

SOURCE	S CONT	SI CONT	ULI CONT	LLI CONT	EXCRET.	BONE	LIVER	KIDNEYS	SPLEEN	TESTES	OVARIES
TARGET											
LUNGS	4.250E-07	2.398E-07	8.388E-07	4.745E-07	1.076E-06	1.663E-04	2.443E-04	1.777E-06	1.679E-07	1.079E-09	2.315E-09
RES LYM	4.250E-07	2.398E-07	8.388E-07	4.745E-07	1.076E-06	1.663E-04	2.443E-04	1.777E-06	1.679E-07	1.079E-09	2.315E-09
S WALL	2.279E-03	3.530E-06	1.250E-05	9.990E-06	1.076E-06	9.609E-05	1.800E-04	7.053E-06	7.288E-07	5.732E-09	2.372E-08
SI WALL	6.125E-07	5.711E-03	6.277E-05	6.374E-05	1.076E-06	1.303E-04	1.525E-04	5.871E-06	1.007E-07	4.046E-08	3.878E-07
ULI WALL	8.583E-07	4.845E-05	3.360E-02	3.137E-05	1.076E-06	1.218E-04	2.343E-04	5.911E-06	9.441E-08	3.209E-08	3.882E-07
LLI WALL	2.900E-07	9.607E-06	1.039E-05	0.101	1.076E-06	1.764E-04	2.290E-05	1.666E-06	4.573E-08	2.688E-07	5.302E-07
T BODY	5.458E-06	5.428E-05	1.088E-04	2.448E-04	1.382E-06	3.29	0.373	8.295E-03	2.962E-04	3.793E-04	1.192E-04
ADREN	5.417E-07	1.249E-06	2.760E-06	2.408E-06	1.076E-06	2.323E-04	4.751E-04	2.480E-05	4.739E-07	4.568E-09	1.233E-08
BL WALL	6.542E-08	2.597E-06	6.169E-06	3.676E-05	1.076E-06	8.735E-05	1.810E-05	6.406E-07	1.078E-08	4.755E-07	2.129E-07
KIDNEYS	8.000E-07	2.864E-06	8.279E-06	4.905E-06	1.076E-06	1.525E-04	3.656E-04	1.87	6.856E-07	6.027E-09	2.942E-08
LIVER	4.625E-07	1.715E-06	7.846E-06	1.568E-06	1.076E-06	1.140E-04	14.5	8.183E-06	7.271E-08	3.878E-09	1.711E-08
OVARIES	1.029E-07	1.107E-05	4.313E-05	1.369E-04	1.076E-06	1.381E-04	3.797E-05	2.421E-06	4.625E-08	0.0	0.758
PANCREAS	4.792E-06	1.865E-06	6.548E-06	3.846E-06	1.076E-06	1.657E-04	3.964E-04	1.358E-05	1.512E-06	5.749E-09	1.484E-08
BONE	1.754E-07	9.957E-07	2.895E-06	8.542E-06	5.367E-06	46.1	9.000E-05	2.593E-06	7.200E-08	7.423E-08	3.866E-08
R MAR	3.025E-07	3.363E-06	9.362E-06	2.787E-05	1.076E-06	7.59	1.271E-04	6.738E-06	1.064E-07	5.965E-08	1.359E-07
Y MAR	2.450E-07	1.390E-06	4.140E-06	1.079E-05	1.076E-06	9.244E-04	1.344E-04	3.188E-06	1.077E-07	2.884E-08	5.214E-08
ENDOST	1.754E-07	9.957E-07	2.895E-06	8.542E-06	1.076E-06	91.0	9.000E-05	2.593E-06	7.200E-08	7.423E-08	3.866E-08
SPLEEN	2.429E-06	1.415E-06	3.999E-06	4.436E-06	1.076E-06	1.200E-04	8.640E-05	1.920E-05	0.111	4.391E-09	1.672E-08
TESTES	1.142E-08	3.080E-07	1.055E-06	1.109E-05	1.076E-06	1.016E-04	7.896E-06	2.364E-07	4.914E-09	0.758	0.0
THYMUS	5.500E-08	9.890E-08	3.609E-07	2.228E-07	1.076E-06	9.551E-05	7.269E-05	4.874E-07	2.658E-08	5.390E-10	1.211E-09
THYROID	2.733E-08	2.331E-08	8.225E-08	5.764E-08	1.076E-06	1.566E-04	1.780E-05	1.390E-07	8.165E-09	1.420E-10	2.951E-10
UTERUS	1.850E-07	9.274E-06	1.450E-05	3.776E-05	1.076E-06	1.008E-04	3.612E-05	1.973E-06	2.890E-08	0.0	6.443E-07

DOSE EQUIVALENT (REM/MICROCURIE)

SOURCE	OTHER	TOTAL
TARGET		
LUNGS	1.904E-05	4.346E-04
RES LYM	1.904E-05	4.346E-04
S WALL	1.867E-05	2.609E-03
SI WALL	2.122E-05	6.150E-03
ULI WALL	2.246E-05	3.407E-02
LLI WALL	2.314E-05	0.101
T BODY	5.364E-02	3.72
ADREN	0.111	0.112
BL WALL	5.555E-02	5.570E-02
KIDNEYS	2.016E-05	1.87
LIVER	1.488E-05	14.5
OVARIES	2.844E-05	0.759
PANCREAS	0.111	0.112
BONE	2.555E-05	46.1
R MAR	0.111	7.70
Y MAR	0.111	0.112
ENDOST	1.015E-04	91.0
SPLEEN	2.036E-05	0.112
TESTES	1.602E-05	0.758
THYMUS	0.111	0.111
THYROID	0.111	0.111
UTERUS	0.111	0.111

PERCENT DOSE EQUIVALENT..

NUCLIDE	PA-231	AC-227	TH-227	RA-223	RN-219	PO-215	PB-211	BI-211	PO-211	TL-207
TARGET										
LUNGS	31.1	0.1	43.9	12.7	4.5	0.0	3.9	3.6	0.0	0.2
RES LYM	31.1	0.1	43.9	12.7	4.5	0.0	3.9	3.6	0.0	0.2
S WALL	91.9	0.0	5.4	1.4	0.5	0.0	0.4	0.4	0.0	0.0
SI WALL	96.4	0.0	2.3	0.7	0.2	0.0	0.2	0.2	0.0	0.0
ULI WALL	99.2	0.0	0.5	0.1	0.0	0.0	0.0	0.0	0.0	0.0
LLI WALL	99.8	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0
T BODY	41.1	0.3	23.2	8.3	8.9	9.6	0.0	8.5	0.0	0.0
ADREN	52.9	0.3	30.3	4.0	4.1	4.4	0.1	3.9	0.0	0.0
BL WALL	52.9	0.4	30.3	3.9	4.1	4.4	0.0	3.9	0.0	0.0
KIDNEYS	54.9	0.3	29.1	3.8	3.9	4.2	0.0	3.7	0.0	0.0
LIVER	54.8	0.3	29.1	3.8	3.9	4.2	0.0	3.7	0.0	0.0
OVARIES	53.0	0.4	30.3	3.9	4.1	4.4	0.0	3.9	0.0	0.0
PANCREAS	52.8	0.4	30.3	4.0	4.1	4.4	0.0	3.9	0.0	0.0
BONE	39.3	0.3	22.4	8.9	9.5	10.3	0.0	9.2	0.0	0.0
R MAR	39.5	0.3	22.5	8.8	9.4	10.2	0.0	9.1	0.0	0.0
Y MAR	52.9	0.3	30.3	4.0	4.0	4.4	0.1	3.9	0.0	0.0
ENDOST	48.6	0.1	21.1	8.9	7.1	6.7	0.0	7.4	0.0	0.0
SPLEEN	53.0	0.4	30.3	3.9	4.1	4.4	0.0	3.9	0.0	0.0
TESTES	53.0	0.4	30.3	3.9	4.0	4.4	0.0	3.9	0.0	0.0
THYMUS	52.9	0.4	30.3	3.9	4.1	4.4	0.0	3.9	0.0	0.0
THYROID	52.9	0.4	30.3	3.9	4.1	4.4	0.0	3.9	0.0	0.0
UTERUS	52.9	0.4	30.3	3.9	4.1	4.4	0.0	3.9	0.0	0.0

RADIONUCLIDE: PA-233

PHYSICAL AND METABOLIC PARAMETERS FOR DOSIMETRICALLY SIGNIFICANT PROGENY:

NUCLIDE	RADIOACTIVE HALF-LIFE (DAYS)
PA-233	27.00
U-233	5.7900E 07

BRANCHING RATIOS: FROM PA-233 TO U-233 FRACTION 1.000

ORGAN ABSORBED	NUCLIDE	BLOOD TRANSFER FRACTION F2-PRIME	COMPARTMENT DEPOSITION FRACTION	COMPARTMENT BIOLOGICAL HALF-TIME (DAYS)
	PA-233	1.00	4.000E-02	0.500
			0.460	1.460E 04
			0.500	3.650E 04
	U-233	1.00	0.120	6.00
			0.200	20.0
			5.200E-04	1.500E 03
			0.679	5.000E 03
EXCRET.	PA-233	4.000E-02	1.00	0.500
	U-233	0.0	1.00	0.500
BONE	PA-233	0.450	1.00	3.650E 04
	U-233	0.223	0.897	20.0
			0.103	5.000E 03
LIVER	PA-233	0.450	1.00	1.460E 04
	*U-233	3.290E-02	1.00	5.000E 03
KIDNEYS	PA-233	1.000E-02	1.00	1.460E 04
	U-233	0.121	0.996	6.00
			4.000E-03	1.500E 03
TESTES	PA-233	3.500E-04	1.00	3.650E 04
	*U-233	6.400E-04	1.00	5.000E 03
OVARIES	PA-233	1.100E-04	1.00	3.650E 04
	*U-233	2.010E-04	1.00	5.000E 03
OTHER	PA-233	5.000E-02	1.00	3.650E 04
	U-233	0.622	1.00	5.000E 03

S FACTORS (REM/MICROCURIE-DAY) FOR PA-233

TARGET ORGANS	SOURCE ORGANS												
	LUNGS	RES LYM	S CONT	SI CONT	ULI CONT	LLI CONT	EXCRET.	BONE	LIVER	KIDNEYS	TESTES	OVARIES	OTHER
LUNGS	0.104E-01	0.104E-01	0.607E-04	0.921E-05	0.999E-05	0.305E-05	0.193E-03	0.336E-04	0.860E-04	0.302E-04	0.380E-06	0.276E-05	0.443E-04
RES LYM	0.104E-01	0.645E 00	0.607E-04	0.921E-05	0.999E-05	0.305E-05	0.193E-03	0.336E-04	0.860E-04	0.302E-04	0.380E-06	0.276E-05	0.443E-04
S WALL	0.640E-04	0.640E-04	0.213E-01	0.124E-03	0.129E-03	0.617E-04	0.204E-03	0.198E-04	0.659E-04	0.119E-03	0.222E-05	0.279E-04	0.467E-04
SI WALL	0.755E-05	0.755E-05	0.913E-04	0.134E-01	0.584E-03	0.325E-03	0.211E-03	0.265E-04	0.565E-04	0.979E-04	0.150E-04	0.417E-03	0.521E-04
ULI WALL	0.958E-05	0.958E-05	0.120E-03	0.946E-03	0.236E-01	0.152E-03	0.207E-03	0.247E-04	0.866E-04	0.992E-04	0.115E-04	0.400E-03	0.537E-04
LLI WALL	0.304E-05	0.304E-05	0.433E-04	0.258E-03	0.106E-03	0.378E-01	0.204E-03	0.354E-04	0.900E-05	0.281E-04	0.962E-04	0.515E-03	0.569E-04
T BODY	0.193E-03	0.193E-03	0.167E-03	0.184E-03	0.137E-03	0.153E-03	0.191E-03	0.192E-03	0.201E-03	0.201E-03	0.190E-03	0.213E-03	0.188E-03
ADREN	0.873E-04	0.873E-04	0.832E-04	0.451E-04	0.325E-04	0.151E-04	0.210E-03	0.465E-04	0.168E-03	0.389E-03	0.170E-05	0.149E-04	0.347E-03
BL WALL	0.183E-05	0.183E-05	0.106E-04	0.984E-04	0.720E-04	0.221E-03	0.203E-03	0.187E-04	0.744E-05	0.111E-04	0.169E-03	0.239E-03	0.212E-03
KIDNEYS	0.317E-04	0.317E-04	0.119E-03	0.108E-03	0.956E-04	0.306E-04	0.201E-03	0.307E-04	0.133E-03	0.345E-01	0.225E-05	0.346E-04	0.497E-04
LIVER	0.847E-04	0.847E-04	0.692E-04	0.633E-04	0.881E-04	0.100E-04	0.200E-03	0.233E-04	0.640E-02	0.135E-03	0.141E-05	0.199E-04	0.364E-04
OVARIES	0.425E-05	0.425E-05	0.163E-04	0.353E-03	0.420E-03	0.639E-03	0.207E-03	0.283E-04	0.133E-04	0.404E-04	0.0	0.926E-C0	0.671E-04
PANCREAS	0.907E-04	0.907E-04	0.621E-03	0.710E-04	0.759E-04	0.250E-04	0.210E-03	0.332E-04	0.148E-03	0.224E-03	0.197E-05	0.176E-04	0.376E-03
BONE	0.424E-04	0.424E-04	0.259E-04	0.354E-04	0.320E-04	0.461E-04	0.201E-03	0.200E-02	0.320E-04	0.415E-04	0.271E-04	0.424E-04	0.567E-04
R MAR	0.537E-04	0.537E-04	0.458E-04	0.117E-03	0.101E-03	0.142E-03	0.211E-03	0.482E-03	0.464E-04	0.108E-03	0.217E-04	0.147E-03	0.308E-03
Y MAR	0.440E-04	0.440E-04	0.361E-04	0.495E-04	0.458E-04	0.571E-04	0.198E-03	0.145E-03	0.473E-04	0.512E-04	0.166E-04	0.569E-04	0.339E-03
ENDOST	0.424E-04	0.424E-04	0.259E-04	0.354E-04	0.320E-04	0.461E-04	0.202E-03	0.144E-02	0.320E-04	0.415E-04	0.271E-04	0.424E-04	0.197E-03
SPLEEN	0.778E-04	0.778E-04	0.341E-03	0.534E-04	0.470E-04	0.288E-04	0.202E-03	0.240E-04	0.327E-04	0.298E-03	0.187E-05	0.199E-04	0.363E-03
TESTES	0.513E-06	0.513E-06	0.165E-05	0.117E-04	0.125E-04	0.677E-04	0.189E-03	0.211E-04	0.297E-05	0.406E-05	0.294E 00	0.0	0.391E-04
THYMUS	0.138E-03	0.138E-03	0.858E-05	0.375E-05	0.427E-05	0.141E-05	0.211E-03	0.200E-04	0.295E-04	0.903E-05	0.204E-06	0.143E-05	0.432E-03
THYROID	0.335E-04	0.335E-04	0.412E-05	0.984E-06	0.960E-06	0.366E-06	0.195E-03	0.325E-04	0.647E-05	0.239E-05	0.543E-07	0.353E-06	0.343E-03
UTERUS	0.317E-05	0.317E-05	0.285E-04	0.319E-03	0.169E-03	0.229E-03	0.211E-03	0.204E-04	0.139E-04	0.330E-04	0.0	0.694E-03	0.433E-03

β^- decay (27.0 D 1)

Case 1 represents inhalation of oxides, hydroxides, and carbides; case 2 inhalation of nitrates; and case 3 ingestion of any compound.

*Retention data derived from "other tissues" compartment.

CASE 1.. INHALATION

AMAD (MICRON).. 1.00 D3 =0.310 D4 =8.000E-02 D5 =0.249

	SOLUBILITY CLASS	G.I. UPTAKE FRACTIONS STOMACH	S INT	U L INT	L L INT
PA-233	Y	0.0	1.000E-03	0.0	0.0
U-233	Y	0.0	2.000E-03	0.0	0.0

DOSE EQUIVALENT (REM)

SOURCE	LUNGS	RES LYM	S CONT	SI CONT	ULI CONT	LLI CONT	EXCRET.	BONE	LIVER	KIDNEYS	TESTES
TARGET											
LUNGS	6.133E-02	7.573E-04	1.215E-06	7.344E-07	2.553E-06	1.403E-06	2.767E-08	2.978E-06	7.615E-06	5.942E-08	7.485E-12
RES LYM	6.125E-02	5.279E-02	1.215E-06	7.344E-07	2.553E-06	1.403E-06	2.767E-08	2.978E-06	7.615E-06	5.942E-08	7.485E-12
S WALL	3.765E-04	4.660E-06	4.269E-04	9.888E-06	3.297E-05	2.839E-05	2.925E-08	1.755E-06	5.835E-06	2.342E-07	4.373E-11
SI WALL	4.447E-05	5.498E-07	1.830E-06	1.069E-03	1.493E-04	1.495E-04	3.025E-08	2.349E-06	5.003E-06	1.926E-07	2.955E-10
ULI WALL	5.642E-05	6.976E-07	2.405E-06	7.543E-05	6.332E-03	5.993E-05	2.969E-08	2.180E-06	7.668E-06	1.952E-07	2.265E-10
LLI WALL	1.790E-05	2.214E-07	8.677E-07	2.057E-05	2.709E-03	1.739E-02	2.925E-08	3.138E-06	7.069E-07	5.529E-08	1.895E-09
T BODY	1.139E-03	1.530E-05	2.144E-06	1.467E-05	3.502E-05	7.039E-05	2.739E-09	1.754E-03	1.816E-05	3.965E-07	5.856E-09
ADREN	5.142E-04	6.357E-06	1.657E-06	3.596E-06	8.307E-05	3.047E-06	3.011E-08	4.122E-06	1.489E-05	7.654E-07	3.349E-11
BL WALL	1.078E-05	1.333E-07	2.124E-07	7.846E-06	1.840E-05	1.017E-04	2.910E-08	1.658E-06	6.588E-07	2.184E-08	3.329E-09
KIDNEYS	1.867E-04	2.308E-06	2.385E-06	8.612E-06	2.444E-05	1.408E-05	2.982E-08	2.721E-06	1.179E-05	6.912E-05	4.432E-11
LIVER	4.588E-04	6.168E-06	1.387E-06	5.048E-06	2.252E-05	1.601E-06	2.867E-08	2.065E-06	5.808E-04	2.656E-07	2.778E-11
OVARIES	2.503E-05	3.095E-07	3.267E-07	2.815E-05	1.074E-04	2.940E-04	2.968E-08	2.509E-06	1.178E-06	7.949E-08	0.0
PANCREAS	5.342E-04	6.605E-06	1.244E-06	5.661E-06	1.940E-05	1.150E-05	3.011E-08	2.943E-06	1.310E-05	4.408E-07	3.881E-11
BONE	2.497E-04	3.087E-06	5.190E-07	2.823E-06	8.179E-06	4.121E-05	2.982E-08	1.846E-04	2.833E-06	8.166E-08	5.338E-10
R MAR	3.163E-04	3.910E-06	9.178E-07	9.330E-06	2.582E-05	3.533E-05	3.025E-08	4.281E-05	4.109E-06	2.125E-07	4.275E-10
Y MAR	2.591E-04	3.204E-06	7.234E-07	3.947E-06	1.171E-05	2.527E-05	3.839E-08	1.285E-05	4.188E-06	1.007E-07	2.088E-10
ENDOST	2.497E-04	3.087E-06	5.190E-07	2.823E-06	8.179E-06	4.121E-05	2.996E-08	1.303E-04	2.833E-06	8.166E-08	5.338E-10
SPLEEN	4.582E-04	5.665E-06	6.834E-06	4.258E-06	1.201E-05	1.325E-05	2.896E-08	2.127E-06	2.895E-06	5.864E-07	3.684E-11
TESTES	3.021E-06	3.736E-08	3.307E-08	9.330E-07	3.195E-06	3.115E-05	2.710E-08	1.870E-06	2.630E-07	7.989E-09	1.002E-05
THYMUS	8.129E-04	1.005E-05	1.719E-07	2.990E-07	1.091E-06	5.487E-07	3.025E-08	1.773E-06	2.612E-06	1.777E-08	4.019E-12
THYROID	1.973E-04	2.439E-06	8.257E-08	7.049E-08	3.454E-07	1.684E-07	2.652E-09	2.881E-06	5.729E-07	4.703E-09	1.070E-12
UTERUS	1.867E-05	2.308E-07	5.711E-07	2.544E-05	4.294E-05	1.034E-04	3.025E-09	1.808E-06	1.231E-06	6.493E-08	0.0

DOSE EQUIVALENT (REM)

SOURCE	OVARIES	OTHER	TOTAL
TARGET			
LUNGS	5.437E-12	4.363E-07	6.210E-02
RES LYM	5.437E-12	4.363E-07	0.114
S WALL	5.496E-11	4.600E-07	8.880E-04
SI WALL	8.215E-10	5.132E-07	1.422E-03
ULI WALL	7.880E-10	5.289E-07	6.248E-03
LLI WALL	1.015E-09	5.604E-07	1.746E-02
T BODY	1.071E-09	3.868E-06	1.315E-03
ADREN	2.935E-11	7.578E-06	5.684E-04
BL WALL	4.708E-10	4.171E-06	1.456E-04
KIDNEYS	6.816E-11	4.895E-07	3.217E-04
LIVER	3.920E-11	3.585E-07	1.122E-03
OVARIES	5.977E-06	6.609E-07	4.656E-04
PANCREAS	3.467E-11	7.864E-06	6.142E-04
BONE	8.352E-11	5.585E-07	4.736E-04
R MAR	2.856E-10	7.194E-06	4.759E-04
Y MAR	1.121E-10	7.469E-06	3.297E-04
ENDOST	8.352E-11	1.941E-06	4.207E-04
SPLEEN	3.920E-11	7.736E-06	5.136E-04
TESTES	0.0	3.851E-07	5.094E-05
THYMUS	2.817E-12	8.415E-06	8.379E-04
THYROID	6.954E-13	7.539E-06	2.113E-04
UTERUS	1.367E-09	8.425E-06	2.048E-04

PERCENT DOSE EQUIVALENT..

NUCLIDE	PA-233	U-233
TARGET		
LUNGS	99.9	0.1
RES LYM	94.9	5.1
S WALL	100.0	0.0
SI WALL	100.0	0.0
ULI WALL	100.0	0.0
LLI WALL	100.0	0.0
T BODY	99.6	0.4
ADREN	99.3	0.7
BL WALL	98.6	1.4
KIDNEYS	99.9	0.1
LIVER	98.7	1.3
OVARIES	99.1	0.9
PANCREAS	99.3	0.7
BONE	98.5	1.5
R MAR	99.1	0.9
Y MAR	98.7	1.3
ENDOST	99.4	0.6
SPLEEN	99.2	0.8
TESTES	91.7	8.3
THYMUS	99.5	0.5
THYROID	98.0	2.0
UTERUS	98.0	2.0

CASE 2.. INHALATION

AMAD (MICRON).. 1.00 D3 =0.310 D4 =8.000E-02 D5 =0.249

	SOLUBILITY CLASS	G.I. UPTAKE FRACTIONS STOMACH	S INT	U L INT	L L INT
PA-233	W	0.0	1.000E-03	0.0	0.0
U-233	W	0.0	5.000E-02	0.0	0.0

DOSE EQUIVALENT (REM)

SOURCE	LUNGS	RES LYM	S CONT	SI CONT	ULI CONT	LLI CONT	EXCRET.	BONE	LIVER	KIDNEYS	TESTES
TARGET											
LUNGS	4.294E-02	1.149E-03	1.124E-06	6.783E-07	2.358E-06	4.296E-06	4.705E-07	5.064E-05	1.295E-04	1.010E-06	1.273E-10
RES LYM	4.294E-02	7.131E-02	1.124E-06	6.783E-07	2.358E-06	4.296E-06	4.705E-07	5.064E-05	1.295E-04	1.010E-06	1.273E-10
S WALL	2.642E-04	7.071E-06	3.942E-04	9.132E-06	3.045E-05	5.622E-05	4.977E-07	2.984E-05	9.922E-05	3.981E-06	7.436E-10
SI WALL	3.117E-05	8.342E-07	1.690E-06	9.869E-04	1.379E-04	4.381E-04	5.144E-07	3.994E-05	8.506E-05	3.275E-06	5.024E-09
ULI WALL	3.955E-05	1.058E-06	2.221E-06	6.967E-05	5.571E-03	3.439E-05	5.046E-07	3.723E-05	1.304E-04	3.319E-06	3.852E-09
LLI WALL	1.255E-05	3.359E-07	8.014E-07	1.900E-05	2.502E-03	1.530E-02	4.973E-07	5.336E-05	1.355E-05	9.401E-07	3.222E-08
T BODY	7.969E-04	2.133E-05	1.990E-06	1.355E-05	3.234E-05	3.501E-05	4.656E-07	2.921E-04	3.071E-04	6.726E-06	6.662E-08
ADREN	3.604E-04	9.646E-06	1.540E-06	3.322E-05	7.572E-05	5.416E-06	5.110E-07	7.009E-05	2.529E-04	1.301E-05	5.694E-10
BL WALL	7.555E-06	2.022E-07	1.962E-07	7.247E-06	1.700E-05	9.391E-05	4.949E-07	2.819E-05	1.120E-05	3.714E-07	5.660E-08
KIDNEYS	1.309E-04	3.502E-06	2.203E-06	7.954E-06	2.257E-05	1.300E-05	4.900E-07	4.627E-05	2.002E-04	1.155E-03	7.536E-10
LIVER	3.497E-04	9.359E-06	1.281E-06	4.662E-06	2.080E-05	1.249E-06	4.875E-07	3.512E-05	9.809E-03	4.517E-06	4.723E-10
OVARIES	1.755E-05	4.696E-07	3.017E-07	2.600E-05	9.915E-05	2.715E-04	5.046E-07	4.265E-05	2.002E-05	1.352E-06	0.0
PANCREAS	3.745E-04	1.002E-05	1.149E-06	5.229E-06	1.792E-05	1.052E-05	5.110E-07	5.004E-05	2.228E-04	7.494E-06	6.598E-10
BONE	1.750E-04	4.685E-06	4.794E-07	2.607E-06	7.554E-06	4.959E-05	4.900E-07	3.052E-03	4.818E-05	1.388E-06	9.077E-09
R MAR	2.217E-04	5.933E-06	8.477E-07	8.617E-06	2.384E-05	5.034E-05	5.144E-07	7.269E-04	6.986E-05	3.613E-06	7.268E-09
Y MAR	1.817E-04	4.861E-06	6.682E-07	3.646E-06	1.091E-05	2.426E-05	4.827E-07	2.185E-04	7.121E-05	1.713E-06	3.550E-09
ENDOST	1.750E-04	4.685E-06	4.794E-07	2.607E-06	7.554E-06	4.959E-05	4.924E-07	2.184E-03	4.818E-05	1.388E-06	9.077E-09
SPLEEN	3.212E-04	8.596E-06	6.312E-06	3.933E-06	1.110E-05	4.224E-05	4.924E-07	3.617E-05	4.923E-05	9.970E-06	8.263E-10
TESTES	2.118E-06	5.668E-08	3.054E-09	8.617E-07	2.951E-06	2.877E-05	4.607E-07	3.180E-05	4.472E-06	1.358E-07	1.044E-04
THYMUS	5.697E-04	1.525E-05	1.588E-07	3.762E-07	1.088E-06	3.991E-07	5.144E-07	3.014E-05	4.441E-05	3.021E-07	6.833E-11
THYROID	1.383E-04	3.701E-06	7.626E-08	6.510E-08	2.266E-07	4.553E-07	4.510E-07	4.898E-05	9.741E-06	7.996E-08	1.819E-11
UTERUS	1.309E-05	3.502E-07	5.275E-07	3.349E-05	3.966E-05	9.731E-05	5.144E-07	3.075E-05	2.093E-05	1.104E-06	0.0

DOSE EQUIVALENT (REM)

SOURCE	OVARIES	OTHER	TOTAL
TARGET			
LUNGS	9.244E-11	7.419E-06	4.428E-02
RES LYM	9.244E-11	7.419E-06	0.114
S WALL	9.345E-10	7.821E-06	8.727E-04
SI WALL	1.397E-08	8.725E-06	1.434E-03
ULI WALL	1.340E-08	8.983E-06	5.929E-03
LLI WALL	1.725E-08	9.529E-06	1.620E-02
T BODY	7.863E-09	3.301E-05	1.571E-03
ADREN	4.991E-10	6.312E-05	7.987E-04
BL WALL	8.005E-09	3.801E-05	2.044E-04
KIDNEYS	1.155E-09	8.323E-06	1.590E-03
LIVER	6.665E-10	6.056E-06	1.025E-02
OVARIES	3.566E-05	1.124E-05	5.264E-04
PANCREAS	5.895E-10	6.758E-05	7.786E-04
BONE	1.420E-09	9.456E-06	3.322E-03
R MAR	4.924E-09	5.659E-05	1.179E-03
Y MAR	1.906E-09	6.178E-05	5.736E-04
ENDOST	1.420E-09	3.299E-05	2.477E-03
SPLEEN	6.665E-10	6.580E-05	5.250E-04
TESTES	0.0	6.548E-06	1.826E-04
THYMUS	4.790E-11	7.735E-05	7.397E-04
THYROID	1.182E-11	6.245E-05	2.642E-04
UTERUS	2.324E-09	7.752E-05	3.053E-04

PERCENT DOSE EQUIVALENT..

NUCLIDE	PA-233	U-233
TARGET		
LUNGS	100.0	0.0
RES LYM	100.0	0.0
S WALL	100.0	0.0
SI WALL	100.0	0.0
ULI WALL	100.0	0.0
LLI WALL	100.0	0.0
T BODY	99.4	0.6
ADREN	99.4	0.6
BL WALL	98.8	1.2
KIDNEYS	100.0	0.0
LIVER	98.3	1.7
OVARIES	99.1	0.9
PANCREAS	99.4	0.6
BONE	98.9	1.1
R MAR	99.5	0.5
Y MAR	99.1	0.9
ENDOST	99.4	0.6
SPLEEN	99.0	1.0
TESTES	96.7	3.3
THYMUS	99.3	0.7
THYROID	98.1	1.9
UTERUS	98.4	1.6

CASE 3.. INGESTION

INGESTION TRANSFER FRACTIONS (G. I. TRACT TO BLOOD)

	PA-233	U-233
STOMACH	0.0	0.0
S INT	1.000E-03	5.000E-02
U L INT	0.0	0.0
L L INT	0.0	0.0

DOSE EQUIVALENT (REM)

SOURCE	S CONT	SI CONT	ULI CONT	LLI CONT	EXCRET.	BONE	LIVER	KIDNEYS	TESTES	OVARIES	OTHER
TARGET											
LUNGS	2.526E-06	1.525E-06	5.303E-06	2.914E-06	5.438E-09	3.354E-07	1.497E-06	1.168E-08	1.471E-12	1.069E-12	8.576E-08
RES LYM	2.526E-06	1.525E-06	5.303E-06	2.914E-06	5.438E-09	3.354E-07	1.497E-06	1.168E-08	1.471E-12	1.069E-12	8.576E-08
S WALL	8.866E-04	2.054E-05	6.848E-05	5.896E-05	5.748E-09	3.450E-07	1.147E-06	4.602E-08	8.595E-12	1.090E-11	9.040E-08
SI WALL	3.800E-06	2.219E-03	3.100E-04	3.105E-04	5.946E-09	4.017E-07	9.833E-07	3.786E-08	5.908E-11	1.614E-10	1.009E-07
ULI WALL	4.998E-06	1.567E-04	1.253E-02	1.452E-04	5.933E-09	4.303E-07	1.507E-06	3.936E-08	4.452E-11	1.549E-10	1.040E-07
LLI WALL	1.802E-06	4.273E-05	5.627E-05	3.612E-02	5.748E-09	3.168E-07	1.566E-07	1.387E-08	3.725E-10	1.994E-10	1.101E-07
T BODY	4.454E-06	3.047E-05	7.273E-05	1.462E-04	5.382E-09	3.376E-06	3.549E-06	7.775E-08	7.660E-10	8.961E-11	3.880E-07
ADREN	3.463E-06	7.469E-06	1.725E-05	1.443E-05	5.917E-09	3.191E-07	2.924E-06	1.504E-07	6.582E-12	5.769E-12	7.215E-07
BL WALL	4.412E-07	1.630E-05	3.822E-05	2.112E-04	5.720E-09	3.253E-07	1.295E-07	4.293E-09	6.543E-10	9.253E-11	4.353E-07
KIDNEYS	4.953E-06	1.789E-05	5.075E-05	2.924E-05	5.664E-09	3.349E-07	2.315E-06	1.335E-05	8.711E-12	1.340E-11	9.621E-08
LIVER	2.880E-06	1.048E-05	4.677E-05	9.555E-06	5.636E-09	4.059E-07	1.134E-04	5.221E-08	5.459E-12	7.705E-12	7.046E-08
OVARIES	6.784E-07	5.846E-05	2.230E-04	6.106E-04	5.933E-09	4.931E-07	2.315E-07	1.562E-08	0.0	4.041E-07	1.299E-07
PANCREAS	2.585E-05	1.176E-05	4.029E-05	2.389E-05	5.917E-09	3.784E-07	2.576E-06	8.663E-08	7.627E-12	6.814E-12	7.776E-07
BONE	1.078E-06	5.863E-06	1.699E-05	4.405E-05	5.664E-09	3.527E-05	5.569E-07	1.605E-08	1.049E-10	1.642E-11	1.098E-07
R MAR	1.906E-06	1.938E-05	5.362E-05	1.357E-04	5.946E-09	3.402E-06	8.075E-07	4.177E-08	8.402E-11	5.691E-11	6.460E-07
Y MAR	1.503E-06	8.198E-06	2.431E-05	5.456E-05	5.579E-09	2.325E-06	8.232E-07	1.980E-08	4.104E-11	2.203E-11	7.060E-07
ENDOST	1.078E-06	5.863E-06	1.699E-05	4.405E-05	5.692E-09	2.324E-05	5.569E-07	1.605E-08	1.049E-10	1.642E-11	3.814E-07
SPLEEN	1.419E-05	8.844E-06	2.495E-05	2.752E-05	5.692E-09	4.181E-07	5.691E-07	1.152E-07	7.240E-12	7.705E-12	7.525E-07
TESTES	6.866E-08	1.938E-06	6.636E-06	6.469E-05	5.326E-09	3.579E-07	5.169E-08	1.570E-09	1.199E-06	0.0	7.569E-08
THYMUS	3.571E-07	6.211E-07	2.267E-06	1.347E-06	5.946E-09	3.483E-07	5.134E-07	3.492E-09	7.898E-13	5.537E-13	8.860E-07
THYROID	1.715E-07	1.464E-07	5.096E-07	3.497E-07	5.213E-09	3.302E-07	1.126E-07	9.243E-10	2.102E-13	1.367E-13	7.137E-07
UTERUS	1.186E-06	5.283E-05	8.919E-05	2.188E-04	5.946E-09	3.554E-07	2.419E-07	1.276E-08	0.0	2.687E-10	8.880E-07

DOSE EQUIVALENT (REM)

SOURCE	TOTAL
TARGET	
LUNGS	1.445E-05
RES LYM	1.445E-05
S WALL	1.036E-03
SI WALL	2.845E-03
ULI WALL	1.284E-02
LLI WALL	3.622E-02
T BODY	2.612E-04
ADREN	4.723E-05
BL WALL	2.670E-04
KIDNEYS	1.191E-04
LIVER	1.836E-04
OVARIES	8.940E-04
PANCREAS	1.058E-04
BONE	1.039E-04
R MAR	2.205E-04
Y MAR	9.266E-05
ENDOST	9.418E-05
SPLEEN	7.737E-05
TESTES	7.503E-05
THYMUS	6.350E-06
THYROID	2.576E-06
UTERUS	3.635E-04

PERCENT DOSE EQUIVALENT..

NUCLIDE	PA-233	U-233
TARGET		
LUNGS	100.0	0.0
RES LYM	100.0	0.0
S WALL	100.0	0.0
SI WALL	100.0	0.0
ULI WALL	100.0	0.0
LLI WALL	100.0	0.0
T BODY	100.0	0.0
ADREN	99.9	0.1
BL WALL	100.0	0.0
KIDNEYS	100.0	0.0
LIVER	98.9	1.1
OVARIES	100.0	0.0
PANCREAS	100.0	0.0
BONE	99.6	0.4
R MAR	100.0	0.0
Y MAR	99.9	0.1
ENDOST	99.8	0.2
SPLEEN	99.9	0.1
TESTES	99.9	0.1
THYMUS	99.2	0.8
THYROID	98.1	1.9
UTERUS	100.0	0.0

RADIONUCLIDE: PA-234M

PHYSICAL AND METABOLIC PARAMETERS FOR DOSIMETRICALLY SIGNIFICANT PROGENY:

NUCLIDE	RADIOACTIVE HALF-LIFE (DAYS)
PA-234M	8.1300E-04
PA-234	0.2790

BRANCHING RATIOS: FROM PA-234M TO PA-234 FRACTION 1.3000E-03

ORGAN ABSORBED	NUCLIDE	BLOOD TRANSFER FRACTION F2-PRIME	COMPARTMENT DEPOSITION FRACTION	COMPARTMENT BIOLOGICAL HALF-TIME (DAYS)
	PA-234M	1.00	4.000E-02	0.500
			0.460	1.460E 04
			0.500	3.650E 04
	PA-234	1.00	0.460	1.460E 04
			0.540	3.650E 04
EXCRET.	PA-234M	4.000E-02	1.00	0.500
	PA-234	0.0	1.00	0.500
BONE	PA-234M	0.450	1.00	3.650E 04
	PA-234	0.450	1.00	3.650E 04
LIVER	PA-234M	0.450	1.00	1.460E 04
	PA-234	0.450	1.00	1.460E 04
KIDNEYS	PA-234M	1.000E-02	1.00	1.460E 04
	PA-234	1.000E-02	1.00	1.460E 04
TESTES	PA-234M	3.500E-04	1.00	3.650E 04
	PA-234	3.500E-04	1.00	3.650E 04
OVARIES	PA-234M	1.100E-04	1.00	3.650E 04
	PA-234	1.100E-04	1.00	3.650E 04
OTHER	PA-234M	5.000E-02	1.00	3.650E 04
	PA-234	9.000E-02	1.00	3.650E 04

S FACTORS (REM/MICROCURIE-DAY) FOR PA-234M

TARGET ORGANS	SOURCE ORGANS												
	LUNGS	RES LYM	S CONT	SI CONT	ULI CONT	LLI CONT	EXCRET.	BONE	LIVER	KIDNEYS	TESTES	OVARIES	OTHER
LUNGS	0.421E-01	0.421E-01	0.339E-05	0.669E-06	0.781E-06	0.300F-06	0.604E-03	0.192E-05	0.465E-05	0.191E-05	0.534E-07	0.297E-06	0.243E-05
RES LYM	0.421E-01	0.280E 01	0.339E-05	0.669E-06	0.781E-06	0.300E-06	0.604E-03	0.192E-05	0.465E-05	0.191E-05	0.534E-07	0.297E-06	0.243E-05
S WALL	0.370E-05	0.370E-05	0.842E-01	0.667E-05	0.684E-05	0.301E-05	0.604E-03	0.105E-05	0.375E-05	0.634E-05	0.162E-06	0.148E-05	0.266E-05
SI WALL	0.612E-06	0.612E-06	0.484E-05	0.526E-01	0.301E-04	0.169E-04	0.605E-03	0.162E-05	0.303E-05	0.530E-05	0.103E-05	0.213E-04	0.287E-05
ULI WALL	0.785E-06	0.785E-06	0.578E-05	0.439E-04	0.957E-01	0.753E-05	0.604E-03	0.150E-05	0.459E-05	0.542E-05	0.785E-06	0.201E-04	0.295E-05
LLI WALL	0.180E-06	0.180F-06	0.262E-05	0.130E-04	0.630E-05	0.156E 00	0.605E-03	0.206E-05	0.529E-06	0.165E-05	0.443E-05	0.255E-04	0.314E-05
T BODY	0.604E-03	0.604E-03	0.184E-03	0.485E-03	0.291E-03	0.360E-03	0.604F-03	0.604E-03	0.604E-03	0.604E-03	0.604E-03	0.605E-03	0.601E-03
ADREN	0.459E-05	0.459E-05	0.418E-05	0.224E-05	0.236E-05	0.943E-06	0.604E-03	0.353E-05	0.916E-05	0.236E-04	0.167E-06	0.107E-05	0.124E-02
BL WALL	0.172E-06	0.172E-06	0.944E-06	0.432E-05	0.410E-05	0.983E-05	0.605E-03	0.868E-06	0.376E-06	0.892E-06	0.101E-04	0.134E-04	0.620E-03
KIDNEYS	0.189E-05	0.189E-05	0.624E-05	0.606E-05	0.549E-05	0.177E-05	0.604E-03	0.226E-05	0.701E-05	0.136E 00	0.277E-06	0.212E-05	0.281E-05
LIVER	0.455E-05	0.455E-05	0.375E-05	0.357E-05	0.476E-05	0.736E-06	0.604E-03	0.140E-05	0.234E-01	0.726E-05	0.192E-06	0.125F-05	0.209E-05
OVARIES	0.324E-06	0.324E-06	0.268E-05	0.196E-04	0.152E-04	0.322E-04	0.604E-03	0.186E-05	0.131E-05	0.303E-05	0.0	0.383E 01	0.357E-05
PANCREAS	0.434E-05	0.434E-05	0.313E-04	0.387E-05	0.397E-05	0.143E-05	0.604E-03	0.189E-05	0.814E-05	0.131E-04	0.191E-06	0.174E-05	0.124E-02
BONE	0.193E-05	0.193E-05	0.115E-05	0.154E-05	0.136E-05	0.199E-05	0.604E-03	0.769E-02	0.140E-05	0.189E-05	0.129E-05	0.177E-05	0.109E-03
R MAR	0.244E-05	0.244E-05	0.195E-05	0.480E-05	0.399E-05	0.596E-05	0.604F-03	0.294E-02	0.197E-05	0.475E-05	0.102E-05	0.582E-05	0.806E-03
V MAR	0.204E-05	0.204E-05	0.159E-05	0.213E-05	0.193E-05	0.244E-05	0.604E-03	0.602E-05	0.209E-05	0.234E-05	0.557E-06	0.235E-05	0.124E-02
ENDOST	0.193E-05	0.193E-05	0.115E-05	0.154E-05	0.136E-05	0.199E-05	0.604E-03	0.573E-02	0.140E-05	0.189E-05	0.129E-05	0.177E-05	0.704E-03
SPLEEN	0.421E-05	0.421E-05	0.180E-04	0.297E-05	0.264E-05	0.204E-05	0.604E-03	0.170E-05	0.218E-05	0.159E-04	0.135F-06	0.120F-05	0.124E-02
TESTES	0.661E-07	0.661E-07	0.293E-06	0.991E-06	0.108E-05	0.299E-05	0.604E-03	0.129E-05	0.464E-06	0.325E-06	0.120E 01	0.0	0.227E-05
THYMUS	0.796E-05	0.796E-05	0.150E-05	0.302E-06	0.328E-06	0.139E-06	0.603E-03	0.162E-05	0.160E-05	0.240E-06	0.345E-07	0.147E-06	0.124E-02
THYROID	0.265E-05	0.265E-05	0.327E-06	0.101E-06	0.107E-06	0.506E-07	0.604E-03	0.110E-05	0.386E-06	0.215E-06	0.130E-07	0.519E-07	0.124E-02
UTERUS	0.228E-06	0.228E-06	0.185E-05	0.161E-04	0.900E-05	0.107E-04	0.605E-03	0.173E-05	0.762E-06	0.162E-05	0.0	0.319E-04	0.124E-02

β^- decay (1.17 M 3)

Case 1 represents inhalation of oxides, hydroxides, and carbides; case 2 inhalation of nitrates; and case 3 ingestion of any compound.

CASE 1.. INHALATION

AMAD (MICRON).. 1.00 D3 =0.310 D4 =8.000E-02 D5 =0.249

	SOLUBILITY CLASS	G.I. UPTAKE FRACTIONS			
		STOMACH	S INT	U L INT	L L INT
PA-234M	Y	0.0	1.000E-03	0.0	0.0
PA-234	Y	0.0	1.000E-03	0.0	0.0

DOSE EQUIVALENT (REM)

SOURCE	LUNGS	RES LYM	S CONT	SI CONT	ULI CONT	LLI CONT	EXCRET.	BONE	LIVER	KIDNEYS	TESTES
TARGET											
LUNGS	3.152E-05	3.918E-12	1.958E-11	8.563E-12	1.360E-11	2.368E-12	9.306E-12	1.256E-12	3.067E-12	2.743E-14	7.403E-18
RES LYM	3.152E-05	2.496E-10	1.958E-11	8.563E-12	1.360E-11	2.368E-12	9.306E-12	1.256E-12	3.067E-12	2.743E-14	7.403E-18
S WALL	3.211E-09	2.081E-14	9.273E-08	8.788E-11	1.246E-10	9.037E-11	9.306E-12	7.064E-13	2.452E-12	9.241E-14	2.567E-17
SI WALL	5.285E-10	3.325E-15	2.798E-11	4.580E-09	5.534E-10	4.845E-10	9.321E-12	1.044E-12	2.006E-12	7.777E-14	1.493E-16
ULI WALL	6.792E-10	4.324E-15	3.458E-11	5.911E-10	7.101E-09	7.336E-11	9.307E-12	9.650E-13	3.040E-12	7.971E-14	1.110E-16
LLI WALL	1.550E-10	9.557E-16	1.493E-11	1.735E-10	1.111E-10	5.770E-09	9.321E-12	1.321E-12	3.661E-13	2.457E-14	6.842E-16
T BODY	4.525E-07	6.952E-14	2.157E-10	8.443E-11	8.426E-11	4.648E-11	9.306E-12	9.586E-11	9.510E-11	2.136E-12	2.130E-14
ADREN	3.978E-09	2.559E-14	2.533E-11	3.034E-11	4.018E-11	9.022E-12	8.308E-12	2.255E-12	6.026E-12	3.420E-13	2.343E-17
BL WALL	1.484E-10	9.264E-16	5.151E-12	6.652E-11	7.174E-11	4.018E-10	9.321E-12	6.496E-13	2.840E-13	1.242E-14	1.448E-15
KIDNEYS	1.646E-09	1.090E-14	3.587E-11	7.887E-11	9.843E-11	4.683E-11	9.307E-12	1.392E-12	4.663E-12	4.742E-10	3.777E-17
LIVER	3.953E-09	2.584E-14	2.177E-11	4.672E-11	8.701E-11	5.936E-12	9.307E-12	9.151E-13	3.684E-09	1.070E-13	2.575E-17
OVARIES	2.803E-10	1.781E-15	1.272E-11	2.456E-10	3.198E-10	5.097E-10	9.306E-12	1.224E-12	7.838E-13	4.102E-14	0.0
PANCREAS	3.803E-09	2.614E-14	1.827E-10	5.062E-11	7.123E-11	4.370E-11	9.307E-12	1.246E-12	5.410E-12	1.882E-13	2.591E-17
BONE	1.681E-09	1.116E-14	6.751E-12	2.080E-11	2.575E-11	4.980E-11	9.306E-12	1.206E-09	9.438E-13	2.806E-14	1.907E-16
R MAR	2.125E-09	1.409E-14	1.148E-11	6.534E-11	7.621E-11	4.941E-11	9.306E-12	4.608E-10	1.344E-12	7.085E-14	1.502E-16
Y MAR	1.775E-09	1.171E-14	9.372E-12	2.869E-11	3.644E-11	4.437E-11	9.305E-12	4.052E-12	1.403E-12	3.476E-14	8.201E-17
ENDOST	1.681E-09	1.116E-14	6.751E-12	2.080E-11	2.575E-11	4.980E-11	9.306E-12	8.996E-10	9.438E-13	2.806E-14	1.907E-16
SPLEEN	3.646E-09	2.336E-14	1.034E-10	3.973E-11	4.755E-11	4.876E-11	9.307E-12	1.070E-12	1.376E-12	2.322E-13	2.239E-17
TESTES	5.686E-11	3.487E-16	1.413E-12	1.224E-11	1.327E-11	5.152E-11	9.307E-12	8.466E-13	2.593E-13	4.616E-15	4.178E-11
THYMUS	6.895E-09	4.421E-14	7.154E-12	3.846E-12	5.794E-12	4.271E-12	9.292E-12	9.950E-13	1.135E-12	5.323E-15	4.730E-18
THYROID	2.275E-09	1.376E-14	1.823E-12	1.254E-12	1.838E-12	4.543E-13	9.306E-12	8.945E-13	2.512E-13	3.036E-15	1.777E-18
UTERUS	2.002E-10	1.392E-15	1.042E-11	2.149E-10	1.651E-10	4.936E-10	9.322E-12	1.023E-12	5.359E-13	2.440E-14	0.0

DOSE EQUIVALENT (REM)

SOURCE	OVARIES	OTHER	TOTAL
TARGET			
LUNGS	4.088E-18	2.786E-13	3.152E-05
RES LYM	4.088E-18	2.786E-13	3.152E-05
S WALL	2.258E-17	3.048E-13	9.580E-09
SI WALL	3.156E-16	3.294E-13	5.866E-09
ULI WALL	2.598E-16	3.386E-13	8.494E-09
LLI WALL	3.757E-16	3.613E-13	6.241E-09
T BODY	2.145E-15	1.079E-11	4.531E-07
ADREN	1.958E-17	2.203E-11	4.122E-09
BL WALL	1.930E-16	1.133E-11	4.141E-10
KIDNEYS	3.089E-17	3.218E-13	2.365E-09
LIVER	1.910E-17	2.389E-13	7.810E-09
OVARIES	1.333E-11	4.130E-13	1.192E-09
PANCREAS	2.240E-17	2.216E-11	4.159E-09
BONE	2.651E-17	2.123E-12	2.972E-09
R MAR	8.745E-17	1.449E-11	2.823E-09
Y MAR	3.524E-17	2.196E-11	1.910E-09
ENDOST	2.651E-17	1.255E-11	2.676E-09
SPLEEN	1.768E-17	2.211E-11	3.899E-09
TESTES	0.0	2.603E-13	1.718E-10
THYMUS	2.058E-18	2.228E-11	6.946E-09
THYROID	7.147E-19	2.200E-11	2.312E-09
UTERUS	4.774E-16	2.254E-11	7.286E-10

PERCENT DOSE EQUIVALENT..

NUCLIDE	PA-234M	PA-234
TARGET		
LUNGS	99.9	0.1
RES LYM	99.9	0.1
S WALL	97.5	2.5
SI WALL	35.0	65.0
ULI WALL	7.4	92.6
LLI WALL	2.4	97.6
T BODY	99.8	0.2
ADREN	84.2	15.8
BL WALL	36.0	64.0
KIDNEYS	80.3	19.7
LIVER	90.1	9.9
OVARIES	22.5	77.5
PANCREAS	79.6	20.4
BONE	89.0	11.0
R MAR	81.7	18.3
Y MAR	81.6	18.4
ENDOST	87.9	12.1
SPLEEN	82.3	17.7
TESTES	58.0	42.0
THYMUS	86.2	13.8
THYROID	87.1	12.9
UTERUS	27.9	72.1

CASE 2.. INHALATION

AMAD (MICRON).. 1.00 D3 =0.310 D4 =8.000E-02 D5 =0.249

	SOLUBILITY CLASS	G.I. UPTAKE FRACTIONS STOMACH	S INT	U L INT	L L INT
PA-234M	W	0.0	1.000E-03	0.0	0.0
PA-234	W	0.0	1.000E-03	0.0	0.0

DOSE EQUIVALENT (REM)

SOURCE	LUNGS	RES LYM	S CONT	SI CONT	ULI CONT	LLI CONT	EXCRET.	BONE	LIVER	KIDNEYS	TESTES
TARGET											
LUNGS	3.128E-05	1.303E-11	1.568E-11	6.915E-12	1.099E-11	2.153E-12	1.512E-10	2.205E-11	5.382E-11	4.816E-13	1.300E-16
RES LYM	3.128E-05	8.302E-10	1.568E-11	6.915E-12	1.099E-11	2.153E-12	1.512E-10	2.205E-11	5.382E-11	4.816E-13	1.300E-16
S WALL	3.158E-09	6.866E-14	7.133E-08	7.097E-11	1.006E-10	2.443E-11	1.512E-10	1.239E-11	4.304E-11	1.622E-12	4.502E-16
SI WALL	5.199E-10	1.097E-14	2.241E-11	3.642E-09	4.470E-10	4.523E-10	1.515E-10	1.832E-11	3.520E-11	1.365E-12	2.620E-15
ULI WALL	6.681E-10	1.427E-14	2.771E-11	4.773E-10	5.735E-09	5.367E-11	1.512E-10	1.694E-11	5.336E-11	1.399E-12	1.949E-15
LLI WALL	1.625E-10	3.153E-15	1.187E-11	1.401E-10	8.973E-11	4.065E-09	1.515E-10	2.319E-11	6.422E-12	4.311E-13	1.200E-14
T BODY	4.490E-07	2.309E-13	1.680E-10	6.767E-11	6.806E-11	5.754E-11	1.512E-10	1.743E-09	1.747E-09	3.883E-11	3.873E-13
ADREN	3.612E-09	8.443E-14	2.030E-11	2.450E-11	3.245E-11	7.238E-12	1.513E-10	3.959E-11	1.058E-10	6.002E-12	4.114E-16
BL WALL	1.460E-10	3.057E-15	4.124E-12	5.372E-11	5.795E-11	3.420E-11	1.515E-10	1.138E-11	4.978E-12	2.181E-13	2.542E-14
KIDNEYS	1.618E-09	3.597E-14	2.873E-11	6.369E-11	7.950E-11	4.394E-11	1.512E-10	2.444E-11	8.183E-11	8.629E-09	6.634E-16
LIVER	3.888E-09	8.526E-14	1.744E-11	3.773E-11	7.027E-11	5.943E-12	1.512E-10	1.606E-11	6.702E-08	1.878E-12	4.524E-16
OVARIES	2.757E-10	5.878E-15	1.017E-11	1.984E-10	2.583E-10	2.501E-10	1.512E-10	2.148E-11	1.377E-11	7.205E-13	0.0
PANCREAS	3.738E-09	8.626E-14	1.463E-10	4.089E-11	5.763E-11	4.106E-11	1.512E-10	2.186E-11	9.494E-11	3.703E-12	4.551E-16
BONE	1.653E-09	3.682E-14	5.408E-12	1.580E-11	3.080E-11	1.999E-11	1.512E-10	2.195E-09	1.656E-11	4.924E-13	3.346E-15
R MAR	2.096E-09	4.650E-14	9.198E-12	5.277E-11	6.155E-11	4.778E-11	1.512E-10	9.385E-09	2.358E-11	1.243E-12	2.636E-15
Y MAR	1.746E-09	3.863E-14	7.508E-12	3.317E-11	2.943E-11	4.953E-11	1.512E-10	7.109E-11	2.461E-11	6.100E-13	1.439E-15
ENDOST	1.653E-09	3.682E-14	5.408E-12	1.680E-11	2.080E-11	1.999E-11	1.512E-10	1.637E-08	1.656E-11	4.924E-13	3.346E-15
SPLEEN	3.896E-09	7.708E-14	8.282E-11	3.209E-11	3.341E-11	1.915E-11	1.513E-10	1.879E-11	2.417E-11	4.074E-12	3.924E-16
TESTES	5.595E-11	1.151E-15	1.134E-12	9.888E-12	1.476E-11	2.346E-11	1.512E-10	1.486E-11	4.960E-12	8.104E-14	7.603E-10
THYMUS	6.782E-09	1.459E-13	5.720E-12	3.106E-12	4.679E-12	1.020E-12	1.510E-10	1.748E-11	1.990E-11	9.305E-14	8.307E-17
THYROID	2.239E-09	4.540E-14	1.460E-12	1.013E-12	1.484E-12	3.974E-13	1.512E-10	1.560E-11	4.410E-12	5.330E-14	3.120E-17
UTERUS	1.968E-10	4.594E-15	8.345E-12	1.738E-10	1.333E-10	3.531E-11	1.515E-10	1.798E-11	9.397E-12	4.281E-13	0.0

DOSE EQUIVALENT (REM)

SOURCE	OVARIES	OTHER	TOTAL
TARGET			
LUNGS	7.179E-17	4.863E-12	3.128E-05
RES LYM	7.179E-17	4.863E-12	3.128E-05
S WALL	3.961E-16	5.319E-12	7.489E-08
SI WALL	5.538E-15	5.750E-12	4.977E-09
ULI WALL	5.242E-15	5.909E-12	7.198E-09
LLI WALL	6.662E-15	6.305E-12	5.247E-09
T BODY	3.900E-14	1.960E-10	4.532E-07
ADREN	2.734E-16	4.005E-10	4.700E-09
BL WALL	3.388E-15	2.039E-10	7.160E-10
KIDNEYS	5.422E-16	5.616E-12	1.070E-08
LIVER	3.177E-16	4.170E-12	7.121E-08
OVARIES	2.425E-10	7.208E-12	1.430E-09
PANCREAS	3.937E-15	4.026E-10	4.658E-09
BONE	4.651E-16	3.843E-11	2.387E-08
R MAR	1.534E-15	2.632E-10	1.109E-08
Y MAR	6.184E-16	3.993E-10	2.472E-09
ENDOST	4.651E-16	2.290E-10	1.848E-09
SPLEEN	3.102E-16	4.018E-10	4.355E-09
TESTES	0.0	4.544E-12	1.043E-09
THYMUS	3.613E-17	4.069E-10	7.390E-09
THYROID	1.255E-17	4.000E-10	2.814E-09
UTERUS	8.376E-15	4.093E-10	1.186E-09

PERCENT DOSE EQUIVALENT..

NUCLIDE	PA-234M	PA-234
TARGET		
LUNGS	99.9	0.1
RES LYM	99.9	0.1
S WALL	97.3	2.7
SI WALL	37.1	62.9
ULI WALL	10.8	89.2
LLI WALL	5.6	94.4
T BODY	99.8	0.2
ADREN	84.9	15.1
BL WALL	66.7	33.3
KIDNEYS	94.5	5.5
LIVER	97.6	2.4
OVARIES	45.1	54.9
PANCREAS	81.8	18.2
BONE	97.6	2.4
R MAR	94.8	5.2
Y MAR	84.1	15.9
ENDOST	97.2	2.8
SPLEEN	84.8	15.2
TESTES	91.8	8.2
THYMUS	87.4	12.6
THYROID	89.2	10.8
UTERUS	60.5	39.5

CASE 3.. INGESTION

INGESTION TRANSFER FRACTIONS (G. I. TRACT TO BLOOD)

	PA-234M	PA-234
STOMACH	0.0	0.0
S INT	1.000E-03	1.000E-03
U L INT	0.0	0.0
L L INT	0.0	0.0

DOSE EQUIVALENT (REM)

SOURCE	S CONT	SI CONT	ULI CONT	LLI CONT	EXCRET.	BONE	LIVER	KIDNEYS	TESTES	OVARIES	OTHER
TARGET											
LUNGS	3.951E-09	6.755E-11	7.377E-11	1.444E-11	5.425E-15	1.480E-13	3.622E-13	3.220E-15	8.589E-19	4.732E-19	3.769E-14
RES LYM	3.951E-09	6.755E-11	7.377E-11	1.444E-11	5.425E-15	1.480E-13	3.622E-13	3.220E-15	8.589E-19	4.732E-19	3.769E-14
S WALL	9.606E-05	6.870E-10	6.757E-10	1.643E-10	5.425E-15	3.392E-14	2.989E-13	1.090E-14	3.101E-18	2.699E-18	4.123E-14
SI WALL	5.641E-09	1.694E-06	3.001E-09	8.900E-10	5.435E-15	1.224E-13	2.372E-13	9.187E-15	1.757E-17	3.740E-17	4.458E-14
ULI WALL	6.743E-09	4.590E-09	5.975E-09	4.078E-10	5.426E-15	1.131E-13	3.595E-13	9.423E-15	1.296E-17	3.543E-17	4.582E-14
LLI WALL	3.052E-09	1.351E-09	6.026E-10	3.133E-08	5.435E-15	1.540E-13	4.386E-14	2.915E-15	8.205E-17	4.505E-17	4.891E-14
T BODY	2.100E-07	1.584E-08	5.208E-10	2.517E-10	5.425E-15	1.231E-13	4.647E-13	1.032E-14	9.464E-17	1.126E-17	7.882E-14
ADREN	4.87EE-09	2.352E-10	2.180E-10	4.882E-11	5.426E-15	2.537E-13	7.111E-13	4.024E-14	2.729E-18	1.836E-18	1.268E-13
BL WALL	1.095E-09	4.969E-10	3.891E-10	5.507E-10	5.435E-15	7.941E-14	3.484E-14	1.443E-15	1.699E-16	2.267E-17	9.694E-14
KIDNEYS	7.272E-09	6.189E-10	5.338E-10	9.139E-11	5.426E-15	1.038E-13	5.521E-13	1.305E-12	4.359E-18	3.642E-18	4.352E-14
LIVER	4.371E-09	3.660E-10	4.719E-10	3.780E-11	5.426E-15	1.078E-13	1.198E-11	1.266E-14	2.955E-18	2.130E-18	3.231E-14
OVARIES	3.105E-09	1.951E-09	1.734E-09	1.676E-09	5.425E-15	1.444E-13	8.969E-14	4.722E-15	0.0	3.252E-14	5.597E-14
PANCREAS	3.649E-08	3.966E-10	3.863E-10	7.412E-11	5.425E-15	1.471E-13	5.404E-13	2.209E-14	2.984E-18	2.533E-18	1.462E-13
BONE	1.341E-09	1.614E-10	1.396E-10	1.072E-10	5.425E-15	3.237E-12	1.122E-13	3.327E-15	2.259E-17	3.151E-18	4.074E-14
R MAR	2.274E-09	5.057E-10	4.133E-10	3.215E-10	5.425E-15	1.193E-12	1.603E-13	8.412E-15	1.777E-17	1.040E-17	1.087E-13
Y MAR	1.854E-09	2.228E-10	1.976E-10	1.319E-10	5.425E-15	1.314E-13	1.665E-13	4.122E-15	9.698E-18	4.191E-18	1.154E-13
ENDOST	1.341E-09	1.614E-10	1.396E-10	1.072E-10	5.425E-15	2.547E-12	1.122E-13	3.327E-15	2.258E-17	3.151E-18	7.795E-14
SPLEEN	2.098E-08	3.092E-10	2.579E-10	1.015E-10	5.425E-15	1.249E-13	1.603E-13	2.739E-14	2.738E-18	2.091E-18	1.383E-13
TESTES	3.400E-10	9.768E-11	9.912E-11	1.706E-10	5.425E-15	9.982E-14	2.894E-14	5.399E-16	1.059E-13	0.0	3.522E-14
THYMUS	1.740E-09	3.039E-11	3.142E-11	6.876E-12	5.416E-15	1.149E-13	1.369E-13	6.936E-16	5.468E-19	2.395E-19	1.665E-13
THYROID	3.808E-10	9.991E-12	9.968E-12	2.462E-12	5.425E-15	1.117E-13	2.955E-14	3.544E-16	2.052E-19	8.275E-20	1.215E-13
UTERUS	2.155E-09	1.673E-09	8.953E-10	5.715E-10	5.435E-15	1.109E-13	6.448E-14	2.905E-15	0.0	5.673E-17	2.071E-13

DOSE EQUIVALENT (REM)

SOURCE	TOTAL
TARGET	
LUNGS	4.107E-09
RES LYM	4.107E-09
S WALL	9.607E-05
SI WALL	1.703E-06
ULI WALL	7.149E-08
LLI WALL	3.634E-08
T BODY	2.266E-07
ADREN	5.381E-09
BL WALL	2.536E-09
KIDNEYS	6.518E-09
LIVER	5.259E-09
OVARIES	8.470E-09
PANCREAS	3.735E-08
BONE	1.752E-09
R MAR	3.516E-09
Y MAR	2.407E-09
ENDOST	1.752E-09
SPLEEN	2.164E-08
TESTES	7.077E-10
THYMUS	1.809E-09
THYROID	4.034E-10
UTERUS	5.295E-09

PERCENT DOSE EQUIVALENT..

NUCLIDE	PA-234M	PA-234
TARGET		
LUNGS	94.7	5.3
RES LYM	94.7	5.3
S WALL	100.0	0.0
SI WALL	98.8	1.2
ULI WALL	41.2	58.8
LLI WALL	9.6	90.4
T BODY	99.5	0.5
ADREN	90.0	10.0
BL WALL	47.9	52.1
KIDNEYS	85.9	14.1
LIVER	83.6	16.4
OVARIES	43.5	56.5
PANCREAS	95.9	4.1
BONE	77.7	22.3
R MAR	67.7	32.3
Y MAR	78.2	21.8
ENDOST	77.7	22.3
SPLEEN	95.3	4.7
TESTES	51.7	48.3
THYMUS	95.1	4.9
THYROID	93.3	6.7
UTERUS	49.6	50.4

RADIONUCLIDE: PA-234

PHYSICAL AND METABOLIC PARAMETERS FOR DOSIMETRICALLY SIGNIFICANT PROGENY:

NUCLIDE	RADIOACTIVE HALF-LIFE (DAYS)
PA-234	0.2790

ORGAN ABSORBED	NUCLIDE	BLOOD TRANSFER FRACTION F2-PRIME	COMPARTMENT DEPOSITION FRACTION	COMPARTMENT BIOLOGICAL HALF-TIME (DAYS)
		1.00	4.000E-02	0.500
			0.460	1.460E 04
			0.500	3.650E 04
EXCRET.	PA-234	4.000E-02	1.00	0.500
BONE	PA-234	0.450	1.00	3.650E 04
LIVER	PA-234	0.450	1.00	1.460E 04
KIDNEYS	PA-234	1.000E-02	1.00	1.460E 04
TESTES	PA-234	3.500E-04	1.00	3.650E 04
OVARIES	PA-234	1.100E-04	1.00	3.650E 04
OTHER	PA-234	5.000E-02	1.00	3.650E 04

S FACTORS (REM/MICROCURIE-DAY) FOR PA-234

TARGET ORGANS	SOURCE ORGANS												
	LUNGS	RES LYM	S CONT	SI CONT	ULI CONT	LLI CONT	EXCRET.	BONE	LIVER	KIDNEYS	TESTES	OVARIES	OTHER
LUNGS	0.288E-01	0.288E-01	0.601E-03	0.114E-03	0.131E-03	0.485E-04	0.830E-03	0.335E-03	0.820E-03	0.328E-03	0.875E-05	0.482E-04	0.427E-03
RES LYM	0.288E-01	0.157E 01	0.601E-03	0.114E-03	0.131E-03	0.485E-04	0.830E-03	0.335E-03	0.820E-03	0.328E-03	0.875E-05	0.482E-04	0.427E-03
S WALL	0.645E-03	0.645E-03	0.646E-01	0.117E-02	0.120E-02	0.552E-03	0.912E-03	0.190E-03	0.654E-03	0.111E-02	0.316E-04	0.275E-03	0.467E-03
SI WALL	0.103E-03	0.103E-03	0.859E-03	0.400E-01	0.533E-02	0.299E-02	0.100E-02	0.277E-03	0.537E-03	0.316E-03	0.179E-03	0.381E-02	0.505E-03
ULI WALL	0.134E-03	0.134E-03	0.107E-02	0.787E-02	0.682E-01	0.137E-02	0.976E-03	0.256E-03	0.814E-03	0.960E-03	0.132E-03	0.361E-02	0.519E-03
LLI WALL	0.296E-04	0.296E-04	0.453E-03	0.231E-02	0.107E-02	0.105E 00	0.100E-02	0.350E-03	0.993E-04	0.297E-03	0.836E-03	0.459E-02	0.554E-03
T BODY	0.831E-03	0.831E-03	0.706E-03	0.932E-03	0.811E-03	0.845E-03	0.832E-03	0.832E-03	0.915E-03	0.914E-03	0.827E-03	0.101E-02	0.817E-03
ADREN	0.793E-03	0.793E-03	0.786E-03	0.404E-03	0.387E-03	0.164E-03	0.103E-02	0.597E-03	0.161E-02	0.410E-02	0.278E-04	0.187E-03	0.128E-02
GI WALL	0.287E-04	0.287E-04	0.156E-03	0.886E-03	0.691E-03	0.185E-02	0.999E-03	0.180E-03	0.789E-04	0.147E-03	0.173E-02	0.231E-02	0.102E-02
KIDNEYS	0.338E-03	0.338E-03	0.110E-02	0.105E-02	0.948E-03	0.307E-03	0.939E-03	0.364E-03	0.125E-02	0.102E 00	0.444E-04	0.371E-03	0.493E-03
LIVER	0.801E-03	0.801E-03	0.669E-03	0.622E-03	0.938E-03	0.127E-03	0.938E-03	0.244E-03	0.218E-03	0.122E-02	0.301E-04	0.217E-03	0.366E-03
OVARIES	0.552E-04	0.552E-04	0.371E-03	0.327E-02	0.308E-02	0.563E-02	0.871E-03	0.327E-03	0.209E-03	0.481E-03	0.0	0.244E 01	0.634E-03
PANCREAS	0.811E-03	0.811E-03	0.562E-02	0.674E-03	0.686E-03	0.249E-03	0.921E-03	0.333E-03	0.145E-02	0.225E-02	0.304E-04	0.258E-03	0.150E-02
BONE	0.346E-03	0.346E-03	0.208E-03	0.277E-03	0.248E-03	0.360E-03	0.851E-03	0.569E-02	0.254E-03	0.339E-03	0.230E-03	0.321E-03	0.448E-03
R MAR	0.437E-03	0.437E-03	0.354E-03	0.870E-03	0.734E-03	0.108E-02	0.910E-03	0.203E-02	0.363E-03	0.857E-03	0.181E-03	0.106E-02	0.113E-02
Y MAR	0.363E-03	0.363E-03	0.289E-03	0.382E-03	0.351E-03	0.443E-03	0.821E-03	0.109E-02	0.377E-03	0.420E-03	0.988E-04	0.427E-03	0.115E-02
ENDOST	0.346E-03	0.346E-03	0.208E-03	0.277E-03	0.248E-03	0.360E-03	0.854E-03	0.446E-02	0.254E-03	0.339E-03	0.230E-03	0.321E-03	0.794E-03
SPLEEN	0.724E-03	0.724E-03	0.317E-02	0.529E-03	0.458E-03	0.341E-03	0.930E-03	0.282E-03	0.363E-03	0.279E-02	0.279E-04	0.213E-03	0.141E-02
TESTES	0.108E-04	0.108E-04	0.416E-04	0.163E-03	0.176E-03	0.573E-03	0.922E-03	0.226E-03	0.655E-04	0.550E-04	0.805E 00	0.0	0.399E-03
THYMUS	0.137E-02	0.137E-02	0.209E-03	0.512E-04	0.558E-04	0.231E-04	0.841E-03	0.260E-03	0.310E-03	0.707E-04	0.557E-05	0.244E-04	0.173E-02
THYROID	0.426E-03	0.426E-03	0.555E-04	0.167E-04	0.177E-04	0.827E-05	0.843E-03	0.253E-03	0.669E-04	0.361E-04	0.209E-05	0.843E-05	0.122E-02
UTERUS	0.432E-04	0.432E-04	0.318E-03	0.286E-02	0.159E-02	0.192E-02	0.107E-02	0.264E-03	0.146E-03	0.296E-03	0.0	0.578E-02	0.219E-02

β^- decay (6.70 H 5)

Case 1 represents inhalation of oxides, hydroxides, and carbides; case 2 inhalation of nitrates; and case 3 ingestion of any compound.

CASE 1.. INHALATION

AMAD (MICRON).. 1.00 D3 =0.310 D4 =8.000E-02 D5 =0.249

	SOLUBILITY CLASS	G.I. UPTAKE FRACTIONS STOMACH	S INT	U L INT	L L INT
PA-234	Y	0.0	1.000E-03	0.0	0.0

COSE EQUIVALENT (REM)

SOURCE	LUNGS	RES LYM	S CONT	SI CONT	ULI CONT	LLI CONT	EXCRET.	BONE	LIVER	KIDNEYS	TESTES
TARGET											
LUNGS	5.221E-03	2.415E-07	4.196E-06	2.250E-06	3.582E-06	7.027E-07	3.337E-08	2.361E-07	5.778E-07	5.136E-09	1.370E-12
RES LYM	5.221E-03	1.317E-05	4.196E-06	2.250E-06	3.582E-06	7.027E-07	3.337E-08	2.361E-07	5.778E-07	5.136E-09	1.370E-12
S WALL	1.169E-04	5.410E-09	4.511E-04	2.309E-05	3.281E-05	7.998E-06	3.665E-08	1.339E-07	4.608E-07	1.738E-08	4.948E-12
SI WALL	1.867E-05	8.639E-10	5.998E-05	7.895E-04	1.458E-04	4.332E-05	4.020E-08	1.952E-07	3.784E-07	1.466E-08	2.803E-11
ULI WALL	2.429E-05	1.124E-09	7.471E-06	1.553E-04	1.865E-03	4.985E-05	3.924E-08	1.804E-07	5.736E-07	1.503E-08	2.067E-11
LLI WALL	5.266E-06	2.483E-10	3.163E-06	4.559E-05	2.926E-05	1.521E-03	4.020E-08	2.466E-07	6.997E-08	4.651E-09	1.309E-10
T BODY	1.507E-04	6.970E-09	4.929E-06	1.839E-05	2.219E-05	1.224E-05	3.745E-08	5.963E-07	6.447E-07	1.431E-08	1.295E-10
ADREN	1.438E-04	6.651E-09	5.488E-06	7.974E-06	1.058E-05	2.376E-06	4.141E-08	4.207E-07	1.134E-06	6.420E-08	4.353E-12
BL WALL	5.203E-06	2.407E-10	1.999E-06	1.749E-05	1.890E-05	2.580E-05	4.015E-08	1.268E-07	5.560E-08	2.302E-09	2.709E-10
KIDNEYS	6.128E-05	2.835E-09	7.680E-06	2.072E-05	2.592E-05	4.448E-06	3.775E-08	2.565E-07	8.808E-07	1.597E-06	6.953E-12
LIVER	1.452E-04	6.718E-09	4.671E-06	1.228E-05	3.292E-05	1.840E-06	3.771E-08	1.719E-07	1.536E-05	2.020E-08	4.713E-12
OVARIES	1.001E-05	4.630E-10	2.590E-06	6.454E-05	8.422E-05	3.157E-05	3.502E-08	2.304E-07	1.430E-07	7.532E-09	0.0
PANCREAS	1.470E-04	6.802E-09	3.924E-05	1.330E-05	1.876E-05	3.533E-06	3.703E-08	2.346E-07	1.022E-06	3.523E-08	4.760E-12
BONE	6.273E-05	2.902E-09	1.452E-06	5.467E-06	6.782E-06	2.216E-06	3.421E-08	4.009E-06	1.790E-07	5.308E-09	3.602E-11
R MAR	7.923E-05	3.665E-09	2.472E-06	1.717E-05	2.007E-05	1.535E-05	3.658E-08	1.430E-06	2.558E-07	1.342E-08	2.834E-11
Y MAR	6.581E-05	3.045E-09	2.018E-06	7.540E-06	9.598E-06	2.418E-06	3.301E-08	7.681E-07	2.656E-07	6.577E-09	1.547E-11
ENDOST	6.273E-05	2.902E-09	1.452E-06	5.467E-06	6.782E-06	2.216E-06	3.433E-08	3.143E-06	1.790E-07	5.308E-09	3.602E-11
SPLEEN	1.313E-04	6.072E-09	2.213E-05	1.044E-05	1.252E-05	4.941E-06	3.739E-08	1.987E-07	2.558E-07	4.369E-08	4.369E-12
TESTES	1.959E-06	9.058E-11	2.905E-07	3.217E-06	4.313E-06	3.302E-06	3.707E-08	1.593E-07	4.615E-08	8.612E-10	1.261E-07
THYMUS	2.484E-04	1.149E-08	1.459E-06	1.011E-06	1.526E-06	3.347E-07	3.381E-08	1.832E-07	2.184E-07	1.107E-09	8.722E-13
THYROID	7.723E-05	3.573E-09	3.875E-07	3.296E-07	4.840E-07	1.108E-07	3.389E-08	1.783E-07	4.714E-08	5.653E-10	3.273E-13
UTERUS	7.832E-06	3.623E-10	2.220E-06	5.645E-05	4.348E-05	2.732E-05	4.302E-08	1.860E-07	1.029E-07	4.635E-09	0.0

COSE EQUIVALENT (REM)

SOURCE	OVARIES	OTHER	TOTAL
TARGET			
LUNGS	7.548E-13	3.343E-08	5.233E-03
RES LYM	7.548E-13	3.343E-08	5.246E-03
S WALL	4.306E-12	3.656E-08	6.326E-04
SI WALL	5.966E-11	3.954E-08	1.004E-03
ULI WALL	5.663E-11	4.063E-08	2.073E-03
LLI WALL	7.187E-11	4.338E-08	1.605E-03
T BODY	1.582E-11	6.397E-08	2.098E-04
ADREN	2.928E-12	1.002E-07	1.720E-04
BL WALL	3.617E-11	7.986E-08	6.978E-05
KIDNEYS	5.805E-12	3.860E-08	1.229E-04
LIVER	3.398E-12	2.866E-08	2.025E-04
OVARIES	3.821E-08	4.964E-08	2.434E-04
PANCREAS	4.040E-12	1.174E-07	2.234E-04
BONE	5.026E-12	3.508E-08	8.591E-05
R MAR	1.660E-11	8.847E-08	1.364E-04
Y MAR	6.686E-12	9.004E-08	9.255E-05
ENDOST	5.026E-12	6.217E-08	8.507E-05
SPLEEN	3.335E-12	1.104E-07	1.819E-04
TESTES	0.0	3.124E-08	1.878E-05
THYMUS	3.821E-13	1.354E-07	2.533E-04
THYROID	1.320E-13	9.552E-08	7.391E-05
UTERUS	9.051E-11	1.715E-07	1.383E-04

CASE 2.. INHALATION

AMAD (MICRON).. 1.00 D3 =0.310 D4 =9.000E-02 D5 =0.249

	SOLUBILITY CLASS	G.I. UPTAKE FRACTIONS STOMACH	S INT	U L INT	L L INT
PA-234	W	0.0	1.000E-03	0.0	0.0

DOSE EQUIVALENT (REM)

SOURCE	LUNGS	RES LYM	S CONT	SI CONT	ULI CONT	LLI CONT	EXCRET.	BONE	LIVER	KIDNEYS	TESTES
TARGET											
LUNGS	4.862E-03	7.969E-07	3.425E-06	1.836E-06	2.924E-06	2.735E-07	5.905E-07	4.177E-06	1.023E-05	9.089E-08	2.425E-11
RES LYM	4.862E-03	4.344E-05	3.425E-06	1.836E-06	2.924E-06	2.735E-07	5.905E-07	4.177E-06	1.023E-05	9.089E-08	2.425E-11
S WALL	1.089E-04	1.785E-08	3.681E-04	1.885E-05	3.678E-05	3.527E-06	6.488E-07	2.369E-06	8.155E-06	3.076E-07	8.757E-11
SI WALL	1.739E-05	2.850E-09	4.895E-06	6.443E-04	1.189E-04	3.535E-05	7.115E-07	3.454E-06	6.696E-06	2.594E-07	4.960E-10
ULI WALL	2.262E-05	3.708E-09	6.097E-06	1.268E-04	1.522E-03	1.820E-05	6.944E-07	3.192E-06	1.015E-05	2.660E-07	3.658E-10
LLI WALL	4.997E-06	8.190E-10	2.581E-06	3.721E-05	2.388E-05	4.242E-03	7.115E-07	4.364E-06	1.238E-06	8.230E-08	2.317E-09
T BODY	1.403E-04	2.299E-08	4.023E-06	1.501E-05	1.310E-05	9.911E-06	5.919E-07	1.037E-05	1.141E-05	2.533E-07	2.292E-09
ADREN	1.339E-04	2.194E-08	4.479E-06	6.507E-06	8.637E-06	4.939E-06	7.328E-07	7.445E-06	2.008E-05	1.176E-06	7.704E-11
BL WALL	4.845E-06	7.941E-10	8.889E-07	1.427E-05	1.542E-05	2.137E-05	7.107E-07	2.245E-06	9.939E-07	4.073E-08	4.794E-09
KIDNEYS	5.706E-05	9.352E-09	6.258E-06	1.691E-05	2.116E-05	3.330E-06	6.681E-07	4.539E-06	1.559E-05	2.826E-05	1.230E-10
LIVER	1.352E-04	2.216E-08	9.812E-06	1.002E-05	1.470E-05	4.302E-06	6.673E-07	3.043E-06	2.718E-04	3.575E-07	9.341E-11
OVARIES	9.318E-06	1.527E-09	2.114E-06	5.267E-05	6.974E-05	2.657E-05	6.197E-07	4.078E-06	2.531E-06	1.333E-07	0.0
PANCREAS	1.369E-04	2.244E-08	3.202E-05	1.086E-05	1.531E-05	2.944E-06	6.552E-07	4.152E-06	1.808E-05	6.235E-07	8.424E-11
BONE	5.841E-05	9.574E-09	1.185E-06	4.462E-06	5.535E-06	1.257E-06	5.054E-07	7.095E-05	3.167E-06	9.394E-08	6.373E-10
R MAR	7.377E-05	1.209E-08	2.017E-06	1.401E-05	1.638E-05	1.277E-05	5.474E-07	2.531E-05	4.527E-06	2.375E-07	5.016E-10
Y MAR	6.128E-05	1.004E-08	1.647E-06	6.153E-06	7.433E-06	2.234E-06	5.841E-07	1.359E-05	4.701E-06	1.164E-07	2.738E-10
ENDOST	5.841E-05	9.574E-09	1.185E-06	4.462E-06	5.535E-06	1.257E-06	5.076E-07	5.562E-05	3.167E-06	9.394E-08	6.373E-10
SPLEEN	1.222E-04	2.003E-08	1.806E-05	8.521E-06	1.022E-05	4.042E-06	5.617E-07	3.517E-06	4.527E-06	7.731E-07	7.731E-11
TESTES	1.823E-06	2.988E-10	2.370E-07	2.626E-06	3.928E-06	2.775E-06	5.560E-07	2.818E-06	8.169E-07	1.524E-08	2.231E-06
THYMUS	2.313E-04	3.791E-08	1.171E-06	8.247E-07	1.245E-06	2.731E-07	5.983E-07	3.242E-06	3.466E-06	1.959E-08	1.543E-11
THYROID	7.191E-05	1.179E-08	3.163E-07	2.690E-07	3.950E-07	2.779E-08	5.998E-07	3.155E-06	8.342E-07	1.000E-08	5.792E-12
UTERUS	7.293E-06	1.195E-09	1.812E-06	4.607E-05	3.548E-05	2.270E-05	7.613E-07	3.292E-06	1.821E-06	8.202E-08	0.0

DOSE EQUIVALENT (REM)

SOURCE	OVARIES	OTHER	TOTAL
TARGET			
LUNGS	1.336E-11	5.916E-07	4.887E-03
RES LYM	1.336E-11	5.916E-07	4.930E-03
S WALL	7.662E-11	6.470E-07	5.413E-04
SI WALL	1.056E-09	6.997E-07	8.327E-04
ULI WALL	1.060E-09	7.191E-07	1.709E-03
LLI WALL	1.272E-09	7.676E-07	1.317E-03
T BODY	2.795E-10	1.132E-06	2.112E-04
ADREN	5.182E-11	1.773E-06	1.866E-04
BL WALL	6.401E-10	1.413E-06	6.270E-05
KIDNEYS	1.028E-10	6.831E-07	1.548E-04
LIVER	6.013E-11	5.071E-07	4.457E-04
OVARIES	6.761E-07	8.784E-07	2.083E-04
PANCREAS	7.149E-11	2.078E-06	2.237E-04
BONE	8.895E-11	6.207E-07	1.493E-04
R MAR	2.937E-10	1.566E-06	1.513E-04
Y MAR	1.183E-10	1.593E-06	1.027E-04
ENDOST	8.895E-11	1.100E-06	1.344E-04
SPLEEN	5.902E-11	1.954E-06	1.745E-04
TESTES	0.0	5.528E-07	2.249E-05
THYMUS	6.761E-12	2.397E-06	2.450E-04
THYROID	2.336E-12	1.690E-06	7.929E-05
UTERUS	1.602E-09	3.034E-06	1.224E-04

CASE 3.. INGESTION

INGESTION TRANSFER FRACTIONS (G. I. TRACT TO BLOOD)

	PA-234
STOMACH	0.0
S INT	1.000E-03
U L INT	0.0
L L INT	0.0

DOSE EQUIVALENT (REM)

SOURCE	S CONT	SI CONT	ULI CONT	LLI CONT	EXCRET.	BONE	LIVER	KIDNEYS	TESTES	OVARIES	OTHER
TARGET											
LUNGS	2.269E-05	1.217E-05	1.937E-05	3.800E-06	5.498E-09	3.390E-08	9.521E-08	8.463E-10	2.258E-13	1.244E-13	5.509E-09
RES LYM	2.269E-05	1.217E-05	1.937E-05	3.800E-06	5.498E-09	3.390E-08	9.521E-08	8.463E-10	2.258E-13	1.244E-13	5.509E-09
S WALL	2.439E-03	1.249E-04	1.775E-04	4.325E-05	6.041E-09	4.206E-08	7.593E-08	2.864E-09	8.153E-13	7.096E-13	6.025E-09
SI WALL	3.243E-05	4.269E-03	7.882E-04	2.343E-04	6.624E-09	3.216E-08	6.235E-08	2.415E-09	4.619E-12	9.831E-12	6.515E-09
ULI WALL	4.040E-05	8.400E-04	1.009E-02	1.073E-04	6.465E-09	4.972E-08	9.451E-08	2.477E-09	3.406E-12	9.315E-12	6.696E-09
LLI WALL	1.710E-05	2.465E-04	1.582E-04	8.227E-03	6.624E-09	4.004E-08	1.153E-08	7.663E-10	2.157E-11	1.184E-11	7.147E-09
T BODY	2.666E-05	9.947E-05	1.199E-04	6.621E-05	5.512E-09	3.650E-08	1.062E-07	2.358E-09	2.134E-11	2.606E-12	1.054E-08
ADREN	2.568E-05	4.312E-05	5.723E-05	1.285E-05	6.823E-09	4.232E-08	1.869E-07	1.058E-08	7.173E-13	4.825E-13	1.651E-08
BL WALL	5.890E-06	9.456E-05	1.022E-04	1.449E-04	6.618E-09	4.090E-08	9.161E-09	3.793E-10	4.464E-11	5.960E-12	1.316E-08
KIDNEYS	4.153E-05	1.121E-04	1.402E-04	2.405E-05	6.220E-09	4.226E-08	1.451E-07	2.632E-07	1.146E-12	9.573E-13	6.360E-09
LIVER	2.526E-05	6.639E-05	1.239E-04	9.950E-06	6.214E-09	4.833E-08	2.531E-06	3.328E-09	7.766E-13	5.599E-13	4.722E-09
OVARIES	1.401E-05	3.490E-04	4.555E-04	4.411E-04	5.770E-09	3.797E-08	2.357E-08	1.241E-09	0.0	6.296E-09	8.179E-09
PANCREAS	2.122E-04	7.194E-05	1.014E-04	1.951E-05	6.101E-09	3.866E-08	1.684E-07	5.805E-09	7.844E-13	6.657E-13	1.935E-08
BONE	7.854E-06	2.956E-05	3.667E-05	2.821E-05	5.637E-09	3.537E-07	2.949E-08	8.747E-10	5.934E-12	8.282E-13	5.780E-09
R MAR	1.337E-05	9.286E-05	1.085E-04	8.462E-05	6.028E-09	4.337E-07	4.215E-08	2.211E-09	4.670E-12	2.735E-12	1.458E-08
Y MAR	1.091E-05	4.077E-05	5.191E-05	3.471E-05	5.439E-09	1.288E-07	4.377E-08	1.084E-09	2.549E-12	1.102E-12	1.484E-08
ENDOST	7.854E-06	2.956E-05	3.667E-05	2.821E-05	5.657E-09	3.178E-07	2.949E-08	8.747E-10	5.934E-12	8.282E-13	1.024E-08
SPLEEN	1.197E-04	5.646E-05	6.773E-05	2.672E-05	6.161E-09	3.274E-08	4.215E-08	7.199E-09	7.199E-13	5.496E-13	1.819E-08
TESTES	1.571E-06	1.740E-05	2.603E-05	4.489E-05	6.109E-09	4.034E-08	7.605E-09	1.419E-10	2.077E-08	0.0	5.147E-09
THYMUS	7.891E-06	5.465E-06	8.252E-06	1.810E-06	5.571E-09	3.419E-08	3.599E-08	1.824E-10	1.437E-13	6.296E-14	2.232E-08
THYROID	2.096E-06	1.782E-06	2.617E-06	6.480E-07	5.584E-09	3.438E-08	7.768E-09	9.314E-11	5.393E-14	2.175E-14	1.574E-08
UTERUS	1.201E-05	3.053E-04	2.351E-04	1.504E-04	7.083E-09	3.035E-08	1.695E-08	7.637E-10	0.0	1.491E-11	2.825E-08

DOSE EQUIVALENT (REM)

SOURCE	TOTAL
TARGET	
LUNGS	5.819E-05
RES LYM	5.818E-05
S WALL	2.785E-03
SI WALL	5.324E-03
ULI WALL	1.107E-02
LLI WALL	8.649E-03
T BODY	3.125E-04
ADREN	1.432E-04
BL WALL	3.476E-04
KIDNEYS	3.183E-04
LIVER	2.281E-04
OVARIES	1.260E-03
PANCREAS	4.053E-04
BONE	1.030E-04
R MAR	2.997E-04
Y MAR	1.385E-04
ENDOST	1.029E-04
SPLEEN	2.707E-04
TESTES	8.995E-05
THYMUS	2.351E-05
THYROID	7.202E-06
UTERUS	7.029E-04

RADIONUCLIDE: U-232

PHYSICAL AND METABOLIC PARAMETERS FOR DOSIMETRICALLY SIGNIFICANT PROGENY:

NUCLIDE	RADIOACTIVE HALF-LIFE (DAYS)
U-232	2.6200E 04
TH-228	698.0
RA-224	3.660
RN-220	6.4400E-04
PO-216	1.7400E-06
PB-212	0.4430
BI-212	4.2000E-02
PO-212	3.5300E-12
TL-208	2.1300E-03

BRANCHING RATIOS:

FROM	TO	FRACTION
U-232	TH-228	1.000
TH-228	RA-224	1.000
RA-224	RN-220	1.000
RN-220	PO-216	1.000
PO-216	PB-212	1.000
PB-212	BI-212	1.000
BI-212	PO-212	0.6400
BI-212	TL-208	0.3600

ORGAN ABSORBED	NUCLIDE	BLOOD TRANSFER FRACTION F2-PRIME	COMPARTMENT DEPOSITION FRACTION	COMPARTMENT BIOLOGICAL HALF-TIME (DAYS)
	U-232	1.00	0.631	0.500
			0.120	6.00
			0.200	20.0
			5.200E-04	1.500E 03
			4.800E-02	5.000E 03
	TH-228	1.00	0.460	1.460E 04
			0.540	3.650E 04
	RA-224	1.00	0.917	5.50
			5.360E-02	81.0
			2.000E-02	955.
			1.760E-04	3.140E 03
			9.390E-03	7.620E 03
	RN-220	0.0	0.874	2.650E-04
			9.130E-02	3.110E-03
			1.980E-02	2.280E-02
			8.630E-03	0.146
			6.120E-03	0.963
	PO-216	1.00	1.000E-02	0.500
			0.990	50.0
	PB-212	1.00	1.000E-01	1.00
			0.200	10.0
			0.300	320.
			0.200	2.000E 03
			0.200	8.000E 03
	BI-212	1.00	-1.720E-02	1.000E-01
			1.02	5.78
	PO-212	1.00	1.000E-02	0.500
			0.990	50.0
	TL-208	1.00	1.00	4.00
EXCRET.	U-232	0.631	1.00	0.500
	TH-228	0.0	1.00	0.500
	RA-224	0.0	1.00	0.500
	RN-220	0.0	0.874	2.650E-04
			9.130E-02	3.110E-03
			1.980E-02	2.280E-02
			8.630E-03	0.146
			6.120E-03	0.963
	PO-216	0.0	1.00	0.500
	PB-212	0.0	1.00	0.500
	BI-212	0.0	1.00	0.500
	PO-212	0.0	1.00	0.500
	TL-208	0.0	1.00	0.500

α decay (717 Y 9)

Case 1 represents inhalation of UO_2 or U_3O_8; case 2 inhalation of UF_4 or UCl_4; case 3 inhalation of UF_6, UO_2F_2, $UO_2(NO_3)_2$, or UO_3; case 4 ingestion of U(IV) compounds; and case 5 ingestion of U(VI) compounds.

*Retention data derived from "other tissues" compartment.

ORGAN	NUCLIDE	BLOOD TRANSFER FRACTION F2-PRIME	COMPARTMENT DEPOSITION FRACTION	COMPARTMENT BIOLOGICAL HALF-TIME (DAYS)
BONE	U-232	0.223	0.897	20.0
			0.103	5.000E 03
	TH-228	0.450	1.00	3.650E 04
	RA-224	0.172	0.880	5.68
			1.360E-02	240.
			2.030E-03	1.610E 03
			5.730E-02	1.490E 03
			4.600E-02	8.380E 03
	RN-220	0.0	0.700	2.650E-04
			0.300	1.000E 50
	*PO-216	9.000E-02	1.000E-02	0.500
			0.990	50.0
	PB-212	0.562	0.375	320.
			0.310	2.000E 03
			0.315	8.000E 03
	*BI-212	7.340E-02	-1.000E-01	1.000E-01
			1.10	5.78
	*PO-212	9.000E-02	1.000E-02	0.500
			0.990	50.0
	*TL-208	0.118	1.00	4.00
LIVER	*U-232	1.250E-03	1.00	5.000E 03
	TH-228	0.450	1.00	1.460E 04
	*RA-224	4.540E-02	0.890	0.630
			7.090E-02	28.9
			3.040E-02	160.
			7.430E-03	776.
			7.940E-04	4.040E 03
	*RN-220	0.0	0.849	2.650E-04
			9.900E-02	3.110E-03
			4.400E-02	2.880E-02
			7.790E-04	0.146
			2.030E-05	0.963
	PO-216	1.000E-01	1.000E-02	0.500
			0.990	50.0
	PB-212	0.106	0.843	10.0
			7.870E-02	320.
			4.010E-02	2.000E 03
			3.820E-02	8.000E 03
	*BI-212	2.640E-02	-1.000E-01	1.000E-01
			1.10	5.78
	PO-212	1.000E-01	1.000E-02	0.500
			0.990	50.0
	*TL-208	4.240E-02	1.00	4.00
KIDNEYS	U-232	0.121	0.996	6.00
			4.000E-03	1.500E 03
	TH-228	1.000E-02	1.00	1.460E 04
	*RA-224	7.820E-03	0.890	0.630
			7.090E-02	28.9
			3.040E-02	160.
			7.430E-03	776.
			7.940E-04	4.040E 03
	*RN-220	0.0	0.849	2.650E-04
			9.900E-02	3.110E-03
			4.400E-02	2.880E-02
			7.790E-04	0.146
			2.030E-05	0.963
	PO-216	1.000E-01	1.000E-02	0.500
			0.990	50.0
	PB-212	5.090E-02	0.962	10.0
			2.000E-02	320.
			9.600E-03	2.000E 03
			8.290E-03	8.000E 03
	BI-212	0.400	1.00	5.78
	PO-212	1.000E-01	1.000E-02	0.500
			0.990	50.0
	TL-208	3.760E-02	1.00	4.00

ORGAN	NUCLIDE	BLOOD TRANSFER FRACTION F2-PRIME	COMPARTMENT DEPOSITION FRACTION	COMPARTMENT BIOLOGICAL HALF-TIME (DAYS)
SPLEEN	*U-232	1.250E-04	1.00	5.000E 03
	*TH-228	4.760E-04	1.00	3.650E 04
	*RA-224	4.540E-03	0.890	0.630
			7.090E-02	28.9
			3.040E-02	160.
			7.430E-03	776.
			7.940E-04	4.040E 03
	*RN-220	0.0	0.849	2.650E-04
			9.900E-02	3.110E-03
			4.400E-02	2.880E-02
			7.790E-04	0.146
			2.030E-05	0.963
	PO-216	1.000E-01	1.000E-02	0.500
			0.990	50.0
	*PB-212	2.960E-04	0.375	320.
			0.310	2.000E 03
			0.315	8.000E 03
	*BI-212	2.640E-03	-1.000E-01	1.000E-01
			1.10	5.78
	PO-212	1.000E-01	1.000E-02	0.500
			0.990	50.0
	*TL-208	4.240E-03	1.00	4.00
TESTES	*U-232	2.440E-05	1.00	5.000E 03
	TH-228	3.500E-04	1.00	3.650E 04
	*RA-224	8.830E-04	0.890	0.630
			7.090E-02	28.9
			3.040E-02	160.
			7.430E-03	776.
			7.940E-04	4.040E 03
	*RN-220	0.0	0.910	2.650E-04
			8.660E-02	3.110E-03
			3.040E-04	2.880E-02
			3.170E-03	0.146
			6.810E-06	0.963
	*PO-216	6.300E-04	1.000E-02	0.500
			0.990	50.0
	*PB-212	5.760E-05	0.375	320.
			0.310	2.000E 03
			0.315	8.000E 03
	*BI-212	5.140E-04	-1.000E-01	1.000E-01
			1.10	5.78
	*PO-212	6.300E-04	1.000E-02	0.500
			0.990	50.0
	TL-208	8.240E-04	1.00	4.00
OVARIES	*U-232	7.660E-06	1.00	5.000E 03
	TH-228	1.100E-04	1.00	3.650E 04
	*RA-224	2.770E-04	0.890	0.630
			7.090E-02	28.9
			3.040E-02	160.
			7.430E-03	776.
			7.940E-04	4.040E 03
	*RN-220	0.0	0.910	2.650E-04
			8.660E-02	3.110E-03
			3.040E-04	2.880E-02
			3.170E-03	0.146
			6.810E-06	0.963
	*PO-216	1.980E-04	1.000E-02	0.500
			0.990	50.0
	*PB-212	1.810E-05	0.375	320.
			0.310	2.000E 03
			0.315	8.000E 03
	*BI-212	1.610E-04	-1.000E-01	1.000E-01
			1.10	5.78
	*PO-212	1.980E-04	1.000E-02	0.500
			0.990	50.0
	*TL-208	2.590E-04	1.00	4.00
OTHER	U-232	2.360E-02	1.00	5.000E 03
	TH-228	8.950E-02	1.00	3.650E 04
	RA-224	0.854	0.890	0.630
			7.090E-02	28.9
			3.040E-02	160.
			7.430E-03	776.
			7.940E-04	4.040E 03

ORGAN	NUCLIDE	BLOOD TRANSFER FRACTION F2-PRIME	COMPARTMENT DEPOSITION FRACTION	COMPARTMENT BIOLOGICAL HALF-TIME (DAYS)
	RN-220	0.0	0.872	2.650E-04
			9.140E-02	3.110E-03
			2.050E-02	2.880E-02
			9.080E-03	0.146
			6.790E-03	0.963
	PO-216	0.610	1.000E-02	0.500
			0.990	50.0
	PB-212	5.580E-02	0.375	320.
			0.310	2.000E 03
			0.315	8.000E 03
	BI-212	0.500	-1.000E-01	1.000E-01
			1.10	5.78
	PO-212	0.610	1.000E-02	0.500
			0.990	50.0
	TL-208	0.814	1.00	4.00

S FACTORS (REM/MICROCURIE-DAY) FOR U-232

TARGET ORGANS	SOURCE ORGANS									
	LUNGS	RES LYM	S CONT	SI CONT	ULI CONT	LLI CONT	EXCRET.	BONE	LIVER	KIDNEYS
LUNGS	0.281E 01	0.832E-03	0.120E-06	0.886E-08	0.109E-07	0.290E-08	0.401E-01	0.692E-07	0.312E-06	0.460E-07
RES LYM	0.832E-03	0.187E 03	0.120E-06	0.886E-08	0.109E-07	0.290E-08	0.401E-01	0.692E-07	0.312E-06	0.460E-07
S WALL	0.162E-06	0.162E-06	0.559E-01	0.310E-06	0.447E-06	0.952E-07	0.401E-01	0.410E-07	0.143E-06	0.189E-06
SI WALL	0.739E-08	0.739E-08	0.165E-06	0.349E-01	0.375E-05	0.203E-05	0.401E-01	0.542E-07	0.991E-07	0.150E-06
ULI WALL	0.920E-08	0.920E-08	0.291E-06	0.389E-04	0.635E-01	0.169E-05	0.401E-01	0.566E-07	0.157E-06	0.146E-06
LLI WALL	0.246E-08	0.246E-08	0.601E-07	0.394E-05	0.441E-06	0.104E 00	0.401E-01	0.122E-06	0.846E-08	0.304E-07
T BODY	0.401E-01	0.401E-01	0.121E-03	0.320E-03	0.192E-03	0.238E-03	0.516E-01	0.201E 00	0.401E-01	0.401E-01
ADREN	0.272E-06	0.272E-06	0.144E-06	0.439E-07	0.437E-07	0.140E-07	0.401E-01	0.106E-06	0.509E-06	0.279E-05
BL WALL	0.131E-08	0.131E-08	0.108E-07	0.130E-06	0.104E-06	0.393E-06	0.401E-01	0.231E-07	0.567E-08	0.992E-08
KIDNEYS	0.404E-07	0.404E-07	0.189E-06	0.162E-06	0.149E-06	0.387E-07	0.401E-01	0.740E-07	0.310E-06	0.907E 01
LIVER	0.256E-06	0.256E-06	0.126E-06	0.114E-06	0.155E-06	0.969E-08	0.401E-01	0.452E-07	0.156E 01	0.264E-06
OVARIES	0.394E-08	0.394E-08	0.272E-07	0.215E-05	0.281E-05	0.552E-05	0.401E-01	0.398E-07	0.210E-07	0.522E-07
PANCREAS	0.144E-06	0.144E-06	0.202E-05	0.102E-06	0.111E-06	0.308E-07	0.401E-01	0.841E-07	0.399E-06	0.365E-06
BONE	0.143E-06	0.143E-06	0.600E-07	0.123E-06	0.902E-07	0.186E-06	0.201E 00	0.281E 01	0.103E-06	0.121E-06
R MAR	0.171E-06	0.171E-06	0.971E-07	0.466E-06	0.322E-06	0.687E-06	0.401E-01	0.726E-02	0.125E-06	0.322E-06
Y MAR	0.161E-06	0.161E-06	0.858E-07	0.174E-06	0.130E-06	0.248E-06	0.401E-01	0.790E-05	0.155E-06	0.148E-06
ENDOST	0.143E-06	0.143E-06	0.600E-07	0.123E-06	0.902E-07	0.186E-06	0.401E-01	0.261E 00	0.103E-06	0.121E-06
SPLEEN	0.197E-06	0.197E-06	0.621E-06	0.717E-07	0.745E-07	0.404E-07	0.401E-01	0.102E-06	0.423E-07	0.120E-05
TESTES	0.252E-09	0.252E-09	0.175E-08	0.116E-07	0.105E-07	0.964E-07	0.401E-01	0.281E-07	0.198E-08	0.293E-08
THYMUS	0.261E-06	0.261E-06	0.160E-07	0.259E-08	0.325E-08	0.820E-09	0.401E-01	0.561E-07	0.274E-07	0.774E-08
THYROID	0.393E-07	0.393E-07	0.261E-08	0.443E-09	0.491E-09	0.157E-09	0.401E-01	0.525E-07	0.466E-08	0.148E-08
UTERUS	0.335E-08	0.335E-08	0.302E-07	0.730E-06	0.307E-06	0.400E-06	0.401E-01	0.252E-07	0.161E-07	0.370E-07

S FACTORS (REM/MICROCURIE-DAY) FOR U-232

TARGET ORGANS	SOURCE ORGANS			
	SPLEEN	TESTES	OVARIES	OTHER
LUNGS	0.201E-06	0.193E-09	0.218E-08	0.460E-06
RES LYM	0.201E-06	0.193E-09	0.218E-08	0.460E-06
S WALL	0.696E-06	0.123E-08	0.365E-07	0.130E-06
SI WALL	0.685E-07	0.146E-07	0.195E-05	0.192E-06
ULI WALL	0.737E-07	0.125E-07	0.434E-05	0.406E-06
LLI WALL	0.285E-07	0.149E-06	0.530E-05	0.157E-06
T BODY	0.401E-01	0.401E-01	0.401E-01	0.399E-01
ADREN	0.375E-06	0.967E-09	0.129E-07	0.828E-01
BL WALL	0.452E-08	0.273E-06	0.423E-06	0.414E-01
KIDNEYS	0.131E-05	0.135E-08	0.409E-07	0.301E-06
LIVER	0.443E-07	0.104E-08	0.228E-07	0.154E-06
OVARIES	0.176E-07	0.0	0.256E 03	0.605E-06
PANCREAS	0.340E-05	0.171E-08	0.193E-07	0.828E-01
BONE	0.923E-07	0.503E-07	0.109E-06	0.989E-06
R MAR	0.121E-06	0.389E-07	0.412E-06	0.828E-01
Y MAR	0.140E-06	0.172E-07	0.151E-06	0.828E-01
ENDOST	0.923E-07	0.503E-07	0.109E-06	0.141E-04
SPLEEN	0.156E 02	0.617E-09	0.197E-07	0.276E-06
TESTES	0.150E-08	0.803E 02	0.0	0.115E-06
THYMUS	0.971E-08	0.724E-10	0.790E-09	0.828E-01
THYROID	0.278E-08	0.140E-10	0.142E-09	0.828E-01
UTERUS	0.155E-07	0.0	0.146E-05	0.828E-01

CASE 1.. INHALATION

AMAD (MICRON).. 1.00 D3 =0.310 D4 =8.000E-02 D5 =0.249

	SOLUBILITY CLASS	G.I. UPTAKE FRACTIONS STOMACH	S INT	U L INT	L L INT
U-232	Y	0.0	2.000E-03	0.0	0.0
TH-228	Y	0.0	1.000E-03	0.0	0.0
RA-224	W	0.0	0.200	0.0	0.0
RN-220	*	0.0	0.0	0.0	0.0
PO-216	W	0.0	1.000E-01	0.0	0.0
PB-212	W	0.0	8.000E-02	0.0	0.0
BI-212	W	0.0	5.000E-02	0.0	0.0
PO-212	W	0.0	1.000E-01	0.0	0.0
TL-208	W	0.0	0.950	0.0	0.0

*SPECIAL LUNG CLEARANCE PARAMETERS. T=HALF-TIME (DAYS), F=DEPOSITION FRACTION.

CLEARANCE PATHWAY..		A	B	C	D	E	F	G	H	I
RN-220	F	1.0	0.0	1.0	0.0	1.0	0.0	0.0	0.0	1.0
	T	8.20E-05	1.0	8.20E-05	1.0	8.20E-05	0.0	0.0	0.0	2.96E-03

DOSE EQUIVALENT (REM/MICROCURIE)

SOURCE	LUNGS	RES LYM	S CONT	SI CONT	ULI CONT	LLI CONT	EXCRET.	BONE	LIVER	KIDNEYS	SPLEEN
TARGET											
LUNGS	450.	2.27	1.073E-05	7.741E-06	4.063E-05	3.684E-05	8.956E-04	2.066E-03	8.852E-04	1.841E-05	3.863E-06
RES LYM	0.204	7.473E 04	1.073E-05	7.741E-06	4.063E-05	3.684E-05	8.956E-04	2.066E-03	8.852E-04	1.841E-05	3.863E-06
S WALL	9.354E-04	2.090E-02	1.616E-02	7.291E-05	3.531E-04	3.461E-04	8.956E-04	1.196E-03	7.427E-04	6.390E-05	1.637E-05
SI WALL	1.619E-04	3.791E-03	1.605E-05	3.538E-02	1.531E-03	1.648E-03	8.956E-04	1.646E-03	5.942E-04	5.224E-05	2.482E-06
ULI WALL	2.108E-04	4.948E-03	1.930E-05	4.809E-04	0.214	7.508E-04	8.956E-04	1.545E-03	8.780E-04	5.040E-05	2.540E-06
LLI WALL	4.223E-05	9.464E-04	7.998E-06	1.481E-04	2.903E-04	0.595	8.956E-04	2.008E-03	1.270E-04	1.796E-05	1.254E-06
T BODY	6.43	16.0	4.486E-05	3.592E-04	8.207E-04	1.695E-03	1.152E-03	1.10	3.670E-02	2.130E-04	1.096E-05
ADREN	9.465E-04	2.026E-02	1.502E-05	2.856E-05	1.140E-04	9.458E-05	8.956E-04	3.024E-03	1.988E-03	1.130E-04	4.872E-07
BL WALL	4.643E-05	1.097E-03	2.515E-06	5.866E-05	2.186E-04	1.051E-03	8.956E-04	1.296E-03	1.092E-04	8.455E-06	1.443E-05
KIDNEYS	4.489E-04	1.015E-02	1.959E-05	6.317E-05	2.664E-04	1.958E-04	8.956E-04	1.867E-03	1.368E-03	8.28	1.927E-06
LIVER	1.152E-03	2.542E-02	1.256E-05	3.926E-05	2.543E-04	7.520E-05	8.956E-04	1.609E-03	42.6	7.190E-05	7.070E-07
OVARIES	8.543E-05	1.989E-03	5.319E-06	1.925E-04	1.089E-03	3.065E-03	8.956E-04	1.922E-03	2.282E-04	2.007E-05	3.119E-05
PANCREAS	1.145E-03	2.548E-02	9.831E-05	4.288E-05	2.369E-04	1.424E-04	8.956E-04	2.083E-03	1.432E-03	1.119E-04	1.414E-06
BONE	5.238E-04	1.134E-02	3.889E-06	1.778E-05	7.535E-05	2.033E-04	4.489E-03	223.	2.899E-04	1.909E-05	2.076E-06
R MAR	6.598E-04	1.430E-02	6.483E-06	5.512E-05	2.219E-04	5.955E-04	8.956E-04	33.8	4.155E-04	4.751E-05	2.099E-06
Y MAR	5.509E-04	1.192E-02	5.437E-06	2.440E-05	1.054E-04	2.497E-04	8.956E-04	6.316E-03	4.253E-04	2.341E-05	1.414E-06
ENDOST	5.238E-04	1.134E-02	3.889E-06	1.778E-05	7.535E-05	2.033E-04	8.956E-04	374.	2.899E-04	1.909E-05	2.09
SPLEEN	1.065E-03	2.360E-02	5.470E-05	3.419E-05	1.349E-04	1.879E-04	8.956E-04	1.490E-03	3.725E-04	1.491E-04	
TESTES	1.976E-05	4.752E-04	9.175E-07	1.144E-05	5.477E-05	3.644E-04	8.956E-04	1.935E-03	5.641E-05	3.472E-06	2.202E-07
THYMUS	1.905E-03	4.253E-02	3.020E-06	3.561E-06	1.866E-05	1.581E-05	8.956E-04	1.590E-03	3.820E-04	4.737E-06	1.044E-06
THYROID	5.122E-04	1.172E-02	1.124E-06	1.310E-06	6.790E-06	6.608E-06	8.956E-04	1.139E-03	8.069E-05	2.390E-06	3.142E-07
UTERUS	8.522E-05	2.008E-03	6.088E-06	1.750E-04	4.859E-04	1.050E-03	8.956E-04	1.254E-03	1.927E-04	1.729E-05	1.025E-06

DOSE EQUIVALENT (REM/MICROCURIE)

SOURCE	TESTES	OVARIES	OTHER	TOTAL
TARGET				
LUNGS	1.773E-08	2.760E-08	4.118E-04	453.
RES LYM	1.773E-08	2.760E-08	4.118E-04	7.473E 04
S WALL	6.767E-08	1.572E-07	4.381E-04	4.213E-02
SI WALL	2.916E-07	1.782E-06	4.880E-04	4.621E-02
ULI WALL	2.835E-07	1.676E-06	5.036E-04	0.224
LLI WALL	1.351E-06	2.204E-06	5.406E-04	0.600
T BODY	1.638E-03	5.147E-04	1.00	40.6
ADREN	4.986E-08	8.765E-08	2.08	2.11
BL WALL	2.389E-06	1.011E-06	1.04	1.05
KIDNEYS	7.353E-08	1.845E-07	4.684E-04	8.30
LIVER	5.489E-08	1.110E-07	3.566E-04	42.6
OVARIES	0.0	3.27	6.178E-04	3.28
PANCREAS	7.299E-08	9.042E-08	2.08	2.11
BONE	3.515E-07	1.541E-07	5.450E-04	223.
R MAR	2.843E-07	4.984E-07	2.08	35.9
Y MAR	1.656E-07	2.026E-07	2.08	2.10
ENDOST	3.515E-07	1.541E-07	1.595E-03	374.
SPLEEN	6.576E-08	1.185E-07	4.625E-04	2.12
TESTES	3.28	0.0	4.261E-04	3.28
THYMUS	1.267E-08	1.392E-08	2.08	2.13
THYROID	5.756E-09	5.612E-09	2.08	2.10
UTERUS	0.0	2.762E-06	2.08	2.09

PERCENT DOSE EQUIVALENT..

NUCLIDE	U-232	TH-228	RA-224	RN-220	PO-216	PB-212	BI-212	PO-212	TL-208
TARGET									
LUNGS	55.9	16.8	11.6	1.7	1.8	0.1	0.7	1.2	0.1
RES LYM	24.9	15.5	14.8	13.5	14.6	0.0	4.7	12.0	0.0
S WALL	5.4	0.5	8.1	8.1	8.7	7.8	11.8	3.4	46.2
SI WALL	9.2	0.8	13.4	14.6	15.7	5.0	13.1	8.4	19.8
ULI WALL	9.2	0.9	14.7	16.2	17.4	4.4	15.7	12.2	9.3
LLI WALL	10.1	1.0	14.0	15.5	16.6	4.5	17.3	13.9	6.9
T BODY	24.4	23.2	16.9	10.6	11.4	0.0	3.8	9.6	0.1
ADREN	26.0	39.0	14.2	5.7	6.2	0.2	2.3	5.5	0.9
BL WALL	26.3	39.3	14.3	5.8	6.2	0.1	2.2	5.5	0.4
KIDNEYS	10.9	50.9	13.6	5.6	6.1	0.0	3.6	9.1	0.2
LIVER	1.3	62.0	15.3	6.3	6.8	0.0	2.3	5.8	0.1
OVARIES	16.8	48.9	15.0	5.6	6.1	0.0	2.1	5.3	0.2
PANCREAS	26.0	38.9	14.2	5.7	6.2	0.2	2.3	5.4	1.1
BONE	8.5	29.8	21.3	11.9	12.9	0.0	4.4	11.2	0.0
R MAR	1.7	32.9	22.8	12.6	13.6	0.0	4.6	11.9	0.1
Y MAR	26.1	39.1	14.2	5.8	6.2	0.2	2.3	5.5	0.7
ENDOST	0.5	38.4	25.4	12.0	11.4	0.0	6.4	5.8	0.0
SPLEEN	25.9	38.8	14.1	5.8	6.3	0.2	2.3	5.5	1.0
TESTES	16.8	49.0	15.0	5.6	6.1	0.0	2.1	5.3	0.1
THYMUS	25.8	38.6	14.1	5.7	6.1	0.3	2.4	5.4	1.7
THYROID	26.2	39.2	14.3	5.8	6.2	0.1	2.3	5.5	0.5
UTERUS	26.3	39.3	14.3	5.8	6.3	0.0	2.2	5.5	0.3

CASE 2.. INHALATION

AMAD (MICRON).. 1.00 D3 =0.310 D4 =8.000E-02 D5 =0.249

	SOLUBILITY CLASS	G.I. UPTAKE FRACTIONS STOMACH	S INT	U L INT	L L INT
U-232	W	0.0	5.000E-02	0.0	0.0
TH-228	W	0.0	1.000E-03	0.0	0.0
RA-224	W	0.0	0.200	0.0	0.0
RN-220	*	0.0	0.0	0.0	0.0
PO-216	W	0.0	1.000E-01	0.0	0.0
PB-212	W	0.0	8.000E-02	0.0	0.0
BI-212	W	0.0	5.000E-02	0.0	0.0
PO-212	W	0.0	1.000E-01	0.0	0.0
TL-208	W	0.0	0.950	0.0	0.0

*SPECIAL LUNG CLEARANCE PARAMETERS. T=HALF-TIME (DAYS), F=DEPOSITION FRACTION.

CLEARANCE PATHWAY..		A	B	C	D	E	F	G	H	I
RN-220	F	1.0	0.0	1.0	0.0	1.0	0.0	0.0	0.0	1.0
	T	8.20E-05	1.0	8.20E-05	1.0	8.20E-05	0.0	0.0	0.0	2.96E-03

DOSE EQUIVALENT (REM/MICROCURIE)

SOURCE	LUNGS	RES LYM	S CONT	SI CONT	ULI CONT	LLI CONT	EXCRET.	BONE	LIVER	KIDNEYS	SPLEEN
TARGET											
LUNGS	33.9	4.261E-03	2.309E-07	1.660E-07	8.911E-07	8.530E-07	2.678E-03	1.733E-03	1.139E-04	6.241E-06	5.018E-06
RES LYM	1.124E-02	257.	2.309E-07	1.660E-07	8.911E-07	8.530E-07	2.678E-03	1.733E-03	1.139E-04	6.241E-06	5.018E-06
S WALL	1.751E-05	3.378E-05	1.541E-03	1.583E-06	7.842E-06	8.054E-06	2.678E-03	1.003E-03	9.539E-05	2.181E-05	2.127E-05
SI WALL	2.840E-06	6.110E-06	3.451E-07	3.596E-03	3.447E-05	3.910E-05	2.678E-03	1.380E-03	7.631E-05	1.784E-05	3.217E-06
ULI WALL	3.692E-06	7.975E-06	4.169E-07	1.342E-05	2.150E-02	1.819E-05	2.678E-03	1.296E-03	1.128E-04	1.724E-05	3.290E-06
LLI WALL	7.450E-07	1.526E-06	1.714E-07	3.483E-06	6.465E-06	6.466E-02	2.678E-03	1.685E-03	1.628E-05	6.068E-06	1.622E-06
T BODY	0.483	5.514E-02	3.545E-06	3.372E-05	6.880E-05	1.557E-04	3.447E-03	16.8	0.186	3.205E-02	1.096E-02
ADREN	1.871E-05	3.283E-05	3.226E-07	6.136E-07	2.505E-06	2.194E-06	2.678E-03	2.536E-03	2.555E-04	7.328E-05	1.423E-05
BL WALL	8.067E-07	1.768E-06	5.371E-08	1.264E-06	4.308E-06	2.450E-05	2.678E-03	1.086E-03	1.400E-05	2.835E-06	6.272E-07
KIDNEYS	8.054E-06	1.637E-05	4.209E-07	1.363E-06	5.867E-06	4.547E-06	2.678E-03	1.566E-03	1.757E-04	7.24	1.881E-05
LIVER	2.209E-05	4.113E-05	2.700E-07	8.478E-07	5.602E-06	1.744E-06	2.678E-03	1.350E-03	7.24	2.456E-05	2.493E-06
OVARIES	1.498E-06	3.206E-06	1.137E-07	4.288E-06	2.456E-05	7.360E-05	2.678E-03	1.612E-03	2.927E-05	6.873E-06	9.197E-07
PANCREAS	2.093E-05	4.114E-05	2.135E-06	9.243E-07	5.210E-06	3.309E-06	2.678E-03	1.747E-03	1.841E-04	3.835E-05	4.069E-05
BONE	1.029E-05	1.837E-05	8.405E-08	3.901E-07	1.673E-06	4.797E-06	1.343E-02	235.	3.731E-05	6.618E-06	1.845E-06
R MAR	1.287E-05	2.316E-05	1.401E-07	1.216E-06	4.940E-06	1.412E-05	2.678E-03	29.6	5.344E-05	1.652E-05	2.708E-06
Y MAR	1.092E-05	1.931E-05	1.176E-07	5.356E-07	2.342E-06	5.900E-06	2.678E-03	5.419E-03	5.473E-05	8.115E-06	2.740E-06
ENDOST	1.029E-05	1.837E-05	8.405E-08	3.901E-07	1.673E-06	4.797E-06	2.678E-03	331.	3.731E-05	6.618E-06	1.845E-06
SPLEEN	2.004E-05	3.815E-05	1.177E-06	7.362E-07	2.970E-06	4.365E-06	2.678E-03	1.250E-03	4.781E-05	5.141E-05	4.26
TESTES	3.405E-07	7.655E-07	1.954E-08	2.452E-07	1.200E-06	8.478E-06	2.678E-03	1.622E-03	7.230E-06	1.159E-06	2.832E-07
THYMUS	3.502E-05	6.869E-05	6.456E-08	7.624E-08	4.087E-07	3.658E-07	2.678E-03	1.333E-03	4.899E-05	1.601E-06	1.345E-06
THYROID	9.128E-06	1.890E-05	2.397E-08	2.800E-08	1.485E-07	1.528E-07	2.678E-03	9.557E-04	1.035E-05	7.944E-07	4.046E-07
UTERUS	1.490E-06	3.237E-06	1.301E-07	3.798E-06	1.071E-05	2.449E-05	2.678E-03	1.052E-03	2.471E-05	5.905E-06	1.323E-06

DOSE EQUIVALENT (REM/MICROCURIE)

SOURCE	TESTES	OVARIES	OTHER	TOTAL
TARGET				
LUNGS	1.466E-08	2.284E-08	5.407E-04	33.9
RES LYM	1.466E-08	2.284E-08	5.407E-04	257.
S WALL	5.599E-08	1.306E-07	5.693E-04	5.999E-03
SI WALL	2.420E-07	1.493E-06	6.352E-04	8.472E-03
ULI WALL	2.351E-07	1.418E-06	6.588E-04	2.631E-02
LLI WALL	1.127E-06	1.862E-06	7.026E-04	6.976E-02
T BODY	2.161E-03	6.784E-04	2.05	19.6
ADREN	4.127E-08	7.272E-08	4.26	4.26
BL WALL	1.992E-06	8.440E-07	2.13	2.13
KIDNEYS	6.086E-08	1.533E-07	6.112E-04	7.24
LIVER	4.542E-08	9.219E-08	4.640E-04	7.24
OVARIES	0.0	4.32	8.095E-04	4.32
PANCREAS	6.042E-08	7.518E-08	4.26	4.26
BONE	2.937E-07	1.292E-07	7.263E-04	235.
R MAR	2.374E-07	4.187E-07	4.26	33.8
Y MAR	1.379E-07	1.700E-07	4.26	4.27
ENDOST	2.937E-07	1.292E-07	2.341E-03	331.
SPLEEN	5.434E-08	9.833E-08	6.034E-04	4.27
TESTES	4.32	0.0	5.528E-04	4.33
THYMUS	1.047E-08	1.152E-08	4.26	4.26
THYROID	4.751E-09	4.636E-09	4.26	4.26
UTERUS	0.0	2.309E-06	4.26	4.26

PERCENT DOSE EQUIVALENT..

NUCLIDE	U-232	TH-228	RA-224	RN-220	PO-216	PB-212	BI-212	PO-212	TL-208
TARGET									
LUNGS	92.4	3.8	2.6	0.4	0.4	0.0	0.1	0.3	0.0
RES LYM	65.1	7.0	6.9	6.3	6.8	0.0	2.2	5.6	0.0
S WALL	64.8	0.7	1.6	1.2	1.3	3.3	4.3	0.5	22.2
SI WALL	95.5	0.9	2.0	1.7	1.9	3.1	4.5	1.0	19.6
ULI WALL	74.6	1.3	2.9	3.1	3.3	1.6	3.8	2.3	7.1
LLI WALL	77.2	1.5	3.0	3.2	3.4	1.3	3.9	2.8	3.8
T BODY	27.6	26.5	16.2	8.9	9.6	0.0	3.1	8.1	0.0
ADREN	38.8	38.8	9.5	3.8	4.1	0.0	1.4	3.5	0.1
BL WALL	78.8	38.8	9.4	3.8	4.1	0.0	1.4	3.5	0.1
KIDNEYS	37.4	39.7	9.7	4.0	4.3	0.0	1.4	3.4	0.0
LIVER	22.8	48.9	11.9	4.9	5.3	0.0	1.7	4.4	0.0
OVARIES	38.4	39.6	9.7	3.6	3.9	0.0	1.3	3.3	0.1
PANCREAS	38.8	38.8	9.5	3.8	4.1	0.0	1.4	3.5	0.1
BONE	24.2	25.5	17.5	9.8	10.6	0.0	3.5	9.0	0.0
R MAR	5.3	34.1	21.3	11.7	12.7	0.0	4.2	10.7	0.0
Y MAR	39.8	38.8	9.5	3.8	4.1	0.0	1.4	3.5	0.1
ENDOST	1.6	39.1	24.8	11.7	11.2	0.0	6.1	5.5	0.0
SPLEEN	38.7	38.7	9.4	3.9	4.2	0.0	1.4	3.6	0.1
TESTES	38.3	39.7	9.7	3.7	3.9	0.0	1.3	3.3	0.1
THYMUS	38.8	38.8	9.5	3.8	4.1	0.0	1.4	3.5	0.1
THYROID	38.8	38.8	9.5	3.8	4.1	0.0	1.4	3.5	0.0
UTERUS	38.8	38.8	9.5	3.8	4.1	0.0	1.4	3.5	0.1

CASE 3.. INHALATION

AMAD (MICRON).. 1.00 D3 =0.310 D4 =8.000E-02 D5 =0.249

	SOLUBILITY CLASS	G.I. UPTAKE FRACTIONS STOMACH	S INT	U L INT	L L INT
U-232	D	0.0	5.000E-02	0.0	0.0
TH-228	W	0.0	1.000E-03	0.0	0.0
RA-224	W	0.0	0.200	0.0	0.0
RN-220	*	0.0	0.0	0.0	0.0
PO-216	W	0.0	1.000E-01	0.0	0.0
PB-212	W	0.0	8.000E-02	0.0	0.0
BI-212	W	0.0	5.000E-02	0.0	0.0
PO-212	W	0.0	1.000E-01	0.0	0.0
TL-208	W	0.0	0.950	0.0	0.0

*SPECIAL LUNG CLEARANCE PARAMETERS. T=HALF-TIME (DAYS), F=DEPOSITION FRACTION.

	CLEARANCE PATHWAY..	A	B	C	D	E	F	G	H	I
RN-220	F	1.0	0.0	1.0	0.0	1.0	0.0	0.0	0.0	1.0
	T	8.20E-05	1.0	8.20E-05	1.0	8.20E-05	0.0	0.0	0.0	2.96E-03

DOSE EQUIVALENT (REM/MICROCURIE)

SOURCE	LUNGS	RES LYM	S CONT	SI CONT	ULI CONT	LLI CONT	EXCRET.	BONE	LIVER	KIDNEYS	SPLEEN
TARGET											
LUNGS	0.566	1.401E-04	4.556E-09	2.948E-09	1.578E-08	1.591E-08	8.917E-03	5.420E-03	1.714E-04	1.886E-05	1.646E-05
RES LYM	1.876E-04	9.54	4.558E-09	2.948E-09	1.578E-08	1.591E-08	8.917E-03	5.420E-03	1.714E-04	1.886E-05	1.646E-05
S WALL	2.890E-07	1.060E-06	3.758E-04	3.349E-08	1.661E-07	1.600E-07	8.917E-03	3.138E-03	1.434E-04	6.592E-05	6.975E-05
SI WALL	4.682E-08	1.915E-07	6.721E-09	8.908E-04	8.681E-07	1.000E-06	8.917E-03	4.317E-03	1.147E-04	5.392E-05	1.055E-05
ULI WALL	6.087E-08	2.499E-07	8.695E-09	1.148E-06	5.276E-03	5.713E-03	8.917E-03	4.054E-03	1.695E-04	5.211E-05	1.079E-05
LLI WALL	1.228E-08	4.783E-08	3.202E-09	1.513E-07	1.425E-07	1.598E-02	8.917E-03	5.270E-03	2.445E-05	1.834E-05	5.321E-06
T BODY	8.082E-03	2.045E-03	8.170E-07	8.180E-06	1.602E-05	3.672E-05	1.147E-02	53.3	0.357	0.101	3.619E-02
ADREN	3.092E-07	1.031E-06	6.219E-09	1.117E-08	4.536E-08	4.198E-08	8.917E-03	7.934E-03	3.843E-04	2.217E-04	4.666E-05
BL WALL	1.330E-08	5.540E-08	9.528E-10	2.394E-08	8.865E-08	5.017E-07	8.917E-03	3.398E-03	2.101E-05	8.566E-06	2.057E-06
KIDNEYS	1.328E-07	5.133E-07	8.120E-09	2.633E-08	1.099E-07	8.817E-08	8.917E-03	4.898E-03	2.643E-04	22.8	6.171E-05
LIVER	3.648E-07	1.290E-06	5.239E-09	1.670E-08	1.059E-07	3.307E-08	8.917E-03	4.221E-03	13.9	7.425E-05	8.179E-06
OVARIES	2.470E-08	1.005E-07	2.044E-09	1.219E-07	6.292E-07	2.124E-06	8.917E-03	5.041E-03	4.395E-05	2.077E-05	3.017E-06
PANCREAS	3.453E-07	1.290E-06	4.785E-08	1.768E-08	9.592E-08	6.455E-08	8.917E-03	5.466E-03	2.770E-04	1.159E-04	1.335E-04
BONE	1.699E-07	5.766E-07	1.761E-09	9.365E-09	3.503E-08	1.138E-07	4.469E-02	747.	5.618E-05	2.001E-05	6.051E-06
R MAR	2.126E-07	7.269E-07	2.917E-09	3.116E-08	1.078E-07	3.548E-07	8.917E-03	92.5	8.042E-05	4.997E-05	8.882E-06
Y MAR	1.804E-07	6.062E-07	2.475E-09	1.298E-08	4.933E-08	1.427E-07	8.917E-03	1.698E-02	8.242E-05	2.454E-05	8.989E-06
ENDOST	1.699E-07	5.766E-07	1.761E-09	9.365E-09	3.503E-08	1.138E-07	8.917E-03	1.036E 03	5.618E-05	2.001E-05	6.051E-06
SPLEEN	3.308E-07	1.197E-06	2.329E-08	1.385E-08	5.555E-08	8.511E-08	8.917E-03	3.911E-03	7.181E-05	1.555E-04	14.1
TESTES	5.612E-09	2.398E-08	3.330E-10	4.320E-09	2.092E-08	1.679E-07	8.917E-03	5.074E-03	1.085E-05	3.503E-06	9.289E-07
THYMUS	5.778E-07	2.154E-06	1.164E-09	1.319E-09	7.101E-09	6.761E-09	8.917E-03	4.170E-03	7.355E-05	4.839E-06	4.410E-06
THYROID	1.505E-07	5.925E-07	4.126E-10	4.723E-10	2.526E-09	2.797E-09	8.917E-03	2.989E-03	1.554E-05	2.400E-06	1.327E-06
UTERUS	2.455E-08	1.014E-07	2.334E-09	8.004E-08	2.033E-07	5.026E-07	8.917E-03	3.290E-03	3.711E-05	1.785E-05	4.338E-06

DOSE EQUIVALENT (REM/MICROCURIE)

SOURCE	TESTES	OVARIES	OTHER	TOTAL
TARGET				
LUNGS	4.644E-08	7.236E-08	1.774E-03	0.583
RES LYM	4.644E-08	7.236E-08	1.774E-03	9.55
S WALL	1.774E-07	4.138E-07	1.967E-03	1.458E-02
SI WALL	7.667E-07	4.731E-06	2.084E-03	1.639E-02
ULI WALL	7.448E-07	4.497E-06	2.161E-03	2.065E-02
LLI WALL	3.569E-06	5.905E-06	2.305E-03	3.253E-02
T BODY	6.984E-03	2.193E-03	6.778	60.6
ADREN	1.308E-07	2.304E-07	14.1	14.1
BL WALL	6.312E-06	2.674E-06	7.03	7.04
KIDNEYS	1.928E-07	4.856E-07	2.005E-03	22.8
LIVER	1.439E-07	2.921E-07	1.522E-03	13.9
OVARIES	0.0	14.0	2.657E-03	14.0
PANCREAS	1.914E-07	2.382E-07	14.1	14.1
BONE	9.305E-07	4.093E-07	2.384E-03	747.
R MAR	7.523E-07	1.327E-06	14.1	107.
Y MAR	4.370E-07	5.386E-07	14.1	14.1
ENDOST	9.305E-07	4.093E-07	7.695E-03	1.036E 03
SPLEEN	1.721E-07	3.115E-07	1.980E-03	14.1
TESTES	14.0	0.0	1.813E-03	14.0
THYMUS	3.316E-08	3.648E-08	14.1	14.1
THYROID	1.505E-08	1.468E-08	14.1	14.1
UTERUS	0.0	7.313E-06	14.1	14.1

PERCENT DOSE EQUIVALENT..

NUCLIDE	U-232	TH-228	RA-224	RN-220	PO-216	PB-212	BI-212	PO-212	TL-208
TARGET									
LUNGS	91.4	3.6	2.5	0.4	0.4	0.1	0.3	0.3	0.9
RES LYM	70.5	5.9	5.9	5.3	5.7	0.0	1.9	4.7	0.1
S WALL	63.7	0.4	0.6	0.0	0.0	3.8	4.5	0.0	26.9
SI WALL	59.8	0.4	0.6	0.0	0.0	4.2	5.1	0.0	29.7
ULI WALL	68.5	0.4	0.6	0.1	0.1	3.7	4.0	0.0	23.1
LLI WALL	75.7	0.9	0.5	0.1	0.1	2.7	3.1	0.1	17.2
T BODY	27.1	26.7	16.3	8.9	9.6	0.0	3.2	8.2	0.0
ADREN	39.1	38.6	9.4	3.8	4.1	0.0	1.4	3.5	0.1
BL WALL	39.1	38.6	9.4	3.8	4.1	0.0	1.4	3.5	0.1
KIDNEYS	39.5	38.4	9.4	3.9	4.2	0.0	1.3	3.3	0.0
LIVER	39.3	38.3	9.3	3.9	4.2	0.0	1.3	3.4	0.1
OVARIES	39.5	38.9	9.5	3.6	3.9	0.0	1.3	3.3	0.1
PANCREAS	39.1	38.6	9.4	3.8	4.1	0.0	1.4	3.5	0.1
BONE	25.4	25.1	17.3	9.6	10.4	0.0	3.4	8.8	0.0
R MAR	5.6	34.1	21.2	11.6	12.6	0.0	4.2	10.7	0.0
Y MAR	39.1	38.6	9.4	3.8	4.1	0.0	1.4	3.5	0.1
ENDOST	1.7	39.1	24.8	11.7	11.2	0.0	6.1	9.5	0.0
SPLEEN	39.0	38.5	9.4	3.9	4.2	0.0	1.4	3.5	0.0
TESTES	39.4	39.0	9.5	3.6	3.9	0.0	1.3	3.3	0.1
THYMUS	39.1	38.6	9.4	3.8	4.1	0.0	1.4	3.5	0.1
THYROID	39.1	38.6	9.4	3.8	4.1	0.0	1.4	3.5	0.0
UTERUS	39.1	38.6	9.4	3.8	4.1	0.0	1.4	3.5	0.1

CASE 4.. INGESTION

INGESTION TRANSFER FRACTIONS (G. I. TRACT TO BLOOD)

	U-232	TH-228	RA-224	RN-220	PO-216	PB-212	BI-212	PO-212	TL-208
STOMACH	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
S INT	2.000E-03	1.000E-03	0.200	0.0	1.000E-01	8.000E-02	5.000E-02	1.000E-01	0.950
U L INT	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
L L INT	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

DOSE EQUIVALENT (REM/MICROCURIE)

SOURCE	S CONT	SI CONT	ULI CONT	LLI CONT	EXCRET.	BONE	LIVER	KIDNEYS	SPLEEN	TESTES	OVARIES
TARGET											
LUNGS	5.001E-09	1.486E-09	7.579E-09	1.279E-08	3.654E-05	2.221E-05	7.009E-07	7.727E-08	6.744E-08	1.903E-10	2.965E-10
RES LYM	5.001E-09	1.486E-09	7.579E-09	1.279E-08	3.654E-05	2.221E-05	7.009E-07	7.727E-08	6.744E-08	1.903E-10	2.965E-10
S WALL	2.329E-03	5.171E-08	2.568E-07	1.893E-07	3.654E-05	1.286E-05	5.863E-07	2.701E-07	2.858E-07	7.267E-10	1.696E-09
SI WALL	6.877E-09	5.806E-03	2.093E-06	2.477E-06	3.654E-05	1.769E-05	4.689E-07	2.209E-07	4.324E-08	3.142E-09	1.939E-08
ULI WALL	1.213E-08	6.472E-06	3.437E-02	1.893E-06	3.654E-05	1.661E-05	6.930E-07	2.135E-07	4.422E-08	3.052E-09	1.843E-08
LLI WALL	2.505E-09	6.557E-07	2.508E-07	0.104	3.654E-05	2.159E-05	9.995E-08	7.513E-08	2.180E-08	1.463E-08	2.419E-08
T BODY	5.042E-06	5.324E-05	1.039E-04	2.385E-04	4.702E-05	0.219	1.462E-03	4.131E-04	1.483E-04	2.862E-05	8.984E-06
ADREN	6.002E-09	7.352E-09	2.840E-08	3.962E-08	3.654E-05	3.251E-05	1.571E-06	9.082E-07	1.912E-07	5.357E-10	9.438E-10
BL WALL	4.502E-10	2.173E-08	6.547E-08	6.801E-07	3.654E-05	1.392E-05	8.590E-08	3.509E-08	8.429E-09	2.586E-08	1.096E-08
KIDNEYS	7.878E-09	2.707E-08	9.188E-08	9.179E-08	3.654E-05	2.007E-05	1.080E-06	9.331E-02	2.529E-07	7.899E-10	1.990E-09
LIVER	5.252E-09	1.904E-08	9.459E-08	3.000E-08	3.654E-05	1.729E-05	5.681E-02	3.042E-07	3.351E-08	5.895E-10	1.197E-09
OVARIES	1.134E-09	3.580E-07	1.566E-06	6.353E-06	3.654E-05	2.065E-05	1.797E-07	8.511E-08	1.236E-08	0.0	5.720E-02
PANCREAS	8.418E-08	1.705E-08	7.002E-08	6.947E-08	3.654E-05	2.239E-05	1.133E-06	4.750E-07	5.469E-07	7.843E-10	9.758E-10
BONE	2.501E-09	2.050E-08	5.205E-08	2.418E-07	1.831E-04	3.06	2.297E-07	8.199E-08	2.480E-08	3.812E-09	1.677E-09
R MAR	4.047E-09	7.765E-08	1.838E-07	8.507E-07	3.654E-05	0.379	3.288E-07	2.047E-07	3.640E-08	3.082E-09	5.436E-09
Y MAR	3.576E-09	2.900E-08	7.488E-08	3.165E-07	3.654E-05	6.958E-05	3.370E-07	1.005E-07	3.683E-08	1.791E-09	2.207E-09
ENDOST	2.501E-09	2.050E-08	5.205E-08	2.418E-07	3.654E-05	4.25	2.297E-07	8.199E-08	2.480E-08	3.812E-09	1.677E-09
SPLEEN	2.588E-08	1.199E-08	4.601E-08	9.130E-08	3.654E-05	1.602E-05	2.936E-07	6.370E-07	5.764E-02	7.053E-10	1.276E-09
TESTES	7.296E-11	1.947E-09	7.934E-09	1.955E-07	3.654E-05	2.079E-05	4.436E-08	1.435E-08	3.806E-09	5.724E-02	0.0
THYMUS	6.669E-10	4.361E-10	2.527E-09	5.063E-09	3.654E-05	1.709E-05	3.007E-07	1.982E-08	1.807E-08	1.359E-10	1.495E-10
THYROID	1.172E-10	7.543E-11	5.416E-10	1.924E-09	3.654E-05	1.225E-05	6.352E-08	9.833E-09	5.438E-09	6.167E-11	6.017E-11
UTERUS	1.259E-09	1.218E-07	1.867E-07	6.873E-07	3.654E-05	1.348E-05	1.517E-07	7.311E-08	1.778E-08	0.0	2.996E-08

DOSE EQUIVALENT (REM/MICROCURIE)

SOURCE	OTHER	TOTAL
TARGET		
LUNGS	7.270E-06	6.689E-05
RES LYM	7.270E-06	6.689E-05
S WALL	7.652E-06	2.388E-03
SI WALL	8.538E-06	5.874E-03
ULI WALL	8.857E-06	3.444E-02
LLI WALL	9.444E-06	0.104
T BODY	2.778E-02	0.249
ADREN	5.760E-02	5.767E-02
BL WALL	2.881E-02	2.886E-02
KIDNEYS	8.216E-06	9.337E-02
LIVER	6.237E-06	5.687E-02
OVARIES	1.089E-05	5.728E-02
PANCREAS	5.760E-02	5.766E-02
BONE	9.767E-06	3.06
R MAR	5.759E-02	0.437
Y MAR	5.760E-02	5.770E-02
ENDOST	3.153E-05	4.25
SPLEEN	8.111E-06	5.770E-02
TESTES	7.430E-06	5.731E-02
THYMUS	5.761E-02	5.766E-02
THYROID	5.759E-02	5.764E-02
UTERUS	5.761E-02	5.766E-02

PERCENT DOSE EQUIVALENT..

NUCLIDE	U-232	TH-228	RA-224	RN-220	PO-216	PB-212	BI-212	PO-212	TL-208
TARGET									
LUNGS	54.8	0.5	0.7	0.0	0.0	4.8	5.6	0.0	33.5
RES LYM	54.8	0.5	0.7	0.0	0.0	4.8	5.6	0.0	33.5
S WALL	99.1	0.0	0.0	0.0	0.0	0.1	0.1	0.0	0.7
SI WALL	99.5	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.3
ULI WALL	99.8	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.1
LLI WALL	99.6	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0
T BODY	27.2	26.6	16.3	8.9	9.6	0.0	3.2	8.2	0.0
ADREN	39.1	38.6	9.4	3.8	4.1	0.0	1.4	3.5	0.1
BL WALL	39.1	38.6	9.4	3.8	4.1	0.0	1.4	3.5	0.1
KIDNEYS	39.5	38.4	9.4	3.9	4.2	0.0	1.3	3.3	0.0
LIVER	39.6	38.3	9.3	3.9	4.2	0.0	1.3	3.4	0.1
OVARIES	39.5	38.9	9.5	3.6	3.9	0.0	1.3	3.3	0.1
PANCREAS	39.1	38.6	9.4	3.8	4.1	0.0	1.4	3.5	0.1
BONE	25.4	25.1	17.3	9.6	10.4	0.0	3.4	8.8	0.0
R MAR	5.6	34.1	21.2	11.6	12.6	0.0	4.1	10.7	0.0
Y MAR	39.1	38.6	9.4	3.8	4.1	0.0	1.4	3.5	0.1
ENDOST	1.7	39.1	24.8	11.7	11.2	0.0	6.1	5.5	0.0
SPLEEN	39.0	38.5	9.4	3.9	4.2	0.0	1.4	3.5	0.0
TESTES	39.4	39.0	9.5	3.6	3.9	0.0	1.3	3.3	0.1
THYMUS	39.1	38.6	9.4	3.8	4.1	0.0	1.4	3.5	0.1
THYROID	39.1	38.6	9.4	3.8	4.1	0.0	1.4	3.5	0.0
UTERUS	39.1	38.6	9.4	3.8	4.1	0.0	1.4	3.5	0.1

CASE 5.. INGESTION

INGESTION TRANSFER FRACTIONS (G. I. TRACT TO BLOOD)

	U-232	TH-228	RA-224	RN-220	PO-216	PB-212	BI-212	PO-212	TL-208
STOMACH	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
S INT	5.000E-02	1.000E-03	0.200	0.0	1.000E-01	8.000E-02	5.000E-02	1.000E-01	0.950
U L INT	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
L L INT	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

DOSE EQUIVALENT (REM/MICROCURIE)

SOURCE	S CONT	SI CONT	ULI CONT	LLI CONT	EXCRET.	BONE	LIVER	KIDNEYS	SPLEEN	TESTES	OVARIES
TARGET											
LUNGS	5.001E-09	1.415E-09	7.220E-09	1.220E-08	9.134E-04	5.550E-04	1.741E-05	1.931E-06	1.686E-06	4.756E-09	7.410E-09
RES LYM	5.001E-09	1.415E-09	7.220E-09	1.220E-08	9.134E-04	5.550E-04	1.741E-05	1.931E-06	1.686E-06	4.756E-09	7.410E-09
S WALL	2.329E-03	4.922E-08	2.445E-07	1.804E-07	9.134E-04	3.213E-04	1.457E-05	6.748E-06	7.145E-06	1.816E-08	4.238E-08
SI WALL	6.877E-09	5.527E-03	1.993E-06	2.359E-06	9.134E-04	4.420E-04	1.165E-05	5.520E-06	1.081E-06	7.852E-08	4.845E-07
ULI WALL	1.213E-08	6.161E-06	3.271E-02	1.802E-06	9.134E-04	4.151E-04	1.722E-05	5.335E-06	1.105E-06	7.627E-08	4.605E-07
LLI WALL	2.505E-09	6.242E-07	2.388E-07	9.915E-02	9.134E-04	5.396E-04	2.483E-06	1.877E-06	5.450E-07	3.655E-07	6.047E-07
T BODY	5.042E-06	5.068E-05	9.892E-05	2.270E-04	1.175E-03	5.46	3.640E-02	1.032E-02	3.707E-03	7.153E-04	2.246E-04
ADREN	6.002E-09	6.999E-09	2.705E-08	3.775E-08	9.134E-04	8.124E-04	3.904E-05	2.269E-05	4.780E-06	1.339E-08	2.359E-08
BL WALL	4.502E-10	2.069E-08	6.235E-08	6.479E-07	9.134E-04	3.479E-04	2.134E-06	8.769E-07	2.107E-07	6.463E-07	2.738E-07
KIDNEYS	7.878E-09	2.577E-08	8.750E-08	8.746E-08	9.134E-04	5.015E-04	2.684E-05	2.33	6.321E-06	1.974E-08	4.973E-08
LIVER	5.252E-09	1.812E-08	9.007E-08	2.859E-08	9.134E-04	4.322E-04	1.41	7.601E-06	3.377E-07	1.473E-08	2.991E-08
OVARIES	1.134E-09	3.408E-07	1.491E-06	6.048E-06	9.134E-04	5.161E-04	4.464E-06	2.127E-06	3.090E-07	0.0	1.43
PANCREAS	8.418E-08	1.623E-08	6.669E-08	6.620E-08	9.134E-04	5.597E-04	2.814E-05	1.187E-05	1.367E-05	1.960E-08	2.439E-08
BONE	2.501E-09	1.952E-08	4.955E-08	2.302E-07	4.579E-03	76.5	5.706E-06	2.049E-06	6.199E-07	9.529E-08	4.192E-08
R MAR	4.047E-09	7.392E-08	1.750E-07	8.100E-07	9.134E-04	9.48	8.169E-06	5.116E-06	9.098E-07	7.704E-08	1.359E-07
Y MAR	3.576E-09	2.761E-08	7.130E-08	3.014E-07	9.134E-04	1.739E-03	8.372E-06	2.512E-06	9.208E-07	4.475E-08	5.515E-08
ENDOST	2.501E-09	1.952E-08	4.955E-08	2.302E-07	9.134E-04	106.	5.706E-06	2.049E-06	6.199E-07	9.529E-08	4.192E-08
SPLEEN	2.588E-08	1.141E-08	4.381E-08	8.700E-08	9.134E-04	4.004E-04	7.294E-06	1.592E-05	1.44	1.763E-08	3.190E-08
TESTES	7.296E-11	1.854E-09	7.560E-09	1.863E-07	9.134E-04	5.195E-04	1.102E-06	3.586E-07	9.515E-08	1.43	0.0
THYMUS	6.669E-10	4.152E-10	2.408E-09	4.827E-09	9.134E-04	4.270E-04	7.471E-06	4.954E-07	4.517E-07	3.396E-09	3.736E-09
THYROID	1.172E-10	7.182E-11	5.165E-10	1.835E-09	9.134E-04	3.061E-04	1.578E-06	2.457E-07	1.359E-07	1.541E-09	1.504E-09
UTERUS	1.259E-09	1.159E-07	1.777E-07	6.547E-07	9.134E-04	3.369E-04	3.769E-06	1.827E-06	4.444E-07	0.0	7.489E-07

DOSE EQUIVALENT (REM/MICROCURIE)

SOURCE	OTHER	TOTAL
TARGET		
LUNGS	1.817E-04	1.671E-03
RES LYM	1.817E-04	1.671E-03
S WALL	1.913E-04	3.784E-03
SI WALL	2.134E-04	7.119E-03
ULI WALL	2.214E-04	3.429E-02
LLI WALL	2.361E-04	0.101
T BODY	0.695	6.21
ADREN	1.44	1.44
BL WALL	0.720	0.722
KIDNEYS	2.054E-04	2.33
LIVER	1.559E-04	1.42
OVARIES	2.722E-04	1.43
PANCREAS	1.44	1.44
BONE	2.442E-04	76.5
R MAR	1.44	10.9
Y MAR	1.44	1.44
ENDOST	7.882E-04	106.
SPLEEN	2.028E-04	1.44
TESTES	1.857E-04	1.43
THYMUS	1.44	1.44
THYROID	1.44	1.44
UTERUS	1.44	1.44

PERCENT DOSE EQUIVALENT..

NUCLIDE	U-232	TH-228	RA-224	RN-220	PO-216	PB-212	BI-212	PO-212	TL-208
TARGET									
LUNGS	54.8	0.5	0.7	0.0	0.0	4.8	5.6	0.0	33.5
RES LYM	54.8	0.5	0.7	0.0	0.0	4.8	5.6	0.0	33.5
S WALL	85.7	0.2	0.2	0.0	0.0	1.5	1.8	0.0	10.6
SI WALL	90.5	0.1	0.2	0.0	0.0	1.0	1.2	0.0	7.0
ULI WALL	98.0	0.1	0.0	0.0	0.0	0.2	0.2	0.0	1.4
LLI WALL	98.9	0.2	0.0	0.0	0.0	0.1	0.1	0.0	0.6
T BODY	27.1	26.7	16.3	8.9	9.6	0.0	3.2	8.2	0.0
ADREN	39.1	38.6	9.4	3.8	4.1	0.0	1.4	3.5	0.1
BL WALL	39.1	38.6	9.4	3.8	4.1	0.0	1.4	3.5	0.1
KIDNEYS	39.6	38.4	9.3	3.9	4.2	0.0	1.3	3.3	0.0
LIVER	39.7	38.2	9.3	3.8	4.2	0.0	1.3	3.4	0.1
OVARIES	39.5	38.9	9.5	3.6	3.9	0.0	1.3	3.3	0.1
PANCREAS	39.1	38.6	9.4	3.8	4.1	0.0	1.4	3.5	0.1
BONE	25.4	25.1	17.3	9.6	10.4	0.0	3.4	8.8	0.0
R MAR	5.6	34.1	21.2	11.6	12.6	0.0	4.1	10.6	0.0
Y MAR	39.1	38.6	9.4	3.8	4.1	0.0	1.4	3.5	0.1
ENDOST	1.7	39.1	24.8	11.7	11.2	0.0	6.1	5.5	0.0
SPLEEN	39.0	38.5	9.4	3.9	4.2	0.0	1.4	3.5	0.0
TESTES	39.5	39.0	9.5	3.6	3.9	0.0	1.3	3.3	0.1
THYMUS	39.1	38.6	9.4	3.8	4.1	0.0	1.4	3.5	0.1
THYROID	39.1	38.6	9.4	3.8	4.1	0.0	1.4	3.5	0.0
UTERUS	39.1	38.6	9.4	3.8	4.1	0.0	1.4	3.5	0.1

CASE 6.. INGESTION

INGESTION TRANSFER FRACTIONS (G. I. TRACT TO BLOOD)

	U-232	TH-228	RA-224	RN-220	PO-216	PB-212	BI-212	PO-212	TL-208
STOMACH	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
S INT	0.200	1.000E-03	0.200	0.0	1.000E-01	8.000E-02	5.000E-02	1.000E-01	0.950
U L INT	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
L L INT	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

DOSE EQUIVALENT (REM)

SOURCE	S CONT	SI CONT	ULI CONT	LLI CONT	EXCRET.	BONE	LIVER	KIDNEYS	SPLEEN	TESTES	OVARIES
TARGET											
LUNGS	5.001E-09	1.192E-09	6.099E-09	1.032E-08	3.654E-03	2.220E-03	6.964E-05	7.723E-06	6.744E-06	1.902E-08	2.964E-08
RES LYM	5.001E-09	1.192E-09	6.099E-09	1.032E-08	3.654E-03	2.220E-03	6.964E-05	7.723E-06	6.744E-06	1.902E-08	2.964E-08
S WALL	2.329E-03	4.146E-08	2.060E-07	1.524E-07	3.654E-03	1.285E-03	5.825E-05	2.699E-05	2.858E-05	7.265E-08	1.695E-07
SI WALL	6.877E-09	4.654E-03	1.679E-06	1.089E-06	3.654E-03	1.766E-03	4.659E-05	2.208E-05	4.323E-06	3.141E-07	1.938E-06
ULI WALL	1.213E-08	5.188E-06	2.755E-02	1.519E-06	3.654E-03	1.661E-03	6.885E-05	2.134E-05	4.422E-06	3.051E-07	1.842E-06
LLI WALL	2.505E-09	5.256E-07	2.012E-07	9.350E-02	3.654E-03	2.159E-03	9.930E-06	7.509E-06	2.180E-06	1.462E-06	2.419E-06
T BODY	5.042E-06	4.268E-05	8.330E-05	1.012E-04	4.702E-03	21.8	0.146	4.130E-02	1.483E-02	2.861E-03	8.983E-04
ADREN	6.002E-09	5.896E-09	2.287E-08	3.193E-08	3.654E-03	3.249E-03	1.561E-04	9.077E-05	1.912E-05	5.356E-08	9.436E-08
BL WALL	4.502E-10	1.743E-08	5.261E-08	5.472E-07	3.654E-03	1.392E-03	8.535E-06	3.507E-06	8.428E-07	2.585E-06	1.095E-06
KIDNEYS	7.878E-09	2.170E-08	7.381E-08	7.394E-08	3.654E-03	2.006E-03	1.073E-04	9.33	2.526E-05	7.897E-08	1.989E-07
LIVER	5.252E-09	1.526E-08	7.597E-08	2.419E-08	3.654E-03	1.729E-03	5.66	3.049E-05	3.351E-06	5.894E-08	1.196E-07
OVARIES	1.134E-09	2.870E-07	1.256E-06	5.098E-06	3.654E-03	2.065E-03	1.785E-05	8.506E-06	1.236E-06	0.0	5.72
PANCREAS	8.418E-08	1.367E-08	5.627E-08	5.895E-08	3.654E-03	2.239E-03	1.125E-04	4.747E-05	5.469E-05	7.841E-08	9.756E-08
BONE	2.501E-09	1.644E-08	4.177E-08	1.042E-07	1.831E-02	306.	2.282E-05	8.194E-06	2.479E-06	3.811E-07	1.677E-07
R MAR	4.047E-09	6.225E-08	1.475E-07	6.830E-07	3.654E-03	37.9	3.267E-05	2.046E-05	3.639E-06	3.082E-07	5.435E-07
Y MAR	3.576E-09	2.325E-08	6.002E-08	2.542E-07	3.654E-03	6.956E-03	3.348E-05	1.005E-05	3.683E-06	1.790E-07	2.206E-07
ENDOST	2.501E-09	1.644E-08	4.177E-08	1.042E-07	3.654E-03	424.	2.282E-05	8.194E-06	2.479E-06	3.811E-07	1.677E-07
SPLEEN	2.588E-08	9.613E-09	3.696E-08	7.354E-08	3.654E-03	1.602E-03	2.917E-05	6.366E-05	5.76	7.051E-08	1.276E-07
TESTES	7.296E-11	1.562E-09	6.392E-09	1.574E-07	3.654E-03	2.078E-03	4.408E-06	1.434E-06	3.806E-07	5.72	0.0
THYMUS	6.669E-10	3.498E-10	2.036E-09	4.089E-09	3.654E-03	1.708E-03	2.988E-05	1.981E-06	1.807E-06	1.358E-08	1.494E-08
THYROID	1.172E-10	6.055E-11	4.383E-10	1.555E-09	3.654E-03	1.224E-03	6.311E-06	9.827E-07	5.437E-07	6.165E-09	6.015E-09
UTERUS	1.259E-09	9.764E-08	1.499E-07	5.529E-07	3.654E-03	1.348E-03	1.507E-05	7.307E-06	1.777E-06	0.0	2.995E-06

DOSE EQUIVALENT (REM)

SOURCE	OTHER	TOTAL
TARGET		
LUNGS	7.269E-04	6.685E-03
RES LYM	7.269E-04	6.685E-03
S WALL	7.651E-04	8.148E-03
SI WALL	8.537E-04	1.101E-02
ULI WALL	8.856E-04	3.385E-02
LLI WALL	9.443E-04	9.028E-02
T BODY	2.78	24.8
ADREN	5.76	6.77
BL WALL	2.88	3.89
KIDNEYS	8.215E-04	9.33
LIVER	6.237E-04	5.67
OVARIES	1.089E-03	5.73
PANCREAS	5.76	6.77
BONE	9.766E-04	306.
R MAR	5.76	43.7
Y MAR	5.76	6.77
ENDOST	3.153E-03	424.
SPLEEN	8.111E-04	6.77
TESTES	7.429E-04	5.73
THYMUS	5.76	5.77
THYROID	5.76	5.76
UTERUS	5.76	6.77

PERCENT DOSE EQUIVALENT..

NUCLIDE	U-232	TH-228	RA-224	RN-220	PO-216	PB-212	BI-212	PO-212	TL-208
TARGET									
LUNGS	54.9	0.5	0.7	0.0	0.0	4.8	5.6	0.0	33.5
RES LYM	54.8	0.5	0.7	0.0	0.0	4.8	5.6	0.0	33.5
S WALL	73.5	0.3	0.4	0.0	0.0	2.8	3.3	0.0	19.7
SI WALL	75.5	0.3	0.4	0.0	0.0	2.6	3.1	0.0	18.1
ULI WALL	92.1	0.2	0.1	0.0	0.0	0.8	1.0	0.0	5.8
LLI WALL	96.2	0.2	0.1	0.0	0.0	0.4	0.5	0.0	2.5
T BODY	27.1	26.7	16.3	8.9	9.5	0.0	3.2	8.2	0.0
ADREN	39.1	38.6	9.4	3.8	4.1	0.0	1.4	3.5	0.1
BL WALL	39.1	38.6	9.4	3.8	4.1	0.0	1.4	3.5	0.1
KIDNEYS	39.6	33.4	9.3	3.8	4.2	0.0	1.3	3.3	0.0
LIVER	39.7	38.2	9.3	3.8	4.2	0.0	1.3	3.4	0.1
OVARIES	39.5	38.0	9.5	3.6	3.9	0.0	1.3	3.3	0.1
PANCREAS	39.1	38.6	9.4	3.8	4.1	0.0	1.4	3.5	0.1
BONE	25.4	25.1	17.3	9.6	10.4	0.0	3.4	8.8	0.0
R MAR	5.6	34.1	21.2	11.6	12.5	0.0	4.1	10.6	0.0
Y MAR	39.1	38.6	9.4	3.8	4.1	0.0	1.4	3.5	0.1
ENDOST	1.7	30.1	24.8	11.7	11.2	0.0	6.1	5.5	0.0
SPLEEN	39.0	38.5	9.4	3.9	4.2	0.0	1.4	3.5	0.0
TESTES	39.5	39.0	9.5	3.6	3.9	0.0	1.3	3.3	0.1
THYMUS	39.1	38.6	9.4	3.8	4.1	0.0	1.4	3.5	0.1
THYROID	39.1	38.6	9.4	3.8	4.1	0.0	1.4	3.5	0.0
UTERUS	39.1	38.6	9.4	3.8	4.1	0.0	1.4	3.5	0.1

RADIONUCLIDE: U-233

PHYSICAL AND METABOLIC PARAMETERS FOR DOSIMETRICALLY SIGNIFICANT PROGENY:

NUCLIDE	RADIOACTIVE HALF-LIFE (DAYS)
U-233	5.790OE 07

ORGAN ABSORBED	NUCLIDE	BLOOD TRANSFER FRACTION F2-PRIME	COMPARTMENT DEPOSITION FRACTION	COMPARTMENT BIOLOGICAL HALF-TIME (DAYS)
		1.00	0.631	0.500
			0.120	6.00
			0.200	20.0
			5.200E-04	1.500E 03
			4.800E-02	5.000E 03
EXCRET.	U-233	0.631	1.00	0.500
BONE	U-233	0.223	0.997	20.0
			0.103	5.000E 03
LIVER	*U-233	1.250E-03	1.00	5.000E 03
KIDNEYS	U-233	0.121	0.996	6.00
			4.000E-03	1.500E 03
TESTES	*U-233	2.440E-05	1.00	5.000E 03
OVARIES	*U-233	7.650E-06	1.00	5.000E 03
OTHER	U-233	2.370E-02	1.00	5.000E 03

S FACTORS (REM/MICROCURIE-DAY) FOR U-233

TARGET ORGANS	SOURCE ORGANS												
	LUNGS	RES LYM	S CONT	SI CONT	ULI CONT	LLI CONT	EXCRET.	BONE	LIVER	KIDNEYS	TESTES	OVARIES	OTHER
LUNGS	0.255E 01	0.270E-03	0.110E-06	0.119E-07	0.147E-07	0.429E-09	0.364E-01	0.626E-07	0.226E-06	0.510E-07	0.232E-09	0.312E-08	0.263E-06
RES LYM	0.270E-03	0.170E 03	0.110E-06	0.119E-07	0.147E-07	0.429E-09	0.364E-01	0.626E-07	0.226E-06	0.510E-07	0.232E-09	0.312E-08	0.263E-06
S WALL	0.134E-06	0.134E-06	0.458E-01	0.266E-06	0.332E-06	0.102E-06	0.364E-01	0.390E-07	0.125E-06	0.212E-06	0.140E-09	0.471E-07	0.987E-07
SI WALL	0.105E-07	0.105E-07	0.168E-06	0.311E-01	0.231E-05	0.127E-05	0.364E-01	0.496E-07	0.102E-06	0.167E-06	0.189E-07	0.131E-05	0.140E-06
ULI WALL	0.124E-07	0.124E-07	0.248E-06	0.201E-04	0.565E-01	0.967E-06	0.364E-01	0.495E-07	0.157E-06	0.165E-06	0.161E-07	0.246E-05	0.247E-06
LLI WALL	0.299E-08	0.299E-08	0.659E-07	0.217E-05	0.323E-06	0.921E-01	0.364E-01	0.936E-07	0.129E-07	0.377E-07	0.155E-06	0.304E-05	0.127E-06
T BODY	0.364E-01	0.364E-01	0.107E-03	0.285E-03	0.170E-03	0.211E-03	0.469E-01	0.182E 00	0.364E-01	0.364E-01	0.364E-01	0.364E-01	0.362E-01
ADREN	0.225E-06	0.225E-06	0.166E-06	0.447E-07	0.528E-07	0.176E-07	0.364E-01	0.795E-07	0.374E-06	0.172E-05	0.144E-08	0.175E-07	0.747E-01
RL WALL	0.168E-08	0.168E-08	0.167E-07	0.149E-36	0.130E-06	0.414E-06	0.364E-01	0.306E-07	0.900E-08	0.155E-07	0.277E-06	0.423E-06	0.374E-01
KIDNEYS	0.478E-07	0.478E-07	0.200E-06	0.193E-06	0.166E-06	0.466E-07	0.364E-01	0.613E-07	0.276E-06	0.822E-01	0.186E-08	0.516E-07	0.192E-06
LIVER	0.198E-06	0.198E-06	0.129E-06	0.115E-06	0.156E-06	0.134E-07	0.364E-01	0.441E-07	0.247E-06	0.147E-01	0.151E-08	0.297E-07	0.166E-06
OVARIES	0.468E-08	0.468E-08	0.305E-07	0.137E-05	0.176E-05	0.317E-05	0.364E-01	0.421E-07	0.243E-07	0.614E-07	0.0	0.232E 03	0.387E-06
PANCREAS	0.152E-06	0.152E-06	0.149E-05	0.119E-06	0.133E-06	0.441E-07	0.364E-01	0.642E-07	0.335E-06	0.384E-06	0.259E-08	0.200E-07	0.747E-01
BONE	0.111E-06	0.111E-06	0.589E-07	0.101E-06	0.809E-07	0.137E-06	0.182E 00	0.255E 01	0.844E-07	0.103E-06	0.571E-07	0.995E-07	0.426E-06
R MAR	0.138E-06	0.138E-06	0.103E-06	0.361E-06	0.272E-06	0.468E-06	0.364E-01	0.574E-02	0.116E-06	0.271E-06	0.448E-07	0.358E-06	0.747E-01
Y MAR	0.120E-06	0.120E-06	0.826E-07	0.142E-06	0.116E-06	0.176E-36	0.364E-01	0.494E-05	0.125E-06	0.126E-06	0.205E-07	0.135E-06	0.747E-01
ENDOST	0.111E-06	0.111E-06	0.589E-07	0.101E-06	0.809E-07	0.137E-06	0.364E-01	0.228E 00	0.844E-07	0.103E-06	0.571E-07	0.995E-07	0.490E-05
SPLEEN	0.168E-06	0.168E-06	0.583E-06	0.872E-07	0.845E-07	0.468E-07	0.364E-01	0.667E-07	0.522E-07	0.821E-06	0.318E-09	0.265E-07	0.747E-01
TESTES	0.327E-09	0.327E-09	0.247E-08	0.165E-07	0.141E-07	0.942E-07	0.364E-01	0.376E-07	0.299E-08	0.431E-08	0.724E 02	0.0	0.886E-07
THYMUS	0.270E-06	0.270E-06	0.155E-07	0.393E-38	0.531E-08	0.122E-09	0.364E-01	0.470E-07	0.365E-07	0.117E-07	0.933E-10	0.117E-08	0.747E-01
THYROID	0.554E-07	0.554E-07	0.410E-08	0.639E-39	0.711E-09	0.217E-09	0.364E-01	0.488E-07	0.632E-03	0.223E-08	0.160E-10	0.192E-09	0.747E-01
UTERUS	0.425E-08	0.425E-08	0.428E-07	0.631E-06	0.326E-06	0.408E-06	0.364E-01	0.313E-07	0.221E-07	0.489E-07	0.0	0.129E-05	0.747E-01

α decay (1.585E5 Y 18)

Case 1 represents inhalation of UO_2 or U_3O_8; case 2 inhalation of UF_4 or UCl_4; case 3 inhalation of UF_6, UO_2F_2, $UO_2(NO_3)_2$, or UO_3; case 4 ingestion of U(IV) compounds; and case 5 ingestion of U(VI) compounds.

CASE 1.. INHALATION

AMAD (MICRON).. 1.00 D3 =0.310 D4 =8.000E-02 D5 =0.249

	SOLUBILITY CLASS	G.I. UPTAKE FRACTIONS STOMACH	S INT	U L INT	L L INT
U-233	Y	0.0	2.000E-03	0.0	0.0

DOSE EQUIVALENT (REM/MICROCURIE)

SOURCE	LUNGS	RES LYM	S CONT	SI CONT	ULI CONT	LLI CONT	EXCRET.	BONE	LIVER	KIDNEYS	TESTES
TARGET											
LUNGS	276.	3.130E-02	2.683E-09	1.159E-09	4.651E-09	2.506E-09	8.468E-04	5.014E-07	9.488E-08	5.448E-09	1.901E-12
RES LYM	2.919E-02	1.971E 04	2.683E-09	1.159E-09	4.651E-09	2.506E-09	8.468E-04	5.014E-07	9.488E-08	5.448E-09	1.901E-12
S WALL	1.449E-05	1.553E-05	1.214E-03	2.590E-08	1.050E-07	5.958E-08	8.468E-04	3.124E-07	5.248E-08	2.265E-08	1.147E-11
SI WALL	1.135E-06	1.217E-06	4.097E-09	3.028E-03	7.309E-07	7.418E-07	8.468E-04	3.972E-07	4.282E-08	1.784E-08	1.549E-10
ULI WALL	1.341E-06	1.437E-06	6.048E-09	1.957E-06	1.788E-02	5.648E-07	8.468E-04	3.964E-07	6.591E-08	1.763E-08	1.319E-10
LLI WALL	3.233E-07	3.466E-07	1.607E-09	2.113E-07	1.022E-07	5.380E-02	8.468E-04	7.496E-07	5.415E-09	4.027E-09	1.270E-09
T BODY	3.94	4.22	2.609E-06	2.775E-05	5.379E-05	1.233E-04	1.089E-03	1.46	1.528E-02	3.889E-03	2.983E-04
ADREN	2.433E-05	2.608E-05	4.048E-09	4.352E-09	1.671E-08	1.028E-08	8.468E-04	6.367E-07	1.570E-07	1.837E-07	1.180E-11
BL WALL	1.817E-07	1.948E-07	4.073E-10	1.451E-08	4.113E-08	2.418E-07	8.468E-04	2.451E-07	3.778E-09	1.656E-09	2.270E-09
KIDNEYS	5.168E-06	5.541E-06	4.877E-09	1.840E-08	5.252E-08	2.722E-08	8.468E-04	4.910E-07	1.159E-07	0.878	1.524E-11
LIVER	2.141E-05	2.295E-05	3.146E-09	1.120E-08	4.936E-08	7.827E-09	8.468E-04	3.532E-07	0.596	2.639E-08	1.237E-11
OVARIES	5.060E-07	5.425E-07	7.438E-10	1.334E-07	5.569E-07	1.852E-06	8.468E-04	3.372E-07	1.020E-08	6.559E-09	0.0
PANCREAS	1.644E-05	1.762E-05	3.634E-08	1.159E-08	4.208E-08	2.576E-08	8.468E-04	5.142E-07	1.406E-07	4.102E-08	2.122E-11
BONE	1.200E-05	1.287E-05	1.436E-09	9.833E-09	2.557E-08	8.002E-08	4.234E-03	20.4	3.543E-08	1.100E-08	4.679E-10
R MAR	1.492E-05	1.600E-05	2.512E-09	3.514E-08	8.606E-08	2.734E-07	8.468E-04	4.597E-02	4.870E-08	2.895E-08	3.671E-10
Y MAR	1.298E-05	1.391E-05	2.014E-09	1.382E-08	3.670E-08	1.028E-07	8.468E-04	3.236E-05	5.248E-08	1.346E-08	1.680E-10
ENDOST	1.200E-05	1.287E-05	1.436E-09	9.833E-09	2.557E-08	8.002E-08	8.468E-04	1.83	3.543E-08	1.100E-08	4.679E-10
SPLEEN	1.817E-05	1.948E-05	1.422E-08	8.489E-09	2.674E-08	2.734E-08	8.468E-04	5.342E-07	2.191E-08	8.771E-08	7.523E-12
TESTES	3.536E-08	3.791E-08	6.024E-11	1.606E-09	4.461E-09	5.502E-08	8.468E-04	3.011E-07	1.255E-09	4.604E-10	0.597
THYMUS	2.919E-05	3.130E-05	3.780E-10	3.826E-10	1.680E-09	7.126E-10	8.468E-04	3.764E-07	1.532E-08	1.250E-09	7.687E-13
THYROID	5.990E-06	6.422E-06	9.999E-11	6.221E-11	2.250E-10	1.268E-10	8.468E-04	3.908E-07	2.653E-09	2.382E-10	1.311E-13
UTERUS	4.595E-07	4.927E-07	1.044E-09	6.143E-08	1.031E-07	2.383E-07	8.468E-04	2.507E-07	9.278E-09	5.331E-09	0.0

DOSE EQUIVALENT (REM/MICROCURIE)

SOURCE	OVARIES	OTHER	TOTAL
TARGET			
LUNGS	8.016E-12	2.093E-06	276.
RES LYM	8.016E-12	2.093E-06	1.971E 04
S WALL	1.210E-10	7.856E-07	2.093E-03
SI WALL	3.366E-09	1.114E-06	3.880E-03
ULI WALL	6.320E-09	1.966E-06	1.873E-02
LLI WALL	7.810E-09	1.011E-06	5.469E-02
T BODY	9.352E-05	0.288	9.92
ADREN	4.496E-11	0.595	0.595
BL WALL	1.087E-09	0.298	0.299
KIDNEYS	1.333E-10	1.528E-06	0.879
LIVER	7.631E-11	8.437E-07	0.597
OVARIES	0.596	2.842E-06	0.597
PANCREAS	7.451E-11	0.595	0.595
BONE	2.556E-10	3.391E-06	20.4
R MAR	9.198E-10	0.595	0.641
Y MAR	3.468E-10	0.595	0.595
ENDOST	2.556E-10	3.900E-05	1.83
SPLEEN	6.808E-11	0.595	0.595
TESTES	0.0	7.052E-07	0.597
THYMUS	3.006E-12	0.595	0.595
THYROID	4.933E-13	0.595	0.595
UTERUS	3.289E-09	0.595	0.595

CASE 2.. INHALATION

AMAD (MICRON).. 1.00 D3 =0.310 D4 =8.000E-02 D5 =0.249

	SOLUBILITY CLASS	G.I. UPTAKE FRACTIONS STOMACH	S INT	U L INT	L L INT
U-233	W	0.0	5.000E-02	0.0	0.0

DOSE EQUIVALENT (REM/MICRCCURIE)

SOURCE	LUNGS	RES LYM	S CONT	SI CONT	ULI CONT	LLI CONT	EXCRET.	BONE	LIVER	KIDNEYS	TESTES
TARGET											
LUNGS	28.5	2.426E-04	2.376E-09	9.766E-10	3.921E-09	2.112E-09	2.431E-03	1.454E-06	2.752E-07	1.564E-08	5.514E-12
RES LYM	3.013E-03	153.	2.376E-09	9.766E-10	3.921E-09	2.112E-09	2.431E-03	1.454E-06	2.752E-07	1.564E-08	5.514E-12
S WALL	1.495E-06	1.204E-07	1.075E-03	2.183E-08	8.855E-08	5.022E-08	2.431E-03	9.056E-07	1.522E-07	6.503E-08	3.328E-11
SI WALL	1.172E-07	9.435E-09	3.628E-09	2.552E-03	6.161E-07	6.253E-07	2.431E-03	1.152E-06	1.242E-07	5.123E-08	4.492E-10
ULI WALL	1.384E-07	1.114E-08	5.356E-09	1.649E-06	1.507E-02	4.761E-07	2.431E-03	1.149E-06	1.912E-07	5.061E-08	3.827E-10
LLI WALL	3.336E-08	2.687E-09	1.423E-09	1.781E-07	8.615E-08	4.535E-02	2.431E-03	2.174E-06	1.571E-08	1.156E-08	3.684E-09
T BODY	0.406	3.271E-02	2.311E-06	2.339E-05	4.534E-05	1.039E-04	3.126E-03	4.23	4.432E-02	1.117E-02	8.652E-04
ADREN	2.511E-06	2.022E-07	3.585E-09	3.668E-09	1.408E-08	8.666E-09	2.431E-03	1.846E-06	4.554E-07	5.276E-07	3.423E-11
BL WALL	1.875E-08	1.510E-09	3.606E-10	1.223E-08	3.467E-08	2.038E-07	2.431E-03	7.106E-07	1.096E-08	4.755E-09	6.584E-09
KIDNEYS	5.334E-07	4.295E-08	4.319E-09	1.551E-08	4.427E-08	2.295E-08	2.431E-03	1.423E-06	3.361E-07	2.52	4.421E-11
LIVER	2.209E-06	1.779E-07	2.786E-09	9.437E-09	4.161E-08	6.598E-09	2.431E-03	1.024E-06	1.73	7.577E-08	3.589E-11
OVARIES	5.222E-08	4.206E-09	6.587E-10	1.124E-07	4.694E-07	1.561E-06	2.431E-03	9.776E-07	2.959E-08	1.883E-08	0.0
PANCREAS	1.696E-06	1.366E-07	3.218E-08	9.766E-09	3.547E-08	2.171E-08	2.431E-03	1.491E-06	4.079E-07	1.178E-07	6.156E-11
BONE	1.239E-06	9.975E-08	1.272E-09	8.288E-09	2.155E-08	6.746E-08	1.216E-02	59.2	1.028E-07	3.159E-08	1.357E-09
R MAR	1.540E-06	1.240E-07	2.224E-09	2.963E-08	7.255E-08	2.304E-07	2.431E-03	0.133	1.412E-07	8.313E-08	1.065E-09
Y MAR	1.339E-06	1.078E-07	1.784E-09	1.165E-08	3.094E-08	8.666E-08	2.431E-03	9.382E-05	1.522E-07	3.865E-08	4.873E-10
ENDOST	1.239E-06	9.975E-08	1.272E-09	8.288E-09	2.155E-08	6.746E-08	2.431E-03	5.29	1.028E-07	3.159E-08	1.357E-09
SPLEEN	1.875E-06	1.510E-07	1.259E-08	7.156E-09	2.254E-08	2.304E-08	2.431E-03	1.549E-06	6.356E-08	2.518E-07	2.182E-11
TESTES	3.649E-09	2.938E-10	5.334E-11	1.354E-09	3.761E-09	4.638E-08	2.431E-03	8.731E-07	3.641E-09	1.322E-09	1.73
THYMUS	3.013E-06	2.426E-07	3.347E-10	3.225E-10	1.416E-09	6.007E-10	2.431E-03	1.091E-06	4.444E-08	3.589E-09	2.230E-12
THYROID	6.182E-07	4.978E-08	8.854E-11	5.244E-11	1.896E-10	1.068E-10	2.431E-03	1.133E-06	7.696E-09	6.840E-10	3.803E-13
UTERUS	4.742E-08	3.819E-09	9.243E-10	5.178E-08	8.695E-08	2.009E-07	2.431E-03	7.268E-07	2.691E-08	1.531E-08	0.0

DOSE EQUIVALENT (REM/MICROCURIE)

SOURCE	OVARIES	OTHER	TOTAL
TARGET			
LUNGS	2.325E-11	6.072E-06	28.5
RES LYM	2.325E-11	6.072E-06	153.
S WALL	3.510E-10	2.279E-06	3.512E-03
SI WALL	9.762E-09	3.232E-06	4.989E-03
ULI WALL	1.833E-08	5.702E-06	1.751E-02
LLI WALL	2.265E-08	2.932E-06	4.779E-02
T BODY	2.713E-04	0.836	5.56
ADREN	1.304E-10	1.72	1.73
BL WALL	3.152E-09	0.863	0.866
KIDNEYS	3.868E-10	4.433E-06	2.52
LIVER	2.213E-10	2.447E-06	1.73
OVARIES	1.73	8.242E-06	1.73
PANCREAS	2.161E-10	1.72	1.73
BONE	7.415E-10	9.835E-06	59.2
R MAR	2.668E-09	1.72	1.86
Y MAR	1.006E-09	1.72	1.73
ENDOST	7.415E-10	1.131E-04	5.30
SPLEEN	1.975E-10	1.72	1.73
TESTES	0.0	2.045E-06	1.73
THYMUS	8.719E-12	1.72	1.73
THYROID	1.431E-12	1.72	1.73
UTERUS	9.539E-09	1.72	1.73

CASE 3.. INHALATION

AMAD (MICRON).. 1.00 D3 =0.310 D4 =8.000E-02 D5 =0.249

	SOLUBILITY CLASS	G.I. UPTAKE FRACTIONS STOMACH	S INT	U L INT	L L INT
U-233	D	0.0	5.000E-02	0.0	0.0

DOSE EQUIVALENT (REM/MICROCURIE)

SOURCE	LUNGS	RES LYM	S CONT	SI CONT	ULI CONT	LLI CONT	EXCRET.	BONE	LIVER	KIDNEYS	TESTES
TARGET											
LUNGS	0.475	9.705E-06	7.287E-10	2.996E-10	1.203E-09	6.480E-10	8.087E-03	4.835E-06	9.153E-07	5.203E-08	1.834E-11
RES LYM	5.034E-05	6.11	7.287E-10	2.996E-10	1.203E-09	6.480E-10	8.087E-03	4.835E-06	9.153E-07	5.203E-08	1.834E-11
S WALL	2.498E-08	4.817E-09	3.299E-04	6.696E-09	2.716E-08	1.541E-08	8.087E-03	3.012E-06	5.063E-07	2.163E-07	1.107E-10
SI WALL	1.958E-09	3.774E-10	1.113E-09	7.829E-04	1.890E-07	1.918E-07	8.087E-03	3.831E-06	4.131E-07	1.704E-07	1.494E-09
ULI WALL	2.312E-09	4.457E-10	1.643E-09	5.060E-07	4.622E-03	1.461E-07	8.087E-03	3.823E-06	6.359E-07	1.683E-07	1.273E-09
LLI WALL	5.575E-10	1.075E-10	4.366E-10	5.463E-08	2.643E-08	1.391E-02	8.087E-03	7.230E-06	5.225E-08	3.846E-08	1.225E-08
T BODY	6.787E-03	1.308E-03	7.088E-07	7.174E-06	1.391E-05	3.187E-05	1.040E-02	14.1	0.147	3.714E-02	2.878E-03
ADREN	4.195E-08	8.088E-09	1.100E-09	1.125E-09	4.320E-09	2.658E-09	8.087E-03	6.140E-06	1.515E-06	1.755E-06	1.138E-10
BL WALL	3.132E-10	6.039E-11	1.106E-10	3.751E-09	1.064E-08	6.253E-08	8.087E-03	2.364E-06	3.645E-08	1.581E-08	2.190E-08
KIDNEYS	8.912E-09	1.718E-09	1.325E-09	4.758E-09	1.358E-08	7.038E-09	8.087E-03	4.735E-06	1.118E-06	8.39	1.479E-10
LIVER	3.692E-08	7.117E-09	8.546E-10	2.895E-09	1.276E-08	2.024E-09	8.087E-03	3.406E-06	5.75	2.520E-07	1.194E-10
OVARIES	8.726E-10	1.682E-10	2.020E-10	3.449E-08	1.440E-07	4.788E-07	8.087E-03	3.252E-06	9.842E-08	6.264E-08	0.0
PANCREAS	2.834E-08	5.464E-09	9.871E-09	2.996E-09	1.088E-08	6.661E-09	8.087E-03	4.959E-06	1.357E-06	3.918E-07	2.048E-10
BONE	2.070E-08	3.990E-09	3.902E-10	2.542E-09	6.611E-09	2.069E-08	4.043E-02	197.	3.418E-07	1.051E-07	4.514E-09
R MAR	2.573E-08	4.960E-09	6.823E-10	9.088E-09	2.225E-08	7.069E-08	8.087E-03	0.443	4.698E-07	2.765E-07	3.542E-09
Y MAR	2.237E-08	4.313E-09	5.472E-10	3.575E-09	9.490E-09	2.658E-08	8.087E-03	3.120E-04	5.063E-07	1.286E-07	1.621E-09
ENDOST	2.070E-08	3.990E-09	3.902E-10	2.542E-09	6.611E-09	2.069E-08	8.087E-03	17.6	3.418E-07	1.051E-07	4.514E-09
SPLEEN	3.132E-08	6.039E-09	3.862E-09	2.195E-09	6.913E-09	7.069E-09	8.087E-03	5.152E-06	2.114E-07	8.376E-07	7.258E-11
TESTES	6.097E-11	1.175E-11	1.636E-11	4.154E-10	1.154E-09	1.423E-08	8.087E-03	2.904E-06	1.211E-08	4.397E-09	5.76
THYMUS	5.034E-08	9.705E-09	1.027E-10	9.893E-11	4.344E-10	1.843E-10	8.087E-03	3.630E-06	1.478E-07	1.194E-08	7.416E-12
THYROID	1.033E-08	1.991E-09	2.716E-11	1.609E-11	5.817E-11	3.278E-11	8.087E-03	3.769E-06	2.560E-08	2.275E-09	1.265E-12
UTERUS	7.924E-10	1.528E-10	2.835E-10	1.588E-09	2.667E-08	6.162E-09	8.087E-03	2.418E-06	8.951E-08	5.091E-08	0.0

DOSE EQUIVALENT (REM/MICROCURIE)

SOURCE	OVARIES	OTHER	TOTAL
TARGET			
LUNGS	7.733E-11	2.020E-05	0.484
RES LYM	7.733E-11	2.020E-05	6.12
S WALL	1.167E-09	7.579E-06	8.428E-03
SI WALL	3.247E-08	1.075E-05	8.885E-03
ULI WALL	6.098E-08	1.897E-05	1.273E-02
LLI WALL	7.535E-08	9.752E-06	2.201E-02
T BODY	9.022E-04	2.78	17.0
ADREN	4.338E-10	5.74	5.74
BL WALL	1.048E-08	2.87	2.88
KIDNEYS	1.286E-09	1.474E-05	8.39
LIVER	7.362E-10	8.140E-06	5.76
OVARIES	5.75	2.741E-05	5.76
PANCREAS	7.188E-10	5.74	5.74
BONE	2.466E-09	3.271E-05	197.
R MAR	8.874E-09	5.74	6.19
Y MAR	3.346E-09	5.74	5.74
ENDOST	2.466E-09	3.763E-04	17.6
SPLEEN	6.568E-10	5.74	5.74
TESTES	0.0	6.804E-06	5.76
THYMUS	2.900E-11	5.74	5.74
THYROID	4.759E-12	5.74	5.74
UTERUS	3.173E-08	5.74	5.74

CASE 4.. INGESTION

INGESTION TRANSFER FRACTIONS (G. I. TRACT TO BLOOD)

	U-233
STOMACH	0.0
S INT	2.000E-03
U L INT	0.0
L L INT	0.0

DOSE EQUIVALENT (REM/MICROCURIE)

SOURCE	S CONT	SI CONT	ULI CONT	LLI CONT	EXCRET.	BONE	LIVER	KIDNEYS	TESTES	OVARIES	OTHER
TARGET											
LUNGS	4.583E-09	1.979E-09	7.947E-09	4.281E-09	3.314E-05	1.981E-08	3.751E-09	2.132E-10	7.516E-14	3.169E-13	8.276E-08
RES LYM	4.583E-09	1.979E-09	7.947E-09	4.281E-09	3.314E-05	1.981E-08	3.751E-09	2.132E-10	7.516E-14	3.169E-13	8.276E-08
S WALL	2.075E-03	4.424E-08	1.795E-07	1.018E-07	3.314E-05	1.234E-08	2.074E-09	8.863E-10	4.535E-13	4.784E-12	3.106E-08
SI WALL	7.000E-09	5.173E-03	1.249E-06	1.267E-06	3.314E-05	1.570E-08	1.693E-09	6.982E-10	6.123E-12	1.331E-10	4.405E-08
ULI WALL	1.033E-08	3.343E-06	3.054E-02	9.651E-07	3.314E-05	1.567E-08	2.606E-09	6.898E-10	5.216E-12	2.499E-10	7.772E-08
LLI WALL	2.746E-09	3.609E-07	1.746E-07	9.192E-02	3.314E-05	2.962E-08	2.141E-10	1.576E-10	5.021E-11	3.088E-10	3.996E-08
T BODY	4.458E-06	4.740E-05	9.190E-05	2.106E-04	4.260E-05	5.760E-02	6.041E-04	1.522E-04	1.179E-05	3.697E-06	1.139E-02
ADREN	6.917E-09	7.435E-09	2.854E-08	1.756E-08	3.314E-05	2.516E-08	6.207E-09	7.191E-09	4.665E-13	1.777E-12	2.351E-02
BL WALL	6.958E-10	2.478E-08	7.028E-08	4.132E-07	3.314E-05	9.685E-09	1.494E-10	6.480E-11	8.973E-11	4.296E-11	1.177E-02
KIDNEYS	8.333E-09	3.144E-08	8.974E-08	4.651E-08	3.314E-05	1.940E-08	4.580E-09	3.437E-02	6.026E-13	5.271E-12	6.041E-08
LIVER	5.375E-09	1.913E-08	8.433E-08	1.337E-08	3.314E-05	1.396E-08	2.357E-02	1.033E-09	4.892E-13	3.017E-12	3.335E-08
OVARIES	1.271E-09	2.279E-07	9.514E-07	3.164E-06	3.314E-05	1.332E-08	4.033E-10	2.567E-10	0.0	2.356E-02	1.123E-07
PANCREAS	6.208E-08	1.979E-08	7.190E-08	4.401E-08	3.314E-05	2.032E-08	5.560E-09	1.605E-09	8.390E-13	2.945E-12	2.351E-02
BONE	2.454E-09	1.680E-08	4.368E-08	1.367E-07	1.657E-04	0.807	1.401E-09	4.306E-10	1.850E-11	1.011E-11	1.340E-07
R MAR	4.292E-09	6.005E-08	1.470E-07	4.671E-07	3.314E-05	1.817E-03	1.925E-09	1.133E-09	1.451E-11	3.636E-11	2.351E-02
Y MAR	3.442E-09	2.362E-08	6.271E-08	1.756E-07	3.314E-05	1.279E-06	2.074E-09	5.268E-10	6.641E-12	1.371E-11	2.351E-02
ENDOST	2.454E-09	1.680E-08	4.368E-08	1.367E-07	3.314E-05	7.216E-02	1.401E-09	4.306E-10	1.850E-11	1.011E-11	1.542E-06
SPLEEN	2.429E-09	1.450E-08	4.568E-08	4.671E-08	3.314E-05	2.111E-08	8.663E-10	3.432E-09	2.974E-13	2.692E-12	2.351E-02
TESTES	1.029E-10	2.744E-09	7.622E-09	9.401E-09	3.314E-05	1.190E-08	4.962E-11	1.802E-11	2.358E-02	0.0	2.789E-08
THYMUS	6.458E-10	6.537E-10	2.871E-09	1.218E-09	3.314E-05	1.488E-08	6.058E-10	4.891E-11	3.039E-14	1.189E-13	2.351E-02
THYROID	1.708E-10	1.063E-10	3.844E-10	2.166E-10	3.314E-05	1.545E-08	1.049E-10	9.723E-12	5.183E-15	1.950E-14	2.351E-02
UTERUS	1.783E-09	1.050E-07	1.762E-07	4.072E-07	3.314E-05	9.906E-09	3.668E-10	2.086E-10	0.0	1.300E-10	2.351E-02

DOSE EQUIVALENT (REM/MICROCURIE)

SOURCE	TOTAL
TARGET	
LUNGS	3.326E-05
RES LYM	3.326E-05
S WALL	2.109E-03
SI WALL	5.209E-03
ULI WALL	3.058E-02
LLI WALL	9.195E-02
T BODY	7.016E-02
ADREN	2.354E-02
BL WALL	1.180E-02
KIDNEYS	3.440E-02
LIVER	2.360E-02
OVARIES	2.360E-02
PANCREAS	2.354E-02
BONE	0.807
R MAR	2.536E-02
Y MAR	2.354E-02
ENDOST	7.220E-02
SPLEEN	2.354E-02
TESTES	2.362E-02
THYMUS	2.354E-02
THYROID	2.354E-02
UTERUS	2.354E-02

CASE 5.. INGESTION

INGESTION TRANSFER FRACTIONS (G. I. TRACT TO BLOOD)

	U-233
STOMACH	0.0
S INT	5.000E-02
U L INT	0.0
L L INT	0.0

DOSE EQUIVALENT (REM/MICROCURIE)

SOURCE	S CONT	SI CONT	ULI CONT	LLI CONT	EXCRET.	BONE	LIVER	KIDNEYS	TESTES	OVARIES	OTHER
TARGET											
LUNGS	4.583E-09	1.884E-09	7.564E-09	4.075E-09	8.284E-04	4.953E-07	9.377E-08	5.330E-09	1.879E-12	7.922E-12	2.069E-06
RES LYM	4.583E-09	1.884E-09	7.564E-09	4.075E-09	8.284E-04	4.953E-07	9.377E-08	5.330E-09	1.879E-12	7.922E-12	2.069E-06
S WALL	2.075E-03	4.212E-08	1.708E-07	9.690E-08	8.284E-04	3.086E-07	5.186E-08	2.216E-08	1.134E-11	1.196E-10	7.764E-07
SI WALL	7.000E-09	4.924E-03	1.185E-06	1.206E-06	8.284E-04	3.925E-07	4.232E-08	1.745E-08	1.531E-10	3.326E-09	1.101E-06
ULI WALL	1.033E-08	3.182E-06	2.907E-02	9.186E-07	8.284E-04	3.917E-07	6.514E-08	1.725E-08	1.304E-10	6.246E-09	1.943E-06
LLI WALL	2.746E-09	3.436E-07	1.662E-07	8.749E-02	8.284E-04	7.406E-07	5.352E-09	3.940E-09	1.255E-09	7.719E-09	9.990E-07
T BODY	4.458E-06	4.512E-05	8.748E-05	2.004E-04	1.065E-03	1.44	1.510E-02	3.804E-03	2.948E-04	9.243E-05	0.285
ADREN	6.917E-09	7.077E-09	2.717E-08	1.672E-08	8.284E-04	6.290E-07	1.552E-07	1.798E-07	1.166E-11	4.444E-11	0.588
BL WALL	6.958E-10	2.359E-08	6.690E-08	3.933E-07	8.284E-04	2.421E-07	3.734E-09	1.620E-09	2.243E-09	1.074E-09	0.294
KIDNEYS	8.333E-09	2.992E-08	8.542E-08	4.427E-08	8.284E-04	4.850E-07	1.145E-07	0.859	1.506E-11	1.318E-10	1.510E-06
LIVER	5.375E-09	1.821E-08	8.028E-08	1.273E-08	8.284E-04	3.489E-07	0.589	2.582E-08	1.223E-11	7.541E-11	8.338E-07
OVARIES	1.271E-09	2.169E-07	9.057E-07	3.011E-06	8.284E-04	3.331E-07	1.008E-08	6.417E-09	0.0	0.589	2.808E-06
PANCREAS	6.208E-08	1.884E-08	6.844E-08	4.189E-08	8.284E-04	5.090E-07	1.390E-07	4.013E-08	2.098E-11	7.364E-11	0.588
BONE	2.454E-09	1.599E-08	4.158E-08	1.301E-07	4.142E-03	20.2	3.502E-08	1.077E-08	4.624E-10	2.526E-10	3.351E-06
R MAR	4.292E-09	5.716E-08	1.400E-07	4.446E-07	8.284E-04	4.542E-02	4.813E-08	2.832E-08	3.628E-10	9.090E-10	0.588
Y MAR	3.442E-09	2.248E-08	5.969E-08	1.672E-07	8.284E-04	3.197E-05	5.186E-08	1.317E-08	1.660E-10	3.428E-10	0.588
ENDOST	2.454E-09	1.599E-08	4.158E-08	1.301E-07	8.284E-04	1.80	3.502E-08	1.077E-08	4.624E-10	2.526E-10	3.855E-05
SPLEEN	2.429E-08	1.381E-08	4.348E-08	4.446E-08	8.284E-04	5.278E-07	2.166E-08	8.581E-08	7.435E-12	6.729E-11	0.588
TESTES	1.029E-10	2.612E-09	7.256E-09	8.949E-08	8.284E-04	2.975E-07	1.241E-09	4.505E-10	0.590	0.0	6.970E-07
THYMUS	6.458E-10	6.222E-10	2.732E-09	1.159E-09	8.284E-04	3.719E-07	1.514E-08	1.223E-09	7.597E-13	2.971E-12	0.588
THYROID	1.708E-10	1.012E-10	3.659E-10	2.061E-10	8.284E-04	3.861E-07	2.622E-09	2.331E-10	1.296E-13	4.875E-13	0.588
UTERUS	1.783E-09	9.991E-08	1.678E-07	3.876E-07	8.284E-04	2.477E-07	9.169E-09	5.215E-09	0.0	3.250E-09	0.588

DOSE EQUIVALENT (REM/MICROCURIE)

SOURCE	TOTAL
TARGET	
LUNGS	8.311E-04
RES LYM	8.311E-04
S WALL	2.905E-03
SI WALL	5.757E-03
ULI WALL	2.991E-02
LLI WALL	8.833E-02
T BODY	1.75
ADREN	0.588
BL WALL	0.295
KIDNEYS	0.860
LIVER	0.590
OVARIES	0.590
PANCREAS	0.588
BONE	20.2
R MAR	0.634
Y MAR	0.588
ENDOST	1.80
SPLEEN	0.588
TESTES	0.590
THYMUS	0.588
THYROID	0.588
UTERUS	0.588

CASE 6.. INGESTION

INGESTION TRANSFER FRACTIONS (G. I. TRACT TO BLOOD)

	U-233
STOMACH	0.0
S INT	0.200
U L INT	0.0
L L INT	0.0

DOSE EQUIVALENT (REM)

SOURCE	S CONT	SI CONT	ULI CONT	LLI CONT	EXCRET.	BONE	LIVER	KIDNEYS	TESTES	OVARIES	OTHER
TARGET											
LUNGS	4.583E-09	1.587E-09	6.370E-09	3.432E-09	3.314E-03	1.981E-06	3.751E-07	2.132E-08	7.516E-12	3.169E-11	8.276E-06
RES LYM	4.583E-09	1.587E-09	6.370E-09	3.432E-09	3.314E-03	1.981E-06	3.751E-07	2.132E-08	7.516E-12	3.169E-11	8.276E-06
S WALL	2.075E-03	3.547E-08	1.439E-07	8.160E-08	3.314E-03	1.234E-06	2.074E-07	8.863E-08	4.535E-11	4.784E-10	3.106E-06
SI WALL	7.000E-09	4.147E-03	1.001E-06	1.016E-06	3.314E-03	1.570E-06	1.693E-07	6.982E-08	6.123E-10	1.331E-08	4.405E-06
ULI WALL	1.033E-08	2.680E-06	2.448E-02	7.736E-07	3.314E-03	1.567E-06	2.606E-07	6.898E-08	5.216E-10	2.499E-08	7.772E-06
LLI WALL	2.746E-09	2.893E-07	1.400E-07	7.368E-02	3.314E-03	2.962E-06	2.141E-08	1.576E-08	5.021E-09	3.088E-08	3.996E-06
T BODY	4.458E-06	3.800E-05	7.367E-05	1.588E-04	4.260E-03	5.76	6.041E-02	1.522E-02	1.179E-03	3.697E-04	1.14
ADREN	6.917E-09	5.960E-09	2.288E-08	1.408E-08	3.314E-03	2.516E-06	6.207E-07	7.191E-07	4.665E-11	1.777E-10	2.35
BL WALL	6.958E-10	1.987E-08	5.633E-08	3.312E-07	3.314E-03	9.685E-07	1.494E-08	6.480E-09	8.973E-09	4.296E-09	1.18
KIDNEYS	8.333E-09	2.520E-08	7.193E-08	3.728E-08	3.314E-03	1.940E-06	4.580E-07	3.44	6.026E-11	5.271E-10	6.041E-06
LIVER	5.375E-09	1.533E-08	6.760E-08	1.072E-08	3.314E-03	1.396E-06	2.36	1.033E-07	4.892E-11	3.017E-10	3.335E-06
OVARIES	1.271E-09	1.827E-07	7.627E-07	2.536E-06	3.314E-03	1.332E-06	4.033E-08	2.567E-08	0.0	2.36	1.123E-05
PANCREAS	6.208E-08	1.587E-08	5.763E-08	3.528E-08	3.314E-03	2.032E-06	5.560E-07	1.605E-07	8.390E-11	2.945E-10	2.35
BONE	2.454E-09	1.347E-08	3.501E-08	1.096E-07	1.657E-02	80.7	1.401E-07	4.306E-08	1.850E-09	1.011E-09	1.340E-05
R MAR	4.292E-09	4.813E-08	1.179E-07	3.744E-07	3.314E-03	0.182	1.925E-07	1.133E-07	1.451E-09	3.636E-09	2.35
Y MAR	3.442E-09	1.893E-08	5.027E-08	1.408E-07	3.314E-03	1.279E-04	2.074E-07	5.268E-08	6.641E-10	1.371E-09	2.35
ENDOST	2.454E-09	1.347E-08	3.501E-08	1.096E-07	3.314E-03	7.22	1.401E-07	4.306E-08	1.850E-09	1.011E-09	1.542E-04
SPLEEN	2.429E-08	1.163E-08	3.662E-08	3.744E-08	3.314E-03	2.111E-06	8.663E-08	3.432E-07	2.974E-11	2.692E-10	2.35
TESTES	1.029E-10	2.200E-09	6.110E-09	7.536E-08	3.314E-03	1.190E-06	4.962E-09	1.802E-09	2.36	0.0	2.789E-06
THYMUS	6.458E-10	5.240E-10	2.301E-09	9.760E-10	3.314E-03	1.488E-06	6.058E-08	4.891E-09	3.039E-12	1.188E-11	2.35
THYROID	1.708E-10	8.520E-11	3.081E-10	1.736E-10	3.314E-03	1.545E-06	1.049E-08	9.323E-10	5.183E-13	1.950E-12	2.35
UTERUS	1.783E-09	8.413E-08	1.413E-07	3.264E-07	3.314E-03	9.906E-07	3.668E-08	2.086E-08	0.0	1.300E-08	2.35

DOSE EQUIVALENT (REM)

SOURCE	TOTAL
TARGET	
LUNGS	3.324E-03
RES LYM	3.324E-03
S WALL	5.394E-03
SI WALL	7.469E-03
ULI WALL	2.781E-02
LLI WALL	7.700E-02
T BODY	6.98
ADREN	2.35
BL WALL	1.18
KIDNEYS	3.44
LIVER	2.36
OVARIES	2.36
PANCREAS	2.35
BONE	80.7
R MAR	2.54
Y MAR	2.35
ENDOST	7.22
SPLEEN	2.35
TESTES	2.36
THYMUS	2.35
THYROID	2.35
UTERUS	2.35

RADIONUCLIDE: U-234

PHYSICAL AND METABOLIC PARAMETERS FOR DOSIMETRICALLY SIGNIFICANT PROGENY:

NUCLIDE	RADIOACTIVE HALF-LIFE (DAYS)
U-234	8.9200E 07

ORGAN	NUCLIDE	BLOOD TRANSFER FRACTION F2-PRIME	COMPARTMENT DEPOSITION FRACTION	COMPARTMENT BIOLOGICAL HALF-TIME (DAYS)
ABSORBED	U-234	1.00	0.631	0.500
			0.120	6.00
			0.200	20.0
			5.200E-04	1.500E 03
			4.800E-02	5.000E 03
EXCRET.	U-234	0.631	1.00	0.500
BONE	U-234	0.223	0.897	20.0
			0.103	5.000E 03
KIDNEYS	U-234	0.121	0.996	6.00
			4.000E-03	1.500E 03
OTHER	U-234	2.500E-02	1.00	5.000E 03

S FACTORS (REM/MICROCURIE-DAY) FOR U-234

TARGET ORGANS	SOURCE ORGANS									
	LUNGS	RES LYM	S CONT	SI CONT	ULI CONT	LLI CONT	EXCRET.	BONE	KIDNEYS	OTHER
LUNGS	0.252E 01	0.626E-03	0.629E-07	0.358E-08	0.452E-08	0.113E-08	0.360E-01	0.383E-07	0.219E-07	0.348E-06
RES LYM	0.626E-03	0.168E 03	0.629E-07	0.358E-08	0.452E-08	0.113E-08	0.360E-01	0.383E-07	0.219E-07	0.348E-06
S WALL	0.959E-07	0.959E-07	0.499E-01	0.182E-06	0.291E-06	0.435E-07	0.360E-01	0.240E-07	0.859E-07	0.830E-07
SI WALL	0.300E-08	0.300E-08	0.829E-07	0.312E-01	0.274E-05	0.148E-05	0.360E-01	0.306E-07	0.679E-07	0.125E-06
ULI WALL	0.380E-08	0.380E-08	0.167E-06	0.318E-04	0.567E-01	0.132E-05	0.360E-01	0.338E-07	0.651E-07	0.295E-06
LLI WALL	0.851E-09	0.851E-09	0.266E-07	0.312E-05	0.302E-06	0.924E-01	0.360E-01	0.814E-07	0.125E-07	0.934E-07
T BODY	0.360E-01	0.360E-01	0.108E-03	0.286E-03	0.171E-03	0.212E-03	0.463E-01	0.180E 00	0.360E-01	0.359E-01
ADREN	0.174E-06	0.174E-06	0.658E-07	0.171E-07	0.191E-07	0.546E-08	0.360E-01	0.650E-07	0.208E-05	0.701E-01
BL WALL	0.481E-09	0.481E-09	0.456E-08	0.577E-07	0.456E-07	0.186E-06	0.360E-01	0.100E-07	0.379E-08	0.351E-01
KIDNEYS	0.176E-07	0.176E-07	0.860E-07	0.729E-07	0.676E-07	0.164E-07	0.360E-01	0.453E-07	0.813E 01	0.223E-06
LIVER	0.161E-06	0.161E-06	0.654E-07	0.589E-07	0.764E-07	0.386E-08	0.360E-01	0.251E-07	0.139E-06	0.701E-01
OVARIES	0.158E-08	0.158E-08	0.125E-07	0.155E-05	0.210E-05	0.420E-05	0.360E-01	0.189E-07	0.224E-07	0.701E-01
PANCREAS	0.663E-07	0.663E-07	0.127E-05	0.453E-07	0.485E-07	0.130E-07	0.360E-01	0.531E-07	0.168E-06	0.701E-01
BONE	0.827E-07	0.827E-07	0.301E-07	0.744E-07	0.496E-07	0.115E-06	0.180E 00	0.252E 01	0.673E-07	0.697E-06
R MAR	0.968E-07	0.968E-07	0.471E-07	0.289E-06	0.182E-06	0.440E-06	0.360E-01	0.560E-02	0.179E-06	0.701E-01
Y MAR	0.962E-07	0.962E-07	0.432E-07	0.104E-06	0.714E-07	0.155E-06	0.360E-01	0.647E-05	0.817E-07	0.701E-01
ENDOST	0.827E-07	0.827E-07	0.301E-07	0.744E-07	0.496E-07	0.115E-06	0.360E-01	0.224E 00	0.673E-07	0.102E-04
SPLEEN	0.117E-06	0.117E-06	0.255E-06	0.312E-07	0.335E-07	0.181E-07	0.360E-01	0.729E-07	0.806E-06	0.701E-01
TESTES	0.813E-10	0.813E-10	0.636E-09	0.452E-08	0.416E-08	0.433E-07	0.360E-01	0.120E-07	0.979E-09	0.701E-01
THYMUS	0.129E-06	0.129E-06	0.753E-08	0.894E-09	0.116E-08	0.269E-09	0.360E-01	0.360E-01	0.316E-08	0.701E-01
THYROID	0.168E-07	0.168E-07	0.966E-09	0.138E-09	0.154E-09	0.468E-10	0.360E-01	0.284E-07	0.494E-09	0.701E-01
UTERUS	0.135E-08	0.135E-08	0.122E-07	0.396E-06	0.143E-06	0.184E-06	0.360E-01	0.107E-07	0.148E-07	0.701E-01

α decay (2.445E5 Y 10)

Case 1 represents inhalation of UO_2 or U_3O_8; case 2 inhalation of UF_4 or UCl_4; case 3 inhalation of UF_6, UO_2F_2, $UO_2(NO_3)_2$, or UO_3; case 4 ingestion of U(IV) compounds; and case 5 ingestion of U(VI) compounds.

CASE 1.. INHALATION

AMAD (MICRON).. 1.00 D3 =0.310 D4 =8.000E-02 D5 =0.249

	SOLUBILITY CLASS	G.I. UPTAKE FRACTIONS STOMACH	S INT	U L INT	L L INT
U-234	Y	0.0	2.000E-03	0.0	0.0

DOSE EQUIVALENT (REM/MICROCURIE)

SOURCE	LUNGS	RES LYM	S CONT	SI CONT	ULI CONT	LLI CONT	EXCRET.	BONE	KIDNEYS	OTHER	TOTAL
TARGET											
LUNGS	272.	7.257E-02	1.534E-09	3.485E-10	1.430E-09	6.601E-10	8.375E-04	3.068E-07	2.340E-09	2.922E-06	273.
RES LYM	6.769E-02	1.949E 04	1.534E-09	3.485E-10	1.430E-09	6.601E-10	8.375E-04	3.068E-07	2.340E-09	2.922E-06	1.948E 04
S WALL	1.037E-05	1.112E-05	1.217E-03	1.772E-08	9.207E-08	2.541E-08	8.375E-04	1.922E-07	9.177E-09	6.969E-07	2.077E-03
SI WALL	3.244E-07	3.479E-07	2.022E-09	3.037E-03	8.669E-07	8.645E-07	8.375E-04	2.451E-07	7.254E-09	1.050E-06	3.879E-03
ULI WALL	4.109E-07	4.405E-07	4.073E-09	3.096E-06	1.794E-02	7.710E-07	8.375E-04	2.707E-07	6.955E-09	2.477E-06	1.879E-02
LLI WALL	9.202E-08	9.865E-08	6.487E-10	3.037E-07	9.555E-08	5.397E-02	8.375E-04	6.520E-07	1.335E-09	7.842E-07	5.481E-02
T BODY	3.89	4.17	2.634E-06	2.784E-05	5.411E-05	1.238E-04	1.077E-03	1.44	3.846E-03	0.301	9.81
ADREN	1.881E-05	2.017E-05	1.608E-09	1.665E-09	6.043E-09	3.189E-09	8.375E-04	5.206E-07	2.222E-07	0.589	0.589
BL WALL	5.201E-08	5.576E-08	1.112E-10	5.617E-09	1.443E-08	1.086E-07	8.375E-04	8.009E-08	4.049E-10	0.296	0.296
KIDNEYS	1.903E-06	2.040E-06	2.097E-09	7.097E-09	2.139E-08	9.580E-09	8.375E-04	3.628E-07	0.869	1.872E-06	0.869
LIVER	1.741E-05	1.866E-05	1.595E-09	5.734E-09	2.417E-08	2.255E-09	8.375E-04	2.010E-07	1.485E-08	0.589	0.589
OVARIES	1.708E-07	1.832E-07	3.048E-10	1.509E-07	6.644E-07	2.453E-06	8.375E-04	1.514E-07	2.393E-09	0.589	0.589
PANCREAS	7.169E-06	7.686E-06	3.097E-08	4.410E-09	1.535E-08	7.594E-09	8.375E-04	4.253E-07	1.795E-08	0.589	0.589
BONE	8.942E-06	9.587E-06	7.341E-10	7.243E-03	1.569E-08	6.717E-08	4.188E-03	20.2	7.190E-09	5.852E-06	20.2
R MAR	1.047E-05	1.122E-05	1.149E-09	2.814E-08	5.759E-08	2.570E-07	8.375E-04	4.485E-02	1.912E-08	0.589	0.634
Y MAR	1.040E-05	1.115E-05	1.054E-09	1.012E-08	2.259E-08	9.054E-08	8.375E-04	5.182E-05	8.728E-09	0.589	0.589
ENDOST	8.942E-06	9.587E-06	7.341E-10	7.243E-09	1.569E-08	6.717E-08	8.375E-04	1.79	7.190E-09	8.564E-05	1.80
SPLEEN	1.265E-05	1.356E-05	7.194E-09	3.037E-09	1.060E-08	1.057E-08	8.375E-04	5.839E-07	8.611E-08	0.589	0.589
TESTES	8.791E-09	9.425E-09	1.551E-11	4.400E-10	1.316E-09	2.529E-08	8.375E-04	9.611E-08	1.046E-10	0.589	0.589
THYMUS	1.395E-05	1.495E-05	1.836E-10	8.703E-11	3.670E-10	1.571E-10	8.375E-04	2.955E-07	3.376E-10	0.589	0.589
THYROID	1.817E-06	1.948E-06	2.356E-11	1.343E-11	4.873E-11	2.734E-11	8.375E-04	2.275E-07	5.277E-11	0.589	0.589
UTERUS	1.460E-07	1.565E-07	2.975E-10	3.855E-08	4.525E-08	1.075E-07	8.375E-04	8.570E-08	1.581E-09	0.589	0.589

CASE 2.. INHALATION

AMAD (MICRON).. 1.00 D3 =0.310 D4 =8.000E-02 D5 =0.249

	SOLUBILITY CLASS	G.I. UPTAKE FRACTIONS STOMACH	S INT	U L INT	L L INT
U-234	W	0.0	5.000E-02	0.0	0.0

DOSE EQUIVALENT (REM/MICROCURIE)

SOURCE	LUNGS	RES LYM	S CONT	SI CONT	ULI CONT	LLI CONT	EXCRET.	BONE	KIDNEYS	OTHER	TOTAL
TARGET											
LUNGS	28.1	5.625E-04	1.358E-09	2.938E-10	1.206E-09	5.564E-10	2.405E-03	8.894E-07	6.718E-09	8.475E-06	28.1
RES LYM	6.985E-03	151.	1.358E-09	2.938E-10	1.206E-09	5.564E-10	2.405E-03	8.894E-07	6.718E-09	8.475E-06	151.
S WALL	1.070E-06	8.618E-08	1.078E-03	1.494E-08	7.761E-08	2.142E-08	2.405E-03	5.573E-07	2.635E-08	2.021E-06	3.486E-03
SI WALL	3.347E-08	2.696E-09	1.790E-09	2.560E-03	7.309E-07	7.287E-07	2.405E-03	7.106E-07	2.083E-08	3.044E-06	4.970E-03
ULI WALL	4.240E-08	3.415E-09	3.606E-09	2.610E-06	1.512E-02	6.499E-07	2.405E-03	7.849E-07	1.997E-08	7.184E-06	1.754E-02
LLI WALL	9.496E-09	7.647E-10	5.744E-10	2.560E-07	8.055E-08	4.550E-02	2.405E-03	1.890E-06	3.834E-09	2.275E-06	4.791E-02
T BODY	0.402	3.235E-02	2.332E-06	2.347E-05	4.561E-05	1.044E-04	3.093E-03	4.18	1.104E-02	0.874	5.50
ADREN	1.942E-06	1.564E-07	1.421E-09	1.403E-09	5.094E-09	2.688E-09	2.405E-03	1.509E-06	6.380E-07	1.71	1.71
BL WALL	5.367E-09	4.322E-10	9.848E-11	4.735E-09	1.216E-08	9.158E-08	2.405E-03	2.322E-07	1.163E-09	0.855	0.857
KIDNEYS	1.964E-07	1.582E-08	1.857E-09	5.982E-09	1.803E-08	8.075E-09	2.405E-03	1.052E-06	2.49	5.431E-06	2.50
LIVER	1.796E-06	1.447E-07	1.412E-09	4.834E-09	2.038E-08	1.901E-09	2.405E-03	5.829E-07	4.264E-08	1.71	1.71
OVARIES	1.763E-08	1.420E-09	2.699E-10	1.272E-07	5.601E-07	2.068E-06	2.405E-03	4.389E-07	6.871E-09	1.71	1.71
PANCREAS	7.398E-07	5.958E-08	2.743E-08	3.717E-09	1.294E-08	6.401E-09	2.405E-03	1.233E-06	5.153E-08	1.71	1.71
BONE	9.228E-07	7.432E-08	6.500E-10	6.106E-09	1.323E-08	5.662E-08	1.202E-02	58.5	2.064E-08	1.697E-05	58.5
R MAR	1.080E-06	8.699E-08	1.017E-09	2.372E-08	4.854E-08	2.166E-07	2.405E-03	0.130	5.491E-08	1.71	1.84
Y MAR	1.073E-06	8.645E-08	9.329E-10	8.535E-09	1.904E-08	7.632E-08	2.405E-03	1.502E-04	2.506E-08	1.71	1.71
ENDOST	9.228E-07	7.432E-08	6.500E-10	6.106E-09	1.323E-08	5.662E-08	2.405E-03	5.20	2.064E-08	2.484E-04	5.20
SPLEEN	1.306E-06	1.051E-07	6.371E-09	2.560E-09	8.935E-09	8.912E-09	2.405E-03	1.693E-06	2.472E-07	1.71	1.71
TESTES	9.072E-10	7.306E-11	1.373E-11	3.709E-10	1.110E-09	2.132E-08	2.405E-03	2.787E-07	3.003E-10	1.71	1.71
THYMUS	1.439E-06	1.159E-07	1.626E-10	7.337E-11	3.094E-10	1.325E-10	2.405E-03	8.569E-07	9.693E-10	1.71	1.71
THYROID	1.875E-07	1.510E-08	2.086E-11	1.132E-11	4.107E-11	2.304E-11	2.405E-03	6.595E-07	1.515E-10	1.71	1.71
UTERUS	1.506E-08	1.213E-09	2.635E-10	3.250E-08	3.814E-08	9.060E-08	2.405E-03	2.485E-07	4.540E-09	1.71	1.71

CASE 3.. INHALATION

AMAD (MICRON).. 1.00 D3 =0.310 D4 =8.000E-02 D5 =0.249

	SOLUBILITY CLASS	G.I. UPTAKE FRACTIONS STOMACH	S INT	U L INT	L L INT
U-234	D	0.0	5.000E-02	0.0	0.0

DOSE EQUIVALENT (REM/MICROCURIE)

SOURCE	LUNGS	RES LYM	S CONT	SI CONT	ULI CONT	LLI CONT	EXCRET.	BONE	KIDNEYS	OTHER	TOTAL
TARGET											
LUNGS	0.470	2.250E-05	4.167E-10	9.012E-11	3.698E-10	1.707E-10	7.998E-03	2.958E-06	2.234E-08	2.819E-05	0.478
RES LYM	1.167E-04	6.04	4.167E-10	9.012E-11	3.698E-10	1.707E-10	7.998E-03	2.958E-06	2.234E-08	2.819E-05	6.05
S WALL	1.788E-08	3.447E-09	3.306E-04	4.582E-09	2.381E-08	6.570E-09	7.998E-03	1.854E-06	8.764E-08	6.723E-06	8.337E-03
SI WALL	5.593E-10	1.078E-10	5.492E-10	7.854E-04	2.242E-07	2.235E-07	7.998E-03	2.364E-06	6.928E-08	1.013E-05	8.796E-03
ULI WALL	7.085E-10	1.366E-10	1.106E-09	8.005E-07	4.639E-03	1.994E-07	7.998E-03	2.611E-06	6.642E-08	2.390E-05	1.266E-02
LLI WALL	1.587E-10	3.059E-11	1.762E-10	7.854E-08	2.471E-08	1.396E-02	7.998E-03	6.287E-06	1.275E-08	7.566E-06	2.197E-02
T BODY	6.712E-03	1.294E-03	7.154E-07	7.200E-06	1.399E-05	3.202E-05	1.029E-02	13.9	3.673E-02	2.91	16.9
ADREN	3.244E-08	6.254E-09	4.359E-10	4.305E-10	1.563E-09	8.247E-10	7.998E-03	5.021E-06	2.122E-06	5.68	5.69
BL WALL	8.968E-11	1.729E-11	3.021E-11	1.452E-09	3.731E-09	2.809E-08	7.998E-03	7.724E-07	3.867E-09	2.84	2.85
KIDNEYS	3.281E-09	6.326E-10	5.697E-10	1.835E-09	5.531E-09	2.477E-09	7.998E-03	3.499E-06	8.29	1.806E-05	8.30
LIVER	3.002E-08	5.787E-09	4.332E-10	1.483E-09	6.251E-09	5.830E-10	7.998E-03	1.939E-06	1.418E-07	5.68	5.69
OVARIES	2.946E-10	5.679E-11	8.281E-11	3.902E-08	1.718E-07	6.344E-07	7.998E-03	1.460E-06	2.285E-08	5.68	5.69
PANCREAS	1.236E-08	2.383E-09	8.413E-09	1.140E-09	3.968E-09	1.964E-09	7.998E-03	4.101E-06	1.714E-07	5.68	5.69
BONE	1.542E-08	2.973E-09	1.994E-10	1.873E-09	4.058E-09	1.737E-08	3.999E-02	195.	6.866E-08	5.646E-05	195.
R MAR	1.805E-08	3.479E-09	3.120E-10	7.275E-09	1.489E-08	6.646E-08	7.998E-03	0.433	1.826E-07	5.68	6.12
Y MAR	1.794E-08	3.458E-09	2.862E-10	2.618E-09	5.341E-09	2.341E-08	7.998E-03	4.997E-04	8.336E-08	5.68	5.69
ENDOST	1.542E-08	2.973E-09	1.994E-10	1.873E-09	4.058E-09	1.737E-08	7.998E-03	17.3	6.866E-08	8.262E-04	17.3
SPLEEN	2.181E-08	4.206E-09	1.954E-09	7.854E-10	2.741E-09	2.734E-09	7.998E-03	5.631E-06	8.223E-07	5.68	5.69
TESTES	1.516E-11	2.922E-12	4.213E-12	1.138E-10	3.403E-10	6.540E-09	7.998E-03	9.269E-07	9.988E-10	5.68	5.69
THYMUS	2.405E-08	4.637E-09	4.988E-11	2.250E-11	9.490E-11	4.063E-11	7.998E-03	2.850E-06	3.224E-09	5.68	5.69
THYROID	3.132E-09	6.039E-10	6.399E-12	3.474E-12	1.260E-11	7.069E-12	7.998E-03	2.194E-06	5.040E-10	5.68	5.69
UTERUS	2.517E-10	4.853E-11	8.082E-11	9.969E-09	1.170E-08	2.779E-08	7.998E-03	8.265E-07	1.510E-08	5.68	5.69

CASE 4.. INGESTION

INGESTION TRANSFER FRACTIONS (G. I. TRACT TO BLOOD)

	U-234
STOMACH	0.0
S INT	2.000E-03
U L INT	0.0
L L INT	0.0

DOSE EQUIVALENT (REM/MICROCURIE)

SOURCE	S CONT	SI CONT	ULI CONT	LLI CONT	EXCRET.	BONE	KIDNEYS	OTHER	TOTAL
TARGET									
LUNGS	2.621E-09	5.955E-10	2.443E-09	1.128E-09	3.277E-05	1.212E-08	9.156E-11	1.155E-07	3.291E-05
RES LYM	2.621E-09	5.955E-10	2.443E-09	1.128E-09	3.277E-05	1.212E-08	9.156E-11	1.155E-07	3.291E-05
S WALL	2.079E-03	3.027E-08	1.573E-07	4.341E-08	3.277E-05	7.596E-09	3.591E-10	2.755E-08	2.112E-03
SI WALL	3.454E-09	5.190E-03	1.481E-06	1.477E-06	3.277E-05	9.685E-09	2.839E-10	4.149E-08	5.225E-03
ULI WALL	6.958E-09	5.289E-06	3.065E-02	1.317E-06	3.277E-05	1.070E-08	2.722E-10	9.792E-08	3.069E-02
LLI WALL	1.108E-09	5.190E-07	1.633E-07	9.222E-02	3.277E-05	2.576E-08	5.226E-11	3.100E-08	9.225E-02
T BODY	4.500E-06	4.757E-05	9.244E-05	2.116E-04	4.215E-05	5.697E-02	1.505E-04	1.192E-02	6.944E-02
ADREN	2.742E-09	2.844E-09	1.033E-08	5.449E-09	3.277E-05	2.057E-08	8.696E-09	2.327E-02	2.330E-02
BL WALL	1.900E-10	9.597E-09	2.465E-08	1.856E-07	3.277E-05	3.165E-09	1.584E-11	1.165E-02	1.168E-02
KIDNEYS	3.583E-09	1.213E-08	3.654E-08	1.637E-08	3.277E-05	1.434E-08	3.399E-02	7.402E-08	3.402E-02
LIVER	2.725E-09	9.797E-09	4.130E-08	3.852E-09	3.277E-05	7.944E-09	5.811E-10	2.327E-02	2.330E-02
OVARIES	5.208E-10	2.578E-07	1.135E-06	4.192E-06	3.277E-05	5.982E-09	9.365E-11	2.327E-02	2.331E-02
PANCREAS	5.292E-08	7.535E-09	2.622E-08	1.297E-08	3.277E-05	1.681E-08	7.024E-10	2.327E-02	2.330E-02
BONE	1.254E-09	1.238E-08	2.681E-08	1.148E-07	1.639E-04	0.798	2.814E-10	2.314E-07	0.798
R MAR	1.962E-09	4.807E-08	9.839E-08	4.391E-07	3.277E-05	1.772E-03	7.483E-10	2.327E-02	2.507E-02
Y MAR	1.800E-09	1.730E-08	3.860E-08	1.547E-07	3.277E-05	2.048E-06	3.416E-10	2.327E-02	2.330E-02
ENDOST	1.254E-09	1.238E-08	2.681E-08	1.148E-07	3.277E-05	7.090E-02	2.814E-10	3.386E-06	7.093E-02
SPLEEN	1.229E-08	5.190E-09	1.811E-08	1.806E-08	3.277E-05	2.307E-08	3.370E-09	2.327E-02	2.330E-02
TESTES	2.650E-11	7.518E-10	2.249E-09	4.321E-08	3.277E-05	3.798E-09	4.093E-12	2.327E-02	2.330E-02
THYMUS	3.137E-10	1.487E-10	6.271E-10	2.685E-10	3.277E-05	1.168E-08	1.321E-11	2.327E-02	2.330E-02
THYROID	4.025E-11	2.295E-11	8.325E-11	4.671E-11	3.277E-05	8.989E-09	2.065E-12	2.327E-02	2.330E-02
UTERUS	5.083E-10	6.587E-08	7.730E-08	1.836E-07	3.277E-05	3.387E-09	6.187E-11	2.327E-02	2.330E-02

CASE 5.. INGESTION

INGESTION TRANSFER FRACTIONS (G. I. TRACT TO BLOOD)

	U-234
STOMACH	0.0
S INT	5.000E-02
U L INT	0.0
L L INT	0.0

DOSE EQUIVALENT (REM/MICROCURIE)

SOURCE	S CONT	SI CONT	ULI CONT	LLI CONT	EXCRET.	BONE	KIDNEYS	OTHER	TOTAL
TARGET									
LUNGS	2.621E-09	5.668E-10	2.326E-09	1.073E-09	8.193E-04	3.031E-07	2.289E-09	2.888E-06	8.225E-04
RES LYM	2.621E-09	5.668E-10	2.326E-09	1.073E-09	8.193E-04	3.031E-07	2.289E-09	2.888E-06	8.225E-04
S WALL	2.079E-03	2.882E-08	1.497E-07	4.132E-08	8.193E-04	1.899E-07	8.978E-09	6.887E-07	2.900E-03
SI WALL	3.454E-09	4.940E-03	1.410E-06	1.406E-06	8.193E-04	2.421E-07	7.097E-09	1.037E-06	5.763E-03
ULI WALL	6.958E-09	5.035E-06	2.918E-02	1.254E-06	8.193E-04	2.674E-07	6.804E-09	2.448E-06	3.001E-02
LLI WALL	1.108E-09	4.940E-07	1.554E-07	8.778E-02	8.193E-04	6.441E-07	1.306E-09	7.750E-07	8.860E-02
T BODY	4.500E-06	4.528E-05	8.799E-05	2.014E-04	1.054E-03	1.42	3.763E-03	0.298	1.73
ADREN	2.742E-09	2.707E-09	9.829E-09	5.187E-09	8.193E-04	5.143E-07	2.174E-07	0.582	0.583
BL WALL	1.900E-10	9.136E-09	2.347E-08	1.767E-07	8.193E-04	7.913E-08	3.961E-10	0.291	0.292
KIDNEYS	3.583E-09	1.154E-08	3.479E-08	1.558E-08	8.193E-04	3.584E-07	0.850	1.850E-06	0.851
LIVER	2.725E-09	9.326E-09	3.931E-08	3.667E-09	8.193E-04	1.986E-07	1.453E-08	0.582	0.583
OVARIES	5.208E-10	2.454E-07	1.081E-06	3.990E-06	8.193E-04	1.495E-07	2.341E-09	0.582	0.583
PANCREAS	5.292E-08	7.172E-09	2.496E-08	1.235E-08	8.193E-04	4.202E-07	1.756E-08	0.582	0.583
BONE	1.254E-09	1.178E-08	2.552E-08	1.092E-07	4.097E-03	19.9	7.034E-09	5.784E-06	19.9
R MAR	1.962E-09	4.576E-08	9.366E-08	4.180E-07	8.193E-04	4.431E-02	1.871E-08	0.582	0.627
Y MAR	1.800E-09	1.647E-08	3.674E-08	1.472E-07	8.193E-04	5.119E-05	8.539E-09	0.582	0.583
ENDOST	1.254E-09	1.178E-08	2.552E-08	1.092E-07	8.193E-04	1.77	7.034E-09	8.464E-05	1.77
SPLEEN	1.229E-08	4.940E-09	1.724E-08	1.719E-08	8.193E-04	5.768E-07	8.424E-08	0.582	0.583
TESTES	2.650E-11	7.157E-10	2.141E-09	4.113E-08	8.193E-04	9.495E-08	1.023E-10	0.582	0.583
THYMUS	3.137E-10	1.415E-10	5.969E-10	2.555E-10	8.193E-04	2.920E-07	3.303E-10	0.582	0.583
THYROID	4.025E-11	2.185E-11	7.925E-11	4.446E-11	8.193E-04	2.247E-07	5.163E-11	0.582	0.583
UTERUS	5.083E-10	6.270E-08	7.359E-08	1.748E-07	8.193E-04	8.466E-08	1.547E-09	0.582	0.583

CASE 6.. INGESTION

INGESTION TRANSFER FRACTIONS (G. I. TRACT TO BLOOD)

	U-234
STOMACH	0.0
S INT	0.200
U L INT	0.0
L L INT	0.0

DOSE EQUIVALENT (REM/MICROCURIE)

SOURCE	S CONT	SI CONT	ULI CONT	LLI CONT	EXCRET.	BONE	KIDNEYS	OTHER	TOTAL
TARGET									
LUNGS	2.621E-09	4.773E-10	1.959E-09	9.040E-10	3.277E-03	1.212E-06	9.156E-09	1.155E-05	3.290E-03
RES LYM	2.621E-09	4.773E-10	1.959E-09	9.040E-10	3.277E-03	1.212E-06	9.156E-09	1.155E-05	3.290E-03
S WALL	2.079E-03	2.427E-08	1.261E-07	3.480E-08	3.277E-03	7.596E-07	3.591E-08	2.755E-06	5.360E-03
SI WALL	3.454E-09	4.160E-03	1.187E-06	1.184E-06	3.277E-03	9.685E-07	2.839E-08	4.149E-06	7.445E-03
ULI WALL	6.958E-09	4.240E-06	2.457E-02	1.056E-06	3.277E-03	1.070E-06	2.722E-08	9.792E-06	2.786E-02
LLI WALL	1.108E-09	4.160E-07	1.309E-07	7.392E-02	3.277E-03	2.576E-06	5.226E-09	3.100E-06	7.720E-02
T BODY	4.500E-06	3.813E-05	7.410E-05	1.696E-04	4.215E-03	5.70	1.505E-02	1.19	6.91
ADREN	2.742E-09	2.280E-09	8.277E-09	4.368E-09	3.277E-03	2.057E-06	8.696E-07	2.33	2.33
BL WALL	1.900E-10	7.693E-09	1.976E-08	1.488E-07	3.277E-03	3.165E-07	1.584E-09	1.17	1.17
KIDNEYS	3.583E-09	9.720E-09	2.929E-08	1.312E-08	3.277E-03	1.434E-06	3.40	7.402E-06	3.40
LIVER	2.725E-09	7.853E-09	3.311E-08	3.088E-09	3.277E-03	7.944E-07	5.811E-08	2.33	2.33
OVARIES	5.208E-10	2.067E-07	9.100E-07	3.360E-06	3.277E-03	5.982E-07	9.365E-09	2.33	2.33
PANCREAS	5.292E-08	6.040E-09	2.102E-08	1.040E-08	3.277E-03	1.681E-06	7.024E-08	2.33	2.33
BONE	1.254E-09	9.920E-09	2.149E-08	9.200E-08	1.639E-02	79.8	2.814E-08	2.314E-05	79.8
R MAR	1.962E-09	3.853E-08	7.887E-08	3.520E-07	3.277E-03	0.177	7.483E-08	2.33	2.51
Y MAR	1.800E-09	1.387E-08	3.094E-08	1.240E-07	3.277E-03	2.048E-04	3.416E-08	2.33	2.33
ENDOST	1.254E-09	9.920E-09	2.149E-08	9.200E-08	3.277E-03	7.09	2.814E-08	3.386E-04	7.09
SPLEEN	1.229E-08	4.160E-09	1.452E-08	1.448E-08	3.277E-03	2.307E-06	3.370E-07	2.33	2.33
TESTES	2.650E-11	6.027E-10	1.803E-09	3.464E-08	3.277E-03	3.798E-07	4.093E-10	2.33	2.33
THYMUS	3.137E-10	1.192E-10	5.027E-10	2.152E-10	3.277E-03	1.168E-06	1.321E-09	2.33	2.33
THYROID	4.025E-11	1.840E-11	6.673E-11	3.744E-11	3.277E-03	8.989E-07	2.065E-10	2.33	2.33
UTERUS	5.083E-10	5.280E-08	6.197E-08	1.472E-07	3.277E-03	3.387E-07	6.187E-09	2.33	2.33

RADIONUCLIDE: U-235

PHYSICAL AND METABOLIC PARAMETERS FOR DOSIMETRICALLY SIGNIFICANT PROGENY:

NUCLIDE	RADIOACTIVE HALF-LIFE (DAYS)
U-235	2.5900E 11
TH-231	1.060
PA-231	1.1900E 07

BRANCHING RATIOS:

FROM	TO	FRACTION
U-235	TH-231	1.000
TH-231	PA-231	1.000

ORGAN ABSORBED	NUCLIDE	BLOOD TRANSFER FRACTION F2-PRIME	COMPARTMENT DEPOSITION FRACTION	COMPARTMENT BIOLOGICAL HALF-TIME (DAYS)
	U-235	1.00	0.631	0.500
			0.120	6.00
			0.200	20.0
			5.200E-04	1.500E 03
			4.800E-02	5.000E 03
	TH-231	1.00	0.460	1.460E 04
			0.540	3.650E 04
	PA-231	1.00	0.460	1.460E 04
			0.540	3.650E 04
EXCRET.	U-235	0.631	1.00	0.500
	TH-231	0.0	1.00	0.500
	PA-231	0.0	1.00	0.500
BONE	U-235	0.223	0.897	20.0
			0.103	5.000E 03
	TH-231	0.450	1.00	3.650E 04
	PA-231	0.450	1.00	3.650E 04
LIVER	*U-235	1.250E-03	1.00	5.000E 03
	TH-231	0.450	1.00	1.460E 04
	PA-231	0.450	1.00	1.460E 04
KIDNEYS	U-235	0.121	0.996	6.00
			4.000E-03	1.500E 03
	TH-231	1.000E-02	1.00	1.460E 04
	PA-231	1.000E-02	1.00	1.460E 04
SPLEEN	U-235	1.250E-04	1.00	5.000E 03
	TH-231	4.760E-04	1.00	3.650E 04
	PA-231	4.760E-04	1.00	3.650E 04
TESTES	*U-235	2.440E-05	1.00	5.000E 03
	TH-231	3.500E-04	1.00	3.650E 04
	PA-231	3.500E-04	1.00	3.650E 04
OVARIES	*U-235	7.660E-06	1.00	5.000E 03
	TH-231	1.100E-04	1.00	3.650E 04
	PA-231	1.100E-04	1.00	3.650E 04
OTHER	U-235	2.370E-02	1.00	5.000E 03
	TH-231	9.950E-02	1.00	3.650E 04
	PA-231	9.950E-02	1.00	3.650E 04

α decay (7.1E8 Y 3)

Case 1 represents inhalation of UO_2 or U_3O_8; case 2 inhalation of UF_4 or UCl_4; case 3 inhalation of UF_6, UO_2F_2, $UO_2(NO_3)_2$, or UO_3; case 4 ingestion of U(IV) compounds; and case 5 ingestion of U(VI) compounds.

*Retention data derived from "other tissues" compartment.

S FACTORS (REM/MICROCURIE-DAY) FOR U-235

SOURCE ORGANS

TARGET ORGANS	LUNGS	RES LYM	S CONT	SI CONT	ULI CONT	LLI CONT	EXCRET.	BONE	LIVER	KIDNEYS
LUNGS	0.227E-01	0.207E-02	0.475E-04	0.667E-05	0.750E-05	0.234E-05	0.324E-01	0.270E-04	0.701E-04	0.235E-04
RES LYM	0.207E-02	0.151E-03	0.475E-04	0.667E-05	0.750E-05	0.234E-05	0.324E-01	0.270E-04	0.701E-04	0.235E-04
S WALL	0.518E-04	0.518E-04	0.484E-01	0.103E-03	0.105E-03	0.496E-04	0.325E-01	0.159E-04	0.535E-04	0.967E-04
SI WALL	0.542E-05	0.542E-05	0.738E-04	0.303E-01	0.460E-03	0.264E-03	0.325E-01	0.210E-04	0.466E-04	0.805E-04
ULI WALL	0.648E-05	0.648E-05	0.991E-04	0.727E-03	0.546E-01	0.120E-03	0.325E-01	0.203E-04	0.692E-04	0.803E-04
LLI WALL	0.267E-05	0.267E-05	0.351E-04	0.207E-03	0.861E-04	0.884E-01	0.325E-01	0.236E-04	0.653E-04	0.723E-04
T BODY	0.325E-01	0.325E-01	0.152E-03	0.326E-03	0.216E-03	0.256E-03	0.417E-01	0.162E-03	0.725E-01	0.325E-01
ADREN	0.713E-04	0.713E-04	0.767E-04	0.383E-04	0.256E-04	0.117E-04	0.325E-01	0.333E-04	0.125E-03	0.991E-05
BL WALL	0.125E-05	0.125E-05	0.672E-05	0.725E-04	0.603E-04	0.187E-03	0.325E-01	0.176E-04	0.436E-05	0.833E-05
KIDNEYS	0.242E-04	0.242E-04	0.984E-04	0.867E-04	0.781E-04	0.268E-04	0.325E-01	0.247E-04	0.109E-03	0.752E-01
LIVER	0.690E-04	0.690E-04	0.555E-04	0.517E-04	0.725E-04	0.753E-05	0.325E-01	0.185E-04	0.126E-01	0.197E-03
OVARIES	0.311E-05	0.311E-05	0.128E-04	0.299E-03	0.327E-03	0.542E-03	0.325E-01	0.193E-04	0.134E-04	0.733E-04
PANCREAS	0.711E-04	0.711E-04	0.564E-03	0.573E-04	0.671E-04	0.300E-04	0.325E-01	0.270E-04	0.112E-03	0.121E-03
BONE	0.361E-04	0.361E-04	0.224E-04	0.311E-04	0.272E-04	0.399E-04	0.162E 00	0.227E-01	0.277E-04	0.356E-04
R MAR	0.460E-04	0.460E-04	0.461E-04	0.103E-03	0.831E-04	0.123E-03	0.325E-01	0.402E-03	0.402E-04	0.930E-04
Y MAR	0.273E-04	0.273E-04	0.213E-04	0.436E-04	0.400E-04	0.492E-04	0.325E-01	0.111E-03	0.410E-04	0.437E-04
ENDOST	0.361E-04	0.361E-04	0.224E-04	0.311E-04	0.272E-04	0.399E-04	0.325E-01	0.136E 00	0.277E-04	0.356E-04
SPLEEN	0.643E-04	0.643E-04	0.280E-03	0.471E-04	0.397E-04	0.213E-04	0.325E-01	0.170E-04	0.259E-04	0.244E-03
TESTES	0.302E-06	0.302E-06	0.168E-05	0.938E-05	0.875E-05	0.537E-04	0.324E-01	0.176E-04	0.211E-05	0.204E-05
THYMUS	0.116E-03	0.116E-03	0.716E-05	0.270E-05	0.314E-05	0.938E-06	0.325E-01	0.137E-04	0.177E-04	0.547E-05
THYROID	0.242E-04	0.242E-04	0.258E-05	0.550E-06	0.604E-06	0.227E-06	0.324E-01	0.247E-04	0.544E-05	0.156E-05
UTERUS	0.255E-05	0.255E-05	0.224E-04	0.263E-03	0.140E-03	0.194E-03	0.325E-01	0.169E-04	0.109E-04	0.247E-04

S FACTORS (REM/MICROCURIE-DAY) FOR U-235

SOURCE ORGANS

TARGET ORGANS	SPLEEN	TESTES	OVARIES	OTHER
LUNGS	0.627E-04	0.302E-06	0.185E-05	0.347E-04
RES LYM	0.627E-04	0.275E-06	0.185E-05	0.347E-04
S WALL	0.271E-03	0.115E-05	0.223E-04	0.359E-04
SI WALL	0.397E-04	0.110E-04	0.335E-03	0.419E-04
ULI WALL	0.366E-04	0.963E-05	0.317E-03	0.429E-04
LLI WALL	0.175E-04	0.770E-04	0.409E-03	0.458E-04
T BODY	0.325E-01	0.324E-01	0.325E-01	0.325E-01
ADREN	0.172E-03	0.113E-05	0.991E-05	0.669E-01
PL WALL	0.420E-05	0.134E-03	0.196E-03	0.335E-01
KIDNEYS	0.251E-03	0.139E-05	0.265E-04	0.381E-04
LIVER	0.282E-04	0.103E-05	0.158E-04	0.288E-04
OVARIES	0.140E-04	0.0	0.206E 03	0.536E-04
PANCREAS	0.524E-03	0.180E-05	0.138E-04	0.669E-01
BONE	0.284E-04	0.232E-04	0.373E-04	0.347E-04
R MAR	0.432E-04	0.199E-04	0.130E-07	0.669E-01
Y MAR	0.421E-04	0.893E-05	0.561E-04	0.669E-01
ENDOST	0.284E-04	0.232E-04	0.373E-04	0.624E-04
SPLEEN	0.126E 02	0.541E-06	0.147E-04	0.388E-04
TESTES	0.167E-05	0.643E 02	0.0	0.311E-04
THYMUS	0.942E-05	0.103E-06	0.928E-06	0.670E-01
THYROID	0.280E-05	0.219E-07	0.194E-06	0.669E-01
UTERUS	0.111E-04	0.0	0.586E-03	0.670E-01

CASE 1.. INHALATION

AMAD (MICRON).. 1.00 G3 =0.310 G4 =8.000E-02 G5 =0.249

	SOLUBILITY CLASS	G.I. UPTAKE FRACTIONS STOMACH	S INT	U L INT	L L INT
U-235	Y	0.0	2.000E-03	0.0	0.0
TH-231	Y	0.0	1.000E-03	0.0	0.0
PA-231	Y	0.0	1.000E-03	0.0	0.0

DOSE EQUIVALENT (REM/MICROCURIE)

SOURCE	LUNGS	RES LYM	S CONT	SI CONT	ULI CONT	LLI CONT	EXCRET.	BONE	LIVER	KIDNEYS	SPLEEN
TARGET											
LUNGS	246.	1.12	4.269E-06	1.453E-06	4.345E-06	2.138E-06	7.543E-04	2.436E-04	3.568E-05	2.781E-06	7.042E-06
RES LYM	1.01	1.756E 04	4.269E-06	1.453E-06	4.345E-06	2.138E-06	7.548E-04	2.436E-04	3.568E-05	2.781E-06	7.042E-06
S WALL	6.254E-03	6.735E-03	9.081E-03	3.356E-05	1.038E-04	5.647E-05	7.571E-04	1.410E-04	2.565E-05	1.167E-05	1.313E-05
SI WALL	6.236E-04	6.703E-04	5.850E-06	2.122E-02	5.880E-04	4.306E-04	7.571E-04	1.877E-04	3.209E-05	9.538E-06	1.232E-06
ULI WALL	7.466E-04	8.025E-04	8.865E-06	7.785E-04	9.672E-02	2.177E-04	7.571E-04	1.805E-04	3.258E-05	9.535E-06	1.724E-06
LLI WALL	2.985E-04	3.205E-04	2.400E-06	1.278E-04	8.354E-05	0.202	7.571E-04	2.694E-04	3.008E-06	2.557E-06	3.022E-07
T BODY	3.53	3.78	2.791E-05	2.194E-04	3.708E-04	5.692E-04	9.711E-04	1.70	1.459E-05	3.503E-07	1.377E-07
ADREN	8.582E-03	9.241E-03	5.529E-06	7.020E-06	1.842E-05	1.019E-05	7.571E-04	2.031E-04	6.673E-05	3.911E-05	3.555E-06
BL WALL	1.408E-04	1.512E-04	4.663E-07	2.002E-05	4.493E-05	2.275E-04	7.571E-04	1.200E-04	2.018E-06	9.583E-07	1.251E-07
KIDNEYS	2.825E-03	3.039E-03	7.440E-06	2.480E-05	6.044E-05	2.534E-05	7.571E-04	2.198E-04	5.745E-05	0.760	1.554E-05
LIVER	8.437E-03	9.090E-03	4.232E-06	1.486E-05	3.778E-05	6.921E-06	7.571E-04	1.653E-04	0.565	1.300E-05	1.289E-06
OVARIES	3.537E-04	3.800E-04	9.978E-07	1.254E-04	3.708E-04	9.259E-04	7.571E-04	1.782E-04	6.203E-06	3.864E-06	6.224E-07
PANCREAS	8.487E-03	9.135E-03	5.402E-05	1.518E-05	4.692E-05	2.063E-05	7.571E-04	2.440E-04	5.561E-05	2.188E-05	2.701E-05
BONE	4.589E-03	4.951E-03	2.154E-06	1.223E-05	2.847E-05	6.666E-05	2.770E-03	18.3	1.422E-05	4.524E-06	1.412E-06
R MAR	5.808E-03	6.265E-03	3.566E-06	4.360E-05	9.712E-05	2.275E-04	7.572E-04	4.969E-02	2.914E-05	1.136E-05	2.102E-06
Y MAR	4.784E-03	5.163E-03	3.056E-06	1.717E-03	4.101E-05	8.553E-05	7.571E-04	1.610E-02	2.119E-05	5.542E-06	2.103E-06
ENDOST	4.589E-03	4.951E-03	2.154E-06	1.223E-05	2.847E-05	6.666E-05	7.571E-04	1.71	1.422E-05	4.524E-06	1.412E-06
SPLEEN	7.801E-03	8.402E-03	2.504E-05	1.129E-05	2.958E-05	2.344E-05	7.571E-04	1.607E-04	1.214E-05	3.103E-05	0.532
TESTES	3.365E-05	3.612E-05	8.206E-08	1.970E-06	4.925E-06	5.721E-05	7.548E-04	1.549E-04	9.457E-07	2.706E-07	7.335E-08
THYMUS	1.396E-02	1.503E-02	5.451E-07	4.883E-07	1.740E-06	7.430E-07	7.571E-04	1.245E-04	8.270E-06	6.345E-07	4.175E-07
THYROID	2.831E-03	3.046E-03	1.376E-07	8.794E-03	2.855E-07	1.538E-07	7.548E-04	2.139E-04	2.412E-06	1.847E-07	1.275E-07
UTERUS	2.912E-04	3.129E-04	1.327E-06	9.374E-05	1.193E-04	2.311E-04	7.571E-04	1.480E-04	5.062E-06	3.290E-06	5.046E-07

DOSE EQUIVALENT (REM/MICROCURIE)

SOURCE	TESTES	OVARIES	OTHER	TOTAL
TARGET				
LUNGS	2.315E-09	5.068E-09	3.453E-04	247.
RES LYM	2.315E-09	5.068E-09	3.453E-04	1.756E 04
S WALL	9.897E-09	6.287E-08	3.293E-04	2.354E-02
SI WALL	9.662E-08	1.038E-06	3.845E-04	2.490E-02
ULI WALL	9.442E-08	1.046E-06	4.076E-04	0.101
LLI WALL	7.042E-07	1.356E-06	4.183E-04	0.204
T BODY	2.676E-04	8.429E-05	0.259	8.89
ADREN	9.664E-09	2.732E-08	0.535	0.555
BL WALL	1.239E-06	5.726E-07	0.268	0.270
KIDNEYS	1.195E-08	7.420E-08	3.621E-04	0.797
LIVER	8.893E-09	4.396E-08	2.668E-04	0.584
OVARIES	0.0	0.534	5.224E-04	0.538
PANCREAS	1.622E-08	3.847E-08	0.536	0.554
BONE	2.144E-07	1.139E-07	4.007E-04	18.3
R MAR	1.724E-07	4.029E-07	0.535	0.598
Y MAR	8.043E-08	1.537E-07	0.535	0.548
ENDOST	2.144E-07	1.139E-07	1.677E-03	1.72
SPLEEN	4.722E-09	4.064E-08	3.685E-04	0.550
TESTES	0.535	0.0	2.848E-04	0.536
THYMUS	8.690E-10	2.515E-09	0.536	0.566
THYROID	1.836E-10	5.153E-10	0.535	0.542
UTERUS	0.0	1.749E-06	0.536	0.538

PERCENT DOSE EQUIVALENT..

NUCLIDE	U-235	TH-231	PA-231
TARGET			
LUNGS	99.3	0.7	0.0
RES LYM	99.7	0.3	0.0
S WALL	59.8	40.2	0.0
SI WALL	23.1	76.9	0.0
ULI WALL	20.0	80.0	0.0
LLI WALL	26.2	73.8	0.0
T BODY	99.6	0.3	0.1
ADREN	99.1	0.7	0.1
BL WALL	99.4	0.5	0.1
KIDNEYS	99.0	0.5	0.6
LIVER	93.4	0.8	5.8
OVARIES	99.0	0.6	0.4
PANCREAS	99.1	0.7	0.1
BONE	99.4	0.1	0.5
R MAR	96.5	1.0	2.5
Y MAR	99.0	0.8	0.1
ENDOST	87.1	0.6	12.2
SPLEEN	99.1	0.7	0.1
TESTES	99.2	0.4	0.4
THYMUS	98.9	0.9	0.1
THYROID	99.4	0.5	0.1
UTERUS	99.4	0.5	0.1

CASE 2.. INHALATION

AMAD (MICRON).. 1.00 D3 =0.310 D4 =8.000E-02 D5 =0.249

	SOLUBILITY CLASS	G.I. UPTAKE FRACTIONS STOMACH	S INT	U L INT	L L INT
U-235	W	0.0	5.000E-02	0.0	0.0
TH-231	W	0.0	1.000E-03	0.0	0.0
PA-231	W	0.0	1.000E-03	0.0	0.0

DOSE EQUIVALENT (REM/MICROCURIE)

SOURCE	LUNGS	RES LYM	S CONT	SI CONT	ULI CONT	LLI CONT	EXCRET.	BONE	LIVER	KIDNEYS	SPLEEN
TARGET											
LUNGS	25.4	9.799E-03	1.416E-06	6.515E-07	2.357E-06	1.290E-06	2.167E-03	7.055E-04	1.009E-04	7.972E-06	8.820E-06
RES LYM	0.103	136.	1.416E-06	6.515E-07	2.357E-06	1.290E-06	2.167E-03	7.055E-04	1.009E-04	7.972E-06	8.820E-06
S WALL	6.440E-04	5.311E-05	2.037E-03	1.151E-05	3.819E-05	2.933E-05	2.174E-03	4.084E-04	7.292E-05	3.317E-05	3.807E-05
SI WALL	6.427E-05	5.247E-06	2.102E-06	4.856E-03	1.985E-04	1.793E-04	2.174E-03	5.436E-04	6.286E-05	2.748E-05	5.314E-06
ULI WALL	7.694E-05	6.284E-06	2.950E-06	1.514E-04	2.603E-02	8.543E-05	2.174E-03	5.227E-04	9.537E-05	2.733E-05	5.000E-06
LLI WALL	3.079E-05	2.498E-06	9.518E-07	3.095E-05	3.181E-05	7.038E-02	2.174E-03	7.801E-04	8.574E-06	7.330E-06	2.326E-06
T BODY	0.364	2.933E-02	6.321E-06	5.109E-05	1.013E-04	2.005E-04	2.788E-03	3.77	3.980E-02	1.002E-02	3.977E-03
ADREN	8.837E-04	7.283E-05	2.004E-06	3.570E-06	8.319E-06	6.360E-06	2.174E-03	8.690E-04	1.891E-04	1.120E-04	2.481E-05
BL WALL	1.452E-05	1.180E-06	1.831E-07	7.638E-06	1.992E-05	1.132E-04	2.174E-03	3.475E-04	5.737E-06	2.747E-06	5.367E-07
KIDNEYS	2.911E-04	2.384E-05	2.758E-06	9.237E-06	2.599E-05	1.454E-05	2.174E-03	6.365E-04	1.517E-04	2.26	3.637E-05
LIVER	8.685E-04	7.181E-05	1.560E-06	5.517E-06	2.437E-05	4.159E-06	2.174E-03	4.788E-04	1.54	3.725E-05	3.733E-06
OVARIES	3.646E-05	2.969E-06	3.625E-07	3.702E-05	1.258E-04	3.748E-04	2.174E-03	5.160E-04	1.771E-05	1.108E-05	1.805E-06
PANCREAS	8.740E-04	7.191E-05	1.612E-05	5.941E-06	2.160E-05	1.144E-05	2.174E-03	7.066E-04	1.576E-04	6.269E-05	7.831E-05
BONE	4.720E-04	3.932E-05	6.855E-07	3.745E-06	1.028E-05	2.738E-05	1.082E-02	52.8	4.025E-05	1.296E-05	4.093E-06
R MAR	5.975E-04	4.971E-05	1.191E-06	1.281E-05	3.369E-05	8.834E-05	2.174E-03	0.110	5.712E-05	3.394E-05	6.094E-06
Y MAR	4.920E-04	4.106E-05	9.638E-07	5.248E-06	1.476E-05	3.436E-05	2.174E-03	4.653E-03	5.992E-05	1.588E-05	6.098E-06
ENDOST	4.720E-04	3.932E-05	6.855E-07	3.745E-06	1.024E-05	2.738E-05	2.174E-03	4.45	4.025E-05	1.296E-05	4.093E-06
SPLEEN	8.032E-04	6.630E-05	8.332E-06	4.457E-06	1.304E-05	1.268E-05	2.174E-03	4.653E-04	3.458E-05	8.888E-05	1.54
TESTES	3.470E-06	2.814E-07	4.144E-08	9.068E-07	2.556E-06	3.105E-05	2.167E-03	4.488E-04	2.699E-06	9.478E-07	2.127E-07
THYMUS	1.438E-03	1.185E-04	2.011E-07	2.508E-07	9.452E-07	4.971E-07	2.174E-03	7.605E-04	2.350E-05	1.819E-06	1.211E-06
THYROID	2.917E-04	2.390E-05	7.251E-08	4.960E-08	1.747E-07	1.078E-07	2.167E-03	6.195E-04	6.898E-06	5.296E-07	3.699E-07
UTERUS	3.001E-05	2.446E-06	5.818E-07	3.042E-05	4.317E-05	1.131E-04	2.174E-03	4.286E-04	1.443E-05	9.432E-06	1.463E-06

DOSE EQUIVALENT (REM/MICROCURIE)

SOURCE	TESTES	OVARIES	OTHER	TOTAL
TARGET				
LUNGS	6.712E-09	1.469E-08	1.001E-03	25.4
RES LYM	6.712E-09	1.469E-08	1.001E-03	136.
S WALL	2.868E-08	1.822E-07	9.549E-04	6.494E-03
SI WALL	2.800E-07	3.006E-06	1.116E-03	9.227E-03
ULI WALL	2.447E-07	3.029E-06	1.182E-03	3.036E-02
LLI WALL	2.041E-06	3.927E-06	1.213E-03	7.467E-02
T BODY	7.739E-04	2.437E-04	0.749	4.97
ADREN	2.801E-08	7.918E-08	1.55	1.56
BL WALL	3.590E-06	1.659E-06	0.777	0.780
KIDNEYS	3.464E-08	2.150E-07	1.050E-03	2.26
LIVER	2.577E-08	1.274E-07	7.736E-04	1.55
OVARIES	0.0	1.54	1.515E-03	1.55
PANCREAS	4.703E-08	1.115E-07	1.55	1.56
BONE	6.213E-07	3.300E-07	1.162E-03	52.8
R MAR	4.995E-07	1.167E-06	1.55	1.66
Y MAR	2.332E-07	4.455E-07	1.55	1.56
ENDOST	6.213E-07	3.300E-07	4.859E-03	4.45
SPLEEN	1.368E-08	1.178E-07	1.068E-03	1.55
TESTES	1.55	0.0	8.258E-04	1.55
THYMUS	2.518E-09	7.291E-09	1.55	1.56
THYROID	5.321E-10	1.493E-09	1.55	1.56
UTERUS	0.0	5.068E-06	1.55	1.56

PERCENT DOSE EQUIVALENT..

NUCLIDE	U-235	TH-231	PA-231
TARGET			
LUNGS	99.7	0.3	0.0
RES LYM	99.6	0.4	0.0
S WALL	80.5	19.5	0.0
SI WALL	70.7	29.3	0.0
ULI WALL	61.0	39.0	0.0
LLI WALL	63.7	36.3	0.0
T BODY	99.8	0.2	0.1
ADREN	99.5	0.4	0.1
BL WALL	99.5	0.4	0.1
KIDNEYS	99.5	0.4	0.1
LIVER	99.4	0.4	0.1
OVARIES	99.5	0.4	0.1
PANCREAS	99.5	0.4	0.1
BONE	99.8	0.1	0.1
R MAR	98.8	0.7	0.5
Y MAR	99.4	0.5	0.1
ENDOST	97.1	0.6	2.3
SPLEEN	99.5	0.4	0.1
TESTES	99.5	0.4	0.1
THYMUS	99.5	0.4	0.1
THYROID	99.5	0.4	0.1
UTERUS	99.5	0.4	0.1

CASE 3.. INHALATION

AMAD (MICRON).. 1.00 D3 =0.310 D4 =8.000E-02 D5 =0.249

	SOLUBILITY CLASS	G.I. UPTAKE FRACTIONS STOMACH	S INT	U L INT	L L INT
U-235	D	0.0	5.000E-02	0.0	0.0
TH-231	W	0.0	1.000E-03	0.0	0.0
PA-231	W	0.0	1.000E-03	0.0	0.0

DOSE EQUIVALENT (REM/MICROCURIE)

SOURCE	LUNGS	RES LYM	S CONT	SI CONT	ULI CONT	LLI CONT	EXCRET.	BONE	LIVER	KIDNEYS	SPLEEN
TARGET											
LUNGS	0.425	3.896E-04	3.224E-07	1.711E-07	6.364E-07	3.699E-07	7.203E-03	2.540E-03	3.342E-04	2.651E-05	2.034E-05
RES LYM	1.704E-03	5.45	3.224E-07	1.711E-07	6.364E-07	3.699E-07	7.203E-03	2.540E-03	3.342E-04	2.651E-05	2.034E-05
S WALL	1.075E-05	2.122E-06	3.404E-04	2.687E-05	9.241E-06	8.079E-06	7.230E-03	1.359E-03	2.418E-04	1.103E-04	1.266E-04
SI WALL	1.073E-06	2.098E-07	4.990E-07	8.357E-04	4.242E-05	4.578E-05	7.230E-03	1.603E-03	2.085E-04	9.137E-05	1.767E-05
ULI WALL	1.285E-06	2.512E-07	6.726E-07	2.113E-05	5.193E-03	2.129E-05	7.230E-03	1.734E-03	2.162E-04	9.089E-05	1.664E-05
LLI WALL	5.142E-07	9.993E-08	2.764E-07	5.640E-06	7.609E-06	1.657E-02	7.230E-03	2.504E-03	2.846E-04	2.438E-05	7.737E-06
T BODY	6.080E-03	1.173E-03	1.068E-06	8.955E-06	2.046E-05	4.750E-05	9.274E-03	13.6	0.132	3.332E-02	1.323E-02
ADREN	1.475E-05	2.911E-06	4.773E-07	9.773E-07	2.190E-06	1.833E-06	7.230E-03	2.330E-03	6.267E-04	3.722E-04	8.233E-05
BL WALL	2.425E-07	4.718E-08	4.527E-08	1.870E-06	5.211E-06	3.077E-05	7.230E-03	1.156E-03	1.904E-04	9.137E-06	1.785E-06
KIDNEYS	4.860E-06	9.530E-07	6.645E-07	2.248E-05	6.719E-06	4.116E-06	7.230E-03	2.117E-03	5.027E-04	7.50	1.210E-04
LIVER	1.449E-05	2.869E-06	3.749E-07	1.341E-06	5.353E-06	1.191E-06	7.230E-03	1.592E-03	5.13	1.239E-04	1.243E-03
OVARIES	6.088E-07	1.187E-07	8.651E-08	7.911E-06	3.322E-05	9.461E-05	7.230E-03	1.716E-03	3.684E-05	6.004E-06	6.604E-04
PANCREAS	1.459E-05	2.874E-06	3.443E-06	1.478E-06	5.726E-06	3.212E-06	7.230E-03	2.350E-03	5.423E-04	2.085E-04	2.605E-04
BONE	7.872E-06	1.571E-06	1.524E-07	8.196E-07	2.464E-06	6.953E-06	3.668E-03	176.	1.333E-04	4.709E-05	1.361E-03
R MAR	9.967E-06	1.986E-06	2.721E-07	2.727E-06	7.917E-06	2.191E-05	7.230E-03	0.564	1.893E-04	1.130E-04	3.027E-06
Y MAR	8.236E-06	1.640E-06	2.131E-07	1.147E-06	3.534E-06	8.645E-06	7.230E-03	1.647E-02	1.084E-04	5.290E-05	2.029E-05
ENDOST	7.872E-06	1.571E-06	1.524E-07	8.196E-07	2.464E-06	6.953E-06	7.230E-03	14.8	1.773E-04	4.709E-05	1.761E-05
SPLEEN	1.340E-05	2.649E-06	1.903E-06	1.113E-06	3.405E-06	3.535E-06	7.230E-03	1.547E-03	1.147E-04	2.955E-04	5.13
TESTES	5.796E-08	1.125E-08	1.123E-08	2.403E-07	7.042E-07	9.653E-06	7.208E-03	1.403E-03	8.065E-06	3.152E-06	7.075E-07
THYMUS	2.399E-05	4.736E-06	4.836E-08	6.887E-08	2.633E-07	1.460E-07	7.230E-03	1.109E-03	7.798E-05	6.048E-06	4.027E-06
THYROID	4.870E-06	9.553E-07	1.998E-08	1.398E-03	5.224E-08	3.197E-08	7.208E-03	2.060E-03	2.882E-05	1.761E-06	1.230E-06
UTERUS	5.012E-07	9.781E-08	1.603E-07	6.892E-06	1.315E-05	3.237E-05	7.220E-03	1.425E-03	4.788E-05	3.137E-05	4.867E-06

DOSE EQUIVALENT (REM/MICROCURIE)

SOURCE	TESTES	OVARIES	OTHER	TOTAL
TARGET				
LUNGS	2.232E-08	4.985E-08	3.330E-03	0.438
RES LYM	2.232E-08	4.985E-08	3.330E-03	5.46
S WALL	9.539E-08	6.059E-07	3.176E-03	1.262E-02
SI WALL	9.313E-07	9.997E-06	3.711E-03	1.440E-02
ULI WALL	8.133E-07	1.007E-05	3.931E-03	1.858E-02
LLI WALL	6.787E-06	1.306E-05	4.035E-03	3.052E-02
T BODY	2.574E-03	8.107E-04	2.49	15.2
ADREN	2.316E-08	2.634E-07	5.16	5.17
BL WALL	1.194E-05	5.519E-06	2.59	2.59
KIDNEYS	1.152E-07	7.152E-07	3.492E-03	7.52
LIVER	8.572E-08	4.237E-07	2.573E-03	5.14
OVARIES	0.0	5.14	5.038E-03	5.15
PANCREAS	1.564E-07	3.709E-07	5.16	5.17
BONE	2.066E-06	1.097E-06	3.863E-03	176.
R MAR	1.661E-06	3.882E-06	5.16	5.53
Y MAR	7.757E-07	1.481E-06	5.16	5.18
ENDOST	2.066E-06	1.097E-06	1.616E-02	14.9
SPLEEN	4.548E-08	3.917E-07	3.654E-03	5.14
TESTES	5.15	0.0	2.747E-03	5.16
THYMUS	8.376E-09	2.425E-08	5.17	5.18
THYROID	1.770E-09	4.967E-09	5.16	5.17
UTERUS	0.0	1.686E-05	5.17	5.18

PERCENT DOSE EQUIVALENT..

NUCLIDE	U-235	TH-231	PA-231
TARGET			
LUNGS	99.4	0.6	0.0
RES LYM	99.6	0.4	0.0
S WALL	95.0	5.0	0.0
SI WALL	94.3	5.7	0.0
ULI WALL	91.4	8.6	0.0
LLI WALL	86.7	13.3	0.0
T BODY	99.8	0.1	0.1
ADREN	99.6	0.4	0.1
BL WALL	99.5	0.4	0.1
KIDNEYS	99.5	0.4	0.1
LIVER	99.5	0.4	0.1
OVARIES	99.5	0.4	0.1
PANCREAS	99.5	0.4	0.1
BONE	99.8	0.1	0.1
R MAR	99.8	0.7	0.5
Y MAR	99.4	0.5	0.1
ENDOST	97.3	0.6	2.2
SPLEEN	99.6	0.4	0.1
TESTES	99.5	0.4	0.1
THYMUS	99.5	0.4	0.1
THYROID	99.6	0.4	0.1
UTERUS	99.5	0.4	0.1

CASE 4... INGESTION

INGESTION TRANSFER FRACTIONS (G. I. TRACT TO BLOOD)

	U-235	TH-231	PA-231
STOMACH	0.0	0.0	0.0
S INT	2.000E-03	1.000E-03	1.000E-03
U L INT	0.0	0.0	0.0
L L INT	0.0	0.0	0.0

DOSE EQUIVALENT (REM/MICROCURIE)

SOURCE	S CONT	SI CONT	ULI CONT	LLI CONT	EXCRET.	BONE	LIVER	KIDNEYS	SPLEEN	TESTES	OVARIES
TARGET											
LUNGS	1.987E-06	1.119E-06	4.171E-06	2.434E-06	2.953E-05	9.614E-06	1.370E-06	1.036E-07	1.202E-07	9.147E-11	2.002E-10
RES LYM	1.987E-06	1.119E-06	4.171E-06	2.434E-06	2.953E-05	9.614E-06	1.370E-06	1.086E-07	1.202E-07	9.147E-11	2.002E-10
S WALL	2.036E-03	1.742E-05	6.009E-05	5.303E-05	2.963E-05	5.565E-06	9.213E-07	4.520E-07	5.189E-07	3.909E-10	2.483E-09
SI WALL	3.045E-06	5.265E-03	2.743E-04	2.989E-04	2.963E-05	7.408E-06	8.547E-07	3.744E-07	7.242E-08	3.816E-09	4.096E-08
ULI WALL	4.145E-06	1.297E-04	3.326E-02	1.387E-04	2.963E-05	7.123E-06	1.206E-06	3.724E-07	6.814E-08	3.335E-09	4.128E-08
LLI WALL	1.466E-06	3.576E-05	4.943E-05	0.108	2.963E-05	1.063E-05	1.166E-07	9.939E-08	3.170E-08	2.781E-08	5.351E-08
T BODY	6.332E-06	5.654E-05	1.310E-04	3.084E-04	2.963E-05	5.136E-02	5.420E-04	1.365E-04	5.421E-05	1.055E-05	3.722E-06
ADREN	2.955E-06	6.411E-06	1.433E-05	1.211E-05	2.963E-05	1.134E-05	2.560E-06	1.525E-06	3.381E-07	3.817E-10	1.070E-09
BL WALL	2.807E-07	1.224E-05	3.405E-05	2.018E-04	2.963E-05	4.736E-06	7.304E-08	3.744E-08	7.315E-09	4.893E-08	2.261E-08
KIDNEYS	4.112E-06	1.462E-05	4.390E-05	2.707E-05	2.963E-05	8.674E-06	2.061E-06	3.075E-02	4.957E-07	4.721E-10	2.931E-09
LIVER	2.320E-06	8.721E-06	4.084E-05	7.838E-06	2.963E-05	6.524E-06	2.101E-02	5.076E-07	5.094E-08	3.513E-10	1.736E-09
OVARIES	5.350E-07	5.092E-05	1.894E-04	6.172E-04	2.963E-05	7.031E-06	2.402E-07	1.530E-07	2.460E-08	0.0	2.155E-02
PANCREAS	2.110E-05	9.633E-06	3.748E-05	2.111E-05	2.963E-05	9.630E-06	2.141E-06	8.543E-07	1.067E-06	6.409E-10	1.520E-09
BONE	9.372E-07	5.287E-06	1.601E-05	4.538E-05	1.475E-04	0.720	5.465E-07	1.766E-07	5.579E-08	8.466E-09	4.497E-09
R MAR	1.677E-06	1.755E-05	5.136E-05	1.427E-04	2.963E-05	1.491E-03	7.750E-07	4.625E-07	8.306E-08	6.408E-09	1.591E-08
Y MAR	1.310E-06	7.395E-06	2.296E-05	5.638E-05	2.963E-05	6.339E-05	8.135E-07	2.163E-07	3.211E-08	3.179E-09	6.071E-09
ENDOST	9.372E-07	5.287E-06	1.601E-05	4.538E-05	2.963E-05	6.052E-02	5.465E-07	1.766E-07	5.579E-08	8.466E-09	4.497E-09
SPLEEN	1.171E-05	7.257E-06	2.226E-05	2.322E-05	2.963E-05	6.341E-06	4.703E-07	1.211E-06	2.101E-02	1.864E-10	1.605E-09
TESTES	7.010E-08	1.573E-06	4.622E-06	5.691E-05	2.953E-05	6.116E-06	3.674E-08	1.202E-08	2.899E-09	2.109E-02	0.0
THYMUS	2.992E-07	4.519E-07	1.733E-06	9.621E-07	2.963E-05	4.913E-06	3.197E-07	2.478E-08	1.650E-08	3.432E-11	9.936E-11
THYROID	1.243E-07	9.191E-08	3.410E-07	2.108E-07	2.953E-05	8.443E-06	9.392E-08	7.217E-09	5.041E-09	7.252E-12	2.035E-11
UTERUS	9.352E-07	4.459E-05	7.922E-05	2.124E-04	2.963E-05	5.841E-06	1.963E-07	1.285E-07	1.994E-08	0.0	6.907E-08

DOSE EQUIVALENT (REM/MICROCURIE)

SOURCE	OTHER	TOTAL
TARGET		
LUNGS	1.365E-05	6.411E-05
RES LYM	1.365E-05	6.411E-05
S WALL	1.301E-05	2.217E-03
SI WALL	1.521E-05	5.895E-03
ULI WALL	1.611E-05	3.359E-02
LLI WALL	1.663E-05	0.108
T BODY	1.021E-02	6.286E-02
ADREN	2.115E-02	2.123E-02
BL WALL	1.059E-02	1.088E-02
KIDNEYS	1.431E-05	3.089E-02
LIVER	1.054E-05	2.112E-02
OVARIES	2.065E-05	2.197E-02
PANCREAS	2.116E-02	2.129E-02
BONE	1.583E-05	0.720
R MAR	2.115E-02	2.288E-02
Y MAR	2.115E-02	2.133E-02
ENDOST	6.622E-05	6.063E-02
SPLEEN	1.456E-05	2.113E-02
TESTES	1.125E-05	2.120E-02
THYMUS	2.119E-02	2.123E-02
THYROID	2.115E-02	2.119E-02
UTERUS	2.119E-02	2.156E-02

PERCENT DOSE EQUIVALENT..

NUCLIDE	U-235	TH-231	PA-231
TARGET			
LUNGS	93.7	6.7	0.0
RES LYM	93.7	6.7	0.0
S WALL	98.7	1.3	0.0
SI WALL	95.2	4.8	0.0
ULI WALL	88.8	11.2	0.0
LLI WALL	82.1	17.9	0.0
T BODY	99.7	0.3	0.1
ADREN	99.5	0.4	0.1
BL WALL	99.4	0.6	0.1
KIDNEYS	99.5	0.4	0.1
LIVER	99.5	0.4	0.1
OVARIES	99.1	0.8	0.1
PANCREAS	99.5	0.4	0.1
BONE	99.8	0.1	0.1
R MAR	98.8	0.8	0.5
Y MAR	99.4	0.6	0.1
ENDOST	97.2	0.6	2.2
SPLEEN	99.5	0.4	0.1
TESTES	99.5	0.4	0.1
THYMUS	99.5	0.4	0.1
THYROID	99.5	0.4	0.1
UTERUS	99.4	0.5	0.1

CASE 5.. INGESTION

INGESTION TRANSFER FRACTIONS (G. I. TRACT TO BLOOD)

	U-235	TH-231	PA-231
STOMACH	0.0	0.0	0.0
S INT	5.000E-02	1.000E-03	1.000E-03
U L INT	0.0	0.0	0.0
L L INT	0.0	0.0	0.0

DOSE EQUIVALENT (REM/MICROCURIE)

SOURCE	S CONT	SI CONT	ULI CONT	LLI CONT	EXCRET.	BONE	LIVER	KIDNEYS	SPLEEN	TESTES	OVARIES
TARGET											
LUNGS	1.987E-06	1.066E-06	3.971E-06	2.317E-06	7.384E-04	2.403E-04	3.424E-05	2.716E-06	3.005E-06	2.287E-09	5.005E-09
RES LYM	1.987E-06	1.066E-06	3.971E-06	2.317E-06	7.384E-04	2.403E-04	3.424E-05	2.716E-06	3.005E-06	2.287E-09	5.005E-09
S WALL	3.036E-03	1.659E-05	5.721E-05	5.048E-05	7.406E-04	1.391E-04	2.477E-05	1.130E-05	1.297E-05	9.772E-09	6.207E-08
SI WALL	3.085E-06	5.014E-03	2.611E-04	2.846E-04	7.407E-04	1.852E-04	2.136E-05	9.360E-06	1.811E-06	9.541E-08	1.024E-06
ULI WALL	4.145E-06	1.235E-04	3.167E-02	1.320E-04	7.407E-04	1.781E-04	3.239E-05	9.311E-06	1.703E-06	8.337E-08	1.032E-06
LLI WALL	1.466E-06	3.405E-05	4.706E-05	0.102	7.406E-04	2.657E-04	2.915E-06	2.497E-06	7.926E-07	6.952E-07	1.338E-06
T BODY	6.392E-06	5.384E-05	1.248E-04	2.936E-04	9.500E-04	1.28	1.355E-02	3.414E-03	1.355E-03	2.637E-04	8.305E-05
ADREN	2.955E-06	6.103E-06	1.364E-05	1.153E-05	7.406E-04	2.961E-04	6.420E-05	3.813E-05	3.453E-06	9.543E-09	2.698E-08
BL WALL	2.807E-07	1.165E-05	3.244E-05	1.921E-04	7.406E-04	1.184E-04	1.950E-06	9.360E-07	1.829E-07	1.223E-06	5.653E-07
KIDNEYS	4.112E-06	1.392E-05	4.180E-05	2.576E-05	7.406E-04	2.168E-04	5.150E-05	0.769	1.239E-05	1.180E-08	7.326E-08
LIVER	2.320E-06	8.302E-06	3.888E-05	7.462E-06	7.406E-04	1.631E-04	0.525	1.269E-05	1.274E-06	8.782E-09	4.341E-08
OVARIES	5.350E-07	4.948E-05	1.803E-04	5.876E-04	7.407E-04	1.758E-04	6.021E-06	3.774E-06	6.150E-07	0.0	0.526
PANCREAS	2.110E-05	9.171E-06	3.568E-05	2.009E-05	7.407E-04	2.407E-04	5.349E-05	2.136E-05	2.668E-05	1.602E-08	3.799E-08
BONE	9.372E-07	5.033E-06	1.524E-05	4.320E-05	3.688E-03	18.0	1.365E-05	4.414E-06	1.395E-06	2.117E-07	1.124E-07
R MAR	1.677E-06	1.671E-05	4.890E-05	1.359E-04	7.407E-04	3.728E-02	1.938E-05	1.156E-05	2.076E-06	1.702E-07	3.977E-07
Y MAR	1.310E-06	7.041E-06	2.186E-05	5.368E-05	7.407E-04	1.584E-03	2.032E-05	5.408E-06	2.078E-06	7.946E-08	1.518E-07
ENDOST	9.372E-07	5.033E-06	1.524E-05	4.320E-05	7.407E-04	1.51	1.365E-05	4.414E-06	1.395E-06	2.117E-07	1.124E-07
SPLEEN	1.171E-05	6.908E-06	2.119E-05	2.211E-05	7.406E-04	1.585E-04	1.175E-05	3.027E-05	0.525	4.659E-09	4.013E-08
TESTES	7.010E-08	1.498E-06	4.400E-06	5.417E-05	7.383E-04	1.539E-04	9.183E-07	3.229E-07	7.248E-08	0.527	0.0
THYMUS	2.992E-07	4.302E-07	1.649E-06	9.158E-07	7.407E-04	1.228E-04	7.988E-06	6.196E-07	4.126E-07	8.530E-10	2.484E-09
THYROID	1.243E-07	8.749E-08	3.151E-07	2.007E-07	7.384E-04	2.111E-04	2.347E-06	1.804E-07	1.260E-07	1.813E-10	5.088E-10
UTERUS	9.352E-07	4.245E-05	7.542E-05	2.022E-04	7.407E-04	1.460E-04	4.905E-06	3.213E-06	4.986E-07	0.0	1.727E-06

DOSE EQUIVALENT (REM/MICROCURIE)

SOURCE	OTHER	TOTAL
TARGET		
LUNGS	3.412E-04	1.369E-03
RES LYM	3.412E-04	1.369E-03
S WALL	3.253E-04	3.414E-03
SI WALL	3.802E-04	6.903E-03
ULI WALL	4.027E-04	3.330E-02
LLI WALL	4.133E-04	0.104
T BODY	0.255	1.56
ADREN	0.529	0.530
BL WALL	0.265	0.266
KIDNEYS	3.578E-04	0.770
LIVER	2.636E-04	0.526
OVARIES	5.161E-04	0.523
PANCREAS	0.529	0.530
BONE	3.958E-04	18.0
R MAR	0.529	0.567
Y MAR	0.529	0.531
ENDOST	1.656E-03	1.52
SPLEEN	3.640E-04	0.527
TESTES	2.814E-04	0.529
THYMUS	0.530	0.531
THYROID	0.529	0.530
UTERUS	0.530	0.531

PERCENT DOSE EQUIVALENT..

NUCLIDE	U-235	TH-231	PA-231
TARGET			
LUNGS	92.6	7.4	0.0
RES LYM	92.6	7.4	0.0
S WALL	97.4	2.6	0.0
SI WALL	95.0	5.0	0.0
ULI WALL	88.9	11.1	0.0
LLI WALL	82.2	17.8	0.0
T BODY	99.8	0.1	0.1
ADREN	99.5	0.4	0.1
BL WALL	99.5	0.4	0.1
KIDNEYS	99.5	0.4	0.1
LIVER	99.5	0.4	0.1
OVARIES	99.5	0.4	0.1
PANCREAS	99.5	0.4	0.1
BONE	99.8	0.1	0.1
R MAR	98.9	0.7	0.5
Y MAR	99.4	0.5	0.1
ENDOST	97.2	0.6	2.2
SPLEEN	99.5	0.4	0.1
TESTES	99.5	0.4	0.1
THYMUS	99.5	0.4	0.1
THYROID	99.5	0.4	0.1
UTERUS	99.5	0.4	0.1

CASE 6.. INGESTION

INGESTION TRANSFER FRACTIONS (G. I. TRACT TO BLOOD)

	U-235	TH-231	PA-231
STOMACH	0.0	0.0	0.0
S INT	0.200	1.000E-03	1.000E-03
U L INT	0.0	0.0	0.0
L L INT	0.0	0.0	0.0

DOSE EQUIVALENT (REM)

SOURCE	S CONT	SI CONT	ULI CONT	LLI CONT	EXCRET.	BONE	LIVER	KIDNEYS	SPLEEN	TESTES	OVARIES
TARGET											
LUNGS	1.987E-06	8.977E-07	3.345E-06	1.052E-06	2.953E-03	2.614E-04	1.369E-04	1.086E-05	1.202E-05	9.147E-09	2.002E-08
RES LYM	1.987E-06	8.977E-07	3.345E-06	1.052E-06	2.953E-03	2.614E-04	1.369E-04	1.086E-05	1.202E-05	9.147E-09	2.002E-08
S WALL	2.036E-03	1.398E-05	4.820E-05	4.752E-05	2.963E-03	5.565E-04	9.909E-05	4.520E-05	5.185E-05	3.909E-08	2.483E-07
SI WALL	3.085E-06	4.230E-03	2.201E-04	2.297E-04	2.963E-03	7.407E-04	8.543E-05	3.744E-05	7.242E-06	3.816E-07	4.096E-06
ULI WALL	4.145E-06	1.043E-04	2.670E-02	1.112E-04	2.963E-03	7.122E-04	1.296E-04	3.724E-05	6.814E-06	3.335E-07	4.128E-06
LLI WALL	1.466E-06	2.872E-05	3.966E-05	8.526E-02	2.963E-03	1.063E-03	1.166E-05	5.989E-06	3.170E-06	2.781E-06	5.350E-06
T BODY	6.392E-06	4.541E-05	1.052E-04	2.474E-04	3.800E-03	5.14	5.420E-02	1.365E-02	5.421E-03	1.055E-03	3.322E-04
ADREN	2.955E-06	5.141E-06	1.149E-05	9.707E-06	2.963E-03	1.184E-03	2.568E-04	1.525E-04	3.381E-05	3.817E-08	1.079E-07
BL WALL	2.807E-07	9.814E-06	2.733E-05	1.518E-04	2.963E-03	4.736E-04	7.802E-06	3.744E-06	7.315E-07	4.893E-06	2.261E-06
KIDNEYS	4.112E-06	1.173E-05	3.521E-05	2.170E-05	2.963E-03	8.674E-04	2.060E-04	3.07	4.956E-05	4.721E-08	2.931E-07
LIVER	2.320E-06	6.995E-06	3.275E-05	6.284E-06	2.963E-03	6.524E-04	2.10	5.076E-05	5.094E-06	3.513E-08	1.736E-07
OVARIES	5.350E-07	4.087E-05	1.519E-04	4.950E-04	2.963E-03	7.031E-04	2.408E-05	1.509E-05	2.460E-06	0.0	2.10
PANCREAS	2.110E-05	7.726E-06	3.006E-05	1.592E-05	2.963E-03	9.630E-04	2.140E-04	8.542E-05	1.067E-04	6.409E-08	1.520E-07
BONE	9.372E-07	4.242E-06	1.284E-05	3.640E-05	1.475E-02	72.0	5.461E-05	1.766E-05	5.575E-06	8.466E-07	4.497E-07
R MAR	1.677E-06	1.408E-05	4.121E-05	1.145E-04	2.963E-03	0.149	7.753E-05	4.624E-05	8.306E-06	6.807E-07	1.591E-06
Y MAR	1.310E-06	5.934E-06	1.842E-05	4.522E-05	2.963E-03	6.338E-03	8.128E-05	2.163E-05	8.311E-06	3.179E-07	6.070E-07
ENDOST	9.372E-07	4.242E-06	1.284E-05	3.540E-05	2.963E-03	6.05	5.461E-05	1.766E-05	5.575E-06	8.466E-07	4.497E-07
SPLEEN	1.171E-05	5.820E-06	1.785E-05	1.862E-05	2.963E-03	6.341E-04	4.701E-05	1.211E-04	2.10	1.864E-08	1.605E-07
TESTES	7.010E-08	1.262E-06	3.706E-06	4.563E-05	2.953E-03	6.116E-04	3.673E-06	1.292E-06	2.895E-07	2.11	0.0
THYMUS	2.992E-07	3.623E-07	1.389E-06	7.713E-07	2.963E-03	4.913E-04	3.195E-05	2.478E-06	1.650E-06	3.432E-09	9.936E-09
THYROID	1.243E-07	7.369E-08	2.653E-07	1.590E-07	2.953E-03	3.443E-04	9.390E-06	7.217E-07	5.041E-07	7.252E-10	2.035E-09
UTERUS	9.352E-07	3.577E-05	6.354E-05	1.703E-04	2.963E-03	5.840E-04	1.962E-05	1.285E-05	1.994E-06	0.0	6.907E-06

DOSE EQUIVALENT (REM)

SOURCE	OTHER	TOTAL
TARGET		
LUNGS	1.365E-03	5.447E-03
RES LYM	1.365E-03	5.447E-03
S WALL	1.301E-03	7.157E-03
SI WALL	1.521E-03	1.005E-02
ULI WALL	1.611E-03	3.238E-02
LLI WALL	1.653E-03	9.204E-02
T BODY	1.02	6.24
ADREN	2.12	2.12
BL WALL	1.06	1.06
KIDNEYS	1.431E-03	3.68
LIVER	1.054E-03	2.11
OVARIES	2.065E-03	2.11
PANCREAS	2.12	2.12
BONE	1.583E-03	72.0
R MAR	2.11	2.27
Y MAR	2.12	2.12
ENDOST	6.622E-03	6.06
SPLEEN	1.456E-03	2.11
TESTES	1.125E-03	2.11
THYMUS	2.12	2.12
THYROID	2.12	2.12
UTERUS	2.12	2.12

PERCENT DOSE EQUIVALENT..

NUCLIDE	U-235	TH-231	PA-231
TARGET			
LUNGS	92.5	7.5	0.0
RES LYM	92.5	7.5	0.0
S WALL	96.1	3.9	0.0
SI WALL	94.7	5.3	0.0
ULI WALL	89.4	10.6	0.0
LLI WALL	82.7	17.3	0.0
T BODY	99.8	0.1	0.1
ADREN	99.5	0.4	0.1
BL WALL	99.5	0.4	0.1
KIDNEYS	99.5	0.4	0.1
LIVER	99.5	0.4	0.1
OVARIES	99.5	0.4	0.1
PANCREAS	99.5	0.4	0.1
BONE	99.8	0.1	0.1
R MAR	98.9	0.7	0.5
Y MAR	99.4	0.5	0.1
ENDOST	97.2	0.6	2.2
SPLEEN	99.5	0.4	0.1
TESTES	99.5	0.4	0.1
THYMUS	99.5	0.4	0.1
THYROID	99.5	0.4	0.1
UTERUS	99.5	0.4	0.1

RADIONUCLIDE: U-236

PHYSICAL AND METABOLIC PARAMETERS FOR DOSIMETRICALLY SIGNIFICANT PROGENY:

NUCLIDE	RADIOACTIVE HALF-LIFE (DAYS)
U-236	8.5500E 09

ORGAN	NUCLIDE	BLOOD TRANSFER FRACTION F2-PRIME	COMPARTMENT DEPOSITION FRACTION	COMPARTMENT BIOLOGICAL HALF-TIME (DAYS)
ABSORBED	U-236	1.00	0.631	0.500
			0.120	6.00
			0.200	20.0
			5.200E-04	1.500E 03
			4.800E-02	5.000E 03
EXCRET.	U-236	0.631	1.00	0.500
BONE	U-236	0.223	0.897	20.0
			0.103	5.000E 03
KIDNEYS	U-236	0.121	0.996	6.00
			4.000E-03	1.500E 03
OTHER	U-236	2.500E-02	1.00	5.000E 03

S FACTORS (REM/MICROCURIE-DAY) FOR U-236

TARGET ORGANS	SOURCE ORGANS									
	LUNGS	RES LYM	S CONT	SI CONT	ULI CONT	LLI CONT	EXCRET.	BONE	KIDNEYS	OTHER
LUNGS	0.239E 01	0.532E-03	0.350E-07	0.975E-09	0.130E-08	0.247E-09	0.340E-01	0.236E-07	0.989E-08	0.339E-06
RES LYM	0.532E-03	0.159E 03	0.350E-07	0.975E-09	0.130E-08	0.247E-09	0.340E-01	0.236E-07	0.989E-08	0.339E-06
S WALL	0.655E-07	0.655E-07	0.470E-01	0.123E-06	0.223E-06	0.177E-07	0.340E-01	0.160E-07	0.332E-07	0.611E-07
SI WALL	0.764E-09	0.764E-09	0.423E-07	0.294E-01	0.236E-05	0.127E-05	0.340E-01	0.195E-07	0.262E-07	0.106E-06
ULI WALL	0.108E-08	0.108E-08	0.109E-06	0.298E-04	0.534E-01	0.119E-05	0.340E-01	0.235E-07	0.244E-07	0.281E-06
LLI WALL	0.177E-09	0.177E-09	0.101E-07	0.285E-05	0.243E-06	0.870E-01	0.340E-01	0.639E-07	0.381E-08	0.692E-07
T BODY	0.340E-01	0.340E-01	0.101E-03	0.269E-03	0.161E-03	0.200E-03	0.437E-01	0.170E 00	0.340E-01	0.339E-01
ADREN	0.130E-06	0.130E-06	0.252E-07	0.567E-08	0.667E-08	0.149E-08	0.340E-01	0.469E-07	0.182E-05	0.425E-01
BL WALL	0.111E-09	0.111E-09	0.113E-08	0.213E-07	0.155E-07	0.812E-07	0.340E-01	0.318E-08	0.683E-09	0.212E-01
KIDNEYS	0.620E-08	0.620E-08	0.344E-07	0.272E-07	0.261E-07	0.542E-08	0.340E-01	0.327E-07	0.767E 01	0.204E-06
LIVER	0.119E-06	0.119E-06	0.366E-07	0.319E-07	0.381E-07	0.976E-09	0.340E-01	0.156E-07	0.785E-07	0.425E-01
OVARIES	0.482E-09	0.482E-09	0.491E-08	0.131E-05	0.184E-05	0.373E-05	0.340E-01	0.847E-08	0.774E-08	0.425E-01
PANCREAS	0.272E-07	0.272E-07	0.942E-06	0.165E-07	0.169E-07	0.357E-08	0.340E-01	0.402E-07	0.688E-07	0.425E-01
BONE	0.535E-07	0.535E-07	0.147E-07	0.508E-07	0.293E-07	0.817E-07	0.170E 00	0.238E 01	0.406E-07	0.404E-06
R MAR	0.606E-07	0.606E-07	0.211E-07	0.204E-06	0.113E-06	0.327E-06	0.340E-01	0.476E-02	0.109E-06	0.425E-01
Y MAR	0.651E-07	0.651E-07	0.213E-07	0.713E-07	0.420E-07	0.112E-06	0.340E-01	0.607E-05	0.492E-07	0.425E-01
ENDOST	0.535E-07	0.535E-07	0.147E-07	0.508E-07	0.293E-07	0.817E-07	0.340E-01	0.202E 00	0.406E-07	0.571E-05
SPLEEN	0.796E-07	0.796E-07	0.134E-06	0.107E-07	0.127E-07	0.668E-08	0.340E-01	0.615E-07	0.639E-06	0.425E-01
TESTES	0.111E-10	0.111E-10	0.119E-09	0.104E-08	0.108E-08	0.179E-07	0.340E-01	0.365E-08	0.118E-09	0.425E-01
THYMUS	0.624E-07	0.624E-07	0.327E-08	0.107E-09	0.132E-09	0.241E-10	0.340E-01	0.283E-07	0.749E-09	0.663E-01
THYROID	0.486E-08	0.486E-08	0.129E-09	0.864E-11	0.102E-10	0.225E-11	0.340E-01	0.174E-07	0.479E-10	0.425E-01
UTERUS	0.392E-09	0.392E-09	0.307E-08	0.236E-06	0.588E-07	0.762E-07	0.340E-01	0.343E-08	0.391E-08	0.663E-01

α decay (2.3415E7 Y 14)

Case 1 represents inhalation of UO_2 or U_3O_8; case 2 inhalation of UF_4 or UCl_4; case 3 inhalation of UF_6, UO_2F_2, $UO_2(NO_3)_2$, or UO_3; case 4 ingestion of U(IV) compounds; and case 5 ingestion of U(VI) compounds.

CASE 1.. INHALATION

AMAD (MICRON).. 1.00 D3 =0.310 D4 =8.000E-02 D5 =0.249

	SOLUBILITY CLASS	G.I. UPTAKE FRACTIONS STOMACH	S INT	U L INT	L L INT
U-236	Y	0.0	2.000E-03	0.0	0.0

DOSE EQUIVALENT (REM/MICROCURIE)

SOURCE	LUNGS	RES LYM	S CONT	SI CONT	ULI CONT	LLI CONT	EXCRET.	BONE	KIDNEYS	OTHER	TOTAL
TARGET											
LUNGS	257.	6.168E-02	8.536E-10	9.492E-11	4.113E-10	1.443E-10	7.910E-04	1.890E-07	1.057E-09	2.847E-06	257.
RES LYM	5.752E-02	1.843E 04	8.536E-10	9.492E-11	4.113E-10	1.443E-10	7.910E-04	1.890E-07	1.057E-09	2.847E-06	1.843E 04
S WALL	7.082E-06	7.594E-06	1.146E-03	1.197E-08	7.056E-08	1.034E-08	7.910E-04	1.282E-07	3.547E-09	5.130E-07	1.953E-03
SI WALL	8.261E-08	8.857E-08	1.032E-09	2.862E-03	7.467E-07	7.418E-07	7.910E-04	1.562E-07	2.799E-09	8.901E-07	3.656E-03
ULI WALL	1.168E-07	1.252E-07	2.658E-09	2.901E-06	1.690E-02	6.951E-07	7.910E-04	1.882E-07	2.607E-09	2.360E-06	1.769E-02
LLI WALL	1.914E-08	2.052E-08	2.463E-10	2.775E-07	7.689E-08	5.082E-02	7.910E-04	5.118E-07	4.070E-10	5.811E-07	5.161E-02
T BODY	3.68	3.94	2.462E-06	2.619E-05	5.094E-05	1.168E-04	1.017E-03	1.36	3.632E-03	0.285	9.27
ADREN	1.406E-05	1.507E-05	6.146E-10	5.520E-10	2.110E-09	8.703E-10	7.910E-04	3.757E-07	1.944E-07	0.357	0.358
BL WALL	1.200E-08	1.287E-08	2.756E-11	2.074E-09	4.904E-09	4.743E-08	7.910E-04	2.547E-08	7.297E-11	0.178	0.179
KIDNEYS	6.704E-07	7.188E-07	8.389E-10	2.648E-09	8.258E-09	3.166E-09	7.910E-04	2.619E-07	0.819	1.713E-06	0.820
LIVER	1.287E-05	1.380E-05	8.682E-10	3.106E-09	1.206E-08	5.701E-10	7.910E-04	1.250E-07	8.386E-09	0.357	0.358
OVARIES	5.212E-08	5.588E-08	1.197E-10	1.275E-07	5.822E-07	2.179E-06	7.910E-04	6.784E-08	8.269E-10	0.357	0.358
PANCREAS	2.941E-06	3.153E-06	2.297E-08	1.606E-09	5.347E-09	2.085E-09	7.910E-04	3.220E-07	7.350E-09	0.357	0.358
BONE	5.785E-06	6.202E-06	3.585E-10	4.946E-09	9.271E-09	4.772E-08	3.955E-03	19.1	4.337E-09	3.392E-06	19.1
R MAR	6.552E-06	7.025E-06	5.146E-10	1.986E-08	3.575E-08	1.910E-07	7.910E-04	3.813E-02	1.164E-08	0.357	0.396
Y MAR	7.039E-06	7.547E-06	5.195E-10	6.941E-09	1.329E-08	6.542E-08	7.910E-04	4.862E-05	5.256E-09	0.357	0.358
ENDOST	5.785E-06	6.202E-06	3.585E-10	4.946E-09	9.271E-09	4.772E-08	7.910E-04	1.62	4.337E-09	4.795E-05	1.62
SPLEEN	8.607E-06	9.228E-06	3.268E-09	1.042E-09	4.018E-09	3.902E-09	7.910E-04	4.926E-07	6.827E-08	0.357	0.358
TESTES	1.200E-09	1.287E-09	2.902E-12	1.012E-10	3.417E-10	1.046E-08	7.910E-04	2.924E-08	1.261E-11	0.357	0.358
THYMUS	6.747E-06	7.234E-06	7.975E-11	1.042E-11	4.177E-11	1.408E-11	7.910E-04	2.267E-07	8.002E-11	0.557	0.558
THYROID	5.255E-07	5.634E-07	3.146E-12	8.411E-13	3.227E-12	1.314E-12	7.910E-04	1.394E-07	5.117E-12	0.357	0.358
UTERUS	4.239E-08	4.545E-08	7.487E-11	2.298E-08	1.860E-08	4.451E-08	7.910E-04	2.747E-08	4.177E-10	0.557	0.558

CASE 2.. INHALATION

AMAD (MICRON).. 1.00 D3 =0.310 D4 =8.000E-02 D5 =0.249

	SOLUBILITY CLASS	G.I. UPTAKE FRACTIONS STOMACH	S INT	U L INT	L L INT
U-236	W	0.0	5.000E-02	0.0	0.0

DOSE EQUIVALENT (REM/MICROCURIE)

SOURCE	LUNGS	RES LYM	S CONT	SI CONT	ULI CONT	LLI CONT	EXCRET.	BONE	KIDNEYS	OTHER	TOTAL
TARGET											
LUNGS	26.6	4.781E-04	7.559E-10	8.001E-11	3.467E-10	1.216E-10	2.271E-03	5.481E-07	3.034E-09	8.256E-06	26.6
RES LYM	5.936E-03	143.	7.559E-10	8.001E-11	3.467E-10	1.216E-10	2.271E-03	5.481E-07	3.034E-09	8.256E-06	143.
S WALL	7.309E-07	5.886E-08	1.015E-03	1.009E-08	5.948E-08	8.715E-09	2.271E-03	3.716E-07	1.018E-08	1.488E-06	3.289E-03
SI WALL	8.525E-09	6.865E-10	9.135E-10	2.413E-03	6.294E-07	6.253E-07	2.271E-03	4.529E-07	8.037E-09	2.582E-06	4.688E-03
ULI WALL	1.205E-08	9.705E-10	2.354E-09	2.446E-06	1.424E-02	5.859E-07	2.271E-03	5.457E-07	7.485E-09	6.844E-06	1.652E-02
LLI WALL	1.975E-09	1.591E-10	2.181E-10	2.339E-07	6.481E-08	4.284E-02	2.271E-03	1.464E-06	1.169E-09	1.685E-06	4.511E-02
T BODY	0.379	3.055E-02	2.181E-06	2.208E-05	4.294E-05	9.848E-05	2.919E-03	3.95	1.043E-02	0.826	5.20
ADREN	1.451E-06	1.168E-07	5.442E-10	4.653E-10	1.779E-09	7.337E-10	2.271E-03	1.089E-06	5.583E-07	1.04	1.04
BL WALL	1.239E-09	9.975E-11	2.440E-11	1.748E-09	4.134E-09	3.998E-08	2.271E-03	7.385E-08	2.095E-10	0.516	0.519
KIDNEYS	6.918E-08	5.571E-09	7.429E-10	2.232E-09	6.961E-09	2.669E-09	2.271E-03	7.594E-07	2.35	4.968E-06	2.36
LIVER	1.328E-06	1.069E-07	7.688E-10	2.618E-09	1.016E-08	4.806E-10	2.271E-03	3.623E-07	2.408E-08	1.04	1.04
OVARIES	5.378E-09	4.331E-10	1.060E-10	1.075E-07	4.907E-07	1.837E-06	2.271E-03	1.967E-07	2.374E-09	1.04	1.04
PANCREAS	3.035E-07	2.444E-08	2.034E-08	1.354E-09	4.507E-09	1.758E-09	2.271E-03	9.336E-07	2.110E-08	1.04	1.04
BONE	5.970E-07	4.808E-08	3.175E-10	4.169E-09	7.815E-09	4.023E-08	1.135E-02	55.3	1.245E-08	9.939E-06	55.3
R MAR	6.762E-07	5.446E-08	4.557E-10	1.674E-08	3.014E-08	1.610E-07	2.271E-03	0.111	3.344E-08	1.04	1.15
Y MAR	7.264E-07	5.850E-08	4.600E-10	5.851E-09	1.120E-08	5.515E-08	2.271E-03	1.410E-04	1.509E-08	1.04	1.04
ENDOST	5.970E-07	4.808E-08	3.175E-10	4.169E-09	7.815E-09	4.023E-08	2.271E-03	4.69	1.245E-08	1.391E-04	4.69
SPLEEN	8.882E-07	7.153E-08	2.894E-09	8.781E-10	3.387E-09	3.289E-09	2.271E-03	1.428E-06	1.960E-07	1.04	1.04
TESTES	1.239E-10	9.975E-12	2.570E-12	8.535E-11	2.880E-10	8.814E-09	2.271E-03	8.476E-08	3.620E-11	1.04	1.04
THYMUS	6.963E-07	5.607E-08	7.062E-11	8.781E-12	3.521E-11	1.187E-11	2.271E-03	6.572E-07	2.298E-10	1.61	1.62
THYROID	5.423E-08	4.367E-09	2.786E-12	7.090E-13	2.720E-12	1.108E-12	2.271E-03	4.041E-07	1.469E-11	1.04	1.04
UTERUS	4.374E-09	3.523E-10	6.630E-11	1.937E-08	1.568E-08	3.752E-08	2.271E-03	7.966E-08	1.199E-09	1.61	1.62

CASE 3.. INHALATION

AMAD (MICRON).. 1.00 D3 =0.310 D4 =8.000E-02 D5 =0.249

	SOLUBILITY CLASS	G.I. UPTAKE FRACTIONS STOMACH	S INT	U L INT	L L INT
U-236	D	0.0	5.000E-02	0.0	0.0

DOSE EQUIVALENT (REM/MICROCURIE)

SOURCE	LUNGS	RES LYM	S CONT	SI CONT	ULI CONT	LLI CONT	EXCRET.	BONE	KIDNEYS	OTHER	TOTAL
TARGET											
LUNGS	0.444	1.912E-05	2.319E-10	2.454E-11	1.064E-10	3.731E-11	7.554E-03	1.823E-06	1.009E-08	2.746E-05	0.451
RES LYM	9.919E-05	5.72	2.319E-10	2.454E-11	1.064E-10	3.731E-11	7.554E-03	1.823E-06	1.009E-08	2.746E-05	5.72
S WALL	1.221E-08	2.354E-09	3.114E-04	3.096E-09	1.824E-08	2.673E-09	7.554E-03	1.236E-06	3.387E-08	4.950E-06	7.871E-03
SI WALL	1.424E-10	2.746E-11	2.802E-10	7.401E-04	1.931E-07	1.918E-07	7.554E-03	1.506E-06	2.673E-08	8.587E-06	8.304E-03
ULI WALL	2.014E-10	3.882E-11	7.221E-10	7.502E-07	4.369E-03	1.797E-07	7.554E-03	1.215E-06	2.489E-08	2.276E-05	1.195E-02
LLI WALL	3.300E-11	6.362E-12	6.691E-11	7.174E-08	1.988E-08	1.314E-02	7.554E-03	4.536E-06	3.887E-09	5.606E-06	2.070E-02
T BODY	6.339E-03	1.222E-03	6.691E-07	6.772E-06	1.317E-05	3.021E-05	9.709E-03	13.1	3.469E-02	2.75	15.9
ADREN	2.424E-08	4.673E-09	1.669E-10	1.427E-10	5.457E-10	2.250E-10	7.554E-03	3.623E-06	1.857E-06	3.44	3.45
BL WALL	2.070E-11	3.990E-12	7.486E-12	5.362E-10	1.269E-09	1.226E-08	7.554E-03	2.456E-07	6.969E-10	1.72	1.72
KIDNEYS	1.156E-09	2.229E-10	2.279E-10	6.847E-10	2.135E-09	8.186E-10	7.554E-03	2.526E-06	7.83	1.653E-05	7.83
LIVER	2.219E-08	4.277E-09	2.356E-10	8.030E-10	3.117E-09	1.474E-10	7.554E-03	1.205E-06	8.009E-08	3.44	3.45
OVARIES	8.987E-11	1.733E-11	3.253E-11	3.298E-08	1.505E-07	5.634E-07	7.554E-03	6.543E-07	7.897E-09	3.44	3.45
PANCREAS	5.071E-09	9.777E-10	6.240E-09	4.154E-10	1.383E-09	5.392E-10	7.554E-03	3.105E-06	7.020E-08	3.44	3.45
BONE	9.975E-09	1.923E-09	9.738E-11	1.279E-09	2.397E-09	1.234E-08	3.777E-02	184.	4.142E-08	3.273E-05	184.
R MAR	1.130E-08	2.178E-09	1.398E-10	5.135E-09	9.245E-09	4.939E-08	7.554E-03	0.368	1.112E-07	3.44	3.82
Y MAR	1.214E-08	2.340E-09	1.411E-10	1.795E-09	3.436E-09	1.692E-08	7.554E-03	4.689E-04	5.020E-08	3.44	3.45
ENDOST	9.975E-09	1.923E-09	9.738E-11	1.279E-09	2.397E-09	1.234E-08	7.554E-03	15.6	4.142E-08	4.626E-04	15.6
SPLEEN	1.484E-08	2.861E-09	8.877E-10	2.694E-10	1.039E-09	1.009E-09	7.554E-03	4.750E-06	6.520E-07	3.44	3.45
TESTES	2.070E-12	3.990E-13	7.883E-13	2.618E-11	8.836E-11	2.704E-09	7.554E-03	2.819E-07	1.204E-10	3.44	3.45
THYMUS	1.163E-08	2.243E-09	2.166E-11	2.694E-12	1.080E-11	3.640E-12	7.554E-03	2.186E-06	7.642E-10	5.37	5.38
THYROID	9.061E-10	1.747E-10	8.546E-13	2.175E-13	8.345E-13	3.398E-13	7.554E-03	1.244E-06	4.887E-11	3.44	3.45
UTERUS	7.309E-11	1.409E-11	2.034E-11	5.941E-09	4.811E-09	1.151E-08	7.554E-03	2.649E-07	3.989E-09	5.37	5.38

CASE 4.. INGESTION

INGESTION TRANSFER FRACTIONS (G. I. TRACT TO BLOOD)

	U-236
STOMACH	0.0
S INT	2.000E-03
U L INT	0.0
L L INT	0.0

DOSE EQUIVALENT (REM/MICROCURIE)

SOURCE	S CONT	SI CONT	ULI CONT	LLI CONT	EXCRET.	BONE	KIDNEYS	OTHER	TOTAL
TARGET									
LUNGS	1.458E-09	1.622E-10	7.028E-10	2.465E-10	3.095E-05	7.470E-09	4.135E-11	1.125E-07	3.107E-05
RES LYM	1.458E-09	1.622E-10	7.028E-10	2.465E-10	3.095E-05	7.470E-09	4.135E-11	1.125E-07	3.107E-05
S WALL	1.958E-03	2.046E-08	1.206E-07	1.766E-08	3.095E-05	5.064E-09	1.388E-10	2.028E-08	1.989E-03
SI WALL	1.762E-09	4.890E-03	1.276E-06	1.267E-06	3.095E-05	6.172E-09	1.095E-10	3.519E-08	4.924E-03
ULI WALL	4.542E-09	4.957E-06	2.887E-02	1.188E-06	3.095E-05	7.438E-09	1.020E-10	9.328E-08	2.890E-02
LLI WALL	4.208E-10	4.740E-07	1.314E-07	8.683E-02	3.095E-05	2.023E-08	1.593E-11	2.297E-08	8.686E-02
T BODY	4.208E-06	4.474E-05	8.703E-05	1.996E-04	3.978E-05	5.381E-02	1.421E-04	1.125E-02	6.558E-02
ADREN	1.050E-09	9.431E-10	3.606E-09	1.487E-09	3.095E-05	1.484E-08	7.609E-09	1.411E-02	1.414E-02
BL WALL	4.708E-11	3.543E-09	8.379E-09	8.104E-08	3.095E-05	1.007E-09	2.855E-12	7.037E-03	7.068E-03
KIDNEYS	1.433E-09	4.524E-09	1.411E-08	5.409E-09	3.095E-05	1.035E-08	3.207E-02	6.772E-08	3.210E-02
LIVER	1.483E-09	5.306E-09	2.060E-08	9.740E-10	3.095E-05	4.938E-09	3.282E-10	1.411E-02	1.414E-02
OVARIES	2.046E-10	2.179E-07	9.947E-07	3.723E-06	3.095E-05	2.681E-09	3.236E-11	1.411E-02	1.414E-02
PANCREAS	3.925E-08	2.744E-09	9.136E-09	3.563E-09	3.095E-05	1.272E-08	2.876E-10	1.411E-02	1.414E-02
BONE	6.125E-10	8.450E-09	1.584E-08	8.154E-08	1.548E-04	0.753	1.697E-10	1.341E-07	0.753
R MAR	8.792E-10	3.393E-08	6.109E-08	3.263E-07	3.095E-05	1.507E-03	4.557E-10	1.411E-02	1.565E-02
Y MAR	8.875E-10	1.186E-08	2.270E-08	1.118E-07	3.095E-05	1.921E-06	2.057E-10	1.411E-02	1.414E-02
ENDOST	6.125E-10	8.450E-09	1.584E-08	8.154E-08	3.095E-05	6.394E-02	1.697E-10	1.895E-06	6.397E-02
SPLEEN	5.583E-09	1.780E-09	6.865E-09	6.667E-09	3.095E-05	1.947E-08	2.671E-09	1.411E-02	1.414E-02
TESTES	4.958E-12	1.730E-10	5.838E-10	1.786E-08	3.095E-05	1.155E-09	4.933E-13	1.411E-02	1.414E-02
THYMUS	1.362E-10	1.780E-11	7.136E-11	2.405E-11	3.095E-05	8.957E-09	3.131E-12	2.201E-02	2.204E-02
THYROID	5.375E-12	1.437E-12	5.514E-12	2.245E-12	3.095E-05	5.507E-09	2.003E-13	1.411E-02	1.414E-02
UTERUS	1.279E-10	3.925E-08	3.179E-08	7.605E-08	3.095E-05	1.086E-09	1.635E-11	2.201E-02	2.204E-02

CASE 5.. INGESTION

INGESTION TRANSFER FRACTIONS (G. I. TRACT TO BLOOD)

	U-236
STOMACH	0.0
S INT	5.000E-02
U L INT	0.0
L L INT	0.0

DOSE EQUIVALENT (REM/MICROCURIE)

SOURCE	S CONT	SI CONT	ULI CONT	LLI CONT	EXCRET.	BONE	KIDNEYS	OTHER	TOTAL
TARGET									
LUNGS	1.458E-09	1.544E-10	6.690E-10	2.346E-10	7.738E-04	1.867E-07	1.034E-09	2.813E-06	7.768E-04
RES LYM	1.458E-09	1.544E-10	6.690E-10	2.346E-10	7.738E-04	1.867E-07	1.034E-09	2.813E-06	7.768E-04
S WALL	1.958E-03	1.947E-08	1.148E-07	1.681E-08	7.738E-04	1.266E-07	3.470E-09	5.070E-07	2.733E-03
SI WALL	1.762E-09	4.655E-03	1.214E-06	1.206E-06	7.738E-04	1.543E-07	2.738E-09	8.796E-07	5.432E-03
ULI WALL	4.542E-09	4.718E-06	2.748E-02	1.130E-06	7.738E-04	1.860E-07	2.550E-09	2.332E-06	2.826E-02
LLI WALL	4.208E-10	4.512E-07	1.250E-07	8.265E-02	7.738E-04	5.056E-07	3.982E-10	5.743E-07	8.343E-02
T BODY	4.208E-06	4.259E-05	8.285E-05	1.900E-04	9.945E-04	1.35	3.554E-03	0.281	1.63
ADREN	1.050E-09	8.977E-10	3.432E-09	1.415E-09	7.738E-04	3.711E-07	1.902E-07	0.353	0.353
BL WALL	4.708E-11	3.372E-09	7.976E-09	7.714E-08	7.738E-04	2.516E-08	7.139E-11	0.176	0.177
KIDNEYS	1.433E-09	4.307E-09	1.343E-08	5.149E-09	7.738E-04	2.588E-07	0.802	1.693E-06	0.802
LIVER	1.483E-09	5.051E-09	1.961E-08	9.272E-10	7.738E-04	1.234E-07	8.205E-09	0.353	0.353
OVARIES	2.046E-10	2.074E-07	9.468E-07	3.543E-06	7.738E-04	6.702E-08	8.090E-10	0.353	0.353
PANCREAS	3.925E-08	2.612E-09	8.697E-09	3.391E-09	7.738E-04	3.181E-07	7.191E-09	0.353	0.353
BONE	6.125E-10	8.043E-09	1.508E-08	7.761E-08	3.869E-03	18.8	4.243E-09	3.353E-06	18.8
R MAR	8.792E-10	3.230E-08	5.815E-08	3.106E-07	7.738E-04	3.767E-02	1.139E-08	0.353	0.391
Y MAR	8.875E-10	1.129E-08	2.161E-08	1.064E-07	7.738E-04	4.803E-05	5.142E-09	0.353	0.354
ENDOST	6.125E-10	8.043E-09	1.508E-08	7.761E-08	7.738E-04	1.60	4.243E-09	4.738E-05	1.60
SPLEEN	5.583E-09	1.694E-09	6.535E-09	6.346E-09	7.738E-04	4.866E-07	6.679E-08	0.353	0.353
TESTES	4.958E-12	1.647E-10	5.558E-10	1.700E-08	7.738E-04	2.888E-08	1.233E-11	0.353	0.353
THYMUS	1.362E-10	1.694E-11	6.793E-11	2.289E-11	7.738E-04	2.239E-07	7.828E-11	0.550	0.551
THYROID	5.375E-12	1.368E-12	5.249E-12	2.137E-12	7.738E-04	1.377E-07	5.006E-12	0.353	0.353
UTERUS	1.279E-10	3.737E-08	3.026E-08	7.239E-08	7.738E-04	2.714E-08	4.087E-10	0.550	0.551

CASE 6.. INGESTION

INGESTION TRANSFER FRACTIONS (G. I. TRACT TO BLOOD)

	U-236
STOMACH	0.0
S INT	0.200
U L INT	0.0
L L INT	0.0

DOSE EQUIVALENT (REM/MICROCURIE)

SOURCE	S CONT	SI CONT	ULI CONT	LLI CONT	EXCRET.	BONE	KIDNEYS	OTHER	TOTAL
TARGET									
LUNGS	1.458E-09	1.300E-10	5.633E-10	1.976E-10	3.095E-03	7.470E-07	4.135E-09	1.125E-05	3.107E-03
RES LYM	1.458E-09	1.300E-10	5.633E-10	1.976E-10	3.095E-03	7.470E-07	4.135E-09	1.125E-05	3.107E-03
S WALL	1.958E-03	1.640E-08	9.663E-08	1.416E-08	3.095E-03	5.064E-07	1.388E-08	2.028E-06	5.056E-03
SI WALL	1.762E-09	3.920E-03	1.023E-06	1.016E-06	3.095E-03	6.172E-07	1.095E-08	3.519E-06	7.021E-03
ULI WALL	4.542E-09	3.973E-06	2.314E-02	9.520E-07	3.095E-03	7.438E-07	1.020E-08	9.328E-06	2.625E-02
LLI WALL	4.208E-10	3.800E-07	1.053E-07	6.960E-02	3.095E-03	2.023E-06	1.593E-09	2.297E-06	7.270E-02
T BODY	4.208E-06	3.587E-05	6.977E-05	1.600E-04	3.978E-03	5.38	1.421E-02	1.13	6.52
ADREN	1.050E-09	7.560E-10	2.890E-09	1.192E-09	3.095E-03	1.484E-06	7.609E-07	1.41	1.41
BL WALL	4.708E-11	2.840E-09	6.717E-09	6.496E-08	3.095E-03	1.007E-07	2.855E-10	0.704	0.707
KIDNEYS	1.433E-09	3.627E-09	1.131E-08	4.336E-09	3.095E-03	1.035E-06	3.21	6.772E-06	3.21
LIVER	1.483E-09	4.253E-09	1.651E-08	7.808E-10	3.095E-03	4.938E-07	3.282E-08	1.41	1.41
OVARIES	2.046E-10	1.747E-07	7.973E-07	2.984E-06	3.095E-03	2.681E-07	3.236E-09	1.41	1.41
PANCREAS	3.925E-08	2.200E-09	7.323E-09	2.856E-09	3.095E-03	1.272E-06	2.876E-08	1.41	1.41
BONE	6.125E-10	6.773E-09	1.270E-08	6.536E-08	1.548E-02	75.3	1.697E-08	1.341E-05	75.3
R MAR	8.792E-10	2.720E-08	4.897E-08	2.616E-07	3.095E-03	0.151	4.557E-08	1.41	1.56
Y MAR	8.875E-10	9.507E-09	1.820E-08	8.960E-08	3.095E-03	1.921E-04	2.057E-08	1.41	1.41
ENDOST	6.125E-10	6.773E-09	1.270E-08	6.536E-08	3.095E-03	6.39	1.697E-08	1.895E-04	6.40
SPLEEN	5.583E-09	1.427E-09	5.503E-09	5.344E-09	3.095E-03	1.947E-06	2.671E-07	1.41	1.41
TESTES	4.958E-12	1.387E-10	4.680E-10	1.432E-08	3.095E-03	1.155E-07	4.933E-11	1.41	1.41
THYMUS	1.362E-10	1.427E-11	5.720E-11	1.928E-11	3.095E-03	8.957E-07	3.131E-10	2.20	2.20
THYROID	5.375E-12	1.152E-12	4.420E-12	1.800E-12	3.095E-03	5.507E-07	2.003E-11	1.41	1.41
UTERUS	1.279E-10	3.147E-08	2.548E-08	6.096E-08	3.095E-03	1.086E-07	1.635E-09	2.20	2.20

RADIONUCLIDE: U-237

PHYSICAL AND METABOLIC PARAMETERS FOR DOSIMETRICALLY SIGNIFICANT PROGENY:

NUCLIDE	RADIOACTIVE HALF-LIFE (DAYS)
U-237	6.750

ORGAN	NUCLIDE	BLOOD TRANSFER FRACTION F2-PRIME	COMPARTMENT DEPOSITION FRACTION	COMPARTMENT BIOLOGICAL HALF-TIME (DAYS)
ABSORBED	U-237	1.00	0.631	0.500
			0.120	6.00
			0.200	20.0
			5.200E-04	1.500E 03
			4.800E-02	5.000E 03
EXCRET.	U-237	0.631	1.00	0.500
BONE	U-237	0.223	0.897	20.0
			0.103	5.000E 03
KIDNEYS	U-237	0.121	0.996	6.00
			4.000E-03	1.500E 03
OTHER	U-237	2.500E-02	1.00	5.000E 03

S FACTORS (REM/MICROCURIE-DAY) FOR U-237

TARGET ORGANS	SOURCE ORGANS									
	LUNGS	RES LYM	S CONT	SI CONT	ULI CONT	LLI CONT	EXCRET.	BONE	KIDNEYS	OTHER
LUNGS	0.958E-02	0.958E-02	0.494E-04	0.561E-05	0.659E-05	0.193E-05	0.173E-03	0.259E-04	0.224E-04	0.375E-04
RES LYM	0.958E-02	0.594E 00	0.484E-04	0.561E-05	0.659E-05	0.193E-05	0.173E-03	0.259E-04	0.224E-04	0.375E-04
S WALL	0.511E-04	0.511E-04	0.195E-01	0.101E-03	0.106E-03	0.478E-04	0.179E-03	0.144E-04	0.955E-04	0.369E-04
SI WALL	0.469E-05	0.469E-05	0.724E-04	0.123E-01	0.493E-03	0.273E-03	0.187E-03	0.198E-04	0.771E-04	0.412E-04
ULI WALL	0.569E-05	0.569E-05	0.988E-04	0.839E-03	0.217E-01	0.124E-03	0.184E-03	0.184E-04	0.763E-04	0.437E-04
LLI WALL	0.182E-05	0.182E-05	0.320E-04	0.223E-03	0.875E-04	0.348E-01	0.181E-03	0.278E-04	0.185E-04	0.430E-04
T BODY	0.174E-03	0.174E-03	0.932E-04	0.163E-03	0.120E-03	0.135E-03	0.172E-03	0.175E-03	0.179E-03	0.168E-03
ADREN	0.709E-04	0.709E-04	0.717E-04	0.280E-04	0.238E-04	0.916E-05	0.179E-03	0.314E-04	0.318E-03	0.304E-03
BL WALL	0.937E-06	0.937E-06	0.657E-05	0.691E-04	0.569E-04	0.187E-03	0.181E-03	0.130E-04	0.686E-05	0.179E-03
KIDNEYS	0.222E-04	0.222E-04	0.949E-04	0.843E-04	0.760E-04	0.223E-04	0.178E-03	0.223E-04	0.317E-01	0.423E-04
LIVER	0.686E-04	0.686E-04	0.535E-04	0.491E-04	0.697E-04	0.525E-05	0.178E-03	0.173E-04	0.106E-03	0.320E-03
OVARIES	0.249E-05	0.249E-05	0.133E-04	0.311E-03	0.328E-03	0.332E-03	0.185E-03	0.193E-04	0.293E-04	0.314E-03
PANCREAS	0.708E-04	0.708E-04	0.521E-03	0.541E-04	0.607E-04	0.183E-04	0.187E-03	0.234E-04	0.179E-03	0.328E-03
BONE	0.438E-04	0.438E-04	0.251E-04	0.356E-04	0.319E-04	0.484E-04	0.191E-03	0.189E-02	0.415E-04	0.439E-04
R MAR	0.551E-04	0.551E-04	0.434E-04	0.123E-03	0.105E-03	0.157E-03	0.203E-03	0.379E-03	0.109E-03	0.291E-03
Y MAR	0.458E-04	0.458E-04	0.354E-04	0.500E-04	0.460E-04	0.611E-04	0.189E-03	0.153E-03	0.508E-04	0.304E-03
ENDOST	0.438E-04	0.438E-04	0.251E-04	0.356E-04	0.319E-04	0.484E-04	0.193E-03	0.129E-02	0.415E-04	0.171E-03
SPLEEN	0.630E-04	0.630E-04	0.285E-03	0.396E-04	0.383E-04	0.212E-04	0.179E-03	0.165E-04	0.249E-03	0.312E-03
TESTES	0.212E-06	0.212E-06	0.123E-05	0.763E-05	0.690E-05	0.492E-04	0.184E-03	0.161E-04	0.218E-05	0.293E-03
THYMUS	0.117E-03	0.117E-03	0.740E-05	0.200E-05	0.244E-05	0.673E-06	0.186E-03	0.137E-04	0.499E-05	0.362E-03
THYROID	0.229E-04	0.229E-04	0.217E-05	0.384E-06	0.423E-06	0.143E-06	0.163E-03	0.214E-04	0.119E-05	0.295E-03
UTERUS	0.209E-05	0.209E-05	0.191E-04	0.272E-03	0.146E-03	0.194E-03	0.190E-03	0.147E-04	0.234E-04	0.369E-03

β^- decay (6.75 D 1)

Case 1 represents inhalation of UO_2 or U_3O_8; case 2 inhalation of UF_4 or UCl_4; case 3 inhalation of UF_6, UO_2F_2, $UO_2(NO_3)_2$, or UO_3; case 4 ingestion of U(IV) compounds; and case 5 ingestion of U(VI) compounds.

CASE 1.. INHALATION

AMAD (MICRON).. 1.00 D3 =0.310 D4 =8.000E-02 D5 =0.249

G.I. UPTAKE FRACTIONS

	SOLUBILITY CLASS	STOMACH	S INT	U L INT	L L INT
U-237	Y	0.0	2.000E-03	0.0	0.0

DOSE EQUIVALENT (REM)

SOURCE	LUNGS	RES LYM	S CONT	SI CONT	ULI CONT	LLI CONT	EXCRET.	BONE	KIDNEYS	OTHER	TOTAL
TARGET											
LUNGS	1.701E-02	4.616E-05	9.081E-07	4.131E-07	1.494E-06	7.526E-07	3.629E-07	2.153E-07	6.174E-08	4.512E-08	1.706E-02
RES LYM	1.701E-02	2.862E-03	9.081E-07	4.131E-07	1.494E-06	7.526E-07	3.629E-07	2.153E-07	6.174E-08	4.512E-08	1.988E-02
S WALL	9.074E-05	2.462E-07	3.659E-04	7.438E-06	2.403E-05	1.314E-05	3.754E-07	1.197E-07	2.632E-07	4.439E-08	5.073E-04
SI WALL	8.328E-06	2.260E-08	1.358E-06	9.058E-04	1.118E-04	1.136E-04	3.921E-07	1.646E-07	2.125E-07	4.957E-08	1.132E-03
ULI WALL	1.010E-05	2.742E-08	1.854E-06	6.179E-05	4.920E-03	4.707E-05	3.859E-07	1.529E-07	2.103E-07	5.257E-08	5.042E-03
LLI WALL	3.232E-06	8.770E-09	6.004E-07	1.642E-05	1.984E-05	1.521E-02	3.796E-07	2.311E-07	5.099E-08	5.173E-08	1.325E-02
T BODY	3.090E-04	8.384E-07	1.749E-06	1.200E-05	2.721E-05	3.124E-05	3.607E-07	1.455E-06	4.934E-07	2.021E-07	4.045E-04
ADREN	1.259E-04	3.416E-07	1.345E-06	2.062E-06	5.396E-06	3.477E-06	3.754E-07	2.610E-07	8.765E-07	3.657E-07	1.404E-04
BL WALL	1.664E-06	4.515E-09	1.233E-07	5.089E-06	1.288E-05	7.098E-05	3.796E-07	1.081E-07	1.891E-08	2.154E-07	9.146E-05
KIDNEYS	3.942E-05	1.070E-07	1.781E-06	6.208E-06	1.723E-05	3.495E-06	3.733E-07	1.854E-07	8.737E-05	5.089E-08	1.612E-04
LIVER	1.218E-04	3.305E-07	1.004E-06	3.616E-06	1.580E-05	2.372E-06	3.733E-07	1.438E-07	2.922E-07	3.850E-07	1.461E-04
OVARIES	4.422E-06	1.200E-08	2.495E-07	2.290E-05	7.437E-05	2.019E-04	3.880E-07	1.604E-07	8.076E-08	3.778E-07	3.049E-04
PANCREAS	1.257E-04	3.411E-07	9.775E-06	3.984E-06	1.376E-05	3.946E-06	3.921E-07	1.945E-07	4.934E-07	3.946E-07	1.620E-04
BONE	7.778E-05	2.111E-07	4.709E-07	2.622E-06	7.233E-06	1.337E-05	4.005E-07	1.571E-05	1.144E-07	5.282E-08	1.230E-04
R MAR	9.784E-05	2.655E-07	8.143E-07	9.058E-06	2.381E-05	3.950E-05	4.257E-07	3.150E-06	3.004E-07	3.501E-07	1.956E-04
Y MAR	8.133E-05	2.207E-07	6.642E-07	3.682E-06	1.043E-05	2.319E-05	3.963E-07	1.272E-06	1.400E-07	3.657E-07	1.217E-04
ENDOST	7.778E-05	2.111E-07	4.709E-07	2.622E-06	7.233E-06	1.837E-05	4.047E-07	1.072E-05	1.144E-07	2.057E-07	1.181E-04
SPLEEN	1.119E-04	3.036E-07	5.347E-06	2.916E-06	8.684E-06	3.047E-06	3.754E-07	1.372E-07	6.863E-07	3.754E-07	1.387E-04
TESTES	3.765E-07	1.022E-09	2.308E-08	5.619E-07	1.554E-06	1.868E-05	3.439E-07	1.339E-07	6.008E-09	3.525E-07	2.204E-05
THYMUS	2.078E-04	5.638E-07	1.388E-07	1.473E-07	5.332E-07	2.533E-07	3.900E-07	1.139E-07	1.375E-08	4.355E-07	2.104E-04
THYROID	4.066E-05	1.103E-07	4.071E-08	2.828E-08	9.590E-08	3.428E-08	3.418E-07	1.779E-07	3.280E-09	3.549E-07	4.187E-05
UTERUS	3.711E-06	1.007E-08	3.584E-07	2.003E-05	3.310E-05	7.304E-05	3.984E-07	1.222E-07	6.449E-08	4.439E-07	1.319E-04

CASE 2.. INHALATION

AMAD (MICRON).. 1.00 D3 =0.310 D4 =8.000E-02 D5 =0.249

G.I. UPTAKE FRACTIONS

	SOLUBILITY CLASS	STOMACH	S INT	U L INT	L L INT
U-237	W	0.0	5.000E-02	0.0	0.0

DOSE EQUIVALENT (REM)

SOURCE	LUNGS	RES LYM	S CONT	SI CONT	ULI CONT	LLI CONT	EXCRET.	BONE	KIDNEYS	OTHER	TOTAL
TARGET											
LUNGS	1.533E-02	1.218E-04	7.973E-07	3.464E-07	1.253E-06	3.143E-07	6.966E-06	4.134E-06	1.185E-06	8.663E-07	1.546E-02
RES LYM	1.533E-02	7.552E-03	7.993E-07	3.464E-07	1.253E-06	3.143E-07	6.966E-06	4.134E-06	1.185E-06	8.663E-07	2.289E-02
S WALL	8.174E-05	6.496E-07	3.220E-04	6.237E-06	2.015E-05	1.321E-05	7.207E-06	2.298E-06	5.054E-06	8.524E-07	4.614E-04
SI WALL	7.503E-06	5.962E-08	1.196E-06	7.595E-04	9.373E-05	3.939E-05	7.530E-06	3.160E-06	4.080E-06	9.517E-07	9.646E-04
ULI WALL	9.102E-06	7.234E-08	1.632E-06	5.181E-05	4.125E-03	3.947E-05	7.409E-06	2.937E-06	4.038E-06	1.009E-06	4.243E-03
LLI WALL	2.911E-06	2.314E-08	5.285E-07	1.377E-05	1.664E-05	1.108E-02	7.289E-06	4.437E-06	9.790E-07	9.933E-07	1.112E-02
T BODY	2.783E-04	2.212E-06	1.539E-06	1.007E-05	2.281E-05	4.237E-05	6.926E-06	2.793E-06	9.473E-06	3.881E-06	4.062E-04
ADREN	1.134E-04	9.014E-07	1.184E-06	1.729E-06	4.525E-06	2.916E-06	7.207E-06	5.012E-06	1.683E-05	7.023E-06	1.607E-04
BL WALL	1.499E-06	1.191E-08	1.085E-07	4.267E-06	1.080E-05	5.932E-05	7.288E-06	2.075E-06	3.630E-07	4.135E-06	9.007E-05
KIDNEYS	3.551E-05	2.822E-07	1.567E-06	5.206E-06	1.445E-05	7.033E-06	7.167E-06	3.559E-06	1.678E-03	9.771E-07	1.753E-03
LIVER	1.097E-04	8.721E-07	8.835E-07	3.032E-06	1.325E-05	4.939E-06	7.167E-06	2.761E-06	5.610E-06	7.392E-06	1.527E-04
OVARIES	3.983E-06	3.166E-08	2.195E-07	1.920E-05	6.236E-05	4.093E-04	7.449E-06	3.080E-06	1.551E-06	7.254E-06	2.745E-04
PANCREAS	1.133E-04	9.001E-07	8.604E-06	3.341E-06	1.154E-05	3.825E-06	7.530E-06	3.735E-06	9.473E-06	7.577E-06	1.718E-04
BONE	7.007E-05	5.568E-07	4.145E-07	2.198E-06	6.065E-06	1.341E-05	7.691E-06	3.016E-04	2.196E-06	1.014E-06	4.073E-04
R MAR	8.814E-05	7.005E-07	7.167E-07	7.595E-06	1.996E-05	4.937E-05	8.174E-06	6.049E-05	5.768E-06	6.722E-06	2.482E-04
Y MAR	7.327E-05	5.823E-07	5.846E-07	3.087E-06	8.745E-06	1.945E-05	7.610E-06	2.442E-05	2.688E-06	7.023E-06	1.475E-04
ENDOST	7.007E-05	5.568E-07	4.145E-07	2.198E-06	6.065E-06	1.541E-05	7.771E-06	2.059E-04	2.196E-06	3.950E-06	3.145E-04
SPLEEN	1.008E-04	8.009E-07	4.707E-06	2.445E-06	7.281E-06	2.748E-06	7.207E-06	2.633E-06	1.318E-05	7.207E-06	1.530E-04
TESTES	3.391E-07	2.695E-09	2.031E-08	4.712E-07	1.312E-06	1.556E-05	6.603E-06	2.570E-06	1.154E-07	6.768E-06	3.386E-05
THYMUS	1.872E-04	1.487E-06	1.222E-07	1.235E-07	4.639E-07	2.142E-07	7.489E-06	2.187E-06	2.641E-07	8.362E-06	2.079E-04
THYROID	3.663E-05	2.911E-07	3.584E-08	2.371E-08	8.042E-08	2.532E-08	6.563E-06	3.415E-06	6.298E-08	6.815E-06	5.397E-05
UTERUS	3.343E-06	2.657E-08	3.154E-07	1.680E-05	2.776E-05	6.175E-05	7.650E-06	2.346E-06	1.239E-06	8.524E-06	1.297E-04

CASE 3.. INHALATION

AMAD (MICRON).. 1.00 D3 =0.310 D4 =8.000E-02 D5 =0.249

	SOLUBILITY CLASS	G.I. UPTAKE FRACTIONS STOMACH	S INT	U L INT	L L INT
U-237	D	0.0	5.000E-02	0.0	0.0

DOSE EQUIVALENT (REM)

SOURCE	LUNGS	RES LYM	S CONT	SI CONT	ULI CONT	LLI CONT	EXCRET.	BONE	KIDNEYS	OTHER	TOTAL
TARGET											
LUNGS	1.667E-03	2.985E-04	3.186E-07	1.381E-07	4.993E-07	2.448E-07	3.425E-05	2.033E-05	5.829E-06	4.259E-06	2.031E-03
RES LYM	1.667E-03	1.851E-02	3.186E-07	1.381E-07	4.993E-07	2.448E-07	3.425E-05	2.033E-05	5.829E-06	4.259E-06	2.024E-02
S WALL	8.692E-06	1.592E-06	1.283E-04	2.486E-06	8.032E-06	3.064E-06	3.544E-05	1.130E-05	2.485E-05	4.191E-06	2.312E-04
SI WALL	8.161E-07	1.461E-07	4.765E-07	3.027E-04	3.736E-05	3.433E-05	3.702E-05	1.554E-05	2.006E-05	4.680E-06	4.535E-04
ULI WALL	9.901E-07	1.773E-07	6.503E-07	2.065E-05	1.644E-03	1.573E-05	3.643E-05	1.444E-05	1.985E-05	4.964E-06	1.758E-03
LLI WALL	2.167E-07	5.671E-08	2.106E-07	5.488E-06	6.630E-06	4.415E-03	3.584E-05	2.182E-05	4.314E-06	4.884E-06	4.495E-03
T BODY	3.028E-05	5.421E-06	6.134E-07	4.012E-06	9.093E-06	1.713E-05	3.405E-05	1.373E-04	4.658E-05	1.908E-05	3.036E-04
ADREN	1.234E-05	2.209E-06	4.719E-07	6.891E-07	1.803E-06	1.162E-06	3.544E-05	2.464E-05	8.275E-05	3.453E-05	1.960E-04
BL WALL	1.630E-07	2.919E-08	4.324E-08	1.701E-06	4.304E-06	2.372E-05	3.584E-05	1.020E-05	1.785E-06	2.033E-05	9.812E-05
KIDNEYS	3.863E-06	6.917E-07	6.246E-07	2.075E-06	5.759E-06	2.829E-06	3.524E-05	1.750E-05	8.249E-03	4.805E-06	8.322E-03
LIVER	1.194E-05	2.137E-06	3.521E-07	1.208E-06	5.281E-06	7.929E-07	3.524E-05	1.358E-05	2.758E-05	3.635E-05	1.345E-04
OVARIES	4.333E-07	7.758E-08	8.754E-08	7.654E-06	2.485E-05	3.749E-05	3.663E-05	1.515E-05	7.624E-06	3.567E-05	1.957E-04
PANCREAS	1.232E-05	2.206E-06	3.429E-06	1.331E-06	4.599E-06	2.322E-06	3.702E-05	1.836E-05	4.658E-05	3.726E-05	1.654E-04
BONE	7.622E-06	1.365E-06	1.652E-07	8.762E-07	2.417E-06	3.140E-06	3.781E-05	1.483E-03	1.080E-05	4.986E-06	1.555E-03
R MAR	9.588E-06	1.717E-06	2.857E-07	3.027E-06	7.956E-06	1.992E-05	4.019E-05	2.974E-04	2.836E-05	3.305E-05	4.415E-04
Y MAR	7.970E-06	1.427E-06	2.330E-07	1.231E-06	3.486E-06	7.751E-06	3.742E-05	1.201E-04	1.322E-05	3.453E-05	2.273E-04
ENDOST	7.622E-06	1.365E-06	1.652E-07	8.762E-07	2.417E-06	3.140E-06	3.821E-05	1.012E-03	1.080E-05	1.942E-05	1.099E-03
SPLEEN	1.096E-05	1.963E-06	1.876E-06	9.746E-07	2.902E-06	2.689E-06	3.544E-05	1.295E-05	6.479E-05	3.544E-05	1.700E-04
TESTES	3.689E-08	6.605E-09	8.096E-09	1.878E-07	5.228E-07	3.242E-06	3.247E-05	1.263E-05	5.673E-07	3.328E-05	8.596E-05
THYMUS	2.036E-05	3.645E-06	4.871E-08	4.922E-08	1.849E-07	3.538E-08	3.682E-05	1.075E-05	1.298E-06	4.112E-05	1.144E-04
THYROID	3.985E-06	7.135E-07	1.428E-08	9.451E-09	3.205E-08	1.314E-08	3.227E-05	1.679E-05	3.097E-07	3.351E-05	8.765E-05
UTERUS	3.637E-07	6.512E-08	1.257E-07	6.694E-06	1.136E-05	2.451E-05	3.762E-05	1.154E-05	6.089E-06	4.191E-05	1.401E-04

CASE 4.. INGESTION

INGESTION TRANSFER FRACTIONS (G. I. TRACT TO BLOOD)

	U-237
STOMACH	0.0
S INT	2.000E-03
U L INT	0.0
L L INT	0.0

DOSE EQUIVALENT (REM)

SOURCE	S CONT	SI CONT	ULI CONT	LLI CONT	EXCRET.	BONE	KIDNEYS	OTHER	TOTAL
TARGET									
LUNGS	2.008E-06	9.136E-07	3.304E-06	1.620E-06	1.436E-07	3.519E-08	2.443E-08	1.785E-08	8.117E-06
RES LYM	2.008E-06	9.136E-07	3.304E-06	1.620E-06	1.436E-07	3.519E-08	2.443E-08	1.785E-08	8.117E-06
S WALL	8.090E-04	1.645E-05	5.314E-05	4.012E-05	1.495E-07	4.736E-08	1.042E-07	1.757E-08	9.191E-04
SI WALL	2.004E-06	2.003E-03	2.472E-04	2.292E-04	1.552E-07	3.512E-09	8.408E-08	1.961E-08	2.483E-03
ULI WALL	4.099E-06	1.366E-04	1.088E-02	1.041E-04	1.527E-07	3.052E-08	8.321E-08	2.080E-08	1.112E-02
LLI WALL	1.328E-06	3.631E-05	4.397E-05	2.921E-02	1.502E-07	3.144E-08	2.018E-08	2.047E-08	2.929E-02
T BODY	3.867E-06	2.654E-05	6.016E-05	1.133E-04	1.427E-07	3.756E-07	1.952E-07	7.998E-08	2.049E-04
ADREN	2.975E-06	4.560E-06	1.193E-05	7.689E-06	1.485E-07	1.033E-07	3.468E-07	1.447E-07	2.790E-05
BL WALL	2.726E-07	1.125E-05	2.848E-05	1.570E-04	1.502E-07	4.276E-08	7.481E-09	8.521E-08	1.973E-04
KIDNEYS	3.937E-06	1.373E-05	3.810E-05	1.872E-05	1.477E-07	7.335E-08	3.457E-05	2.014E-08	1.093E-04
LIVER	2.220E-06	7.996E-06	3.494E-05	5.246E-05	1.477E-07	3.690E-08	1.156E-07	1.523E-07	5.088E-05
OVARIES	5.518E-07	5.064E-05	1.644E-04	4.466E-04	1.535E-07	3.348E-08	3.195E-08	1.495E-07	6.626E-04
PANCREAS	2.162E-05	8.810E-06	3.043E-05	1.536E-05	1.552E-07	7.043E-08	1.952E-07	1.561E-07	7.680E-05
BONE	1.041E-06	5.797E-06	1.599E-05	4.063E-05	1.585E-07	3.216E-06	4.526E-08	2.090E-08	6.990E-05
R MAR	1.801E-06	2.003E-05	5.264E-05	1.318E-04	1.684E-07	4.247E-06	1.189E-07	1.385E-07	2.079E-04
Y MAR	1.469E-06	8.142E-06	2.306E-05	5.129E-05	1.568E-07	3.032E-07	5.540E-08	1.447E-07	8.482E-05
ENDOST	1.041E-06	5.797E-06	1.599E-05	4.063E-05	1.601E-07	4.243E-06	4.526E-08	8.140E-08	6.799E-05
SPLEEN	1.182E-05	6.449E-06	1.920E-05	1.779E-05	1.485E-07	3.427E-08	2.716E-07	1.485E-07	5.589E-05
TESTES	5.103E-08	1.242E-06	3.459E-06	4.130E-05	1.361E-07	3.295E-08	2.377E-09	1.395E-07	4.638E-05
THYMUS	3.070E-07	3.257E-07	1.223E-06	5.649E-07	1.543E-07	4.305E-08	5.442E-09	1.723E-07	2.798E-06
THYROID	9.003E-08	6.253E-08	2.121E-07	1.200E-07	1.353E-07	7.039E-08	1.298E-09	1.404E-07	8.320E-07
UTERUS	7.924E-07	4.429E-05	7.320E-05	1.628E-04	1.577E-07	4.835E-08	2.552E-08	1.757E-07	2.815E-04

CASE 5.. INGESTION

INGESTION TRANSFER FRACTIONS (G. I. TRACT TO BLOOD)

	U-237
STOMACH	0.0
S INT	5.000E-02
U L INT	0.0
L L INT	0.0

DOSE EQUIVALENT (REM/MICROCURIE)

SOURCE	S CONT	SI CONT	ULI CONT	LLI CONT	EXCRET.	BONE	KIDNEYS	OTHER	TOTAL
TARGET									
LUNGS	2.008E-06	8.703E-07	3.146E-06	1.543E-06	3.592E-06	2.131E-06	6.112E-07	4.467E-07	1.435E-05
RES LYM	2.008E-06	8.703E-07	3.148E-06	1.543E-06	3.592E-06	2.131E-06	6.112E-07	4.467E-07	1.435E-05
S WALL	8.090E-04	1.567E-05	5.063E-05	3.822E-05	3.716E-06	1.185E-06	2.606E-06	4.395E-07	9.215E-04
SI WALL	3.004E-06	1.908E-03	2.355E-04	2.183E-04	3.882E-06	1.629E-06	2.104E-06	4.907E-07	2.373E-03
ULI WALL	4.099E-06	1.302E-04	1.036E-02	9.916E-05	3.820E-06	1.514E-06	2.082E-06	5.205E-07	1.061E-02
LLI WALL	1.328E-06	3.460E-05	4.179E-05	2.783E-02	3.758E-06	2.288E-06	5.048E-07	5.122E-07	2.791E-02
T BODY	3.867E-06	2.529E-05	5.732E-05	1.080E-04	3.571E-06	1.443E-05	4.884E-06	2.001E-06	2.193E-04
ADREN	2.975E-06	4.344E-06	1.137E-05	7.325E-06	3.716E-06	2.584E-06	8.677E-06	3.621E-06	4.461E-05
BL WALL	2.726E-07	1.072E-05	2.713E-05	1.495E-04	3.758E-06	1.070E-06	1.872E-07	2.132E-06	1.948E-04
KIDNEYS	3.937E-06	1.308E-05	3.630E-05	1.783E-05	3.695E-06	1.835E-06	8.650E-04	5.038E-07	9.422E-04
LIVER	2.220E-06	7.617E-06	3.329E-05	4.998E-06	3.695E-06	1.424E-06	2.892E-06	3.811E-06	5.995E-05
OVARIES	5.518E-07	4.825E-05	1.567E-04	4.254E-04	3.841E-06	1.588E-06	7.995E-07	3.740E-06	6.408E-04
PANCREAS	2.162E-05	8.393E-06	2.899E-05	1.463E-05	3.882E-06	1.926E-06	4.884E-06	3.907E-06	8.823E-05
BONE	1.041E-06	5.523E-06	1.524E-05	3.870E-05	3.965E-06	1.555E-04	1.132E-06	5.229E-07	2.217E-04
R MAR	1.801E-06	1.908E-05	5.015E-05	1.255E-04	4.215E-06	3.119E-05	2.974E-06	3.466E-06	2.384E-04
Y MAR	1.469E-06	7.757E-06	2.197E-05	4.886E-05	3.924E-06	1.259E-05	1.386E-06	3.621E-06	1.016E-04
ENDOST	1.041E-06	5.523E-06	1.524E-05	3.870E-05	4.007E-06	1.062E-04	1.132E-06	2.037E-06	1.738E-04
SPLEEN	1.182E-05	6.143E-06	1.829E-05	1.695E-05	3.716E-06	1.358E-06	6.794E-06	3.716E-06	6.880E-05
TESTES	5.103E-08	1.184E-06	3.296E-06	3.934E-05	3.405E-06	1.325E-06	5.948E-08	3.490E-06	5.215E-05
THYMUS	3.070E-07	3.103E-07	1.165E-06	5.382E-07	3.862E-06	1.127E-06	1.362E-07	4.312E-06	1.176E-05
THYROID	9.003E-08	5.957E-08	2.020E-07	1.144E-07	3.384E-06	1.761E-06	3.247E-08	3.514E-06	9.157E-06
UTERUS	7.924E-07	4.220E-05	6.973E-05	1.551E-04	3.945E-06	1.210E-06	6.385E-07	4.395E-06	2.780E-04

CASE 6.. INGESTION

INGESTION TRANSFER FRACTIONS (G. I. TRACT TO BLOOD)

	U-237
STOMACH	0.0
S INT	0.200
U L INT	0.0
L L INT	0.0

DOSE EQUIVALENT (REM/MICROCURIE)

SOURCE	S CONT	SI CONT	ULI CONT	LLI CONT	EXCRET.	BONE	KIDNEYS	OTHER	TOTAL
TARGET									
LUNGS	2.008E-06	7.348E-07	2.657E-06	1.303E-06	1.440E-05	8.547E-06	2.451E-06	1.791E-06	3.390E-05
RES LYM	2.008E-06	7.348E-07	2.657E-06	1.303E-06	1.440E-05	8.547E-06	2.451E-06	1.791E-06	3.390E-05
S WALL	8.090E-04	1.323E-05	4.274E-05	3.227E-05	1.490E-05	4.752E-06	1.045E-05	1.762E-06	9.291E-04
SI WALL	3.004E-06	1.611E-03	1.988E-04	1.843E-04	1.557E-05	6.534E-06	8.436E-06	1.968E-06	2.030E-03
ULI WALL	4.099E-06	1.099E-04	8.750E-03	8.371E-05	1.532E-05	6.072E-06	8.349E-06	2.087E-06	8.980E-03
LLI WALL	1.328E-06	2.921E-05	3.528E-05	2.349E-02	1.507E-05	9.174E-06	2.024E-06	2.054E-06	2.359E-02
T BODY	3.867E-06	2.135E-05	4.839E-05	9.114E-05	1.432E-05	5.775E-05	1.959E-05	8.024E-06	2.644E-04
ADREN	2.975E-06	3.667E-06	9.597E-06	6.184E-06	1.490E-05	1.036E-05	3.480E-05	1.452E-05	9.700E-05
BL WALL	2.726E-07	9.050E-06	2.290E-05	1.262E-04	1.507E-05	4.290E-06	7.506E-07	8.550E-06	1.871E-04
KIDNEYS	3.937E-06	1.104E-05	3.065E-05	1.505E-05	1.482E-05	7.359E-06	3.469E-03	2.020E-06	3.554E-03
LIVER	2.220E-06	6.431E-06	2.811E-05	4.219E-06	1.482E-05	5.709E-06	1.160E-05	1.528E-05	8.839E-05
OVARIES	5.518E-07	4.073E-05	1.323E-04	3.592E-04	1.540E-05	6.369E-06	3.206E-06	1.500E-05	5.727E-04
PANCREAS	2.162E-05	7.086E-06	2.448E-05	1.235E-05	1.557E-05	7.722E-06	1.959E-05	1.567E-05	1.241E-04
BONE	1.041E-06	4.663E-06	1.286E-05	3.267E-05	1.590E-05	6.237E-04	4.541E-06	2.097E-06	6.975E-04
R MAR	1.801E-06	1.611E-05	4.234E-05	1.060E-04	1.693E-05	1.251E-04	1.193E-05	1.390E-05	3.340E-04
Y MAR	1.469E-06	6.549E-06	1.855E-05	4.125E-05	1.574E-05	5.049E-05	5.559E-06	1.452E-05	1.541E-04
ENDOST	1.041E-06	4.663E-06	1.286E-05	3.267E-05	1.607E-05	4.257E-04	4.541E-06	8.168E-06	5.057E-04
SPLEEN	1.182E-05	5.186E-06	1.544E-05	1.431E-05	1.490E-05	5.445E-06	2.725E-05	1.490E-05	1.093E-04
TESTES	5.103E-08	9.993E-07	2.782E-06	3.321E-05	1.365E-05	5.313E-06	2.385E-07	1.399E-05	7.025E-05
THYMUS	3.070E-07	2.619E-07	9.839E-07	4.543E-07	1.549E-05	4.521E-06	5.460E-07	1.729E-05	3.985E-05
THYROID	9.003E-08	5.029E-08	1.706E-07	9.654E-08	1.357E-05	7.062E-06	1.302E-07	1.409E-05	3.526E-05
UTERUS	7.924E-07	3.562E-05	5.887E-05	1.310E-04	1.582E-05	4.851E-06	2.560E-06	1.762E-05	2.671E-04

RADIONUCLIDE: U-238

PHYSICAL AND METABOLIC PARAMETERS FOR DOSIMETRICALLY SIGNIFICANT PROGENY:

NUCLIDE	RADIOACTIVE HALF-LIFE (DAYS)
U-238	1.6300E 12
TH-234	24.10
PA-234M	8.1300E-04
PA-234	0.2790

BRANCHING RATIOS:

FROM	TO	FRACTION
U-238	TH-234	1.000
TH-234	PA-234M	1.000
PA-234M	PA-234	1.3000E-03

ORGAN ABSORBED	NUCLIDE	BLOOD TRANSFER FRACTION F2-PRIME	COMPARTMENT DEPOSITION FRACTION	COMPARTMENT BIOLOGICAL HALF-TIME (DAYS)
	U-238	1.00	0.631	0.500
			0.120	6.00
			0.200	20.0
			5.200E-04	1.500E 03
			4.800E-02	5.000E 03
	TH-234	1.00	0.460	1.460E 04
			0.540	3.650E 04
	PA-234M	1.00	0.460	1.460E 04
			0.540	3.650E 04
	PA-234	1.00	0.460	1.460E 04
			0.540	3.650E 04
EXCRET.	U-238	0.631	1.00	0.500
	TH-234	0.0	1.00	0.500
	PA-234M	0.0	1.00	0.500
	PA-234	0.0	1.00	0.500
BONE	U-238	0.223	0.897	20.0
			0.103	5.000E 03
	TH-234	0.450	1.00	3.650E 04
	PA-234M	0.450	1.00	3.650E 04
	PA-234	0.450	1.00	3.650E 04
LIVER	*U-238	1.250E-03	1.00	5.000E 03
	TH-234	0.450	1.00	1.460E 04
	PA-234M	0.450	1.00	1.460E 04
	PA-234	0.450	1.00	1.460E 04
KIDNEYS	U-238	0.121	0.996	6.00
			4.000E-03	1.500E 03
	TH-234	1.000E-02	1.00	1.460E 04
	PA-234M	1.000E-02	1.00	1.460E 04
	PA-234	1.000E-02	1.00	1.460E 04
TESTES	*U-238	2.440E-05	1.00	5.000E 03
	TH-234	3.500E-04	1.00	3.650E 04
	PA-234M	3.500E-04	1.00	3.650E 04
	PA-234	3.500E-04	1.00	3.650E 04
OVARIES	*U-238	7.650E-06	1.00	5.000E 03
	TH-234	1.100E-04	1.00	3.650E 04
	PA-234M	1.100E-04	1.00	3.650E 04
	PA-234	1.100E-04	1.00	3.650E 04
OTHER	U-238	2.370E-02	1.00	5.000E 03
	TH-234	9.000E-02	1.00	3.650E 04
	PA-234M	9.000E-02	1.00	3.650E 04
	PA-234	9.000E-02	1.00	3.650E 04

α decay (4.468E9 Y 3)

Case 1 represents inhalation of UO_2 or U_3O_8; case 2 inhalation of UF_4 or UCl_4; case 3 inhalation of UF_6, UO_2F_2, $UO_2(NO_3)_2$, or UO_3; case 4 ingestion of U(IV) compounds; and case 5 ingestion of U(VI) compounds.

*Retention data derived from "other tissues" compartment.

S FACTORS (REM/MICROCURIE-DAY) FOR U-238

TARGET ORGANS	SOURCE ORGANS									
	LUNGS	RES LYM	S CONT	SI CONT	ULI CONT	LLI CONT	EXCRET.	BONE	LIVER	KIDNEYS
LUNGS	0.222E 01	0.472E-03	0.503E-07	0.305E-08	0.312E-08	0.129E-08	0.317E-01	0.290E-07	0.147E-06	0.163E-07
RES LYM	0.472E-03	0.148E 03	0.503E-07	0.305E-08	0.312E-08	0.129E-08	0.317E-01	0.290E-07	0.147E-06	0.163E-07
S WALL	0.795E-07	0.795E-07	0.438E-01	0.138E-06	0.229E-06	0.299E-07	0.317E-01	0.182E-07	0.622E-07	0.567E-07
SI WALL	0.285E-08	0.285E-08	0.632E-07	0.274E-01	0.227E-05	0.121E-05	0.317E-01	0.212E-07	0.393E-07	0.481E-07
ULI WALL	0.321E-08	0.321E-08	0.126E-06	0.266E-04	0.499E-01	0.109E-05	0.317E-01	0.241E-07	0.572E-07	0.446E-07
LLI WALL	0.954E-09	0.954E-09	0.193E-07	0.259E-05	0.243E-06	0.812E-01	0.317E-01	0.633E-07	0.295E-08	0.102E-07
T BODY	0.317E-01	0.317E-01	0.947E-04	0.251E-03	0.150E-03	0.186E-03	0.408E-01	0.159E 00	0.317E-01	0.317E-01
ADREN	0.136E-06	0.136E-06	0.448E-07	0.141E-07	0.136E-07	0.452E-08	0.317E-01	0.533E-07	0.270E-06	0.171E-05
BL WALL	0.485E-09	0.485E-09	0.404E-08	0.397E-07	0.372E-07	0.124E-06	0.317E-01	0.695E-08	0.250E-08	0.385E-08
KIDNEYS	0.131E-07	0.131E-07	0.578E-07	0.491E-07	0.422E-07	0.129E-07	0.317E-01	0.396E-07	0.133E-06	0.717E 01
LIVER	0.113E-06	0.113E-06	0.479E-07	0.437E-07	0.507E-07	0.359E-08	0.317E-01	0.194E-07	0.123E 01	0.103E-06
OVARIES	0.126E-08	0.126E-08	0.114E-07	0.125E-05	0.168E-05	0.347E-05	0.317E-01	0.117E-07	0.782E-08	0.160E-07
PANCREAS	0.413E-07	0.413E-07	0.990E-06	0.304E-07	0.296E-07	0.942E-08	0.317E-01	0.418E-07	0.187E-06	0.116E-06
BONE	0.860E-07	0.860E-07	0.349E-07	0.772E-07	0.772E-07	0.115E-06	0.159E 00	0.222E 01	0.647E-07	0.790E-07
R MAR	0.638E-07	0.638E-07	0.263E-07	0.201E-06	0.116E-06	0.317E-06	0.317E-01	0.394E-02	0.453E-07	0.976E-07
Y MAR	0.658E-07	0.658E-07	0.257E-07	0.713E-07	0.437E-07	0.109E-06	0.317E-01	0.538E-05	0.613E-07	0.542E-07
ENDOST	0.550E-07	0.550E-07	0.166E-07	0.486E-07	0.363E-07	0.773E-07	0.317E-01	0.179E 00	0.396E-07	0.463E-07
SPLEEN	0.874E-07	0.874E-07	0.201E-06	0.222E-07	0.213E-07	0.134E-07	0.317E-01	0.600E-07	0.140E-07	0.647E-06
TESTES	0.137E-09	0.137E-09	0.918E-09	0.533E-08	0.175E-07	0.630E-07	0.317E-01	0.138E-07	0.742E-09	0.110E-08
THYMUS	0.861E-07	0.861E-07	0.630E-08	0.862E-09	0.853E-09	0.757E-09	0.317E-01	0.311E-07	0.840E-08	0.252E-08
THYROID	0.123E-07	0.123E-07	0.965E-09	0.208E-09	0.203E-09	0.932E-10	0.317E-01	0.227E-07	0.122E-08	0.544E-09
UTERUS	0.115E-08	0.115E-08	0.944E-08	0.285E-06	0.830E-07	0.117E-06	0.317E-01	0.634E-08	0.609E-08	0.112E-07

S FACTORS (REM/MICROCURIE-DAY) FOR U-238

TARGET ORGANS	SOURCE ORGANS		
	TESTES	OVARIES	OTHER
LUNGS	0.124E-09	0.101E-08	0.257E-06
RES LYM	0.124E-09	0.101E-08	0.297E-06
S WALL	0.922E-09	0.117E-07	0.709E-07
SI WALL	0.592E-08	0.107E-05	0.997E-07
ULI WALL	0.520E-08	0.279E-05	0.250E-06
LLI WALL	0.928E-07	0.338E-05	0.791E-07
T BODY	0.317E-01	0.317E-01	0.316E-01
ADREN	0.443E-09	0.469E-08	0.651E-01
BL WALL	0.510E-07	0.131E-06	0.326E-01
KIDNEYS	0.104E-08	0.141E-07	0.185E-06
LIVER	0.655E-09	0.752E-08	0.867E-07
OVARIES	0.0	0.202E 03	0.379E-06
PANCREAS	0.649E-09	0.672E-08	0.651E-01
BONE	0.485E-07	0.588E-07	0.614E-06
R MAR	0.121E-07	0.116E-06	0.651E-01
Y MAR	0.488E-08	0.410E-07	0.651E-01
ENDOST	0.182E-07	0.265E-07	0.828E-05
SPLEEN	0.585E-09	0.659E-08	0.651E-01
TESTES	0.635E 02	0.0	0.633E-07
THYMUS	0.571E-10	0.329E-09	0.651E-01
THYROID	0.201E-10	0.918E-10	0.651E-01
UTERUS	0.0	0.529E-06	0.651E-01

CASE 1.. INHALATION

AMAD (MICRON).. 1.00 D3 =0.310 D4 =8.000E-02 D5 =0.249

	SOLUBILITY CLASS	G.I. UPTAKE FRACTIONS STOMACH	S INT	U L INT	L L INT
U-238	Y	0.0	2.000E-03	0.0	0.0
TH-234	Y	0.0	1.000E-03	0.0	0.0
PA-234M	Y	0.0	1.000E-03	0.0	0.0
PA-234	Y	0.0	1.000E-03	0.0	0.0

DOSE EQUIVALENT (REM/MICROCURIE)

SOURCE	LUNGS	RES LYM	S CONT	SI CONT	ULI CONT	LLI CONT	EXCRET.	BONE	LIVER	KIDNEYS	TESTES
TARGET											
LUNGS	243.	4.47	5.434E-07	3.103E-07	9.591E-07	5.383E-07	7.378E-04	3.627E-05	1.574E-05	4.859E-07	6.179E-10
RES LYM	2.94	1.745E 04	5.434E-07	3.103E-07	9.591E-07	5.383E-07	7.378E-04	3.627E-05	1.574E-05	4.859E-07	6.179E-10
S WALL	5.074E-04	7.782E-04	5.344E-03	3.836E-06	1.096E-05	7.818E-06	7.378E-04	1.946E-05	1.160E-05	1.830E-06	2.130E-09
SI WALL	6.308E-05	9.726E-05	7.785E-07	1.329E-02	5.062E-05	4.630E-05	7.378E-04	2.009E-05	9.456E-06	1.486E-06	1.555E-08
ULI WALL	8.009E-05	1.235E-04	9.916E-07	3.361E-05	7.794E-02	2.138E-05	7.378E-04	2.660E-05	1.496E-05	1.490E-06	1.215E-08
LLI WALL	1.780E-05	2.744E-05	3.858E-07	8.446E-06	9.637E-06	0.232	7.378E-04	3.890E-05	1.404E-06	3.889E-07	9.312E-08
T BODY	3.47	3.74	1.204E-05	1.237E-04	2.401E-04	5.398E-04	9.495E-04	1.28	1.427E-02	3.472E-03	2.657E-04
ADREN	6.673E-04	1.021E-03	7.265E-07	1.097E-06	3.094E-06	1.838E-06	7.378E-04	5.669E-05	2.808E-05	6.935E-06	2.072E-09
BL WALL	1.559E-05	2.407E-05	1.230E-07	2.627E-06	6.009E-06	2.833E-05	7.378E-04	1.723E-05	1.006E-06	1.847E-07	1.899E-07
KIDNEYS	2.319E-04	3.572E-04	1.001E-06	3.357E-06	8.218E-06	3.945E-06	7.378E-04	3.697E-05	2.341E-05	0.785	3.365E-09
LIVER	6.521E-04	9.993E-04	5.929E-07	1.963E-06	7.270E-06	1.422E-06	7.378E-04	2.515E-05	0.554	2.080E-06	2.365E-09
OVARIES	3.245E-05	5.006E-05	3.115E-07	1.165E-05	2.933E-05	8.829E-05	7.378E-04	3.187E-05	3.311E-06	6.929E-07	0.0
PANCREAS	6.393E-04	9.835E-04	5.329E-06	2.130E-06	5.991E-06	3.293E-06	7.378E-04	3.272E-05	2.681E-05	3.625E-06	2.523E-09
BONE	3.814E-04	5.827E-04	2.221E-07	1.124E-06	2.817E-06	7.243E-06	3.699E-03	17.9	6.222E-06	7.290E-07	3.004E-08
R MAR	4.729E-04	7.246E-04	3.756E-07	3.727E-06	8.920E-06	2.322E-05	7.378E-04	5.875E-02	8.484E-06	1.879E-06	2.313E-08
Y MAR	3.997E-04	6.118E-04	3.112E-07	1.565E-06	4.021E-06	9.120E-06	7.378E-04	2.483E-04	9.377E-06	8.899E-07	1.144E-08
ENDOST	3.781E-04	5.791E-04	2.217E-07	1.121E-06	2.804E-06	7.221E-06	7.378E-04	1.49	6.212E-06	7.255E-07	2.980E-08
SPLEEN	5.935E-04	9.103E-04	2.965E-06	1.610E-06	4.016E-06	4.436E-06	7.378E-04	2.837E-05	5.998E-06	4.815E-06	1.726E-09
TESTES	5.462E-06	8.440E-06	3.218E-08	4.441E-07	1.217E-06	7.738E-06	7.378E-04	2.311E-05	8.998E-07	6.271E-08	0.532
THYMUS	1.123E-03	1.726E-03	1.749E-07	1.301E-07	3.764E-07	2.270E-07	7.378E-04	2.605E-05	4.339E-06	7.883E-08	3.901E-10
THYROID	2.917E-04	4.494E-04	4.045E-08	4.033E-08	1.086E-07	7.718E-08	7.378E-04	2.374E-05	8.768E-07	3.965E-08	1.439E-10
UTERUS	2.461E-05	3.797E-05	2.562E-07	9.831E-06	1.483E-05	2.987E-05	7.378E-04	2.616E-05	2.219E-06	4.148E-07	0.0

DOSE EQUIVALENT (REM/MICROCURIE)

SOURCE	OVARIES	OTHER	TOTAL
TARGET			
LUNGS	1.214E-09	4.706E-05	247.
RES LYM	1.214E-09	4.706E-05	1.745E 04
S WALL	8.701E-09	4.610E-05	7.469E-03
SI WALL	1.454E-07	5.122E-05	1.438E-02
ULI WALL	1.434E-07	5.469E-05	7.904E-02
LLI WALL	1.867E-07	5.574E-05	0.233
T BODY	8.330E-05	0.257	8.76
ADREN	4.886E-09	0.529	0.532
BL WALL	8.486E-08	0.265	0.266
KIDNEYS	1.118E-08	5.055E-05	0.786
LIVER	6.436E-09	3.658E-05	0.556
OVARIES	0.531	6.967E-05	0.532
PANCREAS	7.775E-09	0.529	0.532
BONE	1.617E-08	9.350E-04	17.9
R MAR	5.767E-08	0.526	0.586
Y MAR	2.194E-08	0.529	0.531
ENDOST	1.609E-08	6.248E-03	1.50
SPLEEN	5.981E-09	0.529	0.531
TESTES	0.0	3.886E-05	0.533
THYMUS	5.657E-10	0.529	0.533
THYROID	1.868E-10	0.529	0.531
UTERUS	2.247E-07	0.529	0.530

PERCENT DOSE EQUIVALENT..

NUCLIDE	U-238	TH-234	PA-234M	PA-234
TARGET				
LUNGS	97.0	0.2	2.7	0.0
RES LYM	98.3	0.1	1.6	0.0
S WALL	24.4	11.6	61.7	2.3
SI WALL	23.7	5.9	69.8	0.7
ULI WALL	20.9	5.5	73.4	0.2
LLI WALL	20.7	5.4	73.8	0.1
T BODY	98.7	0.1	1.3	0.0
ADREN	97.6	0.3	2.1	0.0
BL WALL	97.9	0.2	1.9	0.0
KIDNEYS	97.5	0.2	2.3	0.0
LIVER	93.0	0.6	6.4	0.0
OVARIES	97.8	0.2	2.1	0.0
PANCREAS	97.6	0.3	2.0	0.0
BONE	99.6	0.0	0.4	0.0
R MAR	93.9	0.3	5.7	0.0
Y MAR	97.7	0.3	2.0	0.0
ENDOST	95.8	0.3	3.9	0.0
SPLEEN	97.7	0.3	2.0	0.0
TESTES	97.8	0.2	2.0	0.0
THYMUS	97.4	0.4	2.1	0.1
THYROID	97.8	0.2	2.0	0.0
UTERUS	97.9	0.2	1.9	0.0

CASE 2.. INHALATION

AMAD (MICRON).. 1.00 D3 =0.310 D4 =8.000E-02 D5 =0.249

	SOLUBILITY CLASS	G.I. UPTAKE FRACTIONS STOMACH	S INT	U L INT	L L INT
U-238	W	0.0	5.000E-02	0.0	0.0
TH-234	W	0.0	1.000E-03	0.0	0.0
PA-234M	W	0.0	1.000E-03	0.0	0.0
PA-234	W	0.0	1.000E-03	0.0	0.0

DOSE EQUIVALENT (REM/MICROCURIE)

SOURCE	LUNGS	RES LYM	S CONT	SI CONT	ULI CONT	LLI CONT	EXCRET.	BONE	LIVER	KIDNEYS	TESTES
TARGET											
LUNGS	25.0	3.327E-02	6.731E-08	3.894E-08	1.360E-07	8.630E-08	2.118E-03	9.453E-05	1.736E-05	1.177E-06	1.650E-09
RES LYM	0.215	135.	6.731E-08	3.894E-03	1.360E-07	8.630E-08	2.118E-03	9.453E-05	1.736E-05	1.177E-06	1.650E-09
S WALL	3.722E-05	5.784E-06	1.576E-03	5.041E-07	1.627E-06	1.268E-06	2.118E-03	5.073E-05	1.277E-05	4.433E-06	5.688E-09
SI WALL	4.604E-06	7.225E-07	9.632E-08	3.834E-03	7.800E-06	7.936E-06	2.118E-03	7.581E-05	1.040E-05	3.599E-06	4.152E-08
ULI WALL	5.844E-06	9.176E-07	1.241E-07	6.292E-06	2.292E-02	3.875E-06	2.118E-03	6.933E-05	1.645E-05	3.608E-06	3.246E-08
LLI WALL	1.300E-06	2.039E-07	4.688E-08	1.282E-06	1.438E-06	7.044E-02	2.118E-03	1.015E-04	1.541E-06	9.416E-07	2.488E-07
T BODY	0.357	2.896E-02	3.466E-06	3.537E-05	6.980E-05	1.628E-04	2.726E-03	3.71	3.966E-02	9.930E-03	7.692E-04
ADREN	4.906E-05	7.593E-06	8.999E-08	1.379E-07	4.433E-07	2.949E-07	2.118E-03	1.478E-04	3.098E-05	1.687E-05	5.532E-09
BL WALL	1.137E-06	1.788E-07	1.464E-08	3.359E-07	8.694E-07	4.610E-06	2.118E-03	4.490E-05	1.104E-06	4.471E-07	5.070E-07
KIDNEYS	1.694E-05	2.654E-06	1.235E-07	4.346E-07	1.187E-06	6.371E-07	2.118E-03	9.637E-05	2.576E-05	2.25	8.984E-09
LIVER	4.787E-05	7.427E-06	7.301E-08	2.546E-07	1.053E-06	2.282E-07	2.118E-03	6.554E-05	1.54	5.038E-06	6.314E-09
OVARIES	2.368E-06	3.719E-07	3.765E-08	1.607E-06	4.599E-06	1.560E-05	2.118E-03	8.302E-05	3.635E-06	1.678E-06	0.0
PANCREAS	4.671E-05	7.307E-06	6.753E-07	2.752E-07	8.654E-07	5.317E-07	2.118E-03	8.532E-05	2.953E-05	8.779E-06	6.737E-09
BONE	2.807E-05	4.332E-06	2.864E-08	1.546E-07	4.283E-07	1.219E-06	1.062E-02	51.8	6.871E-06	1.768E-06	8.030E-08
R MAR	3.466E-05	5.385E-06	4.780E-08	5.124E-07	1.334E-06	3.892E-06	2.118E-03	0.162	9.336E-06	4.553E-06	6.178E-08
Y MAR	2.933E-05	4.547E-06	3.977E-08	2.130E-07	5.972E-07	1.521E-06	2.118E-03	6.594E-04	1.033E-05	2.157E-06	3.054E-08
ENDOST	2.772E-05	4.304E-06	2.824E-08	1.522E-07	4.174E-07	1.200E-06	2.118E-03	4.30	6.841E-06	1.758E-06	7.958E-08
SPLEEN	4.352E-05	6.765E-06	3.684E-07	2.066E-07	5.806E-07	7.161E-07	2.118E-03	7.403E-05	6.585E-06	1.169E-05	4.609E-09
TESTES	3.983E-07	6.269E-08	3.809E-09	5.581E-08	1.746E-07	1.266E-06	2.118E-03	6.021E-05	9.868E-07	1.518E-07	1.54
THYMUS	8.208E-05	1.283E-05	2.113E-08	1.608E-08	5.285E-08	3.631E-08	2.118E-03	6.791E-05	4.762E-06	1.909E-07	1.041E-09
THYROID	2.129E-05	3.338E-06	4.712E-09	4.921E-09	1.508E-08	1.225E-08	2.118E-03	6.188E-05	9.619E-07	9.598E-08	3.841E-10
UTERUS	1.797E-06	2.820E-07	3.067E-08	1.297E-06	2.155E-06	4.857E-06	2.118E-03	6.814E-05	2.437E-06	1.005E-06	0.0

DOSE EQUIVALENT (REM/MICROCURIE)

SOURCE	OVARIES	OTHER	TOTAL
TARGET			
LUNGS	3.241E-09	1.336E-04	25.0
RES LYM	3.241E-09	1.336E-04	135.
S WALL	2.323E-08	1.307E-04	3.939E-03
SI WALL	3.886E-07	1.453E-04	6.209E-03
ULI WALL	3.844E-07	1.552E-04	2.530E-02
LLI WALL	5.003E-07	1.581E-04	7.283E-02
T BODY	2.412E-04	0.745	4.89
ADREN	1.304E-08	1.53	1.54
BL WALL	2.266E-07	0.768	0.770
KIDNEYS	2.985E-08	1.434E-04	2.25
LIVER	1.718E-08	1.037E-04	1.54
OVARIES	1.54	1.977E-04	1.54
PANCREAS	2.076E-08	1.53	1.54
BONE	4.320E-08	2.651E-03	51.8
R MAR	1.540E-07	1.52	1.69
Y MAR	5.859E-08	1.53	1.54
ENDOST	4.296E-08	1.772E-02	4.32
SPLEEN	1.597E-08	1.53	1.54
TESTES	0.0	1.102E-04	1.54
THYMUS	1.510E-09	1.53	1.54
THYROID	4.986E-10	1.53	1.54
UTERUS	6.001E-07	1.53	1.54

PERCENT DOSE EQUIVALENT..

NUCLIDE	U-238	TH-234	PA-234M	PA-234
TARGET				
LUNGS	99.0	0.1	0.9	0.0
RES LYM	98.2	0.1	1.6	0.0
S WALL	77.8	3.6	17.8	0.7
SI WALL	70.4	3.4	25.7	0.5
ULI WALL	60.9	3.0	35.9	0.2
LLI WALL	57.8	3.0	39.1	0.1
T BODY	99.3	0.1	0.7	0.0
ADREN	98.0	0.1	1.9	0.0
BL WALL	98.0	0.1	1.9	0.0
KIDNEYS	97.9	0.1	1.9	0.0
LIVER	97.3	0.2	2.5	0.0
OVARIES	98.0	0.1	1.9	0.0
PANCREAS	98.0	0.1	1.9	0.0
BONE	99.6	0.0	0.4	0.0
R MAR	94.6	0.2	5.2	0.0
Y MAR	98.0	0.2	1.9	0.0
ENDOST	96.3	0.2	3.5	0.0
SPLEEN	98.0	0.1	1.9	0.0
TESTES	98.0	0.1	1.9	0.0
THYMUS	98.0	0.2	1.9	0.0
THYROID	98.0	0.1	1.9	0.0
UTERUS	98.0	0.1	1.9	0.0

CASE 3.. INHALATION

AMAD (MICRON).. 1.00 D3 =0.310 D4 =8.000E-02 D5 =0.249

	SOLUBILITY CLASS	G.I. UPTAKE FRACTIONS STOMACH	S INT	U L INT	L L INT
U-238	D	0.0	5.000E-02	0.0	0.0
TH-234	W	0.0	1.000E-03	0.0	0.0
PA-234M	W	0.0	1.000E-03	0.0	0.0
PA-234	W	0.0	1.000E-03	0.0	0.0

DOSE EQUIVALENT (REM/MICROCURIE)

SOURCE	LUNGS	RES LYM	S CONT	SI CONT	ULI CONT	LLI CONT	EXCRET.	BONE	LIVER	KIDNEYS	TESTES
TARGET											
LUNGS	0.417	1.203E-03	1.486E-09	8.639E-10	4.560E-09	4.718E-09	7.045E-03	3.090E-04	4.345E-05	3.803E-06	5.415E-09
RES LYM	3.546E-03	5.40	1.486E-09	8.639E-10	4.560E-09	4.718E-09	7.045E-03	3.090E-04	4.345E-05	3.803E-06	5.415E-09
S WALL	6.127E-07	2.091E-07	3.014E-04	1.365E-08	6.941E-08	7.127E-08	7.045E-03	1.659E-04	3.190E-05	1.432E-05	1.867E-08
SI WALL	7.577E-08	2.610E-08	2.072E-09	7.243E-04	4.189E-07	5.747E-07	7.045E-03	2.478E-04	2.597E-05	1.163E-05	1.363E-07
ULI WALL	9.616E-08	3.314E-08	2.948E-09	7.554E-07	4.404E-03	3.428E-07	7.045E-03	2.266E-04	4.107E-05	1.166E-05	1.065E-07
LLI WALL	2.139E-08	7.364E-09	9.352E-10	8.740E-08	6.426E-08	1.394E-02	7.045E-03	3.217E-04	3.846E-06	3.043E-06	8.167E-07
T BODY	5.960E-03	1.157E-03	6.526E-07	6.640E-06	1.329E-05	3.200E-05	9.067E-03	12.2	0.131	3.301E-02	2.558E-03
ADREN	8.375E-07	2.746E-07	1.848E-09	3.136E-09	1.521E-08	1.615E-08	7.045E-03	4.831E-04	7.753E-05	5.455E-05	1.816E-08
BL WALL	1.871E-08	6.457E-09	2.790E-10	7.816E-09	3.077E-08	2.616E-07	7.045E-03	1.468E-04	2.756E-06	1.445E-06	1.664E-06
KIDNEYS	2.787E-07	9.586E-08	2.511E-09	1.011E-08	4.136E-08	3.544E-08	7.045E-03	3.151E-04	6.438E-05	7.46	2.949E-08
LIVER	7.879E-07	2.686E-07	1.570E-09	6.267E-09	3.766E-08	1.250E-08	7.045E-03	2.143E-04	5.08	1.628E-05	2.072E-08
OVARIES	3.896E-08	1.343E-08	7.251E-10	6.267E-08	2.720E-07	1.266E-06	7.045E-03	2.714E-04	9.072E-06	5.422E-06	0.0
PANCREAS	7.686E-07	2.640E-07	1.796E-08	6.381E-09	3.009E-08	2.944E-08	7.045E-03	2.790E-04	7.384E-05	2.837E-05	2.211E-08
BONE	4.620E-07	1.567E-07	7.187E-10	5.041E-09	1.967E-08	7.986E-08	3.533E-02	172.	1.720E-05	5.715E-06	2.636E-07
R MAR	5.704E-07	1.947E-07	9.998E-10	1.545E-08	5.230E-08	2.490E-07	7.045E-03	0.536	2.333E-05	1.471E-05	2.028E-07
Y MAR	4.828E-07	1.644E-07	8.559E-10	6.128E-09	2.277E-08	9.542E-08	7.045E-03	2.163E-03	2.582E-05	6.969E-06	1.003E-07
ENDOST	4.563E-07	1.556E-07	5.974E-10	4.321E-09	1.632E-08	7.416E-08	7.045E-03	14.3	1.710E-05	5.682E-06	2.612E-07
SPLEEN	7.163E-07	2.446E-07	7.675E-09	4.764E-09	2.030E-08	3.972E-08	7.045E-03	2.421E-04	1.644E-05	3.777E-05	1.513E-08
TESTES	6.554E-09	2.264E-09	7.171E-11	1.261E-09	6.813E-09	7.522E-08	7.045E-03	1.968E-04	2.461E-06	4.906E-07	5.12
THYMUS	1.351E-06	4.634E-07	4.062E-10	3.453E-10	1.733E-09	2.001E-09	7.045E-03	2.220E-04	1.188E-05	6.168E-07	3.418E-09
THYROID	3.503E-07	1.206E-07	8.747E-11	1.039E-10	4.871E-10	6.536E-10	7.045E-03	2.023E-04	2.400E-06	3.101E-07	1.261E-09
UTERUS	2.956E-08	1.019E-08	5.911E-10	3.354E-08	7.591E-08	2.741E-07	7.045E-03	2.228E-04	6.082E-06	3.246E-06	0.0

DOSE EQUIVALENT (REM/MICROCURIE)

SOURCE	OVARIES	OTHER	TOTAL
TARGET			
LUNGS	1.064E-08	4.428E-04	0.426
RES LYM	1.064E-08	4.428E-04	5.41
S WALL	7.625E-08	4.333E-04	7.993E-03
SI WALL	1.276E-06	4.815E-04	8.539E-03
ULI WALL	1.263E-06	5.144E-04	1.229E-02
LLI WALL	1.643E-06	5.239E-04	2.185E-02
T BODY	8.020E-04	2.48	15.0
ADREN	4.281E-08	5.10	5.11
BL WALL	7.438E-07	2.55	2.56
KIDNEYS	9.798E-08	4.753E-04	7.47
LIVER	5.640E-08	3.439E-04	5.09
OVARIES	5.11	6.554E-04	5.12
PANCREAS	6.813E-08	5.10	5.11
BONE	1.418E-07	8.787E-03	172.
R MAR	5.055E-07	5.07	5.61
Y MAR	1.923E-07	5.10	5.11
ENDOST	1.410E-07	5.873E-02	14.4
SPLEEN	5.241E-08	5.10	5.11
TESTES	0.0	3.653E-04	5.13
THYMUS	4.957E-09	5.10	5.11
THYROID	1.637E-09	5.10	5.11
UTERUS	1.970E-06	5.10	5.11

PERCENT DOSE EQUIVALENT..

NUCLIDE	U-238	TH-234	PA-234M	PA-234
TARGET				
LUNGS	98.7	0.2	1.1	0.0
RES LYM	98.5	0.1	1.4	0.0
S WALL	91.8	3.3	4.0	0.9
SI WALL	90.7	3.7	4.7	1.0
ULI WALL	91.0	2.8	5.5	0.7
LLI WALL	88.4	2.2	9.0	0.4
T BODY	99.3	0.0	0.6	0.0
ADREN	98.0	0.1	1.9	0.0
BL WALL	98.0	0.1	1.9	0.0
KIDNEYS	98.0	0.1	1.9	0.0
LIVER	98.0	0.1	1.9	0.0
OVARIES	98.0	0.1	1.9	0.0
PANCREAS	98.0	0.1	1.9	0.0
BONE	99.6	0.0	0.3	0.0
R MAR	94.6	0.2	5.1	0.0
Y MAR	98.0	0.2	1.9	0.0
ENDOST	96.3	0.2	3.5	0.0
SPLEEN	98.0	0.1	1.9	0.0
TESTES	98.0	0.1	1.9	0.0
THYMUS	98.0	0.1	1.9	0.0
THYROID	98.0	0.1	1.9	0.0
UTERUS	98.0	0.1	1.9	0.0

CASE 4.. INGESTION

INGESTION TRANSFER FRACTIONS (G. I. TRACT TO BLOOD)

	U-238	TH-234	PA-234M	PA-234
STOMACH	0.0	0.0	0.0	0.0
S INT	2.000E-03	1.000E-03	1.000E-03	1.000E-03
U L INT	0.0	0.0	0.0	0.0
L L INT	0.0	0.0	0.0	0.0

DOSE EQUIVALENT (REM/MICROCURIE)

SOURCE	S CONT	SI CONT	ULI CONT	LLI CONT	EXCRET.	BONE	LIVER	KIDNEYS	TESTES	OVARIES	OTHER
TARGET											
LUNGS	2.425E-09	1.492E-09	1.594E-08	2.286E-08	2.887E-05	1.257E-06	1.786E-07	1.559E-08	2.219E-11	4.360E-11	1.815E-06
RES LYM	2.425E-09	1.492E-09	1.594E-08	2.286E-08	2.887E-05	1.267E-06	1.786E-07	1.559E-08	2.219E-11	4.360E-11	1.815E-06
S WALL	1.829E-03	3.645E-08	2.945E-07	3.495E-07	2.887E-05	6.797E-07	1.311E-07	5.871E-08	7.652E-11	3.125E-10	1.776E-06
SI WALL	3.107E-09	4.613E-03	2.014E-06	3.086E-06	2.887E-05	1.016E-06	1.067E-07	4.767E-08	5.586E-10	5.229E-09	1.973E-06
ULI WALL	5.862E-09	4.543E-06	2.310E-02	1.942E-06	2.887E-05	9.289E-07	1.688E-07	4.778E-08	4.366E-10	5.174E-09	2.108E-06
LLI WALL	1.028E-09	4.609E-07	2.807E-07	8.915E-02	2.887E-05	1.359E-06	1.581E-08	1.247E-08	3.347E-09	6.734E-09	2.147E-06
T BODY	3.956E-06	4.227E-05	8.471E-05	2.046E-04	3.715E-05	5.053E-02	5.370E-04	1.353E-04	1.048E-05	3.286E-06	1.015E-02
ADREN	2.315E-09	5.821E-09	5.439E-08	7.827E-08	2.887E-05	1.980E-06	3.187E-07	2.236E-07	7.441E-11	1.755E-10	2.091E-02
BL WALL	2.348E-10	1.539E-08	1.132E-07	1.288E-06	2.887E-05	6.015E-07	1.133E-08	5.921E-09	6.820E-09	3.048E-09	1.047E-02
KIDNEYS	3.019E-09	1.986E-08	1.501E-07	1.730E-07	2.887E-05	1.291E-06	2.646E-07	3.059E-02	1.209E-10	4.015E-10	1.948E-06
LIVER	2.350E-09	1.405E-08	1.399E-07	6.063E-08	2.887E-05	8.782E-07	2.083E-02	6.673E-08	8.493E-11	2.311E-10	1.409E-06
OVARIES	6.527E-10	2.501E-07	1.362E-06	7.019E-06	2.887E-05	1.112E-06	7.729E-08	2.222E-08	0.0	2.094E-02	2.686E-06
PANCREAS	4.458E-08	1.243E-08	1.089E-07	1.474E-07	2.887E-05	1.143E-06	3.035E-07	1.163E-07	9.063E-11	2.792E-10	2.091E-02
BONE	1.604E-09	1.715E-08	8.730E-08	4.152E-07	1.448E-04	0.705	7.070E-08	2.543E-08	1.080E-09	5.911E-10	3.601E-05
R MAR	1.349E-09	4.805E-08	2.093E-07	1.284E-06	2.887E-05	2.196E-03	9.589E-08	6.031E-08	8.311E-10	2.072E-09	2.077E-02
Y MAR	1.282E-09	1.790E-08	8.914E-08	4.885E-07	2.887E-05	8.862E-06	1.061E-07	2.856E-08	4.109E-10	7.882E-10	2.091E-02
ENDOST	8.414E-10	1.240E-08	6.519E-08	3.776E-07	2.887E-05	5.858E-02	7.028E-08	2.329E-08	1.071E-09	5.778E-10	2.406E-04
SPLEEN	1.022E-08	9.156E-09	7.386E-08	1.936E-07	2.887E-05	9.920E-07	6.755E-08	1.548E-07	6.201E-11	2.148E-10	2.091E-02
TESTES	5.528E-11	2.296E-09	2.718E-08	3.773E-07	2.887E-05	8.067E-07	1.012E-08	2.011E-09	2.099E-02	0.0	1.497E-06
THYMUS	3.620E-10	5.370E-10	5.926E-09	9.733E-09	2.887E-05	9.100E-07	4.884E-08	2.529E-09	1.401E-11	2.031E-11	2.091E-02
THYROID	6.039E-11	1.518E-10	1.640E-09	3.132E-09	2.887E-05	8.291E-07	9.863E-09	1.271E-09	5.167E-12	6.707E-12	2.091E-02
UTERUS	5.348E-10	8.283E-08	2.781E-07	1.346E-06	2.887E-05	9.129E-07	2.500E-08	1.330E-08	0.0	8.073E-09	2.091E-02

DOSE EQUIVALENT (REM/MICROCURIE)

SOURCE	TOTAL
TARGET	
LUNGS	3.219E-05
RES LYM	3.219E-05
S WALL	1.862E-03
SI WALL	4.650E-03
ULI WALL	2.814E-02
LLI WALL	8.918E-02
T BODY	6.174E-02
ADREN	2.094E-02
BL WALL	1.050E-02
KIDNEYS	3.062E-02
LIVER	2.087E-02
OVARIES	2.098E-02
PANCREAS	2.094E-02
BONE	0.705
R MAR	2.299E-02
Y MAR	2.094E-02
ENDOST	5.885E-02
SPLEEN	2.094E-02
TESTES	2.102E-02
THYMUS	2.094E-02
THYROID	2.093E-02
UTERUS	2.094E-02

PERCENT DOSE EQUIVALENT..

NUCLIDE	U-238	TH-234	PA-234M	PA-234
TARGET				
LUNGS	90.0	4.3	4.6	1.0
RES LYM	90.0	4.3	4.6	1.0
S WALL	99.6	0.1	0.3	0.0
SI WALL	99.7	0.1	1.2	0.0
ULI WALL	95.8	0.3	3.9	0.0
LLI WALL	90.9	0.6	3.5	0.0
T BODY	99.3	0.1	0.7	0.0
ADREN	98.0	0.1	1.9	0.0
BL WALL	98.0	0.2	1.9	0.0
KIDNEYS	98.0	0.1	1.9	0.0
LIVER	98.0	0.1	1.9	0.0
OVARIES	98.0	0.2	1.9	0.0
PANCREAS	98.0	0.1	1.9	0.0
BONE	99.6	0.0	0.3	0.0
R MAR	94.6	0.2	5.1	0.0
Y MAR	98.0	0.2	1.9	0.0
ENDOST	96.3	0.2	3.5	0.0
SPLEEN	98.0	0.1	1.9	0.0
TESTES	98.0	0.1	1.9	0.0
THYMUS	98.0	0.1	1.9	0.0
THYROID	98.0	0.1	1.9	0.0
UTERUS	98.0	0.2	1.9	0.0

CASE 5.. INGESTION

INGESTION TRANSFER FRACTIONS (G. I. TRACT TO BLOOD)

	U-238	TH-234	PA-234M	PA-234
STOMACH	0.0	0.0	0.0	0.0
S INT	5.000E-02	1.000E-03	1.000E-03	1.000E-03
U L INT	0.0	0.0	0.0	0.0
L L INT	0.0	0.0	0.0	0.0

DOSE EQUIVALENT (REM/MICROCURIE)

SOURCE	S CONT	SI CONT	ULI CONT	LLI CONT	EXCRET.	BONE	LIVER	KIDNEYS	TESTES	OVARIES	OTHER
TARGET											
LUNGS	2.425E-09	1.430E-09	1.521E-08	2.179E-08	7.217E-04	3.165E-05	4.441E-06	3.895E-07	5.547E-10	1.090E-09	4.536E-05
RES LYM	2.425E-09	1.430E-09	1.521E-08	2.179E-08	7.217E-04	3.165E-05	4.441E-06	3.895E-07	5.547E-10	1.090E-09	4.536E-05
S WALL	1.829E-03	3.483E-08	2.808E-07	3.330E-07	7.217E-04	1.699E-05	3.260E-06	1.467E-06	1.913E-09	7.811E-09	4.439E-05
SI WALL	3.107E-09	4.392E-03	1.920E-06	2.940E-06	7.217E-04	2.538E-05	2.654E-06	1.191E-06	1.396E-08	1.307E-07	4.932E-05
ULI WALL	5.862E-09	4.326E-06	2.675E-02	1.850E-06	7.217E-04	2.322E-05	4.198E-06	1.194E-06	1.091E-08	1.293E-07	5.269E-05
LLI WALL	1.028E-09	4.396E-07	2.676E-07	8.487E-02	7.217E-04	3.398E-05	3.931E-07	3.116E-07	8.366E-08	1.683E-07	5.767E-05
T BODY	3.956E-06	4.024E-05	8.065E-05	1.948E-04	9.288E-04	1.26	1.342E-02	2.381E-03	2.620E-04	8.216E-05	0.254
ADREN	2.315E-09	5.575E-09	5.190E-08	7.459E-08	7.217E-04	4.948E-05	7.924E-06	5.587E-06	1.860E-09	4.385E-09	0.523
BL WALL	2.348E-10	1.474E-08	1.080E-07	1.228E-06	7.217E-04	1.503E-05	2.817E-07	1.480E-07	1.705E-07	7.619E-08	0.262
KIDNEYS	3.019E-09	1.902E-08	1.432E-07	1.649E-07	7.217E-04	3.227E-05	6.580E-06	0.765	3.021E-09	1.004E-08	4.869E-05
LIVER	2.350E-09	1.344E-08	1.335E-07	5.778E-08	7.217E-04	2.195E-05	0.521	1.667E-06	2.123E-09	5.778E-09	3.523E-05
OVARIES	6.527E-10	2.385E-07	1.298E-06	6.685E-06	7.217E-04	2.780E-05	9.272E-07	5.553E-07	0.0	0.523	6.714E-05
PANCREAS	4.458E-08	1.191E-08	1.040E-07	1.367E-07	7.217E-04	2.857E-05	7.547E-06	2.905E-06	2.265E-09	6.979E-09	0.523
BONE	1.604E-09	1.637E-08	8.322E-08	3.956E-07	3.619E-03	17.6	1.758E-06	5.854E-07	3.700E-08	1.453E-08	9.002E-04
R MAR	1.349E-09	4.588E-08	1.996E-07	1.223E-06	7.217E-04	5.489E-02	2.384E-06	1.507E-06	2.077E-08	5.178E-08	0.519
Y MAR	1.282E-09	1.710E-08	8.503E-08	4.654E-07	7.217E-04	2.215E-04	2.639E-06	7.138E-07	1.027E-08	1.970E-08	0.523
ENDOST	8.414E-10	1.184E-08	6.217E-08	3.598E-07	7.217E-04	1.46	1.748E-06	5.819E-07	2.676E-08	1.444E-08	6.016E-03
SPLEEN	1.022E-08	8.768E-09	7.048E-08	1.845E-07	7.217E-04	2.479E-05	1.680E-06	7.869E-06	1.550E-09	5.369E-09	0.523
TESTES	5.528E-11	2.199E-09	2.592E-08	3.595E-07	7.217E-04	2.016E-05	2.516E-07	5.024E-08	0.525	0.0	3.742E-05
THYMUS	3.620E-10	5.150E-10	5.656E-09	9.275E-09	7.217E-04	2.274E-05	1.214E-06	6.318E-08	3.501E-10	5.077E-10	0.523
THYROID	6.039E-11	1.456E-10	1.565E-09	2.985E-09	7.217E-04	2.072E-05	2.453E-07	3.176E-08	1.292E-10	1.676E-10	0.523
UTERUS	5.348E-10	7.919E-08	2.654E-07	1.283E-06	7.217E-04	2.282E-05	6.216E-07	3.325E-07	0.0	2.018E-07	0.523

DOSE EQUIVALENT (REM/MICROCURIE)

SOURCE	TOTAL
TARGET	
LUNGS	8.036E-04
RES LYM	8.036E-04
S WALL	2.618E-03
SI WALL	5.197E-03
ULI WALL	2.756E-02
LLI WALL	8.568E-02
T BODY	1.54
ADREN	0.523
BL WALL	0.262
KIDNEYS	0.765
LIVER	0.522
OVARIES	0.524
PANCREAS	0.523
BONE	17.6
R MAR	0.575
Y MAR	0.524
ENDOST	1.47
SPLEEN	0.523
TESTES	0.526
THYMUS	0.523
THYROID	0.523
UTERUS	0.523

PERCENT DOSE EQUIVALENT..

NUCLIDE	U-238	TH-234	PA-234M	PA-234
TARGET				
LUNGS	90.1	4.3	4.6	1.0
RES LYM	90.1	4.3	4.6	1.0
S WALL	97.3	1.0	1.4	0.3
SI WALL	97.4	0.7	1.7	0.2
ULI WALL	95.6	0.4	3.9	0.0
LLI WALL	90.9	0.7	8.5	0.0
T BODY	99.3	0.0	0.6	0.0
ADREN	98.0	0.1	1.9	0.0
BL WALL	98.0	0.1	1.9	0.0
KIDNEYS	98.0	0.1	1.9	0.0
LIVER	98.0	0.1	1.9	0.0
OVARIES	98.0	0.1	1.9	0.0
PANCREAS	98.0	0.1	1.9	0.0
BONE	99.6	0.0	0.3	0.0
R MAR	94.6	0.2	5.1	0.0
Y MAR	98.0	0.2	1.9	0.0
ENDOST	96.3	0.2	3.5	0.0
SPLEEN	98.0	0.1	1.9	0.0
TESTES	98.0	0.1	1.9	0.0
THYMUS	98.0	0.1	1.9	0.0
THYROID	98.0	0.1	1.9	0.0
UTERUS	98.0	0.1	1.9	0.0

CASE 6.. INGESTION

INGESTION TRANSFER FRACTIONS (G. I. TRACT TO BLOOD)

	U-238	TH-234	PA-234M	PA-234
STOMACH	0.0	0.0	0.0	0.0
S INT	0.200	1.000E-03	1.000E-03	1.000E-03
U L INT	0.0	0.0	0.0	0.0
L L INT	0.0	0.0	0.0	0.0

DOSE EQUIVALENT (REM)

SOURCE	S CONT	SI CONT	ULI CONT	LLI CONT	EXCRET.	BONE	LIVER	KIDNEYS	TESTES	OVARIES	OTHER
TARGET											
LUNGS	2.425E-09	1.235E-09	1.294E-08	1.943E-08	2.887E-03	1.266E-04	1.776E-05	1.558E-06	2.219E-09	4.359E-09	1.815E-04
RES LYM	2.425E-09	1.235E-09	1.294E-08	1.943E-08	2.887E-03	1.266E-04	1.776E-05	1.558E-06	2.219E-09	4.359E-09	1.815E-04
S WALL	1.829E-03	2.976E-08	2.380E-07	2.917E-07	2.887E-03	6.795E-05	1.304E-05	5.868E-06	7.651E-09	3.124E-08	1.775E-04
SI WALL	3.107E-09	3.700E-03	1.624E-06	2.483E-06	2.887E-03	1.015E-04	1.061E-05	4.764E-06	5.585E-08	5.228E-07	1.973E-04
ULI WALL	5.862E-09	3.647E-06	2.254E-02	1.561E-06	2.887E-03	9.286E-05	1.679E-05	4.776E-06	4.365E-08	5.173E-07	2.108E-04
LLI WALL	1.028E-09	3.706E-07	2.267E-07	7.150E-02	2.887E-03	1.359E-04	1.572E-06	1.246E-06	3.346E-07	6.732E-07	2.147E-04
T BODY	3.956E-06	3.390E-05	6.795E-05	1.641E-04	3.715E-03	5.05	5.369E-02	1.353E-02	1.048E-03	3.286E-04	1.01
ADREN	2.315E-09	4.806E-09	4.412E-08	6.309E-08	2.887E-03	1.979E-04	3.169E-05	2.235E-05	7.446E-09	1.754E-08	2.09
BL WALL	2.348E-10	1.269E-08	9.179E-08	1.038E-06	2.887E-03	6.014E-05	1.126E-06	5.918E-07	6.819E-07	3.047E-07	1.05
KIDNEYS	3.019E-09	1.639E-08	1.217E-07	1.395E-07	2.887E-03	1.291E-04	2.632E-05	3.06	1.208E-08	4.014E-08	1.948E-04
LIVER	2.350E-09	1.154E-08	1.134E-07	4.997E-08	2.887E-03	8.779E-05	2.08	6.670E-06	8.491E-09	2.311E-08	1.409E-04
OVARIES	6.527E-10	2.022E-07	1.097E-06	5.643E-06	2.887E-03	1.112E-04	3.708E-06	2.221E-06	0.0	2.09	2.686E-04
PANCREAS	4.458E-08	1.026E-08	8.837E-08	1.156E-07	2.887E-03	1.143E-04	3.018E-05	1.162E-05	9.061E-09	2.791E-08	2.09
BONE	1.604E-09	1.392E-08	7.048E-08	3.342E-07	1.448E-02	70.5	7.031E-06	2.341E-06	1.086E-07	5.810E-08	3.601E-03
R MAR	1.349E-09	3.910E-08	1.694E-07	1.034E-06	2.887E-03	0.220	9.536E-06	6.028E-06	8.395E-08	2.071E-07	2.08
Y MAR	1.282E-09	1.459E-08	7.218E-08	3.933E-07	2.887E-03	8.860E-04	1.055E-05	2.855E-06	4.108E-08	7.880E-08	2.09
ENDOST	8.414E-10	1.011E-08	5.276E-03	3.041E-07	2.887E-03	5.86	6.990E-06	2.328E-06	1.076E-07	5.777E-08	2.406E-02
SPLEEN	1.022E-08	7.558E-09	5.990E-08	1.561E-07	2.887E-03	9.918E-05	6.718E-06	1.547E-05	6.195E-09	2.147E-08	2.09
TESTES	5.528E-11	1.897E-09	2.199E-08	3.039E-07	2.887E-03	8.065E-05	1.006E-06	2.010E-07	2.10	0.0	1.497E-04
THYMUS	3.620E-10	4.463E-10	4.811E-09	7.845E-09	2.887E-03	9.097E-05	4.857E-06	2.527E-07	1.401E-09	2.031E-09	2.09
THYROID	6.039E-11	1.264E-10	1.332E-09	2.525E-09	2.887E-03	8.289E-05	9.809E-07	1.270E-07	5.166E-10	6.706E-10	2.09
UTERUS	5.348E-10	6.781E-08	2.255E-07	1.285E-06	2.887E-03	9.127E-05	2.486E-06	1.330E-06	0.0	8.071E-07	2.09

DOSE EQUIVALENT (REM)

SOURCE	TOTAL
TARGET	
LUNGS	3.214E-03
RES LYM	3.214E-03
S WALL	4.981E-03
SI WALL	6.906E-03
ULI WALL	2.575E-02
LLI WALL	7.474E-02
T BODY	6.14
ADREN	2.09
BL WALL	1.05
KIDNEYS	3.06
LIVER	2.09
OVARIES	2.10
PANCREAS	2.09
BONE	70.5
R MAR	2.30
Y MAR	2.09
ENDOST	5.89
SPLEEN	2.09
TESTES	2.10
THYMUS	2.09
THYROID	2.09
UTERUS	2.09

PERCENT DOSE EQUIVALENT..

NUCLIDE	U-238	TH-234	PA-234M	PA-234
TARGET				
LUNGS	90.1	4.3	4.6	1.0
RES LYM	90.1	4.3	4.6	1.0
S WALL	94.6	2.2	2.6	0.6
SI WALL	94.8	1.9	2.8	0.5
ULI WALL	95.1	0.8	4.0	0.1
LLI WALL	90.8	0.8	8.4	0.1
T BODY	99.3	0.0	0.6	0.0
ADREN	98.0	0.1	1.9	0.0
BL WALL	98.0	0.1	1.9	0.0
KIDNEYS	98.0	0.1	1.9	0.0
LIVER	98.0	0.1	1.9	0.0
OVARIES	98.0	0.1	1.9	0.0
PANCREAS	98.0	0.1	1.9	0.0
BONE	99.6	0.0	0.3	0.0
R MAR	94.6	0.2	5.1	0.0
Y MAR	98.0	0.2	1.9	0.0
ENDOST	96.3	0.2	3.5	0.0
SPLEEN	98.0	0.1	1.9	0.0
TESTES	98.0	0.1	1.9	0.0
THYMUS	98.0	0.1	1.9	0.0
THYROID	98.0	0.1	1.9	0.0
UTERUS	98.0	0.1	1.9	0.0

RADIONUCLIDE: U-240

PHYSICAL AND METABOLIC PARAMETERS FOR DOSIMETRICALLY SIGNIFICANT PROGENY:

NUCLIDE	RADIOACTIVE HALF-LIFE (DAYS)
U-240	0.5880
NP-240M	5.1400E-03
NP-240	4.5100E-02
PU-240	2.3900E 06

BRANCHING RATIOS:

FROM	TO	FRACTION
U-240	NP-240M	1.000
NP-240M	NP-240	1.1000E-03
NP-240M	PU-240	0.9990
NP-240	PU-240	1.000

ORGAN ABSORBED	NUCLIDE	BLOOD TRANSFER FRACTION F2-PRIME	COMPARTMENT DEPOSITION FRACTION	COMPARTMENT BIOLOGICAL HALF-TIME (DAYS)
	U-240	1.00	0.631	0.500
			0.120	6.00
			0.200	20.0
			5.200E-04	1.500E 03
			4.800E-02	5.000E 03
	NP-240M	1.00	0.460	1.460E 04
			0.540	3.650E 04
	NP-240	1.00	0.460	1.460E 04
			0.540	3.650E 04
	PU-240	1.00	0.460	1.460E 04
			0.540	3.650E 04
EXCRET.	U-240	0.631	1.00	0.500
	NP-240M	0.0	1.00	0.500
	NP-240	0.0	1.00	0.500
	PU-240	0.0	1.00	0.500
BONE	U-240	0.223	0.897	20.0
			0.103	5.000E 03
	NP-240M	0.450	1.00	3.650E 04
	NP-240	0.450	1.00	3.650E 04
	PU-240	0.450	1.00	3.650E 04
LIVER	*U-240	1.250E-03	1.00	5.000E 03
	NP-240M	0.450	1.00	1.460E 04
	NP-240	0.450	1.00	1.460E 04
	PU-240	0.450	1.00	1.460E 04
KIDNEYS	U-240	0.121	0.996	6.00
			4.000E-03	1.500E 03
	NP-240M	1.000E-02	1.00	1.460E 04
	NP-240	1.000E-02	1.00	1.460E 04
	PU-240	1.000E-02	1.00	1.460E 04
TESTES	*U-240	2.440E-05	1.00	5.000E 03
	NP-240M	3.500E-04	1.00	3.650E 04
	NP-240	3.500E-04	1.00	3.650E 04
	PU-240	3.500E-04	1.00	3.650E 04
OVARIES	*U-240	7.650E-06	1.00	5.000E 03
	NP-240M	1.100E-04	1.00	3.650E 04
	NP-240	1.100E-04	1.00	3.650E 04
	PU-240	1.100E-04	1.00	3.650E 04
OTHER	U-240	2.370E-02	1.00	5.000E 03
	NP-240M	9.000E-02	1.00	3.650E 04
	NP-240	9.000E-02	1.00	3.650E 04
	PU-240	9.000E-02	1.00	3.650E 04

β^- decay (14.1 H 2)

Case 1 represents inhalation of UO_2 or U_3O_8; case 2 inhalation of UF_4 or UCl_4; case 3 inhalation of UF_6, UO_2F_2, $UO_2(NO_3)_2$, or UO_3; case 4 ingestion of U(IV) compounds; and case 5 ingestion of U(VI) compounds.

*Retention data derived from "other tissues" compartment.

S FACTORS (REM/MICROCURIE-DAY) FOR U-240

TARGET ORGANS	SOURCE ORGANS									
	LUNGS	RES LYM	S CONT	SI CONT	ULI CONT	LLI CONT	EXCRET.	BONE	LIVER	KIDNEYS
LUNGS	0.695E-02	0.695E-02	0.424E-06	0.131E-07	0.173E-07	0.313E-08	0.101E-03	0.229E-05	0.136E-05	0.117E-06
RES LYM	0.695E-02	0.449E 00	0.424E-06	0.131E-07	0.173E-07	0.313E-08	0.101E-03	0.229E-05	0.136E-05	0.117E-06
S WALL	0.579E-06	0.579E-06	0.137E-01	0.112E-05	0.172E-05	0.276E-06	0.101E-03	0.122E-06	0.454E-06	0.517E-06
SI WALL	0.102E-07	0.102E-07	0.490E-06	0.863E-02	0.173E-04	0.932E-05	0.101E-03	0.159E-05	0.276E-06	0.407E-06
ULI WALL	0.146E-07	0.146E-07	0.105E-05	0.144E-03	0.155E-01	0.709E-05	0.101E-03	0.177E-06	0.497E-06	0.384E-06
LLI WALL	0.232E-08	0.232E-08	0.150E-06	0.164E-04	0.169E-05	0.252E-01	0.101E-03	0.432E-06	0.929E-08	0.562E-07
T BODY	0.101E-03	0.101E-03	0.237E-04	0.818E-04	0.509E-04	0.619E-04	0.101E-03	0.101E-03	0.101E-03	0.101E-03
ADREN	0.926E-06	0.926E-06	0.363E-06	0.780E-07	0.994E-07	0.195E-07	0.102E-03	0.371E-06	0.195E-05	0.128E-04
EL WALL	0.140E-08	0.140E-08	0.146E-07	0.341E-06	0.243E-05	0.126E-05	0.101E-03	0.439E-07	0.564E-08	0.873E-08
KIDNEYS	0.937E-07	0.937E-07	0.537E-06	0.423E-06	0.401E-06	0.797E-07	0.101E-03	0.240E-06	0.107E-05	0.226E-01
LIVER	0.107E-05	0.107E-05	0.351E-06	0.349E-06	0.470E-06	0.127E-07	0.101E-03	0.137E-06	0.390E-02	0.892E-06
OVARIES	0.621E-08	0.621E-08	0.567E-07	0.947E-05	0.111E-04	0.228E-04	0.104E-03	0.139E-06	0.423E-07	0.105E-06
PANCREAS	0.447E-06	0.447E-06	0.821E-05	0.241E-06	0.248E-06	0.518E-07	0.101E-03	0.273E-06	0.142E-05	0.115E-05
BONE	0.614E-06	0.614E-06	0.199E-05	0.470E-06	0.324E-06	0.833E-06	0.101E-03	0.133E-02	0.411E-06	0.461E-06
R MAR	0.714E-06	0.714E-06	0.288E-06	0.185E-05	0.122E-05	0.126E-05	0.102E-03	0.189E-03	0.448E-06	0.123E-05
Y MAR	0.718E-06	0.718E-06	0.290E-06	0.669E-06	0.469E-06	0.114E-05	0.102E-03	0.301E-04	0.631E-06	0.557E-06
ENDOST	0.614E-06	0.614E-06	0.199E-05	0.470E-06	0.324E-06	0.833E-06	0.102E-03	0.845E-03	0.411E-06	0.461E-06
SPLEEN	0.728E-06	0.728E-06	0.224E-05	0.167E-06	0.181E-06	0.925E-07	0.101E-03	0.381E-06	0.879E-07	0.488E-05
TESTES	0.135E-09	0.135E-09	0.148E-08	0.137E-07	0.142E-07	0.281E-06	0.101E-03	0.559E-07	0.922E-09	0.142E-08
THYMUS	0.859E-06	0.859E-06	0.428E-07	0.123E-03	0.156E-03	0.277E-09	0.102E-03	0.183E-06	0.462E-07	0.949E-08
THYROID	0.709E-07	0.709E-07	0.157E-03	0.935E-10	0.112E-09	0.230E-10	0.101E-03	0.158E-06	0.238E-08	0.557E-09
UTERUS	0.503E-08	0.503E-08	0.410E-07	0.276E-05	0.915E-06	0.124E-05	0.101E-03	0.577E-07	0.253E-07	0.533E-07

S FACTORS (REM/MICROCURIE-DAY) FOR U-240

TARGET ORGANS	SOURCE ORGANS		
	TESTES	OVARIES	OTHER
LUNGS	0.400E-10	0.232E-08	0.188E-05
RES LYM	0.400E-10	0.232E-08	0.188E-05
S WALL	0.167E-08	0.705E-07	0.555E-05
SI WALL	0.221E-07	0.867E-05	0.749E-05
ULI WALL	0.186E-07	0.201E-04	0.151E-05
LLI WALL	0.431E-06	0.247E-04	0.614E-06
T BODY	0.101E-03	0.101E-03	0.100E-03
ADREN	0.287E-09	0.175E-07	0.204E-03
EL WALL	0.873E-06	0.139E-05	0.102E-03
KIDNEYS	0.103E-08	0.771E-07	0.129E-05
LIVER	0.737E-09	0.788E-07	0.616E-06
OVARIES	0.0	0.633E 00	0.249E-05
PANCREAS	0.671E-09	0.230E-07	0.210E-03
BONE	0.130E-06	0.408E-06	0.915E-05
R MAR	0.953E-07	0.163E-05	0.180E-03
Y MAR	0.397E-07	0.575E-06	0.202E-04
ENDOST	0.130E-06	0.408E-06	0.113E-03
SPLEEN	0.565E-06	0.287E-07	0.207E-03
TESTES	0.198E 00	0.0	0.465E-06
THYMUS	0.564E-11	0.215E-09	0.210E-03
THYROID	0.462E-12	0.161E-10	0.205E-03
UTERUS	0.0	0.581E-05	0.207E-03

CASE 1.. INHALATION

AMAD (MICRON).. 1.00 D3 =0.310 D4 =8.000E-02 D5 =0.249

	SOLUBILITY CLASS	G.I. UPTAKE FRACTIONS STOMACH	S INT	U L INT	L L INT
U-240	Y	0.0	2.000E-03	0.0	0.0
NP-240M	Y	0.0	1.000E-03	0.0	0.0
NP-240	Y	0.0	1.000E-03	0.0	0.0
PU-240	Y	0.0	3.000E-05	0.0	0.0

DOSE EQUIVALENT (REM/MICROCURIE)

SOURCE	LUNGS	RES LYM	S CONT	SI CONT	ULI CONT	LLI CONT	EXCRET.	BONE	LIVER	KIDNEYS	TESTES
TARGET											
LUNGS	1.267E-02	1.543E-06	1.115E-06	6.950E-07	1.516E-06	4.358E-07	6.883E-07	5.512E-08	2.676E-08	2.218E-08	3.037E-13
RES LYM	1.261E-02	4.507E-03	1.115E-06	6.950E-07	1.516E-06	4.358E-07	6.883E-07	5.512E-08	2.676E-08	2.218E-08	3.037E-13
S WALL	3.296E-05	4.016E-09	8.874E-04	7.058E-06	1.455E-05	5.879E-06	7.009E-07	3.232E-08	2.109E-08	7.534E-08	1.464E-12
SI WALL	5.168E-06	6.295E-10	1.569E-06	1.858E-03	6.654E-05	3.127E-05	7.155E-07	4.524E-08	1.755E-08	6.351E-08	7.235E-12
ULI WALL	6.993E-06	8.518E-10	2.006E-06	5.520E-05	6.633E-03	1.496E-05	7.124E-07	4.083E-08	2.714E-08	6.594E-08	4.773E-12
LLI WALL	1.448E-06	1.764E-10	8.052E-07	1.477E-05	1.254E-05	9.087E-03	7.155E-07	5.539E-08	3.510E-09	2.069E-08	3.560E-11
T BODY	2.034E-04	9.692E-07	2.987E-06	2.060E-05	2.758E-05	2.731E-05	6.852E-07	1.449E-05	2.214E-06	3.726E-07	2.206E-09
ADREN	4.173E-05	5.086E-09	1.417E-06	2.509E-05	4.393E-06	1.710E-06	7.354E-07	9.953E-08	5.313E-08	2.894E-07	1.067E-12
BL WALL	1.438E-06	1.752E-10	2.838E-07	6.267E-06	7.843E-06	1.929E-05	7.114E-07	3.420E-08	3.233E-09	9.548E-09	6.794E-11
KIDNEYS	1.821E-05	2.218E-09	2.001E-06	6.382E-06	1.123E-05	3.010E-06	7.040E-07	5.584E-08	4.120E-08	7.695E-05	1.651E-12
LIVER	4.177E-05	5.091E-09	1.233E-06	3.739E-06	1.001E-05	1.284E-06	7.030E-07	4.001E-08	8.581E-05	9.010E-08	1.014E-12
OVARIES	2.835E-06	3.453E-10	4.964E-07	1.894E-05	4.405E-05	5.781E-05	7.030E-07	5.709E-08	4.932E-09	2.962E-08	0.0
PANCREAS	4.528E-05	5.515E-09	1.049E-05	4.133E-06	7.771E-06	2.527E-06	7.009E-07	5.407E-08	4.997E-08	1.515E-07	9.290E-13
BONE	1.757E-05	2.142E-09	3.678E-07	1.627E-06	2.923E-06	3.615E-06	6.873E-07	2.013E-04	8.109E-09	2.268E-08	8.911E-12
R MAR	2.218E-05	2.703E-09	6.277E-07	5.131E-06	8.701E-06	1.084E-05	6.978E-07	5.442E-05	1.174E-08	5.735E-08	7.033E-12
Y MAR	1.847E-05	2.251E-09	5.123E-07	2.245E-06	4.147E-06	4.472E-06	6.831E-07	2.110E-07	1.194E-08	2.812E-08	3.871E-12
ENDOST	1.757E-05	2.142E-09	3.678E-07	1.627E-06	2.923E-06	3.615E-06	6.894E-07	4.527E-04	8.109E-09	2.268E-08	8.910E-12
SPLEEN	3.703E-05	4.512E-09	5.752E-06	3.236E-06	5.303E-06	3.369E-06	7.030E-07	4.669E-08	1.141E-08	1.916E-07	1.427E-12
TESTES	5.227E-07	6.366E-11	4.991E-08	8.942E-07	2.097E-06	6.462E-06	7.061E-07	3.493E-08	1.721E-09	3.688E-09	4.371E-06
THYMUS	6.800E-05	8.284E-09	2.737E-07	3.057E-07	6.604E-07	2.269E-07	6.925E-07	4.183E-08	1.226E-08	7.263E-09	1.993E-13
THYROID	2.124E-05	2.587E-09	9.914E-08	9.586E-08	2.024E-07	7.785E-08	6.863E-07	5.381E-08	2.148E-09	2.396E-09	7.094E-14
UTERUS	2.203E-06	2.683E-10	5.689E-07	1.750E-05	1.866E-05	1.929E-05	7.135E-07	3.772E-08	4.992E-09	2.024E-08	0.0

DOSE EQUIVALENT (REM/MICROCURIE)

SOURCE	OVARIES	OTHER	TOTAL
TARGET			
LUNGS	5.589E-13	9.231E-09	1.268E-02
RES LYM	5.589E-13	9.231E-09	1.712E-02
S WALL	3.553E-12	9.848E-09	9.487E-04
SI WALL	4.898E-11	1.067E-08	1.964E-03
ULI WALL	4.717E-11	1.105E-08	6.713E-03
LLI WALL	5.998E-11	1.168E-08	9.117E-03
T BODY	6.955E-10	6.163E-07	3.012E-04
ADREN	2.472E-12	1.261E-06	5.420E-05
BL WALL	2.835E-11	6.389E-07	3.652E-05
KIDNEYS	4.717E-12	1.051E-08	1.186E-04
LIVER	2.675E-12	7.737E-09	1.447E-04
OVARIES	4.372E-06	1.367E-08	1.293E-04
PANCREAS	2.769E-12	1.266E-06	7.243E-05
BONE	3.865E-12	1.929E-08	2.282E-04
R MAR	1.279E-11	1.219E-06	8.389E-05
Y MAR	5.144E-12	1.257E-06	3.204E-05
ENDOST	3.865E-12	8.525E-08	4.796E-04
SPLEEN	2.763E-12	1.264E-06	5.691E-05
TESTES	0.0	8.371E-09	1.515E-05
THYMUS	2.927E-13	1.271E-06	7.150E-05
THYROID	9.683E-14	1.260E-06	2.372E-05
UTERUS	7.332E-11	1.276E-06	6.027E-05

PERCENT DOSE EQUIVALENT..

NUCLIDE	U-240	NP-240M	NP-240	PU-240
TARGET				
LUNGS	17.0	82.4	0.1	0.5
RES LYM	12.7	61.5	0.1	25.7
S WALL	15.5	84.4	0.1	0.0
SI WALL	15.8	84.1	0.1	0.0
ULI WALL	16.4	83.5	0.1	0.0
LLI WALL	16.6	83.3	0.1	0.0
T BODY	14.0	79.8	0.1	6.1
ADREN	0.8	96.7	0.4	2.0
BL WALL	0.6	97.4	0.4	1.5
KIDNEYS	7.8	72.6	0.2	19.4
LIVER	0.4	42.8	0.2	56.6
OVARIES	2.0	94.4	0.4	3.2
PANCREAS	0.5	97.5	0.4	1.5
BONE	0.6	14.2	0.1	85.1
R MAR	1.0	59.3	0.3	39.5
Y MAR	1.6	94.6	0.4	3.5
ENDOST	0.2	6.5	0.0	93.3
SPLEEN	0.7	96.9	0.4	2.0
TESTES	0.9	71.5	0.3	27.2
THYMUS	0.5	97.5	0.4	1.6
THYROID	0.6	94.3	0.4	4.7
UTERUS	0.6	97.1	0.4	1.8

CASE 2.. INHALATION

AMAD (MICRON).. 1.00 D3 =0.310 D4 =8.000E-02 D5 =0.249

	SOLUBILITY CLASS	G.I. UPTAKE FRACTIONS STOMACH	S INT	U L INT	L L INT
U-240	W	0.0	5.000E-02	0.0	0.0
NP-240M	W	0.0	1.000E-03	0.0	0.0
NP-240	W	0.0	1.000E-03	0.0	0.0
PU-240	W	0.0	3.000E-05	0.0	0.0

DOSE EQUIVALENT (REM/MICROCURIE)

SOURCE	LUNGS	RES LYM	S CONT	SI CONT	ULI CONT	LLI CONT	EXCRET.	BONE	LIVER	KIDNEYS	TESTES
TARGET											
LUNGS	1.174E-02	4.994E-06	9.110E-07	5.558E-07	1.211E-06	3.481E-07	1.275E-05	9.467E-07	3.136E-07	4.092E-07	4.303E-12
RES LYM	1.173E-02	3.582E-04	9.110E-07	5.558E-07	1.211E-06	3.481E-07	1.275E-05	9.467E-07	3.136E-07	4.092E-07	4.303E-12
S WALL	3.060E-05	1.310E-08	7.271E-04	5.645E-06	1.162E-05	4.696E-06	1.298E-05	5.552E-07	2.472E-07	1.390E-06	2.075E-11
SI WALL	4.797E-06	2.053E-09	1.282E-06	1.486E-03	5.316E-05	2.498E-05	1.325E-05	7.771E-07	2.057E-07	1.172E-06	1.025E-10
ULI WALL	6.492E-06	2.778E-09	1.639E-06	4.414E-05	5.299E-03	1.195E-05	1.320E-05	7.013E-07	3.180E-07	1.217E-06	6.763E-11
LLI WALL	1.345E-06	5.755E-10	6.576E-07	1.181E-05	1.002E-05	7.259E-03	1.325E-05	9.515E-07	4.113E-08	3.817E-07	5.047E-10
T BODY	1.885E-04	8.761E-08	2.446E-06	1.647E-05	2.204E-05	2.182E-05	1.269E-05	4.448E-05	4.632E-06	6.094E-06	5.567E-09
ADREN	3.874E-05	1.658E-08	1.157E-06	2.007E-06	3.510E-06	1.366E-06	1.362E-05	1.710E-06	6.225E-07	5.340E-06	1.512E-11
BL WALL	1.335E-06	5.715E-10	2.318E-07	5.012E-06	6.266E-06	1.541E-05	1.318E-05	5.874E-07	3.789E-08	1.762E-07	9.629E-10
KIDNEYS	1.691E-05	7.235E-09	1.634E-06	5.104E-06	8.969E-06	2.404E-06	1.304E-05	9.590E-07	4.828E-07	1.243E-03	2.340E-11
LIVER	3.878E-05	1.659E-08	1.007E-06	2.990E-06	7.998E-06	1.026E-06	1.302E-05	6.871E-07	1.750E-04	1.662E-06	1.436E-11
OVARIES	2.631E-06	1.126E-09	4.053E-07	1.515E-05	3.519E-05	4.619E-05	1.302E-05	9.805E-07	5.779E-08	5.465E-07	0.0
PANCREAS	4.204E-05	1.799E-08	8.564E-06	3.305E-06	6.209E-06	2.019E-06	1.298E-05	9.287E-07	5.856E-07	2.796E-06	1.316E-11
BONE	1.632E-05	6.981E-09	3.004E-07	1.301E-06	2.335E-06	2.888E-06	1.273E-05	5.961E-04	9.502E-08	4.186E-07	1.263E-10
R MAR	2.059E-05	8.812E-09	5.126E-07	4.104E-06	6.951E-06	8.661E-06	1.293E-05	1.195E-04	1.376E-07	1.058E-06	9.968E-11
Y MAR	1.715E-05	7.338E-09	4.184E-07	1.796E-06	3.313E-06	3.573E-06	1.265E-05	3.647E-06	1.399E-07	5.189E-07	5.486E-11
ENDOST	1.632E-05	6.981E-09	3.004E-07	1.301E-06	2.335E-06	2.888E-06	1.277E-05	1.179E-03	9.502E-08	4.186E-07	1.263E-10
SPLEEN	3.438E-05	1.471E-08	4.697E-06	2.588E-06	4.237E-06	2.692E-06	1.302E-05	8.021E-07	1.337E-07	3.535E-06	2.023E-11
TESTES	4.852E-07	2.077E-10	4.075E-08	7.151E-07	1.675E-06	5.162E-06	1.308E-05	5.999E-07	2.016E-08	6.804E-08	1.063E-05
THYMUS	6.313E-05	2.702E-08	2.235E-07	2.445E-07	5.276E-07	1.812E-07	1.283E-05	7.184E-07	1.437E-07	1.340E-07	2.823E-12
THYROID	1.972E-05	8.439E-09	8.096E-08	7.666E-08	1.617E-07	6.219E-08	1.271E-05	9.244E-07	2.517E-08	4.421E-08	1.005E-12
UTERUS	2.045E-06	8.750E-10	4.646E-07	1.399E-05	1.490E-05	1.541E-05	1.322E-05	6.476E-07	5.851E-08	3.735E-07	0.0

DOSE EQUIVALENT (REM/MICROCURIE)

SOURCE	OVARIES	OTHER	TOTAL
TARGET			
LUNGS	7.916E-12	1.516E-07	1.176E-02
RES LYM	7.916E-12	1.516E-07	1.211E-02
S WALL	5.034E-11	1.615E-07	7.950E-04
SI WALL	6.945E-10	1.751E-07	1.586E-03
ULI WALL	6.698E-10	1.814E-07	5.379E-03
LLI WALL	8.515E-10	1.916E-07	7.298E-03
T BODY	1.781E-09	2.389E-06	3.217E-04
ADREN	3.502E-11	4.785E-06	7.288E-05
BL WALL	4.017E-10	2.520E-06	4.476E-05
KIDNEYS	6.682E-11	1.725E-07	1.293E-03
LIVER	3.790E-11	1.269E-07	2.423E-04
OVARIES	1.061E-05	2.244E-07	1.256E-04
PANCREAS	3.921E-11	4.876E-06	8.432E-05
BONE	5.478E-11	3.178E-07	6.328E-04
R MAR	1.813E-10	4.097E-06	1.785E-04
Y MAR	7.292E-11	4.720E-06	4.794E-05
ENDOST	5.478E-11	1.417E-06	1.217E-03
SPLEEN	3.915E-11	4.830E-06	7.093E-05
TESTES	0.0	1.373E-07	3.261E-05
THYMUS	4.146E-12	4.958E-06	8.312E-05
THYROID	1.372E-12	4.766E-06	3.858E-05
UTERUS	1.039E-09	5.035E-06	6.616E-05

PERCENT DOSE EQUIVALENT..

NUCLIDE	U-240	NP-240M	NP-240	PU-240
TARGET				
LUNGS	17.3	82.6	0.1	0.1
RES LYM	17.2	82.4	0.1	0.3
S WALL	15.6	84.3	0.1	0.0
SI WALL	15.7	84.2	0.1	0.0
ULI WALL	16.4	83.5	0.1	0.0
LLI WALL	16.6	83.3	0.1	0.0
T BODY	13.2	74.5	0.1	12.2
ADREN	3.7	92.8	0.3	3.1
BL WALL	5.0	92.2	0.3	2.6
KIDNEYS	13.1	67.7	0.1	19.1
LIVER	1.1	45.2	0.2	53.6
OVARIES	3.5	90.5	0.4	5.7
PANCREAS	3.0	93.9	0.3	2.7
BONE	3.4	22.0	0.0	74.5
R MAR	3.1	51.9	0.1	44.8
Y MAR	6.4	88.5	0.3	4.8
ENDOST	1.2	9.5	0.0	89.3
SPLEEN	3.7	92.8	0.3	3.2
TESTES	7.1	71.0	0.2	21.7
THYMUS	3.1	93.8	0.3	2.8
THYROID	6.0	87.8	0.3	5.9
UTERUS	3.8	92.4	0.4	3.5

CASE 3.. INHALATION

AMAD (MICRON).. 1.00 D3 =0.310 D4 =8.000E-02 D5 =0.249

	SOLUBILITY CLASS	G.I. UPTAKE FRACTIONS STOMACH	S INT	U L INT	L L INT
U-240	D	0.0	5.000E-02	0.0	0.0
NP-240M	W	0.0	1.000E-03	0.0	0.0
NP-240	W	0.0	1.000E-03	0.0	0.0
PU-240	W	0.0	3.000E-05	0.0	0.0

DOSE EQUIVALENT (REM/MICROCURIE)

SOURCE	LUNGS	RES LYM	S CONT	SI CONT	ULI CONT	LLI CONT	EXCRET.	BONE	LIVER	KIDNEYS	TESTES
TARGET											
LUNGS	4.214E-03	4.292E-04	5.502E-07	3.822E-07	9.387E-07	2.412E-07	5.722E-05	3.708E-06	8.252E-08	1.825E-06	9.681E-12
RES LYM	4.211E-03	2.789E-02	5.502E-07	3.822E-07	8.387E-07	2.412E-07	5.722E-05	3.708E-06	8.252E-08	1.825E-06	9.681E-12
S WALL	1.101E-05	1.124E-06	4.503E-04	3.882E-06	9.051E-06	3.254E-06	5.826E-05	2.174E-06	6.482E-08	6.198E-06	4.672E-11
SI WALL	1.727E-06	1.762E-07	7.739E-07	1.024E-03	3.682E-05	1.731E-05	5.948E-05	3.043E-06	5.391E-08	5.225E-06	2.308E-10
ULI WALL	2.337E-06	2.384E-07	9.900E-07	3.038E-05	3.671E-03	8.279E-06	5.922E-05	2.747E-06	8.338E-08	5.425E-06	1.522E-10
LLI WALL	4.840E-07	4.938E-08	3.970E-07	8.123E-06	6.938E-06	5.029E-03	5.948E-05	3.728E-06	1.077E-08	1.702E-06	1.137E-09
T BODY	6.769E-05	6.907E-06	1.504E-06	1.134E-05	1.526E-05	1.511E-05	5.696E-05	1.126E-04	2.387E-06	2.694E-05	8.132E-09
ADREN	1.394E-05	1.423E-06	6.987E-07	1.380E-06	2.431E-06	9.464E-07	6.112E-05	6.695E-06	1.635E-07	2.381E-05	3.403E-11
BL WALL	4.807E-07	4.904E-08	1.399E-07	3.447E-06	4.340E-06	1.068E-05	5.913E-05	2.300E-06	9.924E-09	7.855E-07	2.170E-09
KIDNEYS	6.085E-06	6.208E-07	9.869E-07	3.510E-06	6.212E-06	1.666E-06	5.852E-05	7.756E-06	1.267E-07	5.491E-03	5.265E-11
LIVER	1.396E-05	1.424E-06	6.083E-07	2.056E-06	5.539E-06	7.106E-07	5.844E-05	2.691E-06	9.158E-05	7.412E-06	3.231E-11
OVARIES	9.472E-07	9.663E-08	2.446E-07	1.042E-05	2.437E-05	3.200E-05	5.843E-05	3.840E-06	1.512E-08	2.437E-06	0.0
PANCREAS	1.513E-05	1.544E-06	5.176E-06	2.273E-06	4.300E-06	1.399E-06	5.826E-05	3.638E-06	1.537E-07	1.247E-05	2.960E-11
BONE	5.872E-06	5.991E-07	1.815E-07	8.548E-07	1.617E-06	2.000E-06	5.713E-05	1.471E-03	2.500E-08	1.866E-06	2.846E-10
R MAR	7.412E-06	7.562E-07	3.096E-07	2.823E-06	4.814E-06	6.000E-06	5.800E-05	3.252E-04	3.614E-08	4.719E-06	2.846E-10
Y MAR	6.172E-06	6.297E-07	2.526E-07	1.235E-06	2.294E-06	2.475E-06	5.678E-05	1.453E-05	3.682E-08	2.314E-06	1.236E-10
ENDOST	5.872E-06	5.991E-07	1.815E-07	8.948E-07	1.617E-06	2.000E-06	5.731E-05	2.608E-03	2.500E-08	1.866E-06	2.846E-10
SPLEEN	1.237E-05	1.262E-06	2.837E-06	1.780E-06	2.934E-06	1.865E-06	5.843E-05	3.143E-06	3.500E-08	1.576E-05	4.557E-11
TESTES	1.747E-07	1.782E-08	2.459E-08	4.918E-07	1.160E-06	3.576E-06	5.869E-05	2.349E-06	5.269E-09	3.034E-07	1.513E-05
THYMUS	2.272E-05	2.319E-06	1.348E-07	1.681E-07	3.654E-07	1.256E-07	5.756E-05	2.813E-06	3.763E-08	5.976E-07	6.353E-12
THYROID	7.098E-06	7.242E-07	4.887E-08	5.273E-08	1.120E-07	4.309E-08	5.704E-05	3.621E-06	6.585E-09	1.971E-07	2.261E-12
UTERUS	7.360E-07	7.509E-08	2.804E-07	9.625E-06	1.032E-05	1.068E-05	5.931E-05	2.535E-06	1.532E-08	1.665E-06	0.0

DOSE EQUIVALENT (REM/MICROCURIE)

SOURCE	OVARIES	OTHER	TOTAL
TARGET			
LUNGS	1.779E-11	5.393E-07	4.709E-03
RES LYM	1.779E-11	5.393E-07	3.216E-02
S WALL	1.132E-10	5.725E-07	5.449E-04
SI WALL	1.571E-09	6.208E-07	1.149E-03
ULI WALL	1.528E-09	6.444E-07	3.781E-03
LLI WALL	1.942E-09	6.791E-07	5.111E-03
T BODY	2.625E-09	6.413E-06	3.231E-04
ADREN	7.875E-11	1.273E-05	1.253E-04
BL WALL	9.044E-10	6.813E-06	8.818E-05
KIDNEYS	1.503E-10	6.124E-07	5.573E-03
LIVER	8.522E-11	4.501E-07	1.849E-04
OVARIES	1.507E-05	7.979E-07	1.487E-04
PANCREAS	8.809E-11	1.306E-05	1.174E-04
BONE	1.236E-10	1.140E-06	1.543E-03
R MAR	4.094E-10	1.025E-05	4.204E-04
Y MAR	1.645E-10	1.249E-05	9.922E-05
ENDOST	1.236E-10	5.187E-06	2.683E-03
SPLEEN	8.803E-11	1.289E-05	1.133E-04
TESTES	0.0	4.866E-07	8.241E-05
THYMUS	9.319E-12	1.335E-05	1.002E-04
THYROID	3.083E-12	1.266E-05	8.161E-05
UTERUS	2.342E-09	1.362E-05	1.089E-04

PERCENT DOSE EQUIVALENT..

NUCLIDE	U-240	NP-240M	NP-240	PU-240
TARGET				
LUNGS	17.0	82.8	0.1	0.1
RES LYM	16.9	82.8	0.1	0.2
S WALL	17.2	82.8	0.1	0.0
SI WALL	15.7	84.2	0.1	0.0
ULI WALL	16.4	83.5	0.1	0.0
LLI WALL	16.6	83.4	0.1	0.0
T BODY	11.4	64.4	0.1	24.1
ADREN	8.7	88.2	0.2	2.8
BL WALL	10.9	86.9	0.2	2.0
KIDNEYS	13.6	67.6	0.1	18.7
LIVER	5.7	51.8	0.1	42.4
OVARIES	8.0	87.4	0.3	4.3
PANCREAS	9.0	87.8	0.2	3.0
BONE	6.2	30.7	0.0	63.0
R MAR	5.5	55.5	0.1	38.9
Y MAR	12.6	83.6	0.2	3.6
ENDOST	2.4	14.1	0.0	83.4
SPLEEN	9.4	87.3	0.2	3.1
TESTES	12.5	79.6	0.1	7.8
THYMUS	10.5	85.7	0.2	3.6
THYROID	12.6	82.8	0.1	4.4
UTERUS	9.6	86.9	0.2	3.3

CASE 4.. INGESTION

INGESTION TRANSFER FRACTIONS (G. I. TRACT TO BLOOD)

	U-240	NP-240M	NP-240	PU-240
STOMACH	0.0	0.0	0.0	0.0
S INT	2.000E-03	1.000E-03	1.000E-03	3.000E-05
U L INT	0.0	0.0	0.0	0.0
L L INT	0.0	0.0	0.0	0.0

DOSE EQUIVALENT (REM/MICROCURIE)

SOURCE	S CONT	SI CONT	ULI CONT	LLI CONT	EXCRET.	BONE	LIVER	KIDNEYS	TESTES	OVARIES	OTHER
TARGET											
LUNGS	3.495E-06	2.558E-06	5.625E-06	1.618E-06	2.564E-07	1.671E-08	6.121E-10	8.180E-09	4.515E-14	8.298E-14	2.443E-09
RES LYM	3.495E-06	2.558E-06	5.625E-06	1.618E-06	2.564E-07	1.671E-08	6.121E-10	8.180E-09	4.515E-14	8.298E-14	2.443E-09
S WALL	2.868E-03	2.598E-05	5.400E-05	2.182E-05	2.611E-07	9.803E-09	4.816E-10	2.778E-08	2.178E-13	5.281E-13	2.594E-09
SI WALL	4.916E-06	6.852E-03	2.470E-04	1.161E-04	2.666E-07	1.372E-08	4.006E-10	2.342E-08	1.076E-12	7.322E-12	2.812E-09
ULI WALL	6.289E-06	2.033E-04	2.462E-02	5.553E-05	2.654E-07	1.238E-08	6.194E-10	2.432E-08	7.098E-13	7.120E-12	2.919E-09
LLI WALL	2.522E-06	5.436E-05	4.654E-05	3.373E-02	2.666E-07	1.681E-08	7.996E-11	7.630E-09	5.303E-12	9.047E-12	3.077E-09
T BODY	9.572E-06	7.593E-05	1.024E-04	1.014E-04	2.553E-07	4.543E-07	3.580E-09	1.206E-07	2.923E-11	9.509E-12	2.690E-08
ADREN	4.438E-06	9.235E-06	1.631E-05	6.348E-06	2.739E-07	3.018E-08	1.214E-09	1.067E-07	1.587E-13	3.673E-13	5.321E-08
BL WALL	8.888E-07	2.306E-05	2.911E-05	7.162E-05	2.650E-07	1.037E-08	7.559E-11	3.521E-09	1.012E-11	4.218E-12	2.864E-08
KIDNEYS	6.269E-06	2.349E-05	4.166E-05	1.117E-05	2.623E-07	1.693E-08	9.408E-10	2.457E-05	2.455E-13	7.008E-13	2.774E-09
LIVER	3.864E-06	1.376E-05	3.715E-05	4.766E-06	2.619E-07	1.213E-08	1.287E-07	3.323E-08	1.507E-13	3.975E-13	2.039E-09
OVARIES	1.554E-06	6.970E-05	1.635E-04	2.146E-04	2.619E-07	1.731E-08	1.127E-10	1.092E-08	0.0	5.289E-08	3.614E-09
PANCREAS	3.288E-05	1.521E-05	2.884E-05	9.382E-06	2.611E-07	1.640E-08	1.141E-09	5.589E-08	1.380E-13	4.110E-13	5.471E-08
BONE	1.153E-06	5.987E-06	1.085E-05	1.342E-05	2.561E-07	5.887E-06	1.855E-10	8.366E-09	1.327E-12	5.762E-13	5.159E-09
R MAR	1.967E-06	1.889E-05	3.229E-05	4.025E-05	2.599E-07	1.344E-06	2.683E-10	2.115E-08	1.047E-12	1.909E-12	4.201E-08
Y MAR	1.606E-06	8.263E-06	1.539E-05	1.660E-05	2.545E-07	6.544E-08	2.732E-10	1.037E-08	5.762E-13	7.671E-13	5.216E-08
ENDOST	1.153E-06	5.987E-06	1.085E-05	1.342E-05	2.568E-07	1.004E-05	1.855E-10	8.366E-09	1.327E-12	5.762E-13	2.345E-08
SPLEEN	1.802E-05	1.191E-05	1.968E-05	1.251E-05	2.619E-07	1.417E-08	2.603E-10	7.067E-08	2.124E-13	4.105E-13	5.396E-08
TESTES	1.562E-07	3.290E-06	7.783E-06	2.399E-05	2.630E-07	1.059E-08	3.930E-11	1.360E-09	5.320E-08	0.0	2.204E-09
THYMUS	3.565E-07	1.125E-06	2.451E-06	8.422E-07	2.580E-07	1.268E-08	2.792E-10	2.679E-09	2.963E-14	4.346E-14	5.602E-08
THYROID	3.104E-07	3.528E-07	7.512E-07	2.890E-07	2.556E-07	1.632E-08	4.897E-11	8.836E-10	1.055E-14	1.438E-14	5.291E-08
UTERUS	1.781E-06	6.440E-05	6.924E-05	7.163E-05	2.658E-07	1.143E-08	1.138E-10	7.465E-09	0.0	1.092E-11	5.724E-08

DOSE EQUIVALENT (REM/MICROCURIE)

SOURCE	TOTAL
TARGET	
LUNGS	1.358E-05
RES LYM	1.358E-05
S WALL	2.970E-03
SI WALL	7.221E-03
ULI WALL	2.489E-02
LLI WALL	3.384E-02
T BODY	2.901E-04
ADREN	3.679E-05
BL WALL	1.250E-04
KIDNEYS	1.074E-04
LIVER	5.998E-05
OVARIES	4.497E-04
PANCREAS	8.670E-05
BONE	3.756E-05
R MAR	9.506E-05
Y MAR	4.224E-05
ENDOST	4.174E-05
SPLEEN	6.252E-05
TESTES	3.555E-05
THYMUS	5.604E-06
THYROID	2.029E-06
UTERUS	2.074E-04

PERCENT DOSE EQUIVALENT..

NUCLIDE	U-240	NP-240M	NP-240	PU-240
TARGET				
LUNGS	0.5	99.2	0.4	0.0
RES LYM	0.5	99.2	0.4	0.0
S WALL	18.3	81.6	0.0	0.0
SI WALL	15.9	84.0	0.1	0.0
ULI WALL	16.5	83.5	0.1	0.0
LLI WALL	16.6	83.3	0.1	0.0
T BODY	13.6	86.2	0.2	0.1
ADREN	0.3	99.3	0.4	0.0
BL WALL	0.3	99.2	0.4	0.0
KIDNEYS	3.4	92.0	0.3	4.3
LIVER	0.4	99.1	0.4	0.1
OVARIES	2.0	97.5	0.4	0.0
PANCREAS	0.6	99.1	0.3	0.0
BONE	2.1	87.9	0.4	9.7
R MAR	1.5	97.4	0.4	0.6
Y MAR	1.3	98.3	0.4	0.0
ENDOST	1.5	78.1	0.3	20.1
SPLEEN	0.4	99.3	0.4	0.0
TESTES	0.3	99.2	0.4	0.0
THYMUS	0.9	98.5	0.4	0.2
THYROID	2.3	96.8	0.3	0.6
UTERUS	0.4	99.1	0.4	0.0

CASE 5.. INGESTION

INGESTION TRANSFER FRACTIONS (G. I. TRACT TO BLOOD)

	U-240	NP-240M	NP-240	PU-240
STOMACH	0.0	0.0	0.0	0.0
S INT	5.000E-02	1.000E-03	1.000E-03	3.000E-05
U L INT	0.0	0.0	0.0	0.0
L L INT	0.0	0.0	0.0	0.0

DOSE EQUIVALENT (REM/MICROCURIE)

SOURCE	S CONT	SI CONT	ULI CONT	LLI CONT	EXCRET.	BONE	LIVER	KIDNEYS	TESTES	OVARIES	OTHER
TARGET											
LUNGS	3.495E-06	2.458E-06	5.398E-06	1.552E-06	6.462E-06	4.175E-07	6.280E-09	2.060E-07	1.071E-12	1.969E-12	6.059E-08
RES LYM	3.495E-06	2.458E-06	5.398E-06	1.552E-06	6.462E-06	4.175E-07	6.280E-09	2.060E-07	1.071E-12	1.969E-12	6.059E-08
S WALL	2.868E-03	2.497E-05	5.181E-05	2.094E-05	6.579E-06	2.448E-07	4.924E-09	6.999E-07	5.170E-12	1.253E-11	6.430E-08
SI WALL	4.916E-06	6.585E-03	2.370E-04	1.114E-04	6.717E-06	3.427E-07	4.094E-09	5.900E-07	2.554E-11	1.738E-10	6.973E-08
ULI WALL	6.289E-06	1.954E-04	2.362E-02	5.328E-05	6.687E-06	3.093E-07	6.333E-09	6.125E-07	1.684E-11	1.692E-10	7.238E-08
LLI WALL	2.522E-06	5.225E-05	4.465E-05	3.237E-02	6.717E-06	4.198E-07	8.174E-10	1.922E-07	1.259E-10	2.150E-10	7.628E-08
T BODY	9.572E-06	7.297E-05	9.823E-05	9.728E-05	6.432E-06	1.131E-05	3.660E-08	3.037E-06	6.923E-10	2.252E-10	6.664E-07
ADREN	4.438E-06	8.877E-06	1.565E-05	6.091E-06	6.903E-06	7.539E-07	1.244E-08	2.689E-06	3.766E-12	8.714E-12	1.313E-06
BL WALL	8.888E-07	2.217E-05	2.793E-05	6.872E-05	6.678E-06	2.590E-07	7.533E-10	8.869E-08	2.401E-10	1.001E-10	7.097E-07
KIDNEYS	6.269E-06	2.258E-05	3.998E-05	1.072E-05	6.609E-06	4.229E-07	9.627E-09	6.190E-04	5.826E-12	1.663E-11	6.879E-08
LIVER	3.864E-06	1.323E-05	3.569E-05	4.573E-06	6.599E-06	3.030E-07	1.315E-06	8.370E-07	3.575E-12	9.430E-12	5.056E-08
OVARIES	1.554E-06	6.700E-05	1.569E-04	2.059E-04	6.599E-06	4.323E-07	1.147E-09	2.751E-07	0.0	1.252E-06	8.963E-08
PANCREAS	3.288E-05	1.462E-05	2.767E-05	9.002E-06	6.579E-06	4.096E-07	1.168E-08	1.408E-06	3.275E-12	9.747E-12	1.356E-06
BONE	1.153E-06	5.755E-06	1.041E-05	1.287E-05	6.452E-06	1.465E-04	1.902E-09	2.107E-07	3.149E-11	1.367E-11	1.280E-07
R MAR	1.967E-06	1.815E-05	3.098E-05	3.861E-05	6.550E-06	3.347E-05	2.749E-09	5.728E-07	2.485E-11	4.530E-11	1.040E-06
Y MAR	1.606E-06	7.942E-06	1.477E-05	1.593E-05	6.413E-06	1.636E-06	2.802E-09	2.613E-07	1.367E-11	1.821E-11	1.292E-06
ENDOST	1.153E-06	5.755E-06	1.041E-05	1.287E-05	6.472E-06	2.495E-04	1.902E-09	2.107E-07	3.149E-11	1.367E-11	5.831E-07
SPLEEN	1.802E-05	1.145E-05	1.889E-05	1.200E-05	6.599E-06	3.539E-07	2.657E-09	1.780E-06	5.042E-12	9.740E-12	1.337E-06
TESTES	1.562E-07	3.163E-06	7.467E-06	2.302E-05	6.628E-06	2.645E-07	3.997E-10	3.426E-08	1.260E-06	0.0	5.466E-08
THYMUS	8.565E-07	1.081E-06	2.352E-06	8.081E-07	6.501E-06	3.168E-07	2.856E-09	6.747E-08	7.030E-13	1.031E-12	1.388E-06
THYROID	3.104E-07	3.391E-07	7.208E-07	2.773E-07	6.442E-06	4.077E-07	4.997E-10	2.226E-08	2.502E-13	3.411E-13	1.311E-06
UTERUS	1.781E-06	6.190E-05	6.643E-05	6.873E-05	6.698E-06	2.855E-07	1.163E-09	1.880E-07	0.0	2.592E-10	1.418E-06

DOSE EQUIVALENT (REM/MICROCURIE)

SOURCE	TOTAL
TARGET	
LUNGS	2.006E-05
RES LYM	2.006E-05
S WALL	2.973E-03
SI WALL	6.946E-03
ULI WALL	2.389E-02
LLI WALL	3.247E-02
T BODY	2.995E-04
ADREN	4.673E-05
BL WALL	1.274E-04
KIDNEYS	7.056E-04
LIVER	6.642E-05
OVARIES	4.400E-04
PANCREAS	9.394E-05
BONE	1.835E-04
R MAR	1.313E-04
Y MAR	4.985E-05
ENDOST	2.869E-04
SPLEEN	7.043E-05
TESTES	4.204E-05
THYMUS	1.337E-05
THYROID	9.831E-06
UTERUS	2.074E-04

PERCENT DOSE EQUIVALENT..

NUCLIDE	U-240	NP-240M	NP-240	PU-240
TARGET				
LUNGS	5.1	94.6	0.3	0.0
RES LYM	5.1	94.6	0.3	0.0
S WALL	18.4	81.6	0.0	0.0
SI WALL	15.9	84.0	0.1	0.0
ULI WALL	16.5	83.5	0.1	0.0
LLI WALL	16.6	83.3	0.1	0.0
T BODY	13.4	84.1	0.1	2.4
ADREN	2.7	96.3	0.3	0.6
BL WALL	1.1	98.3	0.4	0.1
KIDNEYS	12.2	71.1	0.1	16.5
LIVER	2.0	97.2	0.4	0.4
OVARIES	2.3	97.3	0.4	0.1
PANCREAS	1.7	97.7	0.3	0.3
BONE	6.1	44.6	0.1	49.2
R MAR	2.9	85.2	0.3	11.5
Y MAR	3.7	95.3	0.4	0.6
ENDOST	2.7	24.8	0.1	72.5
SPLEEN	1.9	97.3	0.3	0.4
TESTES	2.9	96.0	0.4	0.7
THYMUS	8.8	88.8	0.2	2.2
THYROID	11.8	85.1	0.2	2.9
UTERUS	1.0	98.5	0.4	0.1

CASE 6.. INGESTION

INGESTION TRANSFER FRACTIONS (G. I. TRACT TO BLOOD)

	U-240	NP-240M	NP-240	PU-240
STOMACH	0.0	0.0	0.0	0.0
S INT	0.200	1.000E-03	1.000E-03	3.000E-05
U L INT	0.0	0.0	0.0	0.0
L L INT	0.0	0.0	0.0	0.0

DOSE EQUIVALENT (REM)

SOURCE	S CONT	SI CONT	ULI CONT	LLI CONT	EXCRET.	BONE	LIVER	KIDNEYS	TESTES	OVARIES	OTHER
TARGET											
LUNGS	3.495E-06	2.138E-06	4.662E-06	1.340E-06	2.650E-05	1.712E-06	2.459E-08	8.451E-07	4.386E-12	8.059E-12	2.484E-07
RES LYM	3.495E-06	2.138E-06	4.662E-06	1.340E-06	2.650E-05	1.712E-06	2.459E-08	8.451E-07	4.386E-12	8.059E-12	2.484E-07
S WALL	2.868E-03	2.172E-05	4.475E-05	1.908E-05	2.699E-05	1.004E-06	1.927E-08	2.871E-06	2.116E-11	5.130E-11	2.636E-07
SI WALL	4.916E-06	5.720E-03	2.047E-04	9.519E-05	2.755E-05	1.405E-06	1.603E-08	2.420E-06	1.046E-10	7.117E-10	2.859E-07
ULI WALL	6.289E-06	1.698E-04	2.040E-02	4.501E-05	2.743E-05	1.268E-06	2.479E-08	2.513E-06	6.894E-11	6.928E-10	2.967E-07
LLI WALL	2.522E-06	4.543E-05	3.857E-05	2.795E-02	2.755E-05	1.721E-06	3.199E-09	7.883E-07	5.153E-10	8.803E-10	3.127E-07
T BODY	9.572E-06	6.340E-05	8.484E-05	8.100E-05	2.638E-05	4.637E-05	1.433E-07	1.246E-05	2.834E-09	9.219E-10	2.732E-06
ADREN	4.438E-06	7.721E-06	1.351E-05	5.260E-06	2.831E-05	3.091E-06	4.868E-08	1.103E-05	1.542E-11	3.567E-11	5.405E-06
BL WALL	8.888E-07	1.928E-05	2.412E-05	5.934E-05	2.739E-05	1.062E-06	2.949E-09	3.638E-07	9.829E-10	4.097E-10	2.909E-06
KIDNEYS	6.269E-06	1.964E-05	3.453E-05	9.257E-06	2.711E-05	1.734E-06	3.769E-08	2.539E-01	2.385E-11	6.807E-11	2.820E-07
LIVER	3.864E-06	1.150E-05	3.079E-05	3.049E-06	2.707E-05	1.242E-06	5.148E-06	3.433E-06	1.464E-11	3.860E-11	2.073E-07
OVARIES	1.554E-06	5.826E-05	1.355E-04	1.778E-04	2.707E-05	1.773E-06	4.490E-09	1.129E-06	0.0	5.126E-05	3.675E-07
PANCREAS	3.288E-05	1.271E-05	2.399E-05	7.773E-06	2.699E-05	1.680E-06	4.574E-09	5.774E-06	1.341E-11	3.990E-11	5.558E-06
BONE	1.153E-06	5.005E-06	8.990E-06	1.112E-05	2.647E-05	6.006E-04	7.448E-09	8.644E-07	1.289E-10	5.598E-11	5.250E-07
R MAR	1.967E-06	1.579E-05	2.676E-05	3.335E-05	2.687E-05	1.372E-04	1.076E-08	2.185E-06	1.018E-10	1.855E-10	4.265E-06
Y MAR	1.606E-06	6.907E-06	1.275E-05	1.376E-05	2.630E-05	6.710E-06	1.097E-08	1.072E-06	5.596E-11	7.453E-11	5.298E-06
ENDOST	1.153E-06	5.005E-06	8.990E-06	1.112E-05	2.655E-05	1.023E-03	7.448E-09	8.644E-07	1.289E-10	5.598E-11	2.391E-06
SPLEEN	1.802E-05	9.957E-06	1.631E-05	1.936E-05	2.707E-05	1.451E-06	1.040E-08	7.302E-06	2.064E-11	3.988E-11	5.481E-06
TESTES	1.562E-07	2.751E-06	6.450E-06	1.288E-05	2.719E-05	1.085E-06	1.564E-09	1.405E-07	5.156E-06	0.0	2.241E-07
THYMUS	8.565E-07	9.406E-07	2.031E-06	6.978E-07	2.667E-05	1.299E-06	1.118E-08	2.768E-07	2.878E-12	4.221E-12	5.691E-06
THYROID	3.104E-07	2.949E-07	6.225E-07	2.395E-07	2.642E-05	1.672E-06	1.955E-09	9.129E-08	1.024E-12	1.396E-12	5.375E-06
UTERUS	1.781E-06	5.384E-05	5.738E-05	5.935E-05	2.747E-05	1.171E-06	4.552E-09	7.713E-07	0.0	1.061E-09	5.814E-06

DOSE EQUIVALENT (REM)

SOURCE	TOTAL
TARGET	
LUNGS	4.097E-05
RES LYM	4.097E-05
S WALL	2.984E-03
SI WALL	6.058E-03
ULI WALL	2.066E-02
LLI WALL	2.807E-02
T BODY	3.299E-04
ADREN	7.882E-05
BL WALL	1.354E-04
KIDNEYS	2.638E-03
LIVER	8.720E-05
OVARIES	4.086E-04
PANCREAS	1.173E-04
BONE	6.548E-04
R MAR	2.484E-04
Y MAR	7.442E-05
ENDOST	1.079E-03
SPLEEN	9.597E-05
TESTES	6.303E-05
THYMUS	3.847E-05
THYROID	3.503E-05
UTERUS	2.076E-04

PERCENT DOSE EQUIVALENT..

NUCLIDE	U-240	NP-240M	NP-240	PU-240
TARGET				
LUNGS	10.1	89.7	0.2	0.0
RES LYM	10.1	89.7	0.2	0.0
S WALL	18.4	81.6	0.0	0.0
SI WALL	15.8	84.1	0.1	0.0
ULI WALL	16.5	83.5	0.1	0.0
LLI WALL	16.6	83.3	0.1	0.0
T BODY	12.7	78.7	0.1	8.3
ADREN	6.4	91.8	0.3	1.5
BL WALL	3.5	95.7	0.4	0.4
KIDNEYS	13.4	68.4	0.1	18.2
LIVER	5.7	92.9	0.3	1.1
OVARIES	3.1	96.3	0.4	0.3
PANCREAS	4.5	94.3	0.3	1.0
BONE	6.8	36.6	0.1	56.5
R MAR	4.7	70.1	0.2	25.0
Y MAR	8.2	89.9	0.3	1.6
ENDOST	2.8	18.1	0.0	79.0
SPLEEN	5.2	93.3	0.3	1.2
TESTES	7.7	90.2	0.3	1.9
THYMUS	12.6	84.2	0.1	3.1
THYROID	13.6	82.9	0.1	3.4
UTERUS	2.7	96.4	0.4	0.6

RADIONUCLIDE: NP-237

PHYSICAL AND METABOLIC PARAMETERS FOR DOSIMETRICALLY SIGNIFICANT PROGENY:

NUCLIDE	RADIOACTIVE HALF-LIFE (DAYS)
NP-237	7.8100E 08
PA-233	27.00

BRANCHING RATIOS: FROM NP-237 TO PA-233 FRACTION 1.000

ORGAN ABSORBED	NUCLIDE	BLOOD TRANSFER FRACTION F2-PRIME	COMPARTMENT DEPOSITION FRACTION	COMPARTMENT BIOLOGICAL HALF-TIME (DAYS)
	NP-237	1.00	4.000E-02	0.500
			0.460	1.460E 04
			0.500	3.650E 04
	PA-233	1.00	0.460	1.460E 04
			0.540	3.650E 04
EXCRET.	NP-237	4.000E-02	1.00	0.500
	PA-233	0.0	1.00	0.500
BONE	NP-237	0.450	1.00	3.650E 04
	PA-233	0.450	1.00	3.650E 04
LIVER	NP-237	0.450	1.00	1.460E 04
	PA-233	0.450	1.00	1.460E 04
KIDNEYS	NP-237	1.000E-02	1.00	1.460E 04
	PA-233	1.000E-02	1.00	1.460E 04
TESTES	NP-237	3.500E-04	1.00	3.650E 04
	PA-233	3.500E-04	1.00	3.650E 04
OVARIES	NP-237	1.100E-04	1.00	3.650E 04
	PA-233	1.100E-04	1.00	3.650E 04
OTHER	NP-237	5.000E-02	1.00	3.650E 04
	PA-233	9.000E-02	1.00	3.650E 04

S FACTORS (REM/MICROCURIE-DAY) FOR NP-237

TARGET ORGANS — SOURCE ORGANS

TARGET ORGANS	LUNGS	RES LYM	S CONT	SI CONT	ULI CONT	LLI CONT	EXCRET.	BONE	LIVER	KIDNEYS	TESTES	OVARIES	OTHER
LUNGS	0.266E 01	0.353E-02	0.979E-05	0.884E-06	0.119E-05	0.305E-06	0.381E-01	0.496E-05	0.157E-04	0.406E-05	0.167E-07	0.223E-06	0.903E-05
RES LYM	0.353E-02	0.178E 03	0.979E-05	0.894E-06	0.119E-05	0.305E-06	0.381E-01	0.496E-05	0.157E-04	0.406E-05	0.167E-07	0.223E-06	0.903E-05
S WALL	0.103E-04	0.103E-04	0.583E-01	0.201E-04	0.229E-04	0.902E-05	0.381E-01	0.362E-05	0.947E-05	0.182E-04	0.108E-06	0.364E-05	0.739E-05
SI WALL	0.766E-06	0.766E-06	0.138E-04	0.366E-01	0.120E-03	0.653E-04	0.381E-01	0.367E-05	0.790E-05	0.144E-04	0.142E-05	0.807E-04	0.848E-05
ULI WALL	0.925E-06	0.925E-06	0.200E-04	0.335E-03	0.662E-01	0.319E-04	0.381E-01	0.334E-05	0.133E-04	0.141E-04	0.121E-05	0.878E-04	0.965E-05
LLI WALL	0.223E-06	0.223E-06	0.557E-05	0.626E-04	0.194E-04	0.108E 00	0.381E-01	0.551E-05	0.912E-06	0.296E-05	0.130E-04	0.117E-03	0.914E-05
T BODY	0.381E-01	0.381E-01	0.140E-03	0.347E-03	0.214E-03	0.262E-03	0.489E-01	0.190E 00	0.381E-01	0.381E-01	0.381E-01	0.381E-01	0.379E-01
ADREN	0.143E-04	0.143E-04	0.137E-04	0.367E-05	0.427E-05	0.132E-05	0.381E-01	0.573E-05	0.255E-04	0.303E-04	0.990E-07	0.128E-05	0.761E-01
BL WALL	0.123E-06	0.123E-06	0.119E-05	0.127E-04	0.105E-04	0.373E-04	0.381E-01	0.234E-05	0.628E-06	0.108E-05	0.257E-04	0.396E-04	0.381E-01
KIDNEYS	0.392E-05	0.392E-05	0.177E-04	0.159E-04	0.142E-04	0.373E-05	0.381E-01	0.405E-05	0.218E-04	0.860E-01	0.133E-06	0.402E-05	0.865E-05
LIVER	0.144E-04	0.144E-04	0.100E-04	0.921E-05	0.132E-04	0.980E-06	0.381E-01	0.324E-05	0.148E 01	0.211E-04	0.106E-06	0.226E-05	0.598E-05
OVARIES	0.360E-06	0.360E-06	0.251E-05	0.703E-04	0.764E-04	0.132E-02	0.381E-01	0.389E-05	0.193E-05	0.487E-05	0.0	0.242E 03	0.131E-04
PANCREAS	0.138E-04	0.138E-04	0.116E-03	0.973E-05	0.107E-04	0.329E-05	0.381E-01	0.393E-05	0.242E-04	0.351E-04	0.178E-06	0.237E-05	0.761E-01
BONE	0.102E-04	0.102E-04	0.527E-05	0.782E-05	0.696E-05	0.116E-04	0.190E 00	0.266E 01	0.713E-05	0.922E-05	0.476E-05	0.985E-05	0.111E-04
R MAR	0.126E-04	0.126E-04	0.884E-05	0.278E-04	0.237E-04	0.397E-04	0.381E-01	0.439E 00	0.945E-05	0.244E-04	0.365E-05	0.369E-04	0.761E-01
Y MAR	0.109E-04	0.109E-04	0.749E-05	0.110E-04	0.101E-04	0.149E-04	0.381E-01	0.682E-04	0.108E-04	0.112E-04	0.164E-05	0.136E-04	0.761E-01
ENDOST	0.102E-04	0.102E-04	0.527E-05	0.782E-05	0.696E-05	0.116E-04	0.381E-01	0.634E 01	0.713E-05	0.922E-05	0.476E-05	0.985E-05	0.647E-04
SPLEEN	0.131E-04	0.131E-04	0.576E-04	0.712E-05	0.699E-05	0.379E-05	0.381E-01	0.327E-05	0.413E-05	0.534E-04	0.650E-07	0.197E-05	0.761E-01
TESTES	0.234E-07	0.234E-07	0.176E-06	0.119E-05	0.104E-05	0.863E-05	0.381E-01	0.292E-05	0.206E-06	0.297E-06	0.761E 02	0.0	0.617E-05
THYMUS	0.237E-04	0.237E-04	0.135E-05	0.271E-06	0.761E-06	0.842E-07	0.381E-01	0.269E-05	0.274E-05	0.933E-06	0.660E-08	0.803E-07	0.761E-01
THYROID	0.417E-05	0.417E-05	0.286E-06	0.441E-07	0.491E-07	0.151E-07	0.381E-01	0.370E-05	0.447E-06	0.154E-06	0.116E-08	0.134E-07	0.761E-01
UTERUS	0.320E-06	0.320E-06	0.312E-05	0.569E-04	0.289E-04	0.374E-04	0.381E-01	0.256E-05	0.164E-05	0.371E-05	0.0	0.125E-03	0.761E-01

α decay (2.14E6 Y 1)

Case 1 represents inhalation of oxides, hydroxides, and carbides; case 2 inhalation of nitrates; and case 3 ingestion of any compound.

CASE 1.. INHALATION

AMAD (MICRON).. 1.00 D3 =0.310 D4 =8.000E-02 D5 =0.249

	SOLUBILITY CLASS	G.I. UPTAKE FRACTIONS STOMACH	S INT	U L INT	L L INT
NP-237	Y	0.0	1.000E-03	0.0	0.0
PA-233	Y	0.0	1.000E-03	0.0	0.0

DOSE EQUIVALENT (REM/MICROCURIE)

SOURCE	LUNGS	RES LYM	S CONT	SI CONT	ULI CONT	LLI CONT	EXCRET.	BONE	LIVER	KIDNEYS	TESTES
TARGET											
LUNGS	288.	1.42	2.812E-06	1.643E-06	5.806E-06	3.222E-06	5.555E-05	1.310E-02	2.754E-02	2.062E-04	1.048E-07
RES LYM	1.04	2.070E 04	2.812E-06	1.643E-06	5.806E-06	3.222E-06	5.555E-05	1.310E-02	2.754E-02	2.062E-04	1.048E-07
S WALL	5.151E-03	7.439E-03	2.325E-03	2.292E-05	7.769E-05	6.685E-05	5.555E-05	7.617E-03	2.041E-02	8.258E-04	6.152E-07
SI WALL	5.603E-04	8.255E-04	4.206E-06	5.832E-03	3.570E-04	3.625E-04	5.555E-05	1.025E-02	1.744E-02	6.759E-04	4.339E-06
ULI WALL	7.058E-04	1.042E-03	5.574E-06	1.926E-04	3.386E-02	1.703E-04	5.555E-05	9.527E-03	2.706E-02	6.819E-04	3.359E-06
LLI WALL	2.164E-04	3.225E-04	1.971E-06	4.972E-05	6.405E-05	0.101	5.555E-05	1.390E-02	2.685E-02	1.870E-04	2.907E-05
T BODY	4.13	4.44	7.950E-06	6.492E-05	1.426E-04	3.059E-04	7.130E-05	64.6	10.4	0.230	1.011E-02
ADREN	7.067E-03	1.018E-02	3.861E-06	7.983E-06	1.911E-05	1.584E-05	5.555E-05	1.775E-02	5.241E-02	2.824E-03	4.754E-07
BL WALL	1.290E-04	1.928E-04	4.783E-07	1.787E-05	4.266E-05	2.423E-04	5.555E-05	7.148E-03	2.185E-03	7.331E-05	5.145E-05
KIDNEYS	2.428E-03	3.548E-03	5.476E-06	1.981E-05	5.672E-05	3.272E-05	5.555E-05	1.181E-02	4.193E-02	51.9	6.297E-07
LIVER	6.913E-03	9.934E-03	3.177E-06	1.160E-05	5.231E-05	1.055E-05	5.555E-05	9.017E-03	402.	9.395E-04	4.006E-07
OVARIES	3.077E-04	4.564E-04	7.521E-07	6.653E-05	2.536E-04	7.148E-04	5.555E-05	1.094E-02	4.125E-03	2.725E-04	0.0
PANCREAS	7.228E-03	1.045E-02	2.915E-05	1.295E-05	4.485E-05	2.687E-05	5.555E-05	1.262E-02	4.664E-02	1.559E-03	5.676E-07
BONE	3.784E-03	5.320E-03	1.226E-06	6.747E-06	1.969E-05	5.279E-05	2.770E-04	904.	1.060E-02	3.053E-04	8.419E-06
R MAR	4.758E-03	6.701E-03	2.157E-06	2.249E-05	6.268E-05	1.649E-04	5.555E-05	149.	1.513E-02	7.968E-04	6.699E-06
Y MAR	3.961E-03	5.557E-03	1.713E-06	9.441E-06	2.822E-05	6.569E-05	5.555E-05	7.042E-02	1.574E-02	3.756E-04	3.234E-06
ENDOST	3.784E-03	5.320E-03	1.226E-06	6.747E-06	1.969E-05	5.279E-05	5.555E-05	2.153E 03	1.060E-02	3.053E-04	8.419E-06
SPLEEN	6.336E-03	9.110E-03	1.586E-05	9.722E-06	2.789E-05	3.096E-05	5.555E-05	9.265E-03	9.975E-03	2.129E-03	5.114E-07
TESTES	3.497E-05	5.277E-05	7.423E-08	2.094E-06	7.158E-06	7.260E-05	5.555E-05	8.161E-03	8.603E-04	2.623E-05	20.2
THYMUS	1.129E-02	1.621E-02	3.966E-07	6.604E-07	2.447E-06	1.456E-06	5.555E-05	7.709E-03	8.732E-03	5.937E-05	5.566E-03
THYROID	2.569E-03	3.752E-03	1.816E-07	1.538E-07	5.400E-07	3.741E-07	5.555E-05	1.230E-02	1.874E-07	1.531E-05	1.466E-08
UTERUS	2.351E-04	3.464E-04	1.284E-06	5.948E-05	1.009E-04	2.504E-04	5.555E-05	7.801E-03	4.209E-03	2.210E-04	0.0

DOSE EQUIVALENT (REM/MICROCURIE)

SOURCE	OVARIES	OTHER	TOTAL
TARGET			
LUNGS	2.477E-07	2.018E-03	290.
RES LYM	2.477E-07	2.018E-03	2.070E 04
S WALL	2.619E-06	2.047E-03	4.605E-02
SI WALL	4.133E-05	2.292E-03	3.870E-02
ULI WALL	4.051E-05	2.397E-03	7.574E-02
LLI WALL	5.248E-05	2.499E-03	0.121
T BODY	3.179E-03	1.44	85.2
ADREN	1.344E-06	2.96	3.05
BL WALL	2.314E-05	1.48	1.49
KIDNEYS	3.207E-06	2.214E-03	52.0
LIVER	1.940E-06	1.604E-03	402.
OVARIES	20.2	3.035E-03	20.2
PANCREAS	1.634E-06	2.96	3.04
BONE	4.339E-06	2.565E-03	904.
R MAR	1.527E-05	2.96	152.
Y MAR	5.855E-06	2.96	3.06
ENDOST	4.339E-06	9.899E-03	2.153E 03
SPLEEN	1.816E-06	2.96	3.00
TESTES	0.0	1.713E-03	20.2
THYMUS	1.254E-07	2.96	3.01
THYROID	3.043E-08	2.96	2.98
UTERUS	6.802E-05	2.96	2.98

PERCENT DOSE EQUIVALENT..

NUCLIDE	NP-237	PA-233
TARGET		
LUNGS	99.4	0.6
RES LYM	99.7	0.3
S WALL	16.6	83.4
SI WALL	10.3	90.2
ULI WALL	35.0	65.1
LLI WALL	54.4	45.6
T BODY	99.8	0.2
ADREN	97.0	3.0
BL WALL	98.9	1.1
KIDNEYS	99.5	0.5
LIVER	99.6	0.4
OVARIES	99.5	0.5
PANCREAS	97.3	2.7
BONE	99.9	0.1
R MAR	99.9	0.1
Y MAR	97.3	2.7
ENDOST	100.0	0.0
SPLEEN	98.5	1.5
TESTES	99.6	0.4
THYMUS	98.2	1.8
THYROID	99.0	1.0
UTERUS	99.1	0.9

CASE 2.. INHALATION

AMAD (MICRON).. 1.00 D3 =0.310 D4 =8.000E-02 D5 =0.249

	SOLUBILITY CLASS	G.I. UPTAKE FRACTIONS STOMACH	S INT	U L INT	L L INT
NP-237	W	0.0	1.000E-03	0.0	0.0
PA-233	W	0.0	1.000E-03	0.0	0.0

DOSE EQUIVALENT (REM/MICRCCURIE)

SOURCE	LUNGS	RES LYM	S CONT	SI CONT	ULI CONT	LLI CONT	EXCRET.	BONE	LIVER	KIDNEYS	TESTES
TARGET											
LUNGS	29.7	1.053E-02	5.962E-07	3.120E-07	1.166E-06	6.689E-07	1.334E-04	3.242E-02	6.765E-02	5.064E-04	2.594E-07
RES LYM	8.575E-02	160.	5.962E-07	3.120E-07	1.166E-06	6.689E-07	1.334E-04	3.242E-02	6.765E-02	5.064E-04	2.594E-07
S WALL	4.003E-04	5.456E-05	1.394E-03	4.908E-06	1.747E-05	1.501E-05	1.334E-04	1.885E-02	5.013E-02	2.028E-03	1.522E-06
SI WALL	4.221E-05	6.033E-06	8.766E-07	3.501E-03	8.381E-05	8.826E-05	1.334E-04	2.536E-02	4.283E-02	1.660E-03	1.074E-05
ULI WALL	5.303E-05	7.613E-06	1.193E-06	5.312E-05	2.059E-02	4.199E-05	1.334E-04	2.357E-02	6.644E-02	1.675E-03	8.310E-06
LLI WALL	1.604E-05	2.352E-06	3.948E-07	1.200E-05	1.454E-05	6.225E-02	1.334E-04	3.439E-02	6.592E-03	4.590E-04	7.193E-05
T BODY	0.426	3.437E-02	3.702E-06	3.465E-05	7.179E-05	1.613E-04	1.712E-04	160.	25.5	0.567	2.508E-02
ADREN	5.488E-04	7.465E-05	8.233E-07	1.471E-06	3.989E-06	3.213E-06	1.334E-04	4.391E-02	0.129	6.937E-03	1.176E-06
BL WALL	9.531E-06	1.406E-06	9.290E-08	3.614E-06	9.128E-06	5.634E-05	1.334E-04	1.769E-02	5.365E-03	1.800E-04	1.273E-04
KIDNEYS	1.851E-04	2.596E-05	1.137E-06	4.136E-06	1.219E-05	7.058E-06	1.334E-04	2.921E-02	0.103	128.	1.558E-06
LIVER	5.383E-04	7.290E-05	6.547E-07	2.415E-06	1.127E-05	2.183E-06	1.334E-04	2.231E-02	991.	2.307E-03	9.912E-07
OVARIES	2.296E-05	3.332E-06	1.575E-07	1.510E-05	5.750E-05	1.754E-04	1.334E-04	2.706E-02	1.013E-02	6.691E-04	0.0
PANCREAS	5.583E-04	7.661E-05	6.442E-06	2.657E-06	9.519E-06	5.892E-06	1.334E-04	3.121E-02	0.115	3.830E-03	1.404E-06
BONE	3.028E-04	3.918E-05	2.780E-07	1.581E-06	4.700E-06	1.373E-05	6.653E-04	2.242E 03	2.603E-02	7.497E-04	2.083E-05
R MAR	3.800E-04	4.934E-05	4.813E-07	5.393E-06	1.532E-05	4.435E-05	1.334E-04	370.	3.715E-02	1.957E-03	1.658E-05
Y MAR	3.178E-04	4.394E-05	3.906E-07	2.216E-06	6.766E-06	1.728E-05	1.334E-04	0.179	3.865E-02	9.224E-04	8.004E-06
ENDOST	3.028E-04	3.918E-05	2.780E-07	1.581E-06	4.700E-06	1.373E-05	1.334E-04	5.341E 03	2.603E-02	7.497E-04	2.083E-05
SPLEEN	4.930E-04	6.685E-05	3.406E-06	1.981E-06	5.997E-06	6.788E-06	1.334E-04	2.293E-02	2.449E-02	5.230E-03	1.265E-06
TESTES	2.548E-06	3.842E-07	1.426E-08	4.021E-07	1.365E-06	1.581E-05	1.334E-04	2.019E-02	2.112E-03	6.439E-05	50.0
THYMUS	8.797E-04	1.190E-04	8.355E-08	1.194E-07	4.680E-07	2.798E-07	1.334E-04	1.908E-02	2.144E-02	1.458E-04	1.377E-07
THYROID	1.959E-04	2.746E-05	3.230E-08	2.643E-08	9.622E-08	6.914E-08	1.334E-04	3.043E-02	4.600E-03	3.759E-05	3.626E-08
UTERUS	1.770E-05	2.532E-06	2.481E-07	1.307E-05	2.253E-05	5.773E-05	1.334E-04	1.930E-02	1.034E-02	5.425E-04	0.0

DOSE EQUIVALENT (REM/MICROCURIE)

SOURCE	OVARIES	OTHER	TOTAL
TARGET			
LUNGS	6.130E-07	4.984E-03	29.8
RES LYM	6.130E-07	4.984E-03	161.
S WALL	6.481E-06	5.055E-03	7.805E-02
SI WALL	1.023E-04	5.661E-03	7.945E-02
ULI WALL	1.003E-04	5.920E-03	0.115
LLI WALL	1.299E-04	6.171E-03	0.110
T BODY	7.887E-03	3.56	190.
ADREN	3.325E-06	7.34	7.52
BL WALL	5.726E-05	3.68	3.70
KIDNEYS	7.936E-06	5.467E-03	128.
LIVER	4.554E-06	3.960E-03	991.
OVARIES	50.0	7.495E-03	50.1
PANCREAS	4.042E-06	7.34	7.49
BONE	1.074E-05	6.336E-03	2.242E 03
R MAR	3.780E-05	7.34	377.
Y MAR	1.449E-05	7.34	7.56
ENDOST	1.074E-05	2.446E-02	5.341E 03
SPLEEN	4.494E-06	7.34	7.40
TESTES	0.0	4.230E-03	50.1
THYMUS	3.103E-07	7.35	7.39
THYROID	7.528E-08	7.34	7.38
UTERUS	1.683E-04	7.35	7.38

PERCENT DOSE EQUIVALENT..

NUCLIDE	NP-237	PA-233
TARGET		
LUNGS	99.5	0.5
RES LYM	99.6	0.4
S WALL	14.1	85.9
SI WALL	16.0	84.0
ULI WALL	26.6	73.4
LLI WALL	56.5	43.5
T BODY	99.8	0.2
ADREN	97.5	2.5
BL WALL	98.9	1.1
KIDNEYS	99.5	0.5
LIVER	99.6	0.4
OVARIES	99.5	0.5
PANCREAS	97.8	2.2
BONE	99.9	0.1
R MAR	99.9	0.1
Y MAR	97.5	2.5
ENDOST	100.0	0.0
SPLEEN	98.9	1.1
TESTES	99.6	0.4
THYMUS	98.9	1.1
THYROID	99.1	0.9
UTERUS	99.1	0.9

CASE 3.. INGESTION

INGESTION TRANSFER FRACTIONS (G. I. TRACT TO BLOOD)

	NP-237	PA-233
STOMACH	0.0	0.0
S INT	1.000E-03	1.000E-03
U L INT	0.0	0.0
L L INT	0.0	0.0

DOSE EQUIVALENT (REM/MICROCURIE)

SOURCE	S CONT	SI CONT	ULI CONT	LLI CONT	EXCRET.	BONE	LIVER	KIDNEYS	TESTES	OVARIES	OTHER
TARGET											
LUNGS	4.106E-07	1.553E-07	6.978E-07	4.373E-07	1.099E-06	2.670E-04	5.572E-04	4.170E-06	2.136E-09	5.049E-09	4.104E-05
RES LYM	4.106E-07	1.553E-07	6.978E-07	4.373E-07	1.099E-06	2.670E-04	5.572E-04	4.170E-06	2.136E-09	5.049E-09	4.104E-05
S WALL	2.430E-03	3.456E-06	1.366E-05	1.169E-05	1.099E-06	1.553E-04	4.129E-04	1.670E-05	1.254E-08	5.339E-08	4.162E-05
SI WALL	5.791E-07	6.106E-03	7.093E-05	7.936E-05	1.099E-06	2.089E-04	3.528E-04	1.367E-05	8.843E-08	8.426E-07	4.662E-05
ULI WALL	8.387E-07	5.662E-05	3.607E-02	3.848E-05	1.099E-06	1.942E-04	5.473E-04	1.379E-05	6.845E-08	8.259E-07	4.875E-05
LLI WALL	2.340E-07	1.065E-05	1.159E-05	0.110	1.099E-06	2.833E-04	5.429E-05	3.781E-06	5.925E-07	1.070E-06	5.082E-05
T BODY	5.838E-06	5.794E-05	1.172E-04	2.684E-04	1.411E-06	1.32	0.210	4.675E-03	2.067E-04	6.500E-05	2.937E-02
ADREN	5.745E-07	6.510E-07	2.644E-06	1.975E-06	1.099E-06	3.617E-04	1.060E-03	5.714E-05	9.688E-09	2.739E-08	6.049E-02
BL WALL	5.006E-08	2.202E-06	6.421E-06	4.687E-05	1.099E-06	1.457E-04	4.419E-05	1.483E-06	1.049E-06	4.716E-07	3.032E-02
KIDNEYS	7.428E-07	2.743E-06	8.665E-06	5.057E-06	1.099E-06	2.406E-04	8.480E-04	1.05	1.283E-08	6.537E-08	4.502E-05
LIVER	4.197E-07	1.590E-06	8.047E-06	1.414E-06	1.099E-06	1.838E-04	8.17	1.900E-05	8.164E-09	3.751E-08	3.261E-05
OVARIES	1.053E-07	1.202E-05	4.565E-05	1.596E-04	1.099E-06	2.229E-04	8.343E-05	5.511E-06	0.0	0.412	6.172E-05
PANCREAS	4.861E-06	1.683E-06	6.569E-06	4.374E-06	1.099E-06	2.571E-04	9.434E-04	3.154E-05	1.157E-08	3.330E-08	6.052E-02
BONE	2.207E-07	1.333E-06	4.095E-06	1.359E-05	5.482E-06	18.5	2.144E-04	6.175E-06	1.716E-07	8.846E-08	5.217E-05
R MAR	3.704E-07	4.732E-06	1.386E-05	4.583E-05	1.099E-06	3.05	3.060E-04	1.612E-05	1.365E-07	3.114E-07	6.046E-02
Y MAR	3.137E-07	1.875E-06	5.935E-06	1.737E-05	1.099E-06	1.477E-03	3.183E-04	7.597E-06	6.593E-08	1.194E-07	6.049E-02
ENDOST	2.207E-07	1.333E-06	4.095E-06	1.359E-05	1.099E-06	44.0	2.144E-04	6.175E-06	1.716E-07	8.846E-08	2.014E-04
SPLEEN	2.415E-06	1.233E-06	4.265E-06	5.038E-06	1.099E-06	1.988E-04	2.017E-04	4.307E-05	1.042E-08	3.702E-08	6.051E-02
TESTES	7.407E-09	2.085E-07	6.910E-07	1.156E-05	1.099E-06	1.663E-04	1.739E-05	5.303E-07	0.412	0.0	3.483E-05
THYMUS	5.663E-08	4.844E-08	2.392E-07	1.454E-07	1.099E-06	1.571E-04	1.766E-04	1.200E-06	1.134E-09	2.556E-09	6.056E-02
THYROID	1.210E-08	8.126E-09	3.642E-08	3.100E-08	1.099E-06	2.507E-04	3.788E-05	7.096E-07	2.986E-10	6.201E-10	6.049E-02
UTERUS	1.313E-07	9.756E-06	1.736E-05	4.732E-05	1.099E-06	1.590E-04	8.512E-05	4.468E-06	0.0	1.387E-06	6.056E-02

DOSE EQUIVALENT (REM/MICROCURIE)

SOURCE	TOTAL
TARGET	
LUNGS	8.722E-04
RES LYM	8.722E-04
S WALL	3.087E-03
SI WALL	6.881E-03
ULI WALL	3.697E-02
LLI WALL	0.110
T BODY	1.57
ADREN	6.198E-02
BL WALL	3.056E-02
KIDNEYS	1.06
LIVER	8.17
OVARIES	0.413
PANCREAS	6.177E-02
BONE	18.5
R MAR	3.11
Y MAR	6.232E-02
ENDOST	44.0
SPLEEN	6.095E-02
TESTES	0.413
THYMUS	6.090E-02
THYROID	6.078E-02
UTERUS	6.089E-02

PERCENT DOSE EQUIVALENT..

NUCLIDE	NP-237	PA-233
TARGET		
LUNGS	15.0	85.0
RES LYM	15.0	85.0
S WALL	82.1	17.9
SI WALL	91.6	8.4
ULI WALL	97.4	2.6
LLI WALL	98.2	1.8
T BODY	99.8	0.2
ADREN	97.5	2.5
BL WALL	98.9	1.1
KIDNEYS	99.5	0.5
LIVER	99.6	0.4
OVARIES	99.5	0.5
PANCREAS	97.8	2.2
BONE	99.9	0.1
R MAR	99.9	0.1
Y MAR	97.5	2.5
ENDOST	100.0	0.0
SPLEEN	98.9	1.1
TESTES	99.6	0.4
THYMUS	99.0	1.0
THYROID	99.1	0.9
UTERUS	99.1	0.9

RADIONUCLIDE: NP-238

PHYSICAL AND METABOLIC PARAMETERS FOR DOSIMETRICALLY SIGNIFICANT PROGENY:

NUCLIDE	RADIOACTIVE HALF-LIFE (DAYS)
NP-238	2.120
PU-238	3.2000E 04

BRANCHING RATIOS: FROM NP-238 TO PU-238 FRACTION 1.000

ORGAN ABSORBED	NUCLIDE	BLOOD TRANSFER FRACTION F2-PRIME	COMPARTMENT DEPOSITION FRACTION	COMPARTMENT BIOLOGICAL HALF-TIME (DAYS)
	NP-238	1.00	4.000E-02	0.500
			0.460	1.460E 04
			0.500	3.650E 04
	PU-238	1.00	0.460	1.460E 04
			0.540	3.650E 04
EXCRET.	NP-238	4.000E-02	1.00	0.500
	PU-238	0.0	1.00	0.500
BONE	NP-238	0.450	1.00	3.650E 04
	PU-238	0.450	1.00	3.650E 04
LIVER	NP-238	0.450	1.00	1.460E 04
	PU-238	0.450	1.00	1.460E 04
KIDNEYS	NP-238	1.000E-02	1.00	1.460E 04
	PU-238	1.000E-02	1.00	1.460E 04
TESTES	NP-238	3.500E-04	1.00	3.650E 04
	PU-238	3.500E-04	1.00	3.650E 04
OVARIES	NP-238	1.100E-04	1.00	3.650E 04
	PU-238	1.100E-04	1.00	3.650E 04
OTHER	NP-238	5.000E-02	1.00	3.650E 04
	PU-238	9.000E-02	1.00	3.650E 04

S FACTORS (REM/MICROCURIE-DAY) FOR NP-238

TARGET ORGANS	SOURCE ORGANS												
	LUNGS	RES LYM	S CONT	SI CONT	ULI CONT	LLI CONT	EXCRET.	BONE	LIVER	KIDNEYS	TESTES	OVARIES	OTHER
LUNGS	0.145E-01	0.145E-01	0.161E-03	0.326E-04	0.386E-04	0.152E-04	0.319E-03	0.920E-04	0.222E-03	0.922E-04	0.281E-05	0.150E-04	0.117E-03
RES LYM	0.145E-01	0.872E 00	0.161E-03	0.326E-04	0.386E-04	0.152E-04	0.319E-03	0.920E-04	0.222E-03	0.922E-04	0.281E-05	0.150E-04	0.117E-03
S WALL	0.178E-03	0.178E-03	0.309E-01	0.318E-03	0.324E-03	0.141E-03	0.343E-03	0.498E-04	0.180E-03	0.299E-03	0.762E-05	0.704E-04	0.128E-03
SI WALL	0.302E-04	0.302E-04	0.229E-03	0.192E-01	0.143E-02	0.803E-03	0.367E-03	0.778E-04	0.145E-03	0.253E-03	0.499E-04	0.101E-02	0.137E-03
ULI WALL	0.386E-04	0.386E-04	0.273E-03	0.214E-02	0.338E-01	0.359E-03	0.359E-03	0.728E-04	0.216E-03	0.258E-03	0.387E-04	0.960E-03	0.141E-03
LLI WALL	0.886E-05	0.886E-05	0.127E-03	0.626E-03	0.302E-03	0.532E-01	0.369E-03	0.998E-04	0.253E-04	0.802E-04	0.206E-03	0.121E-02	0.150E-03
T BODY	0.321E-03	0.321E-03	0.221E-03	0.329E-03	0.266E-03	0.285E-03	0.323E-03	0.322E-03	0.344E-03	0.344E-03	0.321E-03	0.369E-03	0.319E-03
ADREN	0.216E-03	0.216E-03	0.200E-03	0.108E-03	0.115E-03	0.454E-04	0.356E-03	0.173E-03	0.438E-03	0.113E-02	0.841E-05	0.519E-04	0.546E-03
BL WALL	0.861E-05	0.861E-05	0.461E-04	0.198E-03	0.196E-03	0.460E-03	0.379E-03	0.402E-04	0.170E-04	0.441E-04	0.484E-03	0.638E-03	0.374E-03
KIDNEYS	0.907E-04	0.907E-04	0.296E-03	0.288E-03	0.263E-03	0.860E-04	0.356E-03	0.111E-03	0.332E-03	0.492E-01	0.141E-04	0.102E-03	0.135E-03
LIVER	0.217E-03	0.217E-03	0.178E-03	0.171E-03	0.227E-03	0.363E-04	0.356E-03	0.674E-04	0.965E-02	0.344E-03	0.997E-05	0.608E-04	0.100E-03
OVARIES	0.160E-04	0.160E-04	0.138E-03	0.942E-03	0.671E-03	0.155E-02	0.314E-03	0.886E-04	0.687E-04	0.150E-03	0.0	0.127E 01	0.171E-03
PANCREAS	0.202E-03	0.202E-03	0.148E-02	0.183E-03	0.191E-03	0.679E-04	0.339E-03	0.924E-04	0.382E-03	0.625E-03	0.955E-05	0.868E-04	0.601E-03
BONE	0.892E-04	0.892E-04	0.531E-04	0.712E-04	0.623E-04	0.915E-04	0.322E-03	0.278E-02	0.647E-04	0.872E-04	0.603E-04	0.910E-04	0.137E-03
R MAR	0.113E-03	0.113E-03	0.893E-04	0.219E-03	0.181E-03	0.272E-03	0.336E-03	0.923E-03	0.906E-04	0.218E-03	0.474E-04	0.263E-03	0.442E-03
Y MAR	0.942E-04	0.942E-04	0.733E-04	0.978E-04	0.883E-04	0.112E-03	0.314E-03	0.294E-03	0.965E-04	0.108E-03	0.264E-04	0.107E-03	0.503E-03
ENDOST	0.892E-04	0.892E-04	0.531E-04	0.712E-04	0.623E-04	0.915E-04	0.322E-03	0.211E-02	0.647E-04	0.872E-04	0.603E-04	0.810E-04	0.325E-03
SPLEEN	0.200E-03	0.200E-03	0.951E-03	0.142E-03	0.127E-03	0.989E-04	0.350E-03	0.824E-04	0.106E-03	0.757E-03	0.618E-05	0.574E-04	0.581E-03
TESTES	0.338E-05	0.338E-05	0.156E-04	0.498E-04	0.530E-04	0.138E-03	0.350E-03	0.625E-04	0.238E-04	0.161E-04	0.411E 00	0.0	0.109E-03
THYMUS	0.383E-03	0.383E-03	0.779E-04	0.150E-04	0.162E-04	0.700E-05	0.309E-03	0.784E-04	0.729E-04	0.928E-05	0.179E-05	0.741E-05	0.634E-03
THYROID	0.128E-03	0.128E-03	0.162E-04	0.515E-05	0.544E-05	0.260E-05	0.336E-03	0.487E-04	0.190E-04	0.108E-04	0.685E-06	0.267E-05	0.529E-03
UTERUS	0.117E-04	0.117E-04	0.930E-04	0.760E-03	0.428E-03	0.504E-03	0.411E-03	0.863E-04	0.367E-04	0.784E-04	0.0	0.150E-02	0.843E-03

β^- decay (2.117 D 2)

Case 1 represents inhalation of oxides, hydroxides, and carbides; case 2 inhalation of nitrates; and case 3 ingestion of any compound.

CASE 1.. INHALATION

AMAD (MICRON).. 1.00 D3 =0.310 D4 =8.000E-02 D5 =0.249

	SOLUBILITY CLASS	G.I. UPTAKE FRACTIONS STOMACH	S INT	U L INT	L L INT
NP-238	Y	0.0	1.000E-03	0.0	0.0
PU-238	Y	0.0	3.000E-05	0.0	0.0

DOSE EQUIVALENT (REM/MICROCURIE)

SOURCE	LUNGS	RES LYM	S CONT	SI CONT	ULI CONT	LLI CONT	EXCRET.	BONE	LIVER	KIDNEYS	TESTES
TARGET											
LUNGS	2.557E-02	9.372E-06	2.600E-06	1.995E-06	6.522E-06	3.573E-06	3.210E-08	5.450E-07	1.317E-06	1.213E-08	1.294E-11
RES LYM	1.074E-02	0.960	2.600E-06	1.995E-06	6.522E-06	3.573E-06	3.210E-08	5.450E-07	1.317E-06	1.213E-08	1.294E-11
S WALL	1.319E-04	8.609E-08	4.990E-04	1.946E-05	5.474E-05	3.314E-05	3.452E-08	2.951E-07	1.066E-06	3.934E-08	3.601E-11
SI WALL	2.237E-05	1.455E-08	3.698E-06	1.175E-03	2.416E-04	1.887E-04	3.693E-08	4.609E-07	8.587E-07	3.329E-08	2.298E-10
ULI WALL	2.860E-05	1.860E-08	4.408E-06	1.309E-04	5.711E-03	8.439E-05	3.612E-08	4.314E-07	1.279E-06	3.394E-08	1.782E-10
LLI WALL	6.564E-06	4.268E-09	2.051E-06	3.831E-05	5.102E-05	1.251E-02	3.713E-08	5.919E-07	1.498E-07	1.055E-08	9.488E-10
T BODY	4.499E-04	2.053E-04	3.569E-06	2.013E-05	4.494E-05	6.700E-05	3.252E-08	2.887E-03	4.700E-04	1.045E-05	4.513E-07
ADREN	1.600E-04	1.048E-07	3.225E-06	6.609E-06	1.943E-05	1.077E-05	3.582E-08	1.025E-06	2.596E-06	1.493E-07	3.873E-11
BL WALL	6.379E-06	4.148E-09	7.444E-07	1.212E-05	3.311E-05	1.081E-04	3.813E-08	2.380E-07	1.006E-07	5.802E-09	2.229E-09
KIDNEYS	6.720E-05	4.371E-08	4.779E-06	1.762E-05	4.443E-05	2.021E-05	3.582E-08	6.577E-07	1.967E-06	2.352E-03	6.493E-11
LIVER	1.608E-04	1.053E-07	2.874E-06	1.046E-05	3.835E-05	8.533E-06	3.582E-08	3.993E-07	1.821E-02	4.527E-08	4.591E-11
OVARIES	1.185E-05	7.708E-09	2.228E-06	5.764E-05	1.134E-04	3.643E-04	3.160E-03	5.246E-07	4.067E-07	1.973E-08	0.0
PANCREAS	1.497E-04	9.739E-08	2.390E-05	1.120E-05	3.227E-05	1.596E-05	3.411E-08	5.477E-07	2.264E-06	8.223E-08	4.582E-11
BONE	6.609E-05	4.325E-08	8.574E-07	4.357E-06	1.053E-05	2.151E-05	3.267E-08	4.043E-02	3.835E-07	1.148E-08	2.777E-10
R MAR	8.372E-05	5.474E-08	1.442E-06	1.340E-05	3.059E-05	6.394E-05	3.781E-08	6.681E-03	5.368E-07	2.870E-08	2.183E-10
Y MAR	6.979E-05	4.573E-08	1.194E-06	5.985E-06	1.492E-05	2.633E-05	3.160E-08	1.843E-06	5.720E-07	1.422E-08	1.216E-10
ENDOST	6.609E-05	4.325E-08	8.574E-07	4.357E-06	1.053E-05	2.151E-05	3.241E-08	8.530E-02	3.835E-07	1.148E-08	2.777E-10
SPLEEN	1.482E-04	9.677E-08	1.374E-05	8.689E-06	2.146E-05	2.325E-05	3.522E-08	4.889E-07	6.276E-07	9.977E-08	2.846E-11
TESTES	2.504E-06	1.629E-09	2.519E-07	3.047E-06	8.954E-06	3.244E-05	3.522E-08	3.701E-07	1.409E-07	2.118E-09	9.055E-04
THYMUS	2.838E-04	1.847E-07	1.258E-06	9.179E-07	2.737E-06	1.645E-06	3.110E-08	4.646E-07	4.316E-07	1.221E-09	8.243E-12
THYROID	9.493E-05	6.167E-08	2.616E-07	3.151E-07	9.191E-07	6.111E-07	3.781E-08	2.886E-07	1.125E-07	1.421E-09	3.154E-12
UTERUS	8.668E-06	5.637E-09	1.453E-06	4.651E-05	7.231E-05	1.185E-04	4.134E-08	5.110E-07	2.173E-07	1.031E-08	0.0

DOSE EQUIVALENT (REM/MICROCURIE)

SOURCE	OVARIES	OTHER	TOTAL
TARGET			
LUNGS	2.171E-11	7.804E-08	2.559E-02
RES LYM	2.171E-11	7.804E-08	0.970
S WALL	1.019E-10	8.440E-08	7.398E-04
SI WALL	1.467E-09	9.046E-08	1.633E-03
ULI WALL	1.404E-09	9.361E-08	5.961E-03
LLI WALL	1.768E-09	9.890E-08	1.261E-02
T BODY	1.419E-07	1.093E-04	4.268E-03
ADREN	7.511E-11	2.251E-04	4.296E-04
BL WALL	9.235E-10	1.125E-04	2.733E-04
KIDNEYS	1.476E-10	8.949E-08	2.509E-03
LIVER	8.800E-11	6.609E-08	1.843E-02
OVARIES	9.012E-04	1.139E-07	1.452E-03
PANCREAS	1.256E-10	2.251E-04	4.611E-04
BONE	1.173E-10	9.193E-08	4.054E-02
R MAR	3.809E-10	2.250E-04	7.100E-03
Y MAR	1.549E-10	2.250E-04	3.457E-04
ENDOST	1.173E-10	2.368E-07	8.541E-02
SPLEEN	8.308E-11	2.251E-04	4.417E-04
TESTES	0.0	7.189E-08	9.483E-04
THYMUS	1.072E-11	2.251E-04	5.166E-04
THYROID	3.864E-12	2.250E-04	3.229E-04
UTERUS	2.172E-09	2.253E-04	4.734E-04

PERCENT DOSE EQUIVALENT..

NUCLIDE	NP-238	PU-238
TARGET		
LUNGS	42.1	57.9
RES LYM	1.2	98.8
S WALL	100.0	0.0
SI WALL	100.0	0.0
ULI WALL	100.0	0.0
LLI WALL	100.0	0.0
T BODY	8.9	91.1
ADREN	47.6	52.4
BL WALL	53.9	41.1
KIDNEYS	6.5	93.5
LIVER	1.5	98.5
OVARIES	38.0	62.0
PANCREAS	51.3	48.7
BONE	0.3	99.7
R MAR	2.8	97.2
Y MAR	35.0	65.0
ENDOST	0.1	99.9
SPLEEN	49.1	50.9
TESTES	5.2	94.8
THYMUS	56.5	43.5
THYROID	30.3	69.7
UTERUS	52.5	47.5

CASE 2.. INHALATION

AMAD (MICRON).. 1.00 D3 =0.310 D4 =8.000E-02 D5 =0.249

	SOLUBILITY CLASS	G.I. UPTAKE FRACTIONS STOMACH	S INT	U L INT	L L INT
NP-238	W	0.0	1.000E-03	0.0	0.0
PU-238	W	0.0	3.000E-05	0.0	0.0

DOSE EQUIVALENT (REM/MICROCURIE)

SOURCE	LUNGS	RES LYM	S CONT	SI CONT	ULI CONT	LLI CONT	EXCRET.	BONE	LIVER	KIDNEYS	TESTES
TARGET											
LUNGS	1.167E-02	2.158E-05	2.229E-06	1.711E-06	5.592E-06	3.064E-06	5.412E-07	9.183E-06	2.216E-05	2.045E-07	2.181E-10
RES LYM	1.018E-02	9.849E-03	2.229E-06	1.711E-06	5.592E-06	3.064E-06	5.412E-07	9.183E-06	2.216E-05	2.045E-07	2.181E-10
S WALL	1.250E-04	2.646E-07	4.279E-04	1.669E-05	4.694E-05	2.842E-05	5.819E-07	4.971E-06	1.797E-05	6.631E-07	6.970E-10
SI WALL	2.121E-05	4.490E-08	3.171E-06	1.009E-03	2.072E-04	1.619E-04	6.225E-07	7.766E-06	1.447E-05	5.611E-07	3.874E-09
ULI WALL	2.711E-05	5.739E-08	3.780E-06	1.123E-04	4.897E-03	7.236E-05	6.089E-07	7.267E-06	2.156E-05	5.722E-07	3.004E-09
LLI WALL	6.222E-06	1.317E-08	1.758E-06	3.285E-05	4.375E-05	1.073E-02	6.259E-07	9.964E-06	2.525E-06	1.779E-07	1.599E-08
T BODY	2.467E-04	2.307E-06	3.060E-06	1.726E-05	3.854E-05	5.745E-05	5.483E-07	9.117E-03	1.500E-03	3.333E-05	1.442E-06
ADREN	1.517E-04	3.211E-07	2.769E-06	5.667E-06	1.666E-05	9.232E-06	6.039E-07	1.727E-05	4.372E-05	2.508E-06	6.528E-10
BL WALL	6.046E-06	1.280E-08	6.383E-07	1.039E-05	2.840E-05	9.272E-05	6.428E-07	4.012E-06	1.697E-06	9.780E-08	3.757E-08
KIDNEYS	6.369E-05	1.348E-07	4.098E-06	1.511E-05	3.310E-05	1.733E-05	6.039E-07	1.108E-05	3.314E-05	7.455E-03	1.095E-09
LIVER	1.524E-04	3.226E-07	2.465E-06	8.973E-06	3.289E-05	7.317E-06	6.039E-07	6.728E-06	5.782E-02	7.630E-07	7.739E-10
OVARIES	1.124E-05	2.379E-08	1.911E-06	4.943E-05	9.721E-05	3.124E-04	5.327E-07	8.843E-06	6.856E-06	3.327E-07	0.0
PANCREAS	1.419E-04	3.003E-07	2.049E-05	9.602E-06	2.767E-05	1.369E-05	5.751E-07	9.224E-06	3.813E-05	1.386E-06	7.724E-10
BONE	6.264E-05	1.326E-07	7.352E-07	3.736E-06	9.026E-06	1.844E-05	5.507E-07	0.128	6.458E-06	1.934E-07	4.681E-09
R MAR	7.935E-05	1.680E-07	1.236E-06	1.149E-05	2.622E-05	5.483E-05	5.700E-07	2.112E-02	9.043E-06	4.835E-07	3.680E-09
Y MAR	6.615E-05	1.401E-07	1.015E-06	5.132E-06	1.279E-05	2.258E-05	5.327E-07	2.966E-05	9.633E-06	2.395E-07	2.049E-09
ENDOST	6.264E-05	1.326E-07	7.352E-07	3.736E-06	9.026E-06	1.844E-05	5.463E-07	0.269	6.458E-06	1.934E-07	4.681E-09
SPLEEN	1.404E-04	2.973E-07	1.178E-05	7.451E-06	1.840E-05	1.993E-05	5.937E-07	8.227E-06	1.058E-05	1.679E-06	4.797E-10
TESTES	2.374E-06	5.025E-09	2.160E-07	2.613E-06	7.679E-06	2.782E-05	5.937E-07	6.238E-06	2.375E-06	3.571E-08	2.862E-03
THYMUS	2.690E-04	5.694E-07	1.079E-06	7.871E-07	2.347E-06	1.411E-06	5.243E-07	7.826E-06	7.275E-06	2.058E-08	1.390E-10
THYROID	8.989E-05	1.903E-07	2.243E-07	2.702E-07	7.881E-07	5.241E-07	5.700E-07	4.861E-06	1.896E-06	2.395E-08	5.317E-11
UTERUS	8.216E-06	1.739E-08	1.246E-06	3.988E-05	6.201E-05	1.016E-04	6.970E-07	8.613E-06	3.663E-06	1.739E-07	0.0

DOSE EQUIVALENT (REM/MICROCURIE)

SOURCE	OVARIES	OTHER	TOTAL
TARGET			
LUNGS	3.660E-10	1.300E-06	1.174E-02
RES LYM	3.660E-10	1.300E-06	2.008E-02
S WALL	1.718E-09	1.420E-06	6.706E-04
SI WALL	2.466E-08	1.520E-06	1.426E-03
ULI WALL	2.347E-08	1.566E-06	5.145E-03
LLI WALL	2.957E-08	1.664E-06	1.082E-02
T BODY	4.542E-07	2.638E-04	1.128E-02
ADREN	1.266E-09	5.424E-04	7.928E-04
BL WALL	1.557E-08	2.720E-04	4.167E-04
KIDNEYS	2.489E-09	1.499E-06	7.640E-03
LIVER	1.483E-09	1.110E-06	5.804E-02
OVARIES	2.863E-03	1.900E-06	3.354E-03
PANCREAS	2.118E-09	5.430E-04	8.059E-04
BONE	1.976E-09	1.524E-06	0.128
R MAR	6.417E-09	5.412E-04	2.184E-02
Y MAR	2.611E-09	5.419E-04	6.898E-04
ENDOST	1.976E-09	3.659E-06	0.269
SPLEEN	1.400E-09	5.428E-04	7.622E-04
TESTES	0.0	1.209E-06	2.913E-03
THYMUS	1.808E-10	5.434E-04	8.342E-04
THYROID	6.514E-11	5.422E-04	6.414E-04
UTERUS	3.660E-08	5.457E-04	7.718E-04

PERCENT DOSE EQUIVALENT..

NUCLIDE	NP-238	PU-238
TARGET		
LUNGS	87.3	12.7
RES LYM	57.4	42.6
S WALL	100.0	0.0
SI WALL	100.0	0.0
ULI WALL	100.0	0.0
LLI WALL	100.0	0.0
T BODY	3.7	96.3
ADREN	32.3	67.7
BL WALL	35.7	64.3
KIDNEYS	3.8	96.2
LIVER	2.0	98.0
OVARIES	15.6	84.4
PANCREAS	33.4	66.6
BONE	0.3	99.7
R MAR	1.3	98.7
Y MAR	22.2	77.8
ENDOST	0.1	99.9
SPLEEN	29.6	70.4
TESTES	2.9	97.1
THYMUS	35.7	64.3
THYROID	16.4	83.6
UTERUS	30.5	69.5

CASE 3.. INGESTION

INGESTION TRANSFER FRACTIONS (G. I. TRACT TO BLOOD)

	NP-238	PU-238
STOMACH	0.0	0.0
S INT	1.000E-03	3.000E-05
U L INT	0.0	0.0
L L INT	0.0	0.0

DOSE EQUIVALENT (REM/MICROCURIE)

SOURCE	S CONT	SI CONT	ULI CONT	LLI CONT	EXCRET.	BONE	LIVER	KIDNEYS	TESTES	OVARIES	OTHER
TARGET											
LUNGS	6.618E-06	5.078E-06	1.660E-05	9.096E-06	6.983E-09	1.185E-07	2.859E-07	2.638E-09	2.814E-12	4.721E-12	1.676E-08
RES LYM	6.618E-06	5.078E-06	1.660E-05	9.096E-06	6.983E-09	1.185E-07	2.859E-07	2.638E-09	2.814E-12	4.721E-12	1.676E-08
S WALL	1.270E-03	4.954E-05	1.394E-04	8.438E-05	7.507E-09	6.413E-08	2.318E-07	8.555E-09	7.832E-12	2.216E-11	1.832E-08
SI WALL	9.413E-06	2.991E-03	6.151E-04	4.805E-04	8.031E-09	1.002E-07	1.867E-07	7.239E-09	4.998E-11	3.180E-10	1.961E-08
ULI WALL	1.122E-05	3.334E-04	1.454E-02	2.148E-04	7.856E-09	9.375E-08	2.781E-07	7.382E-09	3.876E-11	3.025E-10	2.019E-08
LLI WALL	5.221E-06	9.752E-05	1.299E-04	3.184E-02	8.075E-09	1.285E-07	3.257E-08	2.295E-09	2.063E-10	3.813E-10	2.146E-08
T BODY	9.085E-06	5.125E-05	1.144E-04	1.706E-04	7.074E-09	7.495E-05	1.247E-05	2.770E-07	1.194E-08	3.769E-09	1.701E-06
ADREN	8.221E-06	1.682E-05	4.946E-05	2.741E-05	7.791E-09	2.228E-07	5.640E-07	3.235E-08	8.423E-12	1.634E-11	3.488E-06
BL WALL	1.895E-06	3.084E-05	8.430E-05	2.753E-04	8.293E-09	5.176E-08	2.189E-08	1.262E-09	4.847E-10	2.008E-10	1.757E-06
KIDNEYS	1.217E-05	4.487E-05	1.131E-04	5.146E-05	7.791E-09	1.429E-07	4.275E-07	6.167E-05	1.412E-11	3.211E-11	1.933E-08
LIVER	7.317E-06	2.664E-05	9.764E-05	2.172E-05	7.791E-09	8.679E-08	4.789E-04	9.843E-09	9.985E-12	1.914E-11	1.431E-08
OVARIES	5.673E-06	1.467E-04	2.886E-04	9.275E-04	6.873E-09	1.141E-07	8.845E-08	4.292E-09	0.0	2.364E-05	2.449E-08
PANCREAS	6.084E-05	2.851E-05	8.215E-05	4.063E-05	7.419E-09	1.190E-07	4.919E-07	1.788E-08	9.965E-12	2.732E-11	3.496E-06
BONE	2.183E-06	1.109E-05	2.680E-05	5.475E-05	7.105E-09	1.048E-03	8.332E-08	2.495E-09	6.039E-11	2.550E-11	1.963E-08
R MAR	3.671E-06	3.412E-05	7.785E-05	1.628E-04	7.354E-09	1.737E-04	1.167E-07	6.238E-09	4.747E-11	8.279E-11	3.474E-06
Y MAR	3.013E-06	1.524E-05	3.798E-05	6.702E-05	6.873E-09	3.812E-07	1.243E-07	3.090E-09	2.644E-11	3.368E-11	3.482E-06
ENDOST	2.183E-06	1.109E-05	2.680E-05	5.475E-05	7.048E-09	2.206E-03	8.332E-08	2.495E-09	6.039E-11	2.550E-11	4.685E-08
SPLEEN	3.498E-05	2.212E-05	5.463E-05	5.918E-05	7.660E-09	1.061E-07	1.365E-07	2.166E-08	6.189E-12	1.807E-11	3.493E-06
TESTES	6.413E-07	7.758E-06	2.280E-05	8.258E-05	7.660E-09	8.048E-08	3.064E-08	4.607E-10	2.363E-05	0.0	1.560E-08
THYMUS	3.202E-06	2.337E-06	6.968E-06	4.189E-05	6.764E-09	1.010E-07	9.386E-08	2.655E-10	1.793E-12	2.332E-12	3.501E-06
THYROID	6.659E-07	8.023E-07	2.340E-06	1.556E-06	7.354E-09	6.272E-08	2.446E-08	3.090E-10	6.860E-13	8.404E-13	3.486E-06
UTERUS	3.700E-06	1.184E-04	1.841E-04	3.016E-04	8.992E-09	1.111E-07	4.725E-08	2.243E-09	0.0	4.722E-10	3.531E-06

DOSE EQUIVALENT (REM/MICROCURIE)

SOURCE	TOTAL
TARGET	
LUNGS	3.783E-05
RES LYM	3.783E-05
S WALL	1.544E-03
SI WALL	4.096E-03
ULI WALL	1.510E-02
LLI WALL	3.207E-02
T BODY	4.347E-04
ADREN	1.062E-04
BL WALL	3.942E-04
KIDNEYS	2.839E-04
LIVER	6.323E-04
OVARIES	1.392E-03
PANCREAS	2.163E-04
BONE	1.143E-03
R MAR	4.557E-04
Y MAR	1.272E-04
ENDOST	2.301E-03
SPLEEN	1.747E-04
TESTES	1.375E-04
THYMUS	2.040E-05
THYROID	8.945E-06
UTERUS	6.115E-04

PERCENT DOSE EQUIVALENT..

NUCLIDE	NP-238	PU-238
TARGET		
LUNGS	100.0	0.0
RES LYM	100.0	0.0
S WALL	100.0	0.0
SI WALL	100.0	0.0
ULI WALL	100.0	0.0
LLI WALL	100.0	0.0
T BODY	79.6	20.4
ADREN	96.8	3.2
BL WALL	99.6	0.4
KIDNEYS	78.8	21.2
LIVER	26.2	73.8
OVARIES	98.3	1.7
PANCREAS	98.4	1.6
BONE	8.6	91.4
R MAR	61.4	38.6
Y MAR	97.3	2.7
ENDOST	4.2	95.8
SPLEEN	98.0	2.0
TESTES	83.1	16.9
THYMUS	83.3	16.7
THYROID	61.9	38.1
UTERUS	99.4	0.6

RADIONUCLIDE: NP-239

PHYSICAL AND METABOLIC PARAMETERS FOR DOSIMETRICALLY SIGNIFICANT PROGENY:

NUCLIDE	RADIOACTIVE HALF-LIFE (DAYS)
NP-239	2.360
PU-239	8.9000E 06

BRANCHING RATIOS: FROM NP-239 TO PU-239 FRACTION 1.000

ORGAN ABSORBED	NUCLIDE	BLOOD TRANSFER FRACTION F2-PRIME	COMPARTMENT DEPOSITION FRACTION	COMPARTMENT BIOLOGICAL HALF-TIME (DAYS)
	NP-239	1.00	4.000E-02	0.500
			0.460	1.460E 04
			0.500	3.650E 04
	PU-239	1.00	0.460	1.460E 04
			0.540	3.650E 04
EXCRET.	NP-239	4.000E-02	1.00	0.500
	PU-239	0.0	1.00	0.500
BONE	NP-239	0.450	1.00	3.650E 04
	PU-239	0.450	1.00	3.650E 04
LIVER	NP-239	0.450	1.00	1.460E 04
	PU-239	0.450	1.00	1.460E 04
KIDNEYS	NP-239	1.000E-02	1.00	1.460E 04
	PU-239	1.000E-02	1.00	1.460E 04
TESTES	NP-239	3.500E-04	1.00	3.650E 04
	PU-239	3.500E-04	1.00	3.650E 04
OVARIES	NP-239	1.100E-04	1.00	3.650E 04
	PU-239	1.100E-04	1.00	3.650E 04
OTHER	NP-239	5.000E-02	1.00	3.650E 04
	PU-239	9.000E-02	1.00	3.650E 04

S FACTORS (REM/MICROCURIE-DAY) FOR NP-239

TARGET ORGANS	SOURCE ORGANS												
	LUNGS	RES LYM	S CONT	SI CONT	ULI CONT	LLI CONT	EXCRET.	BONE	LIVER	KIDNEYS	TESTES	OVARIES	OTHER
LUNGS	0.128E-01	0.128E-01	0.544E-04	0.742E-05	0.849E-05	0.257E-05	0.223E-03	0.300E-04	0.792E-04	0.269E-04	0.255E-06	0.209E-05	0.399E-04
RES LYM	0.128E-01	0.808E 00	0.544E-04	0.742E-05	0.849E-05	0.257E-05	0.223E-03	0.300E-04	0.792E-04	0.269E-04	0.255E-06	0.209E-05	0.399E-04
S WALL	0.580E-04	0.580E-04	0.261E-01	0.115E-03	0.118E-03	0.557E-04	0.231E-03	0.176E-04	0.589E-04	0.111E-03	0.134E-05	0.254E-04	0.436E-04
SI WALL	0.622E-05	0.622E-05	0.839E-04	0.163E-01	0.535E-03	0.300E-03	0.240E-03	0.234E-04	0.513E-04	0.901E-04	0.120E-04	0.383E-03	0.471E-04
ULI WALL	0.756E-05	0.756E-05	0.111E-03	0.891E-03	0.291E-01	0.139E-03	0.237E-03	0.220E-04	0.789E-04	0.901E-04	0.997E-05	0.366E-03	0.446E-04
LLI WALL	0.242E-05	0.242E-05	0.381E-04	0.242E-03	0.996E-04	0.468E-01	0.232E-03	0.326E-04	0.751E-05	0.235E-04	0.860E-04	0.476E-03	0.514E-04
T BODY	0.224E-03	0.224E-03	0.113E-03	0.206E-03	0.149E-03	0.169E-03	0.222E-03	0.224E-03	0.231E-03	0.231E-33	0.220E-03	0.243E-03	0.218E-03
ADREN	0.823E-04	0.823E-04	0.820E-04	0.356E-04	0.290E-04	0.121E-04	0.236E-03	0.368E-04	0.145E-03	0.354E-03	0.118E-05	0.113E-04	0.414E-03
BL WALL	0.131E-05	0.131E-05	0.882E-05	0.839E-04	0.682E-04	0.211E-03	0.232E-03	0.164E-04	0.552E-05	0.930E-05	0.151E-03	0.223E-03	0.242E-03
KIDNEYS	0.273E-04	0.273E-04	0.109E-03	0.996E-04	0.883E-04	0.273E-04	0.230E-03	0.267E-04	0.123E-03	0.422E-01	0.153E-05	0.298E-04	0.444E-04
LIVER	0.772E-04	0.772E-04	0.631E-04	0.576E-04	0.805E-04	0.827E-05	0.229E-03	0.208E-04	0.769E-02	0.122E-03	0.108E-05	0.173E-04	0.325E-04
OVARIES	0.327E-05	0.327E-05	0.153E-04	0.335E-03	0.376E-03	0.577E-03	0.239E-03	0.233E-04	0.134E-04	0.357E-04	0.0	0.115E 01	0.617E-04
PANCREAS	0.815E-04	0.815E-04	0.567E-03	0.644E-04	0.721E-04	0.231E-04	0.238E-03	0.281E-04	0.134E-03	0.265E-03	0.176E-05	0.158E-04	0.441E-03
BONE	0.436E-04	0.436E-04	0.267E-04	0.371E-04	0.334E-04	0.480E-04	0.237E-03	0.248E-32	0.330E-04	0.426E-04	0.274E-04	0.448E-04	0.556E-04
R MAR	0.554E-04	0.554E-04	0.475E-04	0.125E-03	0.107E-03	0.149E-03	0.248E-03	0.543E-03	0.479E-04	0.111E-03	0.218E-04	0.158E-03	0.373E-03
Y MAR	0.450E-04	0.450E-04	0.373E-04	0.521E-04	0.480E-04	0.595E-04	0.234E-03	0.146E-03	0.489E-04	0.523E-04	0.103E-04	0.605E-04	0.411E-03
ENDOST	0.436E-04	0.436E-04	0.267E-04	0.371E-04	0.334E-04	0.480E-04	0.238E-03	0.179E-02	0.330E-04	0.426E-04	0.274E-04	0.448E-04	0.229E-03
SPLEEN	0.718E-04	0.718E-04	0.313E-03	0.481E-04	0.445E-04	0.254E-04	0.231E-03	0.196E-04	0.291E-04	0.271E-03	0.931E-06	0.163E-04	0.428E-03
TESTES	0.323E-06	0.323E-06	0.156E-05	0.100E-04	0.944E-05	0.574E-04	0.215E-03	0.199E-04	0.221E-05	0.309E-05	0.364E 00	0.0	0.347E-04
THYMUS	0.132E-03	0.132E-03	0.810E-05	0.284E-05	0.342E-05	0.988E-06	0.238E-03	0.170E-04	0.222E-04	0.692E-05	0.115E-06	0.985E-06	0.487E-03
THYROID	0.294E-04	0.294E-04	0.308E-05	0.582E-06	0.638E-06	0.225E-06	0.211E-03	0.264E-04	0.507E-05	0.173E-05	0.270E-07	0.211E-06	0.415E-03
UTERUS	0.267E-05	0.267E-05	0.248E-04	0.297E-03	0.163E-03	0.217E-03	0.242E-03	0.181E-04	0.123E-04	0.296E-34	0.0	0.642E-03	0.497E-03

β^- decay (2.355 D 4)

Case 1 represents inhalation of oxides, hydroxides, and carbides; case 2 inhalation of nitrates; and case 3 ingestion of any compound.

CASE 1.. INHALATION

AMAD (MICRON).. 1.00 D3 =0.310 D4 =8.000E-02 D5 =0.249

	SOLUBILITY CLASS	G.I. UPTAKE FRACTIONS STOMACH	S INT	U L INT	L L INT
NP-239	Y	0.0	1.000E-03	0.0	0.0
PU-239	Y	0.0	3.000E-05	0.0	0.0

DOSE EQUIVALENT (REM/MICROCURIE)

SOURCE	LUNGS	RES LYM	S CONT	SI CONT	ULI CONT	LLI CONT	EXCRET.	BONE	LIVER	KIDNEYS	TESTES
TARGET											
LUNGS	1.028E-02	7.641E-06	8.965E-07	4.659E-07	1.495E-06	6.456E-07	2.293E-08	1.985E-07	5.240E-07	3.955E-09	1.312E-12
RES LYM	1.023E-02	4.513E-03	8.965E-07	4.659E-07	1.495E-06	6.456E-07	2.293E-08	1.985E-07	5.240E-07	3.955E-09	1.312E-12
S WALL	4.633E-05	3.460E-08	4.301E-04	7.220E-05	2.077E-05	1.399E-05	2.376E-08	1.165E-07	3.897E-07	1.632E-08	6.897E-12
SI WALL	4.969E-06	3.710E-09	1.383E-06	1.023E-03	9.419E-05	7.537E-05	2.468E-08	1.548E-07	3.394E-07	1.325E-08	6.176E-11
ULI WALL	6.039E-06	4.510E-09	1.829E-06	5.594E-05	5.123E-03	3.492E-05	2.437E-08	1.456E-07	5.221E-07	1.325E-08	5.131E-11
LLI WALL	1.933E-06	1.444E-09	6.279E-07	1.519E-05	1.753E-05	1.176E-02	2.386E-08	2.157E-07	4.969E-08	3.455E-09	4.426E-10
T BODY	1.797E-04	9.953E-07	1.862E-06	1.293E-05	2.623E-05	4.246E-05	2.283E-08	1.461E-05	3.626E-06	8.059E-08	3.180E-09
ADREN	6.575E-05	4.909E-08	1.351E-06	2.235E-05	5.105E-06	3.040E-06	2.427E-08	2.435E-07	9.594E-07	5.205E-08	6.073E-12
BL WALL	1.047E-06	7.814E-10	1.454E-07	5.269E-05	1.201E-05	5.301E-05	2.386E-08	1.085E-07	3.652E-08	1.367E-09	7.772E-10
KIDNEYS	2.181E-05	1.628E-08	1.796E-06	6.254E-06	1.555E-05	6.858E-06	2.365E-08	1.767E-07	8.139E-07	1.674E-05	7.875E-12
LIVER	6.167E-05	4.605E-08	1.040E-06	3.616E-06	1.417E-05	2.078E-06	2.355E-08	1.376E-07	1.323E-04	1.794E-08	5.559E-12
OVARIES	2.612E-06	1.951E-09	2.522E-07	2.103E-05	6.619E-05	1.450E-04	2.458E-08	1.542E-07	8.866E-08	5.249E-09	0.0
PANCREAS	6.511E-05	4.861E-08	9.345E-06	4.043E-05	1.269E-05	5.803E-06	2.448E-08	1.859E-07	8.866E-07	3.014E-08	9.058E-12
BONE	3.433E-05	2.601E-08	4.400E-07	2.329E-06	5.880E-06	1.206E-05	2.437E-08	2.005E-04	2.184E-07	6.264E-09	1.410E-10
R MAR	4.426E-05	3.305E-08	7.628E-07	7.848E-06	1.884E-05	3.743E-05	2.550E-08	3.405E-05	3.169E-07	1.632E-08	1.122E-10
Y MAR	3.595E-05	2.684E-08	6.147E-07	3.271E-06	8.450E-06	1.495E-05	2.406E-08	9.663E-07	3.236E-07	7.690E-09	5.301E-11
ENDOST	3.483E-05	2.601E-08	4.400E-07	2.329E-06	5.880E-06	1.206E-05	2.449E-08	4.376E-04	2.184E-07	6.264E-09	1.410E-10
SPLEEN	5.736E-05	4.283E-08	5.158E-06	3.020E-06	7.834E-06	6.381E-06	2.376E-08	1.297E-07	1.925E-07	3.985E-08	4.792E-12
TESTES	2.590E-07	1.927E-10	2.571E-08	6.279E-07	1.662E-06	1.442E-05	2.211E-08	1.317E-07	1.462E-08	4.543E-10	5.969E-06
THYMUS	1.054E-04	7.874E-08	1.335E-07	1.783E-07	6.021E-07	2.482E-07	2.448E-08	1.125E-07	1.469E-07	1.018E-09	5.919E-13
THYROID	2.349E-05	1.754E-08	5.076E-08	3.654E-08	1.123E-07	5.653E-08	2.170E-08	1.747E-07	3.355E-08	2.544E-10	1.390E-13
UTERUS	2.133E-06	1.593E-09	4.087E-07	1.865E-05	2.870E-05	5.452E-05	2.489E-08	1.198E-07	8.139E-08	4.352E-09	0.0

DOSE EQUIVALENT (REM/MICROCURIE)

SOURCE	OVARIES	OTHER	TOTAL
TARGET			
LUNGS	3.381E-12	2.934E-08	1.029E-02
RES LYM	3.381E-12	2.934E-08	1.474E-02
S WALL	4.109E-11	2.985E-08	5.191E-04
SI WALL	6.195E-10	3.463E-08	1.200E-03
ULI WALL	5.921E-10	3.574E-08	5.223E-03
LLI WALL	7.700E-10	3.779E-08	1.179E-02
T BODY	1.037E-09	6.568E-07	2.832E-04
ADREN	1.828E-11	1.330E-06	8.014E-05
BL WALL	3.607E-10	6.899E-07	7.234E-05
KIDNEYS	4.820E-11	3.265E-08	7.007E-05
LIVER	2.798E-11	2.390E-08	2.151E-04
OVARIES	5.963E-06	4.537E-08	2.413E-04
PANCREAS	2.556E-11	1.349E-06	9.952E-05
BONE	7.247E-11	4.088E-08	2.564E-04
R MAR	2.556E-10	1.299E-06	1.449E-04
Y MAR	9.786E-11	1.327E-06	6.591E-05
ENDOST	7.247E-11	1.684E-07	4.935E-04
SPLEEN	2.637E-11	1.339E-06	8.152E-05
TESTES	0.0	2.551E-08	2.316E-05
THYMUS	1.593E-12	1.382E-06	1.084E-04
THYROID	3.413E-13	1.327E-06	2.532E-05
UTERUS	1.038E-09	1.389E-06	1.060E-04

PERCENT DOSE EQUIVALENT..

NUCLIDE	NP-239	PU-239
TARGET		
LUNGS	99.5	0.5
RES LYM	72.7	27.3
S WALL	100.0	0.0
SI WALL	100.0	0.0
ULI WALL	100.0	0.0
LLI WALL	100.0	0.0
T BODY	97.8	6.2
ADREN	98.7	1.3
BL WALL	99.3	0.7
KIDNEYS	85.0	15.0
LIVER	62.1	37.9
OVARIES	98.3	1.7
PANCREAS	99.0	1.0
BONE	28.2	71.8
R MAR	78.3	21.7
Y MAR	98.4	1.6
ENDOST	13.7	86.3
SPLEEN	98.7	1.3
TESTES	82.3	17.7
THYMUS	99.1	0.9
THYROID	96.0	4.0
UTERUS	99.0	1.0

CASE 2.. INHALATION

AMAD (MICRON).. 1.00 D3 =0.310 D4 =8.000E-02 D5 =0.249

	SOLUBILITY CLASS	G.I. UPTAKE FRACTIONS STOMACH	S INT	U L INT	L L INT
NP-239	W	0.0	1.000E-03	0.0	0.0
PU-239	W	0.0	3.000E-05	0.0	0.0

DOSE EQUIVALENT (REM/MICROCURIE)

SOURCE	LUNGS	RES LYM	S CONT	SI CONT	ULI CONT	LLI CONT	EXCRET.	BONE	LIVER	KIDNEYS	TESTES
TARGET											
LUNGS	9.684E-03	2.337E-05	7.705E-07	4.004E-07	1.285E-06	5.549E-07	3.862E-07	3.343E-06	8.824E-06	6.660E-08	2.210E-11
RES LYM	9.679E-03	1.507E-03	7.705E-07	4.004E-07	1.285E-06	5.549E-07	3.862E-07	3.743E-06	8.824E-06	6.660E-08	2.210E-11
S WALL	4.386E-05	1.059E-07	3.697E-04	6.205E-06	1.785E-05	1.203E-05	4.000E-07	1.961E-06	6.562E-06	2.748E-07	1.161E-10
SI WALL	4.703E-06	1.135E-08	1.188E-06	8.796E-04	8.095E-05	6.477E-05	4.156E-07	2.607E-06	5.716E-06	2.231E-07	1.040E-09
ULI WALL	5.717E-06	1.380E-08	1.572E-06	4.808E-05	4.403E-03	3.001E-05	4.104E-07	2.451E-06	8.791E-06	2.231E-07	8.641E-10
LLI WALL	1.830E-06	4.418E-09	5.396E-07	1.306E-05	1.507E-05	1.010E-02	4.018E-07	3.633E-06	8.367E-07	5.818E-08	7.453E-09
T BODY	1.695E-04	4.157E-07	1.601E-06	1.112E-05	2.254E-05	3.649E-05	3.844E-07	6.544E-05	3.216E-05	7.147E-07	2.538E-08
ADREN	6.223E-05	1.502E-07	1.161E-06	1.921E-06	4.388E-06	2.612E-06	4.087E-07	4.101E-06	1.616E-05	8.765E-07	1.023E-10
BL WALL	9.906E-07	2.391E-09	1.249E-07	4.527E-06	1.032E-05	4.556E-05	4.018E-07	1.827E-06	6.150E-07	2.303E-08	1.309E-08
KIDNEYS	2.064E-05	4.984E-08	1.544E-06	5.374E-06	1.336E-05	5.894E-06	3.983E-07	2.975E-06	1.370E-05	1.367E-04	1.326E-10
LIVER	5.838E-05	1.409E-07	8.937E-07	3.108E-06	1.218E-05	1.786E-06	3.966E-07	2.318E-06	1.106E-03	3.021E-07	9.360E-11
OVARIES	2.473E-06	5.970E-09	2.167E-07	1.808E-05	5.689E-05	1.246E-04	4.139E-07	2.596E-06	1.493E-06	8.839E-08	0.0
PANCREAS	6.163E-05	1.488E-07	8.031E-06	3.475E-06	1.091E-05	4.987E-06	4.122E-07	3.131E-06	1.493E-05	5.076E-07	1.525E-10
BONE	3.297E-05	7.959E-08	3.782E-07	2.002E-06	5.053E-06	1.036E-05	4.104E-07	8.438E-04	3.677E-06	1.055E-07	2.375E-09
R MAR	4.189E-05	1.011E-07	6.728E-07	6.745E-06	1.619E-05	3.217E-05	4.295E-07	1.544E-04	5.337E-06	2.748E-07	1.889E-09
Y MAR	3.403E-05	8.215E-08	5.283E-07	2.811E-06	7.262E-06	1.285E-05	4.052E-07	1.637E-05	5.448E-06	1.295E-07	8.927E-10
ENDOST	3.297E-05	7.959E-08	3.782E-07	2.002E-06	5.053E-06	1.036E-05	4.122E-07	1.512E-03	3.677E-06	1.055E-07	2.375E-09
SPLEEN	5.429E-05	1.311E-07	4.433E-06	2.595E-06	6.733E-06	5.484E-06	4.000E-07	2.184E-06	3.242E-06	6.710E-07	8.069E-11
TESTES	2.442E-07	5.896E-10	2.210E-08	5.396E-07	1.429E-06	1.239E-05	3.723E-07	2.217E-06	2.462E-07	7.651E-09	4.417E-05
THYMUS	9.981E-05	2.410E-07	1.147E-07	1.532E-07	5.175E-07	2.133E-07	4.122E-07	1.894E-06	2.473E-06	1.713E-08	9.967E-12
THYROID	2.223E-05	5.367E-08	4.362E-08	3.140E-08	9.653E-08	4.858E-08	3.654E-07	2.942E-06	5.649E-07	4.283E-09	2.340E-12
UTERUS	2.019E-06	4.874E-09	3.513E-07	1.603E-05	2.466E-05	4.685E-05	4.191E-07	2.017E-06	1.370E-06	7.329E-08	0.0

DOSE EQUIVALENT (REM/MICROCURIE)

SOURCE	OVARIES	OTHER	TOTAL
TARGET			
LUNGS	5.693E-11	4.940E-07	9.724E-03
RES LYM	5.693E-11	4.940E-07	1.120E-02
S WALL	6.918E-10	5.027E-07	4.594E-04
SI WALL	1.043E-08	5.831E-07	1.041E-03
ULI WALL	9.969E-09	6.017E-07	4.501E-03
LLI WALL	1.297E-08	6.364E-07	1.014E-02
T BODY	8.603E-09	3.854E-06	3.442E-04
ADREN	3.078E-10	7.510E-06	1.015E-04
BL WALL	6.074E-09	4.187E-06	6.859E-05
KIDNEYS	8.117E-10	5.497E-07	2.012E-04
LIVER	4.712E-10	4.024E-07	1.186E-03
OVARIES	4.397E-05	7.639E-07	2.516E-04
PANCREAS	4.304E-10	7.844E-06	1.160E-04
BONE	1.220E-09	6.884E-07	8.996E-04
R MAR	4.304E-09	7.002E-06	2.652E-04
Y MAR	1.648E-09	7.473E-06	8.729E-05
ENDOST	1.220E-09	2.835E-06	1.570E-03
SPLEEN	4.440E-10	7.680E-06	8.785E-05
TESTES	0.0	4.296E-07	6.207E-05
THYMUS	2.683E-11	8.411E-06	1.143E-04
THYROID	5.747E-12	7.460E-06	3.384E-05
UTERUS	1.749E-08	8.535E-06	1.023E-04

PERCENT DOSE EQUIVALENT..

NUCLIDE	NP-239	PU-239
TARGET		
LUNGS	99.9	0.1
RES LYM	99.7	0.3
S WALL	100.0	0.0
SI WALL	100.0	0.0
ULI WALL	100.0	0.0
LLI WALL	100.0	0.0
T BODY	86.0	14.0
ADREN	97.7	2.3
BL WALL	98.3	1.7
KIDNEYS	84.0	16.0
LIVER	79.0	21.0
OVARIES	95.0	5.0
PANCREAS	97.9	2.1
BONE	36.9	63.1
R MAR	63.7	36.3
Y MAR	97.3	2.7
ENDOST	16.4	83.6
SPLEEN	97.3	2.7
TESTES	79.7	20.3
THYMUS	97.9	2.1
THYROID	93.0	7.0
UTERUS	97.7	2.3

CASE 3.. INGESTION

INGESTION TRANSFER FRACTIONS (G. I. TRACT TO BLOOD)

	NP-239	PU-239
STOMACH	0.0	0.0
S INT	1.000E-03	3.000E-05
U L INT	0.0	0.0
L L INT	0.0	0.0

DOSE EQUIVALENT (REM/MICROCURIE)

SOURCE	S CONT	SI CONT	ULI CONT	LLI CONT	EXCRET.	BONE	LIVER	KIDNEYS	TESTES	OVARIES	OTHER
TARGET											
LUNGS	2.239E-06	1.164E-06	3.733E-06	1.613E-06	5.001E-09	4.329E-08	1.143E-07	8.625E-10	2.862E-13	7.372E-13	6.397E-09
RES LYM	2.239E-06	1.164E-06	3.733E-06	1.613E-06	5.001E-09	4.329E-08	1.143E-07	8.625E-10	2.862E-13	7.372E-13	6.397E-09
S WALL	1.074E-03	1.803E-05	5.189E-05	3.495E-05	5.180E-09	2.540E-08	8.498E-08	3.559E-09	1.504E-12	8.959E-12	6.509E-09
SI WALL	3.454E-06	2.556E-03	2.352E-04	1.882E-04	5.382E-09	3.377E-08	7.402E-08	2.889E-09	1.347E-11	1.351E-10	7.551E-09
ULI WALL	4.569E-06	1.397E-04	1.280E-02	8.722E-05	5.315E-09	3.175E-08	1.138E-07	2.889E-09	1.119E-11	1.291E-10	7.792E-09
LLI WALL	1.568E-06	3.795E-05	4.380E-05	2.937E-02	5.203E-09	4.704E-08	1.084E-08	7.535E-10	9.652E-11	1.679E-10	8.241E-09
T BODY	4.651E-06	3.230E-05	6.552E-05	1.060E-04	4.978E-09	6.598E-07	3.867E-07	8.594E-09	2.994E-10	1.022E-10	4.242E-08
ADREN	3.375E-06	5.583E-06	1.275E-05	7.592E-06	5.292E-09	5.310E-08	2.092E-07	1.135E-08	1.324E-12	3.986E-12	8.180E-08
BL WALL	3.631E-07	1.316E-05	2.999E-05	1.324E-04	5.203E-09	2.366E-08	7.964E-09	2.982E-10	1.695E-10	7.866E-11	4.650E-08
KIDNEYS	4.487E-06	1.562E-05	3.883E-05	1.713E-05	5.158E-09	3.853E-08	1.775E-07	1.621E-06	1.717E-12	1.051E-11	7.119E-09
LIVER	2.597E-06	9.033E-06	3.540E-05	5.189E-06	5.135E-09	3.001E-08	1.317E-05	3.912E-09	1.212E-12	6.102E-12	5.211E-09
OVARIES	6.298E-07	5.253E-05	1.653E-04	3.621E-04	5.360E-09	3.362E-08	1.933E-08	1.145E-09	0.0	5.108E-07	9.892E-09
PANCREAS	2.334E-05	1.010E-05	3.170E-05	1.449E-05	5.337E-09	4.055E-08	1.933E-07	6.573E-09	1.975E-12	5.573E-12	8.613E-08
BONE	1.099E-06	5.818E-06	1.469E-05	3.012E-05	5.315E-09	8.298E-06	4.761E-08	1.366E-09	3.075E-11	1.580E-11	8.914E-09
R MAR	1.955E-06	1.960E-05	4.705E-05	9.349E-05	5.561E-09	1.564E-06	6.911E-08	3.559E-09	2.447E-11	5.573E-11	7.523E-08
Y MAR	1.535E-06	8.170E-06	2.111E-05	3.733E-05	5.247E-09	2.107E-07	7.055E-08	1.677E-09	1.156E-11	2.134E-11	8.132E-08
ENDOST	1.099E-06	5.818E-06	1.469E-05	3.012E-05	5.337E-09	1.350E-05	4.761E-08	1.366E-09	3.075E-11	1.580E-11	3.672E-08
SPLEEN	1.288E-05	7.543E-06	1.957E-05	1.594E-05	5.180E-09	2.828E-08	4.199E-08	8.689E-09	1.045E-12	5.749E-12	8.403E-08
TESTES	6.421E-08	1.568E-06	4.151E-06	3.602E-05	4.821E-09	2.871E-08	3.189E-09	9.907E-11	5.135E-07	0.0	5.563E-09
THYMUS	3.334E-07	4.454E-07	1.504E-06	6.199E-07	5.337E-09	2.453E-08	3.203E-08	2.219E-10	1.291E-13	3.474E-13	9.349E-08
THYROID	1.268E-07	9.127E-08	2.805E-07	1.412E-07	4.732E-09	3.809E-08	7.315E-09	5.547E-11	3.030E-14	7.442E-14	8.116E-08
UTERUS	1.021E-06	4.658E-05	7.167E-05	1.362E-04	5.427E-09	2.612E-08	1.775E-08	9.491E-10	0.0	2.264E-10	9.509E-08

DOSE EQUIVALENT (REM/MICROCURIE)

SOURCE	TOTAL
TARGET	
LUNGS	8.918E-06
RES LYM	8.918E-06
S WALL	1.179E-03
SI WALL	2.983E-03
ULI WALL	1.303E-02
LLI WALL	2.945E-02
T BODY	2.096E-04
ADREN	2.966E-05
BL WALL	1.760E-04
KIDNEYS	7.791E-05
LIVER	6.543E-05
OVARIES	5.811E-04
PANCREAS	7.997E-05
BONE	6.008E-05
R MAR	1.638E-04
Y MAR	6.852E-05
ENDOST	6.531E-05
SPLEEN	5.610E-05
TESTES	4.236E-05
THYMUS	3.058E-06
THYROID	7.711E-07
UTERUS	2.556E-04

PERCENT DOSE EQUIVALENT..

NUCLIDE	NP-239	PU-239
TARGET		
LUNGS	100.0	0.0
RES LYM	100.0	0.0
S WALL	100.0	0.0
SI WALL	100.0	0.0
ULI WALL	100.0	0.0
LLI WALL	100.0	0.0
T BODY	99.8	0.2
ADREN	99.9	0.1
BL WALL	100.0	0.0
KIDNEYS	99.7	0.3
LIVER	96.8	3.2
OVARIES	100.0	0.0
PANCREAS	100.0	0.0
BONE	92.1	7.9
R MAR	99.5	0.5
Y MAR	100.0	0.0
ENDOST	83.3	16.7
SPLEEN	100.0	0.0
TESTES	99.8	0.2
THYMUS	99.5	0.5
THYROID	98.0	2.0
UTERUS	100.0	0.0

RADIONUCLIDE: NP-240M

PHYSICAL AND METABOLIC PARAMETERS FOR DOSIMETRICALLY SIGNIFICANT PROGENY:

NUCLIDE	RADIOACTIVE HALF-LIFE (DAYS)
NP-240M	5.1400E-03
NP-240	4.5100E-02
PU-240	2.3900E 06

BRANCHING RATIOS:

FROM	TO	FRACTION
NP-240M	NP-240	1.1000E-03
NP-240M	PU-240	0.9990
NP-240	PU-240	1.000

ORGAN ABSORBED	NUCLIDE	BLOOD TRANSFER FRACTION F2-PRIME	COMPARTMENT DEPOSITION FRACTION	COMPARTMENT BIOLOGICAL HALF-TIME (DAYS)
	NP-240M	1.00	4.000E-02	0.500
			0.460	1.460E 04
			0.500	3.650E 04
	NP-240	1.00	0.460	1.460E 04
			0.540	3.650E 04
	PU-240	1.00	0.460	1.460E 04
			0.540	3.650E 04
EXCRET.	NP-240M	4.000E-02	1.00	0.500
	NP-240	0.0	1.00	0.500
	PU-240	0.0	1.00	0.500
BONE	NP-240M	0.450	1.00	3.650E 04
	NP-240	0.450	1.00	3.650E 04
	PU-240	0.450	1.00	3.650E 04
LIVER	NP-240M	0.450	1.00	1.460E 04
	NP-240	0.450	1.00	1.460E 04
	PU-240	0.450	1.00	1.460E 04
KIDNEYS	NP-240M	1.000E-02	1.00	1.460E 04
	NP-240	1.000E-02	1.00	1.460E 04
	PU-240	1.000E-02	1.00	1.460E 04
TESTES	NP-240M	3.500E-04	1.00	3.650E 04
	NP-240	3.500E-04	1.00	3.650E 04
	PU-240	3.500E-04	1.00	3.650E 04
OVARIES	NP-240M	1.100E-04	1.00	3.650E 04
	NP-240	1.100E-04	1.00	3.650E 04
	PU-240	1.100E-04	1.00	3.650E 04
OTHER	NP-240M	5.000E-02	1.00	3.650E 04
	NP-240	9.000E-02	1.00	3.650E 04
	PU-240	9.000E-02	1.00	3.650E 04

S FACTORS (REM/MICROCURIE-DAY) FOR NP-240M

TARGET ORGANS	SOURCE ORGANS												
	LUNGS	RES LYM	S CONT	SI CONT	ULI CONT	LLI CONT	EXCRET.	BONE	LIVER	KIDNEYS	TESTES	OVARIES	OTHER
LUNGS	0.339E-01	0.339E-01	0.103E-03	0.192E-04	0.211E-04	0.716E-05	0.558E-03	0.559E-04	0.137E-03	0.545E-04	0.128E-05	0.750E-05	0.728E-04
RES LYM	0.339E-01	0.220E 01	0.103E-03	0.192E-04	0.211E-04	0.716E-05	0.558E-03	0.559E-04	0.137E-03	0.545E-04	0.128E-05	0.750E-05	0.728E-04
S WALL	0.106E-03	0.106E-03	0.689E-01	0.194E-03	0.201E-03	0.904E-04	0.570E-03	0.328E-04	0.108E-03	0.185E-03	0.618E-05	0.477E-04	0.787E-04
SI WALL	0.167E-04	0.167E-04	0.145E-03	0.430E-01	0.910E-03	0.305E-03	0.584E-03	0.459E-04	0.899E-04	0.156E-03	0.305E-04	0.654E-03	0.852E-04
ULI WALL	0.226E-04	0.226E-04	0.185E-03	0.138E-02	0.774E-01	0.239E-03	0.581E-03	0.414E-04	0.139E-03	0.162E-03	0.201E-04	0.625E-03	0.877E-04
LLI WALL	0.468E-05	0.468E-05	0.745E-04	0.392E-03	0.173E-03	0.125E 00	0.584E-03	0.560E-04	0.180E-04	0.509E-04	0.150E-03	0.795E-03	0.934E-04
T BODY	0.555E-03	0.555E-03	0.244E-03	0.490E-03	0.335E-03	0.389E-03	0.555E-03	0.555E-03	0.570E-03	0.569E-03	0.585E-03	0.586E-03	0.551E-03
ADREN	0.134E-03	0.134E-03	0.131E-03	0.693E-04	0.611E-04	0.281E-04	0.602E-03	0.101E-03	0.272E-03	0.700E-03	0.450E-05	0.332E-04	0.107E-02
EL WALL	0.465E-05	0.465E-05	0.263E-04	0.173E-03	0.109E-03	0.316E-03	0.580E-03	0.348E-04	0.166E-04	0.235E-04	0.286E-03	0.380E-03	0.597E-03
KIDNEYS	0.589E-04	0.589E-04	0.195E-03	0.176E-03	0.156E-03	0.494E-04	0.573E-03	0.566E-04	0.211E-03	0.111E 00	0.696E-05	0.633E-04	0.835E-04
LIVER	0.134E-03	0.134E-03	0.114E-03	0.103E-03	0.139E-03	0.211E-04	0.572E-03	0.406E-04	0.198E-01	0.221E-03	0.427E-05	0.359E-04	0.617E-04
OVARIES	0.916E-05	0.916E-05	0.459E-04	0.515E-03	0.603E-03	0.928E-03	0.559E-03	0.580E-04	0.252E-04	0.728E-04	0.0	0.305E 01	0.109E-03
PANCREAS	0.146E-03	0.146E-03	0.964E-03	0.114E-03	0.109E-03	0.415E-04	0.570E-03	0.549E-04	0.256E-03	0.372E-03	0.391E-05	0.371E-04	0.111E-02
BONE	0.562E-04	0.562E-04	0.339E-04	0.445E-04	0.404E-04	0.536E-04	0.557E-03	0.626E-02	0.415E-04	0.554E-04	0.375E-04	0.617E-04	0.149E-03
R MAR	0.710E-04	0.710E-04	0.579E-04	0.140E-03	0.120E-03	0.175E-03	0.566E-03	0.232E-02	0.601F-04	0.140E-03	0.296E-04	0.171E-03	0.750E-03
Y MAR	0.590E-04	0.590E-04	0.472E-04	0.614E-04	0.573E-04	0.724E-04	0.552E-03	0.190E-03	0.611E-04	0.687E-04	0.163E-04	0.688E-04	0.104E-02
ENDOST	0.562E-04	0.562E-04	0.337E-04	0.445E-04	0.404E-04	0.596E-04	0.558E-03	0.476E-02	0.415E-04	0.554E-04	0.375E-04	0.517E-04	0.611E-03
SPLEEN	0.119E-03	0.119E-03	0.531E-03	0.893E-04	0.737E-04	0.353E-04	0.572E-03	0.472E-04	0.584E-04	0.467E-03	0.603E-05	0.371E-04	0.139E-02
TESTES	0.169E-05	0.169E-05	0.462E-05	0.247E-04	0.292E-04	0.106E-03	0.575E-03	0.355E-04	0.879E-05	0.908E-05	0.965E 00	0.0	0.569E-04
THYMUS	0.219E-03	0.219E-03	0.253E-04	0.845E-05	0.920E-05	0.173E-05	0.561E-03	0.424E-04	0.629E-04	0.179E-04	0.940E-06	0.393E-05	0.115E-02
THYROID	0.666E-04	0.666E-04	0.919E-05	0.265E-05	0.282E-05	0.128E-05	0.556E-03	0.547E-04	0.110E-04	0.590E-05	0.299E-06	0.130E-05	0.106E-02
UTERUS	0.712E-05	0.712E-05	0.527E-04	0.481E-03	0.299E-03	0.316E-03	0.582E-03	0.383E-04	0.256E-04	0.498E-04	0.0	0.482E-03	0.119E-02

β^- decay (7.4 M 2)

Case 1 represents inhalation of oxides, hydroxides, and carbides; case 2 inhalation of nitrates; and case 3 ingestion of any compound.

CASE 1.. INHALATION

AMAD (MICRON).. 1.00 D3 =0.310 D4 =8.000E-02 D5 =0.249

	SOLUBILITY CLASS	G.I. UPTAKE FRACTIONS STOMACH	S INT	U L INT	L L INT
NP-240M	Y	0.0	1.000E-03	0.0	0.0
NP-240	Y	0.0	1.000E-03	0.0	0.0
PU-240	Y	0.0	3.000E-05	0.0	0.0

DOSE EQUIVALENT (REM/MICROCURIE)

SOURCE	LUNGS	RES LYM	S CONT	SI CONT	ULI CONT	LLI CONT	EXCRET.	BONE	LIVER	KIDNEYS	TESTES
TARGET											
LUNGS	1.596E-04	2.177E-10	3.883E-09	1.352E-10	1.128E-11	2.452E-13	2.172E-10	2.506E-10	6.143E-10	5.430E-12	4.463E-15
RES LYM	1.590E-04	4.521E-05	3.883E-09	1.352E-10	1.128E-11	2.452E-13	2.172E-10	2.506E-10	6.143E-10	5.430E-12	4.463E-15
S WALL	4.987E-07	3.327E-13	2.566E-06	1.369E-09	1.076E-10	3.060E-12	2.219E-10	1.470E-10	4.843E-10	1.843E-11	2.150E-14
SI WALL	7.857E-08	4.979E-14	5.466E-09	2.788E-07	4.842E-10	1.646E-11	2.274E-10	2.058E-10	4.030E-10	1.554E-11	1.063E-13
ULI WALL	1.063E-07	6.727E-14	6.973E-09	9.718E-09	2.584E-08	7.590E-12	2.262E-10	1.857E-10	6.231E-10	1.614E-11	7.014E-14
LLI WALL	2.202E-08	1.399E-14	2.810E-09	2.763E-09	9.376E-11	1.360E-09	2.274E-10	2.512E-10	8.059E-11	5.068E-12	5.226E-13
T BODY	2.613E-06	9.689E-09	9.130E-09	3.231E-09	1.323E-10	6.455E-12	2.160E-10	1.462E-07	2.544E-08	5.653E-10	2.427E-11
ADREN	6.305E-07	4.349E-13	4.937E-09	4.875E-10	3.329E-11	8.995E-13	2.344E-10	4.527E-10	1.220E-09	6.976E-11	1.569E-14
BL WALL	2.187E-08	1.383E-14	9.917E-10	1.203E-09	5.986E-11	1.031E-11	2.259E-10	1.557E-10	7.423E-11	2.342E-12	9.974E-13
KIDNEYS	2.766E-07	1.756E-13	6.977E-09	1.242E-09	8.377E-11	1.641E-12	2.231E-10	2.540E-10	9.459E-10	1.258E-07	2.427E-14
LIVER	6.304E-07	4.344E-13	4.298E-09	7.267E-10	7.436E-11	6.740E-13	2.227E-10	1.820E-10	9.808E-07	2.201E-11	1.490E-14
OVARIES	4.309E-08	2.729E-14	1.739E-09	3.659E-09	3.079E-10	3.084E-11	2.215E-10	2.598E-10	1.133E-10	7.262E-12	0.0
PANCREAS	6.867E-07	4.378E-13	3.636E-08	8.040E-10	5.893E-11	1.362E-12	2.219E-10	2.457E-10	1.147E-09	3.707E-11	1.366E-14
BONE	2.644E-07	1.823E-13	1.279E-09	3.150E-10	2.182E-11	1.970E-12	2.168E-10	2.040E-06	1.861E-10	5.522E-12	1.308E-13
R MAR	3.341E-07	2.269E-13	2.185E-09	9.917E-10	6.493E-11	5.900E-12	2.203E-10	3.419E-07	2.695E-10	1.395E-11	1.033E-13
Y MAR	2.776E-07	1.933E-13	1.781E-09	4.348E-10	3.100E-11	2.426E-12	2.149E-10	8.570E-10	2.741E-10	6.847E-12	5.684E-14
ENDOST	2.644E-07	1.814E-13	1.279E-09	3.150E-10	2.182E-11	1.970E-12	2.172E-10	4.657E-06	1.861E-10	5.521E-12	1.308E-13
SPLEEN	5.599E-07	3.753E-13	2.003E-09	6.284E-10	3.971E-11	1.840E-12	2.227E-10	2.117E-10	2.619E-10	4.654E-11	2.096E-14
TESTES	7.950E-09	5.021E-15	1.751E-10	1.748E-10	1.565E-11	3.243E-12	2.238E-10	1.592E-10	3.952E-11	9.044E-13	4.798E-08
THYMUS	1.030E-06	6.651E-13	9.585E-10	5.947E-11	4.876E-12	1.206E-13	2.184E-10	1.902E-10	2.815E-10	1.776E-12	2.939E-15
THYROID	3.228E-07	2.052E-13	3.466E-10	1.866E-11	1.499E-12	4.149E-14	2.164E-10	2.445E-10	4.932E-11	5.876E-13	1.043E-15
UTERUS	3.348E-08	2.114E-14	1.987E-09	3.393E-09	1.389E-10	1.045E-11	2.266E-10	1.720E-10	1.146E-10	4.960E-12	0.0

DOSE EQUIVALENT (REM/MICROCURIE)

SOURCE	OVARIES	OTHER	TOTAL
TARGET			
LUNGS	8.221E-15	3.660E-11	1.596E-04
RES LYM	8.221E-15	3.660E-11	2.042E-04
S WALL	5.223E-14	3.952E-11	3.066E-06
SI WALL	7.168E-13	4.280E-11	3.642E-07
ULI WALL	6.854E-13	4.408E-11	1.499E-07
LLI WALL	8.719E-13	4.691E-11	2.966E-08
T BODY	7.662E-12	5.923E-09	2.814E-06
ADREN	3.636E-14	1.217E-08	6.501E-07
BL WALL	4.165E-13	6.121E-09	3.072E-08
KIDNEYS	6.935E-14	4.196E-11	4.122E-07
LIVER	3.934E-14	3.099E-11	1.617E-06
OVARIES	4.798E-08	5.429E-11	9.746E-08
PANCREAS	4.075E-14	1.219E-08	7.376E-07
BONE	5.669E-14	7.415E-11	2.306E-06
R MAR	1.875E-13	1.201E-08	6.917E-07
Y MAR	7.545E-14	1.215E-08	2.934E-07
ENDOST	5.669E-14	3.031E-10	4.923E-06
SPLEEN	4.064E-14	1.218E-08	5.935E-07
TESTES	0.0	3.360E-11	5.676E-08
THYMUS	4.306E-15	1.221E-08	1.044E-06
THYROID	1.424E-15	1.216E-08	3.358E-07
UTERUS	1.076E-12	1.223E-08	5.176E-08

PERCENT DOSE EQUIVALENT..

NUCLIDE	NP-240M	NP-240	PU-240
TARGET			
LUNGS	99.5	0.1	0.4
RES LYM	77.8	0.1	22.1
S WALL	99.6	0.4	0.0
SI WALL	97.9	2.1	0.0
ULI WALL	96.1	3.9	0.0
LLI WALL	95.4	4.2	0.4
T BODY	93.1	0.1	6.8
ADREN	97.8	0.4	1.8
BL WALL	80.2	0.8	19.0
KIDNEYS	71.8	0.3	27.9
LIVER	44.6	0.2	55.2
OVARIES	53.3	0.8	45.8
PANCREAS	98.0	0.5	1.6
BONE	12.7	0.1	87.2
R MAR	50.1	0.2	49.6
Y MAR	95.6	0.4	4.0
ENDOST	5.8	0.0	94.2
SPLEEN	97.6	0.5	2.0
TESTES	21.2	0.1	78.7
THYMUS	98.5	0.4	1.1
THYROID	96.1	0.4	3.5
UTERUS	76.4	1.1	22.5

CASE 2.. INHALATION

AMAD (MICRON).. 1.00 D3 =0.310 D4 =8.000E-02 D5 =0.249

	SOLUBILITY CLASS	G.I. UPTAKE FRACTIONS STOMACH	S INT	U L INT	L L INT
NP-240M	W	0.0	1.000E-03	0.0	0.0
NP-240	W	0.0	1.000E-03	0.0	0.0
PU-240	W	0.0	3.000E-05	0.0	0.0

DOSE EQUIVALENT (REM/MICROCURIE)

SOURCE	LUNGS	RES LYM	S CONT	SI CONT	ULI CONT	LLI CONT	EXCRET.	BONE	LIVER	KIDNEYS	TESTES
TARGET											
LUNGS	1.536E-04	3.257E-10	3.001E-09	1.041E-10	8.579E-12	1.838E-13	3.954E-09	4.558E-09	1.117E-08	9.875E-11	8.117E-14
RES LYM	1.536E-04	3.721E-07	3.001E-09	1.041E-10	8.579E-12	1.838E-13	3.954E-09	4.558E-09	1.117E-08	9.875E-11	8.117E-14
S WALL	4.816E-07	1.049E-12	1.983E-06	1.055E-09	8.180E-11	2.295E-12	4.040E-09	2.673E-09	8.806E-09	3.352E-10	3.910E-13
SI WALL	7.588E-08	1.652E-13	4.226E-09	2.154E-07	3.682E-10	1.234E-11	4.139E-09	3.743E-09	7.329E-09	2.826E-10	1.933E-12
ULI WALL	1.027E-07	2.233E-13	5.389E-09	7.488E-09	1.987E-08	5.691E-12	4.118E-09	3.377E-09	1.133E-08	2.935E-10	1.275E-12
LLI WALL	2.127E-08	4.644E-14	2.171E-09	2.129E-09	7.128E-11	1.042E-09	4.139E-09	4.568E-09	1.466E-09	9.217E-11	9.505E-12
T BODY	2.516E-06	8.056E-11	7.057E-09	2.495E-09	1.013E-10	4.892E-12	3.933E-09	4.402E-07	1.087E-07	2.413E-09	9.638E-11
ADREN	6.089E-07	1.327E-12	3.815E-09	3.756E-10	2.531E-11	6.745E-13	4.267E-09	8.232E-09	2.218E-08	1.268E-09	2.853E-13
BL WALL	2.113E-08	4.598E-14	7.663E-10	9.270E-10	4.550E-11	7.505E-12	4.111E-09	2.832E-09	1.350E-09	4.259E-11	1.814E-11
KIDNEYS	2.671E-07	5.808E-13	5.392E-09	9.568E-10	6.369E-11	1.230E-12	4.061E-09	4.619E-09	1.720E-08	5.130E-07	4.414E-13
LIVER	6.089E-07	1.326E-12	3.322E-09	5.599E-10	5.655E-11	5.054E-13	4.054E-09	3.310E-09	4.038E-06	4.003E-10	2.710E-13
OVARIES	4.162E-08	9.057E-14	1.344E-09	2.817E-09	2.343E-10	2.312E-11	4.032E-09	4.726E-09	2.059E-09	1.321E-10	0.0
PANCREAS	6.632E-07	1.441E-12	2.809E-08	6.194E-10	4.479E-11	1.021E-12	4.040E-09	4.468E-09	2.086E-08	6.741E-10	2.484E-13
BONE	2.554E-07	5.569E-13	9.885E-10	2.427E-10	1.659E-11	1.477E-12	3.948E-09	6.041E-06	3.385E-09	1.004E-10	2.379E-12
R MAR	3.226E-07	7.035E-13	1.688E-09	7.639E-10	4.936E-11	4.422E-12	4.011E-09	1.100E-06	4.901E-09	2.537E-10	1.878E-12
Y MAR	2.681E-07	5.846E-13	1.376E-09	3.350E-10	2.357E-11	1.819E-12	3.912E-09	1.551E-08	4.983E-09	1.245E-10	1.034E-12
ENDOST	2.554E-07	5.569E-13	9.885E-10	2.427E-10	1.659E-11	1.477E-12	3.955E-09	1.314E-05	3.385E-09	1.004E-10	2.379E-12
SPLEEN	5.408E-07	1.179E-12	1.548E-08	4.842E-10	3.020E-11	1.379E-12	4.054E-09	3.849E-09	4.764E-09	8.462E-10	3.813E-13
TESTES	7.679E-09	1.671E-14	1.353E-10	1.347E-10	1.190E-11	2.432E-12	4.075E-09	2.895E-09	7.185E-10	1.645E-11	1.834E-07
THYMUS	9.952E-07	2.169E-12	7.406E-10	4.582E-11	3.709E-12	9.043E-14	3.976E-09	3.459E-09	5.119E-09	3.230E-11	5.326E-14
THYROID	3.118E-07	6.801E-13	2.678E-10	1.438E-11	1.140E-12	3.111E-14	3.940E-09	4.448E-09	8.969E-10	1.069E-11	1.896E-14
UTERUS	3.234E-08	7.015E-14	1.536E-09	2.614E-09	1.056E-10	7.834E-12	4.125E-09	3.128E-09	2.085E-09	9.020E-11	0.0

DOSE EQUIVALENT (REM/MICROCURIE)

SOURCE	OVARIES	OTHER	TOTAL
TARGET			
LUNGS	1.495E-13	6.642E-10	1.537E-04
RES LYM	1.495E-13	6.642E-10	1.540E-04
S WALL	9.499E-13	7.180E-10	2.482E-06
SI WALL	1.303E-11	7.773E-10	3.122E-07
ULI WALL	1.245E-11	8.002E-10	1.554E-07
LLI WALL	1.584E-11	8.521E-10	3.783E-08
T BODY	3.091E-11	1.945E-08	3.101E-06
ADREN	6.612E-13	3.947E-08	6.885E-07
BL WALL	7.575E-12	2.032E-08	5.155E-08
KIDNEYS	1.261E-12	7.618E-10	8.131E-07
LIVER	7.155E-13	5.629E-10	4.659E-06
OVARIES	1.831E-07	9.854E-10	2.410E-07
PANCREAS	7.409E-13	3.984E-08	7.619E-07
BONE	1.031E-12	1.347E-09	6.306E-06
R MAR	3.410E-12	3.660E-08	1.471E-06
Y MAR	1.372E-12	3.920E-08	3.336E-07
ENDOST	1.031E-12	5.496E-09	1.341E-05
SPLEEN	7.391E-13	3.965E-08	6.099E-07
TESTES	0.0	6.103E-10	1.997E-07
THYMUS	7.831E-14	4.020E-08	1.049E-06
THYROID	2.590E-14	3.938E-08	3.607E-07
UTERUS	1.957E-11	4.057E-08	8.662E-08

PERCENT DOSE EQUIVALENT..

NUCLIDE	NP-240M	NP-240	PU-240
TARGET			
LUNGS	99.9	0.1	0.0
RES LYM	99.7	0.1	0.2
S WALL	99.6	0.4	0.0
SI WALL	98.1	1.9	0.0
ULI WALL	97.0	3.0	0.0
LLI WALL	97.0	2.8	0.3
T BODY	84.6	0.1	15.3
ADREN	95.2	0.4	4.3
BL WALL	70.4	0.6	29.0
KIDNEYS	61.1	0.3	38.6
LIVER	47.5	0.2	52.4
OVARIES	48.6	0.4	51.0
PANCREAS	95.7	0.4	3.9
BONE	12.2	0.0	87.8
R MAR	35.8	0.1	64.1
Y MAR	90.6	0.4	9.0
ENDOST	4.9	0.0	95.1
SPLEEN	94.7	0.4	4.9
TESTES	38.3	0.1	61.5
THYMUS	96.8	0.4	2.8
THYROID	91.4	0.4	8.3
UTERUS	64.8	0.7	34.5

CASE 3.. INGESTION

INGESTION TRANSFER FRACTIONS (G. I. TRACT TO BLOOD)

	NP-240M	NP-240	PU-240
STOMACH	0.0	0.0	0.0
S INT	1.000E-03	1.000E-03	3.000E-05
U L INT	0.0	0.0	0.0
L L INT	0.0	0.0	0.0

DOSE EQUIVALENT (REM/MICROCURIE)

SOURCE	S CONT	SI CONT	ULI CONT	LLI CONT	EXCRET.	BONE	LIVER	KIDNEYS	TESTES	OVARIES	OTHER
TARGET											
LUNGS	6.495E-07	2.088E-08	1.110E-09	9.289E-12	1.057E-12	1.357E-12	3.325E-12	2.941E-14	2.417E-17	4.459E-17	2.133E-13
RES LYM	6.495E-07	2.088E-08	1.110E-09	9.289E-12	1.057E-12	1.357E-12	3.325E-12	2.941E-14	2.417E-17	4.459E-17	2.133E-13
S WALL	4.339E-04	2.111E-07	1.058E-08	1.199E-10	1.080E-12	7.934E-13	2.624E-12	9.993E-14	1.145E-16	2.812E-16	2.307E-13
SI WALL	9.143E-07	4.627E-05	4.782E-08	6.370E-10	1.106E-12	1.115E-12	2.181E-12	8.415E-14	5.737E-16	3.875E-15	2.499E-13
ULI WALL	1.166E-06	1.501E-06	3.737E-06	2.972E-10	1.100E-12	1.008E-12	3.371E-12	8.729E-14	3.818E-16	3.701E-15	2.573E-13
LLI WALL	4.698E-07	4.264E-07	9.128E-09	9.667E-08	1.106E-12	1.366E-12	4.324E-13	2.733E-14	2.815E-15	4.708E-15	2.739E-13
T BODY	1.537E-06	5.284E-07	1.662E-08	3.508E-10	1.051E-12	1.182E-10	2.953E-11	6.558E-13	2.612E-14	8.392E-15	5.291E-12
ADREN	8.260E-07	7.537E-08	3.228E-09	3.510E-11	1.140E-12	2.445E-12	6.603E-12	3.771E-13	8.480E-17	1.959E-16	1.070E-11
BL WALL	1.658E-07	1.878E-07	5.768E-09	3.924E-10	1.099E-12	8.307E-13	3.946E-13	1.271E-14	5.408E-15	2.259E-15	5.539E-12
KIDNEYS	1.167E-06	1.915E-07	8.215E-09	6.299E-11	1.085E-12	1.384E-12	5.117E-12	1.386E-10	1.315E-16	3.748E-16	2.447E-13
LIVER	7.188E-07	1.121E-07	7.314E-09	2.632E-11	1.083E-12	9.851E-13	1.093E-09	1.190E-13	8.123E-17	2.130E-16	1.809E-13
OVARIES	2.896E-07	5.608E-07	3.141E-08	1.183E-09	1.078E-12	1.400E-12	6.237E-13	3.968E-14	0.0	4.936E-11	3.165E-13
PANCREAS	6.079E-06	1.240E-07	5.707E-09	5.255E-11	1.079E-12	1.329E-12	6.191E-12	2.009E-13	7.499E-17	2.240E-16	1.082E-11
BONE	2.138E-07	4.844E-08	2.130E-09	7.522E-11	1.055E-12	1.620E-09	1.010E-12	2.997E-14	7.100E-16	3.083E-16	3.998E-13
R MAR	3.651E-07	1.524E-07	6.330E-09	2.250E-10	1.072E-12	2.954E-10	1.461E-12	7.575E-14	5.608E-16	1.020E-15	9.916E-12
Y MAR	2.976E-07	6.683E-08	3.022E-09	9.277E-11	1.045E-12	4.617E-12	1.488E-12	3.715E-14	3.079E-16	4.102E-16	1.062E-11
ENDOST	2.138E-07	4.844E-08	2.130E-09	7.522E-11	1.057E-12	3.519E-09	1.010E-12	2.997E-14	7.100E-16	3.083E-16	1.554E-12
SPLEEN	3.348E-06	9.712E-08	3.884E-09	7.057E-11	1.083E-12	1.147E-12	1.424E-12	2.521E-13	1.112E-16	2.193E-16	1.076E-11
TESTES	2.915E-08	2.688E-08	1.537E-09	1.292E-10	1.089E-12	8.635E-13	2.182E-13	4.890E-15	4.946E-11	0.0	1.961E-13
THYMUS	1.596E-07	9.190E-09	4.831E-10	4.685E-12	1.062E-12	1.034E-12	1.504E-12	9.325E-15	1.585E-17	2.328E-17	1.094E-11
THYROID	5.795E-08	2.882E-09	1.482E-10	1.610E-12	1.053E-12	1.297E-12	2.671E-13	3.176E-15	5.648E-18	7.705E-18	1.067E-11
UTERUS	3.323E-07	5.233E-07	1.363E-08	4.019E-10	1.102E-12	9.441E-13	6.154E-13	2.680E-14	0.0	5.825E-15	1.107E-11

DOSE EQUIVALENT (REM/MICROCURIE)

SOURCE	TOTAL
TARGET	
LUNGS	6.715E-07
RES LYM	6.715E-07
S WALL	4.341E-04
SI WALL	4.723E-05
ULI WALL	6.405E-06
LLI WALL	1.002E-06
T BODY	2.083E-06
ADREN	9.046E-07
BL WALL	3.598E-07
KIDNEYS	1.366E-06
LIVER	8.393E-07
OVARIES	8.830E-07
PANCREAS	6.208E-06
BONE	2.660E-07
R MAR	5.244E-07
Y MAR	3.676E-07
ENDOST	2.679E-07
SPLEEN	3.449E-06
TESTES	5.775E-08
THYMUS	1.693E-07
THYROID	6.099E-08
UTERUS	8.696E-07

PERCENT DOSE EQUIVALENT..

NUCLIDE	NP-240M	NP-240	PU-240
TARGET			
LUNGS	99.8	0.2	0.0
RES LYM	99.8	0.2	0.0
S WALL	100.0	0.0	0.0
SI WALL	99.7	0.3	0.0
ULI WALL	98.2	1.8	0.0
LLI WALL	97.6	2.4	0.0
T BODY	99.7	0.2	0.0
ADREN	99.7	0.3	0.0
BL WALL	99.1	0.9	0.0
KIDNEYS	99.6	0.4	0.0
LIVER	99.5	0.4	0.1
OVARIES	98.6	1.4	0.0
PANCREAS	99.8	0.2	0.0
BONE	98.9	0.5	0.6
R MAR	99.3	0.7	0.0
Y MAR	99.5	0.5	0.0
ENDOST	98.2	0.5	1.3
SPLEEN	99.8	0.2	0.0
TESTES	98.8	1.2	0.1
THYMUS	99.7	0.3	0.0
THYROID	99.7	0.2	0.0
UTERUS	98.9	1.1	0.0

RADIONUCLIDE: NP-240

PHYSICAL AND METABOLIC PARAMETERS FOR DOSIMETRICALLY SIGNIFICANT PROGENY:

NUCLIDE	RADIOACTIVE HALF-LIFE (DAYS)
NP-240	4.5100E-02
PU-240	2.3900E 06

BRANCHING RATIOS: FROM NP-240 TO PU-240 FRACTION 1.000

ORGAN ABSORBED	NUCLIDE	BLOOD TRANSFER FRACTION F2-PRIME	COMPARTMENT DEPOSITION FRACTION	COMPARTMENT BIOLOGICAL HALF-TIME (DAYS)
	NP-240	1.00	4.000E-02	0.500
			0.460	1.460E 04
			0.500	3.650E 04
	PU-240	1.00	0.460	1.460E 04
			0.540	3.650E 04
EXCRET.	NP-240	4.000E-02	1.00	0.500
	PU-240	0.0	1.00	0.500
BONE	NP-240	0.450	1.00	3.650E 04
	PU-240	0.450	1.00	3.650E 04
LIVER	NP-240	0.450	1.00	1.460E 04
	PU-240	0.450	1.00	1.460E 04
KIDNEYS	NP-240	1.000E-02	1.00	1.460E 04
	PU-240	1.000E-02	1.00	1.460E 04
TESTES	NP-240	3.500E-04	1.00	3.650E 04
	PU-240	3.500E-04	1.00	3.650E 04
OVARIES	NP-240	1.100E-04	1.00	3.650E 04
	PU-240	1.100E-04	1.00	3.650E 04
OTHER	NP-240	5.000E-02	1.00	3.650E 04
	PU-240	9.000E-02	1.00	3.650E 04

S FACTORS (REM/MICROCURIE-DAY) FOR NP-240

TARGET ORGANS	SOURCE ORGANS												
	LUNGS	RES LYM	S CONT	SI CONT	ULI CONT	LLI CONT	EXCRET.	BONE	LIVER	KIDNEYS	TESTES	OVARIES	OTHER
LUNGS	0.286E-01	0.286E-01	0.396E-03	0.744E-04	0.834E-04	0.297E-04	0.689E-03	0.220E-03	0.538E-03	0.215E-03	0.504E-05	0.300E-04	0.283E-03
RES LYM	0.286E-01	0.166E 01	0.396E-03	0.744E-04	0.834E-04	0.297E-04	0.689E-03	0.220E-03	0.538E-03	0.215E-03	0.504E-05	0.300E-04	0.283E-03
S WALL	0.420E-03	0.420E-03	0.616E-01	0.769E-03	0.796E-03	0.367E-03	0.747E-03	0.125E-03	0.428E-03	0.736E-03	0.204E-04	0.177E-03	0.367E-03
SI WALL	0.657E-04	0.657E-04	0.568E-03	0.383E-01	0.356E-02	0.198E-02	0.800E-03	0.182E-03	0.352E-03	0.613E-03	0.116E-03	0.254E-02	0.333E-03
ULI WALL	0.859E-04	0.859E-04	0.700E-03	0.537E-02	0.665E-01	0.910E-03	0.785E-03	0.167E-03	0.542E-03	0.631E-03	0.833E-04	0.241E-02	0.343E-03
LLI WALL	0.197E-04	0.197E-04	0.294E-03	0.154E-02	0.703E-03	0.104E 00	0.794E-03	0.229E-03	0.643E-04	0.192E-03	0.558E-03	0.307E-02	0.365E-03
T BODY	0.686E-03	0.686E-03	0.510E-03	0.726E-03	0.603E-03	0.640E-03	0.686E-03	0.685E-03	0.741E-03	0.740E-03	0.692E-03	0.806E-03	0.675E-03
ADREN	0.535E-03	0.535E-03	0.492E-33	0.267E-03	0.251E-03	0.108E-03	0.810E-03	0.387E-03	0.107E-02	0.272E-02	0.174E-04	0.124E-03	0.112E-02
EL WALL	0.180E-04	0.180E-04	0.102E-03	0.589E-03	0.455E-03	0.120E-02	0.795E-03	0.117E-03	0.535E-04	0.945E-04	0.114E-02	0.152E-02	0.808E-03
KIDNEYS	0.221E-03	0.221E-03	0.727E-03	0.698E-03	0.622E-03	0.198E-03	0.759E-03	0.237E-03	0.822E-03	0.982E-01	0.275E-04	0.244E-03	0.325E-03
LIVER	0.528E-03	0.528E-03	0.440E-03	0.409E-03	0.550E-03	0.809E-04	0.757E-03	0.159E-03	0.198E-01	0.854E-03	0.179E-04	0.141E-03	0.231E-03
OVARIES	0.354E-04	0.354E-04	0.229E-03	0.217E-02	0.216E-02	0.372E-02	0.711E-03	0.217E-03	0.116E-03	0.312E-03	0.0	0.248E 01	0.420E-03
PANCREAS	0.543E-03	0.543E-03	0.373E-02	0.450E-03	0.445E-03	0.164E-03	0.744E-03	0.214E-03	0.973E-03	0.148E-02	0.175E-04	0.168E-03	0.127E-02
BONE	0.228E-03	0.228E-03	0.137E-03	0.182E-03	0.163E-03	0.238E-03	0.700E-03	0.553E-02	0.167E-03	0.223E-03	0.151E-03	0.212E-03	0.315E-03
R MAR	0.288E-03	0.288E-03	0.235E-03	0.576E-03	0.486E-03	0.713E-03	0.739E-03	0.182E-02	0.239E-03	0.565E-03	0.120E-03	0.703E-03	0.960E-03
Y MAR	0.239E-03	0.239E-03	0.190E-03	0.252E-03	0.232E-03	0.293E-03	0.681E-03	0.749E-03	0.247E-03	0.276E-03	0.644E-04	0.282E-03	0.103E-02
ENDOST	0.228E-03	0.228E-03	0.137E-03	0.182E-03	0.163E-03	0.238E-03	0.702E-03	0.427E-02	0.167E-03	0.223E-03	0.151E-03	0.212E-03	0.572E-03
SPLEEN	0.462E-07	0.482E-03	0.209E-02	0.345E-03	0.296E-03	0.222E-03	0.755E-03	0.188E-03	0.238E-03	0.185E-02	0.189E-04	0.141E-03	0.121E-02
TESTES	0.658E-05	0.658E-05	0.336E-04	0.101E-03	0.116E-03	0.387E-03	0.748E-03	0.142E-03	0.414E-04	0.352E-04	0.804E 00	0.0	0.261E-03
THYMUS	0.886E-03	0.886E-03	0.126E-03	0.327E-04	0.357E-04	0.145E-04	0.692E-03	0.174E-03	0.215E-03	0.493E-04	0.329E-05	0.152E-04	0.142E-02
THYROID	0.283E-03	0.283E-03	0.355E-04	0.103E-04	0.110E-04	0.499E-05	0.693E-03	0.172E-03	0.434E-04	0.228E-04	0.118E-05	0.506E-05	0.100E-02
UTERUS	0.251E-04	0.251E-04	0.206E-03	0.190E-02	0.103E-02	0.126E-02	0.839E-03	0.171E-03	0.921E-04	0.192E-03	0.0	0.365E-02	0.172E-02

β^- decay (65 M 3)

Case 1 represents inhalation of oxides, hydroxides, and carbides; case 2 inhalation of nitrates; and case 3 ingestion of any compound.

CASE 1.. INHALATION

AMAD (MICRON).. 1.00 D3 =0.310 D4 =8.000E-02 D5 =0.249

	SOLUBILITY CLASS	G.I. UPTAKE FRACTIONS			
		STOMACH	S INT	U L INT	L L INT
NP-240	Y	0.0	1.000E-03	0.0	0.0
PU-240	Y	0.0	3.000E-05	0.0	0.0

DOSE EQUIVALENT (REM/MICROCURIE)

SOURCE	LUNGS	RES LYM	S CONT	SI CONT	ULI CONT	LLI CONT	EXCRET.	BONE	LIVER	KIDNEYS	TESTES
TARGET											
LUNGS	1.102E-03	7.311E-09	4.673E-07	9.858E-08	3.852E-08	1.547E-09	5.265E-09	2.062E-08	5.043E-08	4.478E-10	3.674E-13
RES LYM	1.097E-03	3.910E-04	4.673E-07	9.858E-08	3.852E-08	1.547E-09	5.265E-09	2.062E-08	5.043E-08	4.478E-10	3.674E-13
S WALL	1.611E-05	9.226E-11	7.270E-05	1.019E-06	3.676E-07	1.912E-08	5.709E-09	1.172E-08	4.011E-08	1.533E-09	1.487E-12
SI WALL	2.520E-06	1.441E-11	6.703E-07	5.075E-05	1.644E-06	1.031E-07	6.114E-09	1.706E-08	3.299E-08	1.277E-09	8.456E-12
ULI WALL	3.295E-06	1.884E-11	8.261E-07	7.116E-06	3.071E-05	4.740E-08	5.999E-09	1.565E-08	5.080E-08	1.314E-09	6.072E-12
LLI WALL	7.556E-07	4.321E-12	3.470E-07	2.041E-06	3.247E-07	5.419E-06	6.068E-09	2.146E-08	6.027E-09	3.999E-10	4.068E-11
T BODY	2.639E-05	8.385E-08	6.019E-07	9.620E-07	2.785E-07	3.334E-08	5.242E-09	1.345E-06	2.736E-07	6.078E-09	2.489E-10
ADREN	2.052E-05	1.176E-10	5.806E-07	3.538E-07	1.159E-07	5.625E-09	6.190E-09	3.627E-08	1.003E-07	5.665E-09	1.268E-12
BL WALL	6.904E-07	3.948E-12	1.204E-07	7.805E-07	2.101E-07	6.250E-08	6.075E-09	1.097E-08	5.014E-09	1.968E-10	8.310E-11
KIDNEYS	8.476E-06	4.848E-11	8.580E-07	9.249E-07	2.873E-07	1.031E-08	5.900E-09	2.221E-08	7.704E-08	1.228E-06	2.005E-12
LIVER	2.025E-05	1.161E-10	5.193E-07	5.406E-07	2.540E-07	4.214E-09	5.785E-09	1.490E-08	9.812E-06	1.779E-09	1.305E-12
OVARIES	1.358E-06	7.764E-12	2.703E-07	2.875E-06	9.975E-07	1.939E-07	5.437E-09	2.034E-08	1.087E-08	6.498E-10	0.0
PANCREAS	2.083E-05	1.191E-10	4.402E-06	5.963E-07	2.055E-07	8.542E-09	5.686E-09	2.006E-08	9.120E-08	3.083E-09	1.276E-12
BONE	8.745E-06	5.013E-11	1.617E-07	2.412E-07	7.523E-08	1.240E-08	5.350E-09	1.845E-05	1.565E-08	4.645E-10	1.101E-11
R MAR	1.105E-05	6.330E-11	2.773E-07	7.632E-07	2.244E-07	3.714E-08	5.647E-09	3.126E-06	2.240E-08	1.177E-09	8.748E-12
Y MAR	9.167E-06	5.257E-11	2.242E-07	3.339E-07	1.071E-07	1.526E-08	5.204E-09	7.025E-08	2.315E-08	5.749E-10	4.695E-12
ENDOST	8.745E-06	5.012E-11	1.617E-07	2.412E-07	7.528E-08	1.240E-08	5.365E-09	4.171E-05	1.565E-08	4.645E-10	1.101E-11
SPLEEN	1.849E-05	1.059E-10	2.466E-06	4.571E-07	1.367E-07	1.156E-08	5.770E-09	1.762E-08	2.231E-08	3.853E-09	1.378E-12
TESTES	2.524E-07	1.443E-12	2.785E-08	1.338E-07	5.357E-08	2.016E-08	5.716E-09	1.331E-08	3.880E-09	7.331E-11	4.566E-07
THYMUS	3.398E-05	1.944E-10	1.487E-07	4.333E-08	1.649E-08	7.552E-10	5.288E-09	1.631E-08	2.015E-08	1.027E-10	2.398E-13
THYROID	1.085E-05	6.207E-11	4.189E-08	1.365E-08	5.080E-09	2.599E-10	5.296E-09	1.612E-08	4.068E-09	4.749E-11	8.602E-14
UTERUS	9.627E-07	5.505E-12	2.431E-07	2.018E-06	4.757E-07	6.563E-08	6.412E-09	1.603E-08	8.632E-09	3.999E-10	0.0

DOSE EQUIVALENT (REM/MICROCURIE)

SOURCE	OVARIES	OTHER	TOTAL
TARGET			
LUNGS	6.873E-13	2.948E-09	1.103E-03
RES LYM	6.873E-13	2.948E-09	1.489E-03
S WALL	4.055E-12	3.197E-09	9.027E-05
SI WALL	5.820E-11	3.468E-09	5.575E-05
ULI WALL	5.522E-11	3.572E-09	4.207E-05
LLI WALL	7.034E-11	3.801E-09	8.924E-06
T BODY	8.108E-11	5.656E-08	3.004E-05
ADREN	2.841E-12	1.137E-07	2.184E-05
BL WALL	3.482E-11	5.947E-08	1.946E-06
KIDNEYS	5.590E-12	3.385E-09	1.189E-05
LIVER	3.230E-12	2.510E-09	3.141E-05
OVARIES	4.550E-07	4.375E-09	6.191E-06
PANCREAS	3.849E-12	1.152E-07	2.627E-05
BONE	4.857E-12	3.281E-09	2.771E-05
R MAR	1.611E-11	1.120E-07	1.562E-05
Y MAR	6.461E-12	1.127E-07	1.006E-05
ENDOST	4.857E-12	7.009E-09	5.098E-05
SPLEEN	3.230E-12	1.146E-07	2.172E-05
TESTES	0.0	2.718E-09	9.700E-07
THYMUS	3.482E-13	1.168E-07	3.435E-05
THYROID	1.159E-13	1.133E-07	1.105E-05
UTERUS	8.821E-11	1.199E-07	4.416E-06

PERCENT DOSE EQUIVALENT..

NUCLIDE	NP-240	PU-240
TARGET		
LUNGS	99.5	0.5
RES LYM	73.8	26.2
S WALL	100.0	0.0
SI WALL	100.0	0.0
ULI WALL	100.0	0.0
LLI WALL	100.0	0.0
T BODY	94.3	5.7
ADREN	99.5	0.5
BL WALL	97.4	2.6
KIDNEYS	91.4	8.6
LIVER	74.7	25.3
OVARIES	93.6	6.4
PANCREAS	99.6	0.4
BONE	35.3	64.7
R MAR	80.4	19.6
Y MAR	99.0	1.0
ENDOST	19.0	81.0
SPLEEN	99.5	0.5
TESTES	59.0	41.0
THYMUS	99.7	0.3
THYROID	99.1	0.9
UTERUS	97.7	2.3

CASE 2.. INHALATION

AMAD (MICRON).. 1.00 D3 =0.310 D4 =8.000E-02 D5 =0.249

	SOLUBILITY CLASS	G.I. UPTAKE FRACTIONS STOMACH	S INT	U L INT	L L INT
NP-240	W	0.0	1.000E-03	0.0	0.0
PU-240	W	0.0	3.000E-05	0.0	0.0

DOSE EQUIVALENT (REM/MICROCURIE)

SOURCE	LUNGS	RES LYM	S CONT	SI CONT	ULI CONT	LLI CONT	EXCRET.	BONE	LIVER	KIDNEYS	TESTES
TARGET											
LUNGS	1.014E-03	2.088E-08	3.665E-07	7.731E-08	3.021E-08	1.213E-09	9.565E-08	3.746E-07	9.160E-07	8.135E-09	6.674E-12
RES LYM	1.013E-03	4.245E-06	3.665E-07	7.731E-08	3.021E-08	1.213E-09	9.565E-08	3.746E-07	9.160E-07	8.135E-09	6.674E-12
S WALL	1.488E-05	3.065E-10	5.701E-05	7.991E-07	2.883E-07	1.499E-08	1.037E-07	2.128E-07	7.287E-07	2.785E-08	2.702E-11
SI WALL	2.328E-06	4.795E-11	5.257E-07	3.980E-05	1.289E-06	8.088E-08	1.111E-07	3.099E-07	5.993E-07	2.319E-08	1.536E-10
ULI WALL	3.043E-06	6.269E-11	6.478E-07	5.580E-06	2.408E-05	3.717E-08	1.090E-07	2.843E-07	9.228E-07	2.388E-08	1.103E-10
LLI WALL	6.980E-07	1.438E-11	2.721E-07	1.600E-06	2.546E-07	4.249E-06	1.102E-07	3.899E-07	1.095E-07	7.265E-09	7.390E-10
T BODY	2.431E-05	1.151E-09	4.720E-07	7.544E-07	2.184E-07	2.614E-08	9.524E-08	5.056E-06	1.878E-06	4.169E-08	1.508E-09
ADREN	1.896E-05	3.904E-10	4.553E-07	2.775E-07	9.090E-08	4.411E-09	1.125E-07	6.589E-07	1.822E-06	1.029E-07	2.304E-11
BL WALL	6.377E-07	1.314E-11	9.440E-08	6.121E-07	1.648E-07	4.902E-08	1.104E-07	1.992E-07	9.109E-08	3.576E-09	1.510E-09
KIDNEYS	7.830E-06	1.613E-10	6.728E-07	7.253E-07	2.253E-07	8.088E-09	1.054E-07	4.035E-07	1.400E-06	6.804E-06	3.642E-11
LIVER	1.871E-05	3.853E-10	4.072E-07	4.240E-07	1.992E-07	3.304E-09	1.051E-07	2.707E-07	5.772E-06	3.231E-08	2.370E-11
OVARIES	1.254E-06	2.583E-11	2.119E-07	2.255E-06	7.823E-07	1.519E-07	9.871E-08	3.695E-07	1.975E-07	1.181E-08	0.0
PANCREAS	1.924E-05	3.963E-10	3.452E-06	4.676E-07	1.612E-07	6.699E-09	1.033E-07	3.644E-07	1.657E-06	5.600E-08	2.318E-11
BONE	8.078E-06	1.664E-10	1.268E-07	1.891E-07	5.903E-08	9.721E-09	9.718E-08	6.388E-05	2.843E-07	8.438E-09	2.000E-10
R MAR	1.020E-05	2.102E-10	2.179E-07	5.985E-07	1.760E-07	2.912E-08	1.026E-07	1.208E-05	4.069E-07	2.138E-08	1.589E-10
Y MAR	8.468E-06	1.744E-10	1.758E-07	2.619E-07	8.402E-08	1.197E-08	9.454E-08	1.275E-06	4.206E-07	1.044E-08	8.528E-11
ENDOST	8.078E-06	1.664E-10	1.268E-07	1.891E-07	5.903E-08	9.721E-09	9.746E-08	1.328E-04	2.843E-07	8.438E-09	2.000E-10
SPLEEN	1.708E-05	3.518E-10	1.934E-06	3.585E-07	1.072E-07	9.068E-09	1.048E-07	3.201E-07	4.052E-07	7.000E-08	2.503E-11
TESTES	2.331E-07	4.802E-12	2.184E-08	1.050E-07	4.201E-08	1.581E-08	1.038E-07	2.418E-07	7.049E-08	1.332E-09	2.273E-06
THYMUS	3.139E-05	6.466E-10	1.166E-07	3.398E-09	1.293E-09	5.923E-10	9.607E-08	2.963E-07	3.661E-07	1.865E-09	4.357E-12
THYROID	1.003E-05	2.065E-10	3.286E-08	1.070E-08	3.984E-09	2.038E-10	9.621E-08	2.929E-07	7.390E-08	8.627E-10	1.563E-12
UTERUS	8.893E-07	1.832E-11	1.907E-07	1.974E-06	3.730E-07	5.147E-08	1.165E-07	2.912E-07	1.568E-07	7.265E-09	0.0

DOSE EQUIVALENT (REM/MICROCURIE)

SOURCE	OVARIES	OTHER	TOTAL
TARGET			
LUNGS	1.249E-11	5.354E-08	1.016E-03
RES LYM	1.249E-11	5.354E-08	1.019E-03
S WALL	7.367E-11	5.808E-08	7.413E-05
SI WALL	1.057E-09	6.300E-08	4.513E-05
ULI WALL	1.003E-09	6.489E-08	3.480E-05
LLI WALL	1.278E-09	6.905E-08	7.762E-06
T BODY	5.256E-10	2.563E-07	3.311E-05
ADREN	5.161E-11	4.767E-07	2.296E-05
BL WALL	6.326E-10	2.854E-07	2.250E-06
KIDNEYS	1.016E-10	6.149E-08	1.824E-05
LIVER	5.869E-11	4.559E-08	7.791E-05
OVARIES	2.242E-06	7.946E-08	7.654E-06
PANCREAS	6.992E-11	5.051E-07	2.601E-05
BONE	8.824E-11	5.960E-08	7.279E-05
R MAR	2.926E-10	4.464E-07	2.428E-05
Y MAR	1.174E-10	4.597E-07	1.126E-05
ENDOST	8.824E-11	1.272E-07	1.417E-04
SPLEEN	5.869E-11	4.937E-07	2.088E-05
TESTES	0.0	4.938E-08	3.158E-06
THYMUS	6.326E-12	5.335E-07	3.285E-05
THYROID	2.106E-12	4.710E-07	1.101E-05
UTERUS	1.602E-09	5.902E-07	4.642E-06

PERCENT DOSE EQUIVALENT..

NUCLIDE	NP-240	PU-240
TARGET		
LUNGS	99.9	0.1
RES LYM	99.7	0.3
S WALL	100.0	0.0
SI WALL	100.0	0.0
ULI WALL	100.0	0.0
LLI WALL	100.0	0.0
T BODY	85.9	14.1
ADREN	98.8	1.2
BL WALL	94.1	5.9
KIDNEYS	83.1	16.9
LIVER	69.2	30.8
OVARIES	84.2	15.8
PANCREAS	99.0	1.0
BONE	25.2	74.8
R MAR	61.9	38.1
Y MAR	97.6	2.4
ENDOST	11.5	88.5
SPLEEN	98.7	1.3
TESTES	61.7	38.3
THYMUS	99.2	0.8
THYROID	97.6	2.4
UTERUS	94.3	5.7

CASE 3.. INGESTION

INGESTION TRANSFER FRACTIONS (G. I. TRACT TO BLOOD)

	NP-240	PU-240
STOMACH	0.0	0.0
S INT	1.000E-03	3.000E-05
U L INT	0.0	0.0
L L INT	0.0	0.0

DOSE EQUIVALENT (REM/MICROCURIE)

SOURCE	S CONT	SI CONT	ULI CONT	LLI CONT	EXCRET.	BONE	LIVER	KIDNEYS	TESTES	OVARIES	OTHER
TARGET											
LUNGS	1.006E-05	2.122E-06	8.290E-07	3.330E-08	2.817E-10	1.103E-09	2.698E-09	2.396E-11	1.966E-14	3.678E-14	1.577E-10
RES LYM	1.006E-05	2.122E-06	8.290E-07	3.330E-08	2.817E-10	1.103E-09	2.698E-09	2.396E-11	1.966E-14	3.678E-14	1.577E-10
S WALL	1.565E-03	2.193E-05	7.912E-06	4.114E-07	3.055E-10	6.269E-10	2.147E-09	8.203E-11	7.958E-14	2.170E-13	1.711E-10
SI WALL	1.443E-05	1.092E-03	3.539E-05	2.220E-06	3.271E-10	9.128E-10	1.765E-09	6.832E-11	4.525E-13	3.114E-12	1.856E-10
ULI WALL	1.778E-05	1.532E-04	6.610E-04	1.020E-06	3.210E-10	8.376E-10	2.718E-09	7.033E-11	3.249E-13	2.955E-12	1.911E-10
LLI WALL	7.468E-06	4.392E-05	6.988E-06	1.166E-04	3.247E-10	1.149E-09	3.225E-10	2.140E-11	2.177E-12	3.764E-12	2.034E-10
T BODY	1.295E-05	2.071E-05	5.994E-06	7.175E-07	2.805E-10	8.432E-09	4.507E-09	1.001E-10	3.438E-12	1.232E-12	4.978E-10
ADREN	1.250E-05	7.615E-06	2.495E-06	1.211E-07	3.312E-10	1.941E-09	5.366E-09	3.031E-10	6.787E-14	1.520E-13	8.747E-10
BL WALL	2.591E-06	1.680E-05	4.523E-06	1.345E-06	3.251E-10	5.868E-10	2.683E-10	1.053E-11	4.447E-12	1.863E-12	5.757E-10
KIDNEYS	1.847E-05	1.991E-05	6.183E-06	2.220E-07	3.104E-10	1.189E-09	4.123E-09	1.491E-08	1.073E-13	2.991E-13	1.811E-10
LIVER	1.118E-05	1.164E-05	5.467E-06	9.069E-08	3.096E-10	7.974E-10	1.301E-07	9.518E-11	6.982E-14	1.729E-13	1.343E-10
OVARIES	5.817E-06	6.189E-05	2.147E-05	4.170E-06	2.907E-10	1.088E-09	5.818E-10	3.477E-11	0.0	4.594E-09	2.340E-10
PANCREAS	9.474E-05	1.283E-05	4.423E-06	1.839E-07	3.042E-10	1.073E-09	4.880E-09	1.649E-10	6.826E-14	2.060E-13	9.583E-10
BONE	3.480E-06	5.191E-06	1.620E-06	2.668E-07	2.863E-10	9.769E-08	8.376E-10	2.485E-11	5.890E-13	2.599E-13	1.755E-10
R MAR	5.969E-06	1.643E-05	4.831E-06	7.993E-07	3.022E-10	2.066E-08	1.199E-09	6.297E-11	4.681E-13	8.618E-13	7.855E-10
Y MAR	4.826E-06	7.187E-06	2.306E-06	3.285E-07	2.785E-10	3.757E-09	1.239E-09	3.076E-11	2.512E-13	3.457E-13	8.245E-10
ENDOST	3.480E-06	5.191E-06	1.620E-06	2.668E-07	2.871E-10	1.826E-07	8.376E-10	2.485E-11	5.890E-13	2.599E-13	3.745E-10
SPLEEN	5.309E-05	9.839E-06	2.942E-06	2.489E-07	3.087E-10	9.429E-10	1.194E-09	2.062E-10	7.372E-14	1.729E-13	9.248E-10
TESTES	5.995E-07	2.881E-06	1.153E-06	4.338E-07	3.059E-10	7.122E-10	2.076E-10	3.923E-12	4.689E-09	0.0	1.454E-10
THYMUS	3.200E-06	9.326E-07	3.549E-07	1.626E-08	2.830E-10	8.727E-10	1.078E-09	5.495E-12	1.283E-14	1.863E-14	1.042E-09
THYROID	9.017E-07	2.938E-07	1.093E-07	5.594E-09	2.834E-10	8.626E-10	2.177E-10	2.541E-12	4.603E-15	6.203E-15	8.580E-10
UTERUS	5.233E-06	5.419E-05	1.024E-05	1.413E-06	3.431E-10	8.576E-10	4.619E-10	2.140E-11	0.0	4.720E-12	1.209E-09

DOSE EQUIVALENT (REM/MICROCURIE)

SOURCE	TOTAL
TARGET	
LUNGS	1.305E-05
RES LYM	1.305E-05
S WALL	1.595E-03
SI WALL	1.144E-03
ULI WALL	8.330E-04
LLI WALL	1.750E-04
T BODY	4.038E-05
ADREN	2.274E-05
BL WALL	2.526E-05
KIDNEYS	4.480E-05
LIVER	2.850E-05
OVARIES	9.335E-05
PANCREAS	1.122E-04
BONE	1.066E-05
R MAR	2.805E-05
Y MAR	1.465E-05
ENDOST	1.074E-05
SPLEEN	6.612E-05
TESTES	5.073E-06
THYMUS	4.507E-06
THYROID	1.313E-06
UTERUS	7.107E-05

PERCENT DOSE EQUIVALENT..

NUCLIDE	NP-240	PU-240
TARGET		
LUNGS	100.0	0.0
RES LYM	100.0	0.0
S WALL	100.0	0.0
SI WALL	100.0	0.0
ULI WALL	100.0	0.0
LLI WALL	100.0	0.0
T BODY	100.0	0.0
ADREN	100.0	0.0
BL WALL	100.0	0.0
KIDNEYS	100.0	0.0
LIVER	99.9	0.1
OVARIES	100.0	0.0
PANCREAS	100.0	0.0
BONE	99.3	0.7
R MAR	100.0	0.0
Y MAR	100.0	0.0
ENDOST	98.5	1.5
SPLEEN	100.0	0.0
TESTES	100.0	0.0
THYMUS	100.0	0.0
THYROID	100.0	0.0
UTERUS	100.0	0.0

RADIONUCLIDE: PU-236

PHYSICAL AND METABOLIC PARAMETERS FOR DOSIMETRICALLY SIGNIFICANT PROGENY:

NUCLIDE	RADIOACTIVE HALF-LIFE (DAYS)
PU-236	1040.
U-232	2.620OE 04
TH-228	698.0
RA-224	3.660
RN-220	6.4400E-04
PO-216	1.7400E-06
PB-212	0.4430
BI-212	4.2000E-02
PO-212	3.0300E-12
TL-208	2.1300E-03

BRANCHING RATIOS:

FROM	TO	FRACTION
PU-236	U-232	1.000
U-232	TH-228	1.000
TH-228	RA-224	1.000
RA-224	RN-220	1.000
RN-220	PO-216	1.000
PO-216	PB-212	1.000
PB-212	BI-212	1.000
BI-212	PO-212	0.6400
BI-212	TL-208	0.3600

ORGAN	NUCLIDE	BLOOD TRANSFER FRACTION F2-PRIME	COMPARTMENT DEPOSITION FRACTION	COMPARTMENT BIOLOGICAL HALF-TIME (DAYS)
ABSORBED	PU-236	1.00	4.000E-02	0.500
			0.460	1.460E 04
			0.500	3.650E 04
	U-232	1.00	0.120	6.00
			0.200	20.0
			5.200E-04	1.500E 03
			0.679	5.000E 03
	TH-228	1.00	0.460	1.460E 04
			0.540	3.650E 04
	RA-224	1.00	0.917	5.50
			5.360E-02	81.0
			2.000E-02	955.
			1.760E-04	3.140E 03
			9.390E-03	7.630E 03
	RN-220	0.0	0.874	2.650E-04
			9.130E-02	3.110E-03
			1.980E-02	2.280E-02
			8.630E-03	0.146
			6.120E-03	0.963
	PO-216	1.00	1.000E-02	0.500
			0.990	50.0
	PB-212	1.00	1.000E-01	1.00
			0.200	10.0
			0.300	300.
			0.200	2.000E 03
			0.200	9.000E 03
	BI-212	1.00	-1.720E-02	1.000E-01
			1.02	5.78
	PO-212	1.00	1.000E-02	0.500
			0.990	50.0
	TL-208	1.00	1.00	4.00
EXCRET.	PU-236	4.000E-02	1.00	0.500
	U-232	0.0	1.00	0.500
	TH-228	0.0	1.00	0.500
	RA-224	0.0	1.00	0.500
	RN-220	0.0	0.874	2.650E-04
			9.130E-02	3.110E-03
			1.980E-02	2.280E-02
			8.630E-03	0.146
			6.120E-03	0.963
	PO-216	0.0	1.00	0.500
	PB-212	0.0	1.00	0.500
	BI-212	0.0	1.00	0.500
	PO-212	0.0	1.00	0.500
	TL-208	0.0	1.00	0.500

α decay (2.851 Y 8)

Case 1 represents inhalation of oxides, hydroxides, and carbides; case 2 inhalation of nitrates; and case 3 ingestion of any compound.

* Retention data derived from "other tissues" compartment.

ORGAN	NUCLIDE	BLOOD TRANSFER FRACTION F2-PRIME	COMPARTMENT DEPOSITION FRACTION	COMPARTMENT BIOLOGICAL HALF-TIME (DAYS)
BONE	PU-236	0.450	1.00	3.650E 04
	U-232	0.223	0.897	20.0
			0.103	5.000E 03
	TH-228	0.450	1.00	3.650E 04
	RA-224	0.172	0.880	5.68
			1.360E-02	240.
			2.030E-03	1.610E 03
			5.730E-02	1.490E 03
			4.600E-02	8.380E 03
	RN-220	0.0	0.700	2.650E-04
			0.300	1.000E 50
	*PO-216	9.000E-02	1.000E-02	0.500
			0.990	50.0
	PB-212	0.562	0.375	320.
			0.310	2.000E 03
			0.315	8.000E 03
	*BI-212	7.340E-02	-1.000E-01	1.000E-01
			1.10	5.78
	*PO-212	9.000E-02	1.000E-02	0.500
			0.990	50.0
	*TL-208	0.118	1.00	4.00
LIVER	PU-236	0.450	1.00	1.460E 04
	*U-232	3.290E-02	1.00	5.000E 03
	TH-228	0.450	1.00	1.460E 04
	*PA-224	4.540E-02	0.890	0.630
			7.090E-02	28.9
			3.040E-02	160.
			7.430E-03	776.
			7.940E-04	4.040E 03
	*RN-220	0.0	0.849	2.650E-04
			9.900E-02	3.110E-03
			4.400E-02	2.880E-02
			7.790E-04	0.146
			2.030E-05	0.963
	PO-216	1.000E-01	1.000E-02	0.500
			0.990	50.0
	PB-212	0.106	0.843	10.0
			7.870E-02	320.
			4.010E-02	2.000E 03
			3.820E-02	8.000E 03
	*BI-212	2.640E-02	-1.000E-01	1.000E-01
			1.10	5.78
	PO-212	1.000E-01	1.000E-02	0.500
			0.990	50.0
	TL-208	4.240E-02	1.00	4.00
KIDNEYS	PU-236	1.000E-02	1.00	1.460E 04
	U-232	0.121	0.996	6.00
			4.000E-03	1.500E 03
	TH-228	1.000E-02	1.00	1.460E 04
	*RA-224	7.820E-03	0.890	0.630
			7.090E-02	28.9
			3.040E-02	160.
			7.430E-03	776.
			7.940E-04	4.040E 03
	*RN-220	0.0	0.849	2.650E-04
			9.900E-02	3.110E-03
			4.400E-02	2.880E-02
			7.790E-04	0.146
			2.030E-05	0.963
	PO-216	1.000E-01	1.000E-02	0.500
			0.990	50.0
	PB-212	5.090E-02	0.962	10.0
			2.000E-02	320.
			9.600E-03	2.000E 03
			8.290E-03	8.000E 03
	BI-212	0.400	1.00	5.78
	PO-212	1.000E-01	1.000E-02	0.500
			0.990	50.0
	TL-208	3.760E-02	1.00	4.00

ORGAN	NUCLIDE	BLOOD TRANSFER FRACTION F2-PRIME	COMPARTMENT DEPOSITION FRACTION	COMPARTMENT BIOLOGICAL HALF-TIME (DAYS)
SPLEEN	* PU-236	2.640E-04	1.00	3.650E 04
	* U-232	3.290E-03	1.00	5.000E 03
	* TH-228	4.760E-04	1.00	3.650E 04
	* RA-224	4.540E-03	0.890	0.630
			7.090E-02	28.9
			3.040E-02	160.
			7.430E-03	776.
			7.940E-04	4.040E 03
	* RN-220	0.0	0.849	2.650E-04
			9.900E-02	3.110E-03
			4.400E-02	2.880E-02
			7.790E-04	0.146
			2.030E-05	0.963
	PO-216	1.000E-01	1.000E-02	0.500
			0.990	50.0
	* PB-212	2.960E-04	0.375	320.
			0.310	2.000E 03
			0.315	8.000E 03
	* BI-212	2.640E-03	-1.000E-01	1.000E-01
			1.10	5.78
	PO-212	1.000E-01	1.000E-02	0.500
			0.990	50.0
	* TL-208	4.240E-03	1.00	4.00
TESTES	PU-236	3.500E-04	1.00	3.650E 04
	* U-232	6.400E-04	1.00	5.000E 03
	TH-228	3.500E-04	1.00	3.650E 04
	* RA-224	8.830E-04	0.890	0.630
			7.090E-02	28.9
			3.040E-02	160.
			7.430E-03	776.
			7.940E-04	4.040E 03
	* RN-220	0.0	0.910	2.650E-04
			8.660E-02	3.110E-03
			3.040E-04	2.880E-02
			3.170E-03	0.146
			6.810E-06	0.963
	* PO-216	6.300E-04	1.000E-02	0.500
			0.990	50.0
	* PB-212	5.760E-05	0.375	320.
			0.310	2.000E 03
			0.315	8.000E 03
	* BI-212	5.140E-04	-1.000E-01	1.000E-01
			1.10	5.78
	* PO-212	6.300E-04	1.000E-02	0.500
			0.990	50.0
	* TL-208	8.240E-04	1.00	4.00
OVARIES	PU-236	1.100E-04	1.00	3.650E 04
	* U-232	2.010E-04	1.00	5.000E 03
	TH-228	1.100E-04	1.00	3.650E 04
	* RA-224	2.770E-04	0.890	0.630
			7.090E-02	28.9
			3.040E-02	160.
			7.430E-03	776.
			7.940E-04	4.040E 03
	* RN-220	0.0	0.910	2.650E-04
			8.660E-02	3.110E-03
			3.040E-04	2.880E-02
			3.170E-03	0.146
			6.810E-06	0.963
	* PO-216	1.980E-04	1.000E-02	0.500
			0.990	50.0
	* PB-212	1.810E-05	0.375	320.
			0.310	2.000E 03
			0.315	8.000E 03
	* BI-212	1.610E-04	-1.000E-01	1.000E-01
			1.10	5.78
	* PO-212	1.980E-04	1.000E-02	0.500
			0.990	50.0
	* TL-208	2.590E-04	1.00	4.00
OTHER	PU-236	4.970E-02	1.00	3.650E 04
	U-232	0.619	1.00	5.000E 03
	TH-228	8.950E-02	1.00	3.650E 04
	RA-224	0.854	0.890	0.630
			7.090E-02	28.9
			3.040E-02	160.
			7.430E-03	776.
			7.940E-04	4.040E 03

PLUTONIUM-236 CONTINUED

ORGAN	NUCLIDE	BLOOD TRANSFER FRACTION F2-PRIME	COMPARTMENT DEPOSITION FRACTION	COMPARTMENT BIOLOGICAL HALF-TIME (DAYS)
	RN-220	0.0	0.872	2.650E-04
			9.140E-02	3.110E-03
			2.050E-02	2.880E-02
			9.080E-03	0.146
			6.790E-03	0.963
	PO-216	0.610	1.000E-02	0.500
			0.990	50.0
	PB-212	5.580E-02	0.375	320.
			0.310	2.000E 03
			0.315	8.000E 03
	BI-212	0.500	-1.000E-01	1.000E-01
			1.10	5.78
	PO-212	0.610	1.000E-02	0.500
			0.990	50.0
	TL-208	0.814	1.00	4.00

S FACTORS (REM/MICROCURIE-DAY) FOR PU-236

TARGET ORGANS	SOURCE ORGANS									
	LUNGS	RES LYM	S CONT	SI CONT	ULI CONT	LLI CONT	EXCRET.	BONE	LIVER	KIDNEYS
LUNGS	0.304E 01	0.535E-03	0.420E-07	0.151E-08	0.195E-08	0.454E-09	0.435E-01	0.291E-07	0.217E-06	0.126E-07
RES LYM	0.535E-03	0.203E 03	0.420E-07	0.151E-08	0.195E-08	0.454E-09	0.435E-01	0.291E-07	0.217E-06	0.126E-07
S WALL	0.806E-07	0.806E-07	0.598E-01	0.159E-06	0.275E-06	0.216E-07	0.435E-01	0.205E-07	0.633E-07	0.411E-07
SI WALL	0.126E-08	0.126E-08	0.524E-07	0.374E-01	0.324E-05	0.176E-05	0.435E-01	0.243E-07	0.343E-07	0.326E-07
ULI WALL	0.163E-08	0.163E-08	0.133E-06	0.357E-04	0.680E-01	0.154E-05	0.435E-01	0.295E-07	0.502E-07	0.307E-07
LLI WALL	0.302E-09	0.302E-09	0.125E-07	0.363E-05	0.303E-06	0.111E 00	0.435E-01	0.802E-07	0.135E-08	0.539E-08
T BODY	0.435E-01	0.435E-01	0.129E-03	0.343E-03	0.205E-03	0.254E-03	0.559E-01	0.217E 00	0.435E-01	0.435E-01
ADREN	0.162E-06	0.162E-06	0.315E-07	0.718E-08	0.882E-08	0.224E-08	0.435E-01	0.573E-07	0.315E-06	0.250E-05
BL WALL	0.183E-09	0.183E-09	0.196E-08	0.271E-07	0.209E-07	0.986E-07	0.435E-01	0.453E-08	0.895E-09	0.145E-08
KIDNEYS	0.811E-08	0.811E-08	0.414E-07	0.347E-07	0.322E-07	0.732E-08	0.435E-01	0.408E-07	0.139E-06	0.982E 01
LIVER	0.162E-06	0.162E-06	0.447E-07	0.415E-07	0.467E-07	0.159E-08	0.435E-01	0.198E-07	0.169E 01	0.956E-07
OVARIES	0.671E-09	0.671E-09	0.606E-08	0.163E-05	0.230E-05	0.464E-05	0.435E-01	0.104E-07	0.410E-08	0.102E-07
PANCREAS	0.327E-07	0.327E-07	0.115E-05	0.212E-07	0.222E-07	0.565E-08	0.435E-01	0.501E-07	0.212E-06	0.827E-07
BONE	0.680E-07	0.680E-07	0.174E-07	0.647E-07	0.351E-07	0.108E-06	0.217E 00	0.304E 01	0.500E-07	0.480E-07
R MAR	0.766E-07	0.766E-07	0.257E-07	0.260E-06	0.135E-06	0.431E-06	0.435E-01	0.500E 00	0.541E-07	0.128E-06
Y MAR	0.836E-07	0.836E-07	0.250E-07	0.906E-07	0.503E-07	0.148E-06	0.435E-01	0.721E-05	0.741E-07	0.582E-07
ENDOST	0.680E-07	0.680E-07	0.174E-07	0.647E-07	0.351E-07	0.108E-06	0.435E-01	0.593E 01	0.500E-07	0.480E-07
SPLEEN	0.985E-07	0.985E-07	0.153E-06	0.143E-07	0.159E-07	0.850E-08	0.435E-01	0.766E-07	0.831E-08	0.787E-06
TESTES	0.255E-10	0.255E-10	0.234E-09	0.182E-08	0.171E-08	0.208E-07	0.435E-01	0.533E-08	0.225E-09	0.331E-09
THYMUS	0.765E-07	0.765E-07	0.374E-08	0.302E-09	0.405E-09	0.838E-10	0.435E-01	0.358E-07	0.514E-08	0.132E-08
THYROID	0.742E-08	0.742E-08	0.327E-09	0.393E-10	0.444E-10	0.124E-10	0.435E-01	0.217E-07	0.485E-09	0.158E-09
UTERUS	0.574E-09	0.574E-09	0.508E-08	0.282E-06	0.703E-07	0.899E-07	0.435E-01	0.474E-08	0.292E-08	0.615E-08

S FACTORS (REM/MICROCURIE-DAY) FOR PU-236

TARGET ORGANS	SOURCE ORGANS			
	SPLEEN	TESTES	OVARIES	OTHER
LUNGS	0.994E-07	0.132E-10	0.331E-09	0.408E-06
RES LYM	0.994E-07	0.132E-10	0.331E-09	0.408E-06
S WALL	0.232E-06	0.184E-09	0.709E-08	0.817E-07
SI WALL	0.139E-07	0.252E-08	0.150E-05	0.134E-06
ULI WALL	0.159E-07	0.211E-08	0.419E-05	0.328E-06
LLI WALL	0.562E-08	0.328E-07	0.505E-05	0.944E-07
T BODY	0.435E-01	0.435E-01	0.435E-01	0.433E-01
ADREN	0.939E-07	0.956E-10	0.215E-08	0.897E-01
BL WALL	0.678E-09	0.617E-07	0.984E-07	0.448E-01
KIDNEYS	0.878E-06	0.168E-09	0.775E-08	0.255E-06
LIVER	0.850E-08	0.132E-09	0.412E-08	0.115E-06
OVARIES	0.310E-08	0.0	0.277E 03	0.535E-06
PANCREAS	0.275E-05	0.185E-09	0.324E-08	0.897E-01
BONE	0.359E-07	0.113E-07	0.293E-07	0.719E-06
R MAR	0.426E-07	0.880E-08	0.114E-06	0.897E-01
Y MAR	0.527E-07	0.377E-08	0.410E-07	0.897E-01
ENDOST	0.359E-07	0.113E-07	0.293E-07	0.951E-05
SPLEEN	0.169E 02	0.898E-10	0.336E-08	0.226E-06
TESTES	0.159E-09	0.870E 02	0.0	0.745E-07
THYMUS	0.126E-08	0.482E-11	0.759E-10	0.897E-01
THYROID	0.325E-09	0.708E-12	0.105E-10	0.897E-01
UTERUS	0.261E-08	0.0	0.490E-06	0.897E-01

CASE 1.. INHALATION

AMAD (MICRON).. 1.00 D3 =0.310 D4 =8.000E-02 D5 =0.249

	SOLUBILITY CLASS	G.I. UPTAKE FRACTIONS STOMACH	S INT	U L INT	L L INT
PU-236	Y	0.0	3.000E-05	0.0	0.0
U-232	Y	0.0	2.000E-03	0.0	0.0
TH-228	Y	0.0	1.000E-03	0.0	0.0
RA-224	W	0.0	0.200	0.0	0.0
RN-220	*	0.0	0.0	0.0	0.0
PO-216	W	0.0	1.000E-01	0.0	0.0
PB-212	W	0.0	8.000E-02	0.0	0.0
BI-212	W	0.0	5.000E-02	0.0	0.0
PO-212	W	0.0	1.000E-01	0.0	0.0
TL-208	W	0.0	0.950	0.0	0.0

*SPECIAL LUNG CLEARANCE PARAMETERS. T=HALF-TIME (DAYS), F=DEPOSITION FRACTION.

	CLEARANCE PATHWAY..	A	B	C	D	E	F	G	H	I
RN-220	F	1.0	0.0	1.0	0.0	1.0	0.0	0.0	0.0	1.0
	T	8.20E-05	1.0	8.20E-05	1.0	8.20E-05	0.0	0.0	0.0	2.96E-03

DOSE EQUIVALENT (REM/MICROCURIE)

SOURCE	LUNGS	RES LYM	S CONT	SI CONT	ULI CONT	LLI CONT	EXCRET.	BONE	LIVER	KIDNEYS	SPLEEN
TARGET											
LUNGS	226.	5.799E-02	6.388E-08	4.552E-08	2.389E-07	2.165E-07	2.999E-05	5.922E-05	1.363E-04	3.565E-07	8.129E-07
RES LYM	4.073E-02	5.735E 03	6.388E-08	4.552E-08	2.389E-07	2.165E-07	2.999E-05	5.922E-05	1.363E-04	3.565E-07	8.128E-07
S WALL	1.298E-05	4.337E-04	1.462E-03	4.420E-07	2.153E-06	2.044E-06	2.999E-05	3.435E-05	1.123E-04	1.236E-06	3.443E-06
SI WALL	1.316E-06	7.837E-05	9.530E-08	3.627E-03	9.941E-06	1.063E-05	2.999E-05	4.719E-05	8.954E-05	1.010E-06	5.207E-07
ULI WALL	1.712E-06	1.023E-04	1.162E-07	6.082E-06	2.145E-02	5.251E-06	2.999E-05	4.442E-05	1.323E-04	9.748E-07	5.326E-07
LLI WALL	3.415E-07	1.957E-05	4.717E-08	1.200E-06	1.793E-06	6.432E-02	2.999E-05	5.838E-05	1.900E-05	3.454E-07	2.626E-07
T BODY	3.23	1.23	3.212E-06	3.347E-05	6.571E-05	1.491E-04	3.854E-05	3.90	0.919	1.527E-02	2.134E-03
ADREN	1.902E-05	4.222E-04	8.876E-08	1.681E-07	6.714E-07	5.564E-07	2.999E-05	8.692E-05	3.030E-04	4.912E-06	2.303E-06
BL WALL	3.642E-07	2.268E-05	1.479E-08	3.464E-07	1.288E-06	6.220E-06	2.999E-05	3.692E-05	1.633E-05	1.622E-07	1.015E-07
KIDNEYS	3.988E-06	2.099E-04	1.158E-07	3.735E-07	1.572E-06	1.153E-06	2.999E-05	5.374E-05	2.072E-04	3.45	3.051E-06
LIVER	2.058E-05	5.287E-04	7.468E-08	2.340E-07	1.505E-06	4.423E-07	2.999E-05	4.608E-05	35.7	1.408E-06	4.036E-07
OVARIES	6.948E-07	4.112E-05	3.132E-08	1.278E-06	7.070E-06	2.053E-05	2.999E-05	5.483E-05	3.419E-05	3.876E-07	1.488E-07
PANCREAS	1.106E-05	5.273E-04	6.026E-07	2.534E-07	1.396E-06	8.398E-07	2.999E-05	6.004E-05	2.182E-04	2.170E-06	6.607E-06
BONE	8.942E-06	2.358E-04	2.319E-08	1.102E-07	4.524E-07	1.253E-06	1.496E-04	54.6	4.434E-05	3.814E-07	2.987E-07
R MAR	1.060E-05	2.972E-04	3.859E-08	3.469E-07	1.341E-06	3.731E-06	2.999E-05	8.82	6.322E-05	9.520E-07	4.384E-07
Y MAR	1.029E-05	2.480E-04	3.244E-08	1.513E-07	6.334E-07	1.546E-06	2.999E-05	2.943E-04	6.506E-05	4.673E-07	4.437E-07
ENDOST	8.942E-06	2.358E-04	2.319E-08	1.102E-07	4.524E-07	1.253E-06	2.999E-05	104.	4.434E-05	3.814E-07	2.987E-07
SPLEEN	1.526E-05	4.898E-04	3.241E-07	2.018E-07	7.958E-07	1.107E-06	2.999E-05	4.358E-05	5.587E-05	3.116E-06	0.829
TESTES	1.511E-07	9.822E-06	5.384E-09	6.724E-08	3.218E-07	2.151E-06	2.999E-05	5.512E-05	8.429E-06	6.653E-08	4.585E-08
THYMUS	2.001E-05	8.806E-04	1.779E-08	2.091E-08	1.096E-07	9.283E-08	2.999E-05	4.579E-05	5.719E-05	9.108E-08	2.177E-07
THYROID	4.415E-06	2.424E-04	6.599E-09	7.687E-09	3.984E-08	3.880E-08	2.999E-05	3.274E-05	1.207E-05	4.577E-08	6.550E-08
UTERUS	6.859E-07	4.152E-05	3.581E-08	1.052E-06	2.871E-06	6.211E-06	2.999E-05	3.575E-05	2.886E-05	3.329E-07	2.141E-07

DOSE EQUIVALENT (REM/MICROCURIE)

SOURCE	TESTES	OVARIES	OTHER	TOTAL
TARGET				
LUNGS	3.467E-09	5.406E-09	8.785E-05	226.
RES LYM	3.467E-09	5.406E-09	8.785E-05	5.735E 03
S WALL	1.324E-08	3.092E-08	9.194E-05	2.186E-03
SI WALL	5.724E-08	3.587E-07	1.027E-04	3.999E-03
ULI WALL	5.560E-08	3.513E-07	1.068E-04	2.189E-02
LLI WALL	2.667E-07	4.595E-07	1.135E-04	6.457E-02
T BODY	1.034E-03	3.251E-04	0.399	9.70
ADREN	9.760E-09	1.721E-08	0.827	0.827
BL WALL	4.715E-07	2.000E-07	0.413	0.413
KIDNEYS	1.439E-08	3.629E-08	9.898E-05	3.45
LIVER	1.074E-08	2.182E-08	7.502E-05	35.7
OVARIES	0.0	2.07	1.315E-04	2.07
PANCREAS	1.429E-08	1.779E-08	0.827	0.827
BONE	6.953E-08	3.065E-08	1.182E-04	54.6
R MAR	5.622E-08	9.940E-08	0.826	9.65
Y MAR	3.265E-08	4.034E-08	0.827	0.827
ENDOST	6.953E-08	3.065E-08	3.914E-04	104.
SPLEEN	1.285E-08	2.327E-08	9.769E-05	0.830
TESTES	2.07	0.0	8.926E-05	2.07
THYMUS	2.476E-09	2.725E-09	0.827	0.828
THYROID	1.124E-09	1.097E-09	0.826	0.827
UTERUS	0.0	5.476E-07	0.827	0.827

PERCENT DOSE EQUIVALENT..

NUCLIDE	PU-236	U-232	TH-228	RA-224	RN-220	PO-216	PB-212	BI-212	PO-212	TL-208
TARGET										
LUNGS	98.4	1.0	0.3	0.2	0.0	0.0	0.0	0.0	0.0	0.0
RES LYM	72.5	7.2	4.2	4.0	3.6	3.9	0.0	1.3	3.2	0.0
S WALL	64.5	0.2	0.3	1.2	0.9	1.0	3.6	4.4	0.4	23.5
SI WALL	86.6	0.2	0.2	1.0	1.0	1.1	1.0	1.7	0.6	6.6
ULI WALL	92.8	0.2	0.1	0.9	1.0	1.0	0.4	1.1	0.7	1.7
LLI WALL	94.6	0.2	0.1	0.8	0.8	0.9	0.3	1.0	0.8	0.6
T BODY	34.8	4.3	4.4	2.2	1.3	1.4	0.0	0.5	1.2	0.0
ADREN	18.8	31.2	31.4	7.8	3.2	3.4	0.0	1.2	2.9	0.1
BL WALL	18.8	31.2	31.4	7.8	3.2	3.4	0.0	1.2	2.9	0.1
KIDNEYS	95.4	0.5	2.4	0.6	0.3	0.3	0.0	0.2	0.4	0.0
LIVER	71.3	10.5	11.5	2.8	1.2	1.3	0.0	0.4	1.0	0.0
OVARIES	51.3	18.6	19.3	4.8	1.8	1.9	0.0	0.7	1.6	0.0
PANCREAS	18.8	31.2	31.4	7.8	3.2	3.4	0.0	1.2	2.9	0.1
BONE	97.3	1.9	3.6	2.5	1.4	1.5	0.0	0.5	1.3	0.0
R MAR	82.9	2.7	6.0	3.0	1.6	1.7	0.0	0.6	1.5	0.0
Y MAR	18.8	31.2	31.4	7.8	3.2	3.4	0.0	1.2	2.9	0.1
ENDOST	99.6	0.1	4.0	2.6	1.2	1.2	0.0	0.7	0.6	0.0
SPLEEN	18.7	31.1	31.4	7.8	3.2	3.5	0.0	1.2	3.0	0.1
TESTES	51.3	18.5	19.3	4.8	1.8	1.9	0.0	0.7	1.6	0.0
THYMUS	18.8	31.1	31.4	7.8	3.2	3.4	0.0	1.2	2.9	0.1
THYROID	18.8	31.2	31.4	7.8	3.2	3.4	0.0	1.2	2.9	0.0
UTERUS	18.8	31.2	31.4	7.8	3.2	3.4	0.0	1.2	2.9	0.0

CASE 2.. INHALATION

AMAD (MICRON).. 1.00 D3 =0.310 D4 =8.000E-02 D5 =0.249

	SOLUBILITY CLASS	G.I. UPTAKE FRACTIONS STOMACH	S INT	U L INT	L L INT
PU-236	W	0.0	3.000E-05	0.0	0.0
U-232	W	0.0	5.000E-02	0.0	0.0
TH-228	W	0.0	1.000E-03	0.0	0.0
RA-224	W	0.0	0.200	0.0	0.0
RN-220	*	0.0	0.0	0.0	0.0
PO-216	W	0.0	1.000E-01	0.0	0.0
PB-212	W	0.0	8.000E-02	0.0	0.0
BI-212	W	0.0	5.000E-02	0.0	0.0
PO-212	W	0.0	1.000E-01	0.0	0.0
TL-208	W	0.0	0.950	0.0	0.0

*SPECIAL LUNG CLEARANCE PARAMETERS. T=HALF-TIME (DAYS), F=DEPOSITION FRACTION.

	CLEARANCE PATHWAY..	A	B	C	D	E	F	G	H	I
RN-220	F	1.0	0.0	1.0	0.0	1.0	0.0	0.0	0.0	1.0
	T	8.20E-05	1.0	8.20E-05	1.0	8.20E-05	0.0	0.0	0.0	2.96E-03

DOSE EQUIVALENT (REM/MICROCURIE)

SOURCE	LUNGS	RES LYM	S CONT	SI CONT	ULI CONT	LLI CONT	EXCRET.	BONE	LIVER	KIDNEYS	SPLEEN
TARGET											
LUNGS	32.4	4.475E-04	1.153E-09	3.128E-10	1.527E-09	1.173E-09	1.481E-04	1.035E-04	5.549E-04	3.913E-08	4.013E-07
RES LYM	5.716E-03	167.	1.153E-09	3.128E-10	1.527E-09	1.173E-09	1.481E-04	1.035E-04	5.549E-04	3.913E-08	4.013E-07
S WALL	8.787E-07	1.404E-07	1.280E-03	1.534E-08	8.506E-08	1.994E-08	1.481E-04	6.020E-05	4.554E-04	1.319E-07	1.692E-06
SI WALL	1.658E-08	1.448E-08	1.501E-09	3.202E-03	9.382E-07	9.452E-07	1.481E-04	8.251E-05	3.630E-04	1.062E-07	2.550E-07
ULI WALL	2.147E-08	1.889E-08	3.304E-09	3.067E-06	1.892E-02	8.094E-07	1.481E-04	7.801E-05	5.365E-04	1.013E-07	2.609E-07
LLI WALL	4.046E-09	3.606E-09	4.567E-10	3.142E-07	9.132E-08	5.697E-02	1.481E-04	1.047E-04	7.693E-05	2.671E-08	1.285E-07
T BODY	0.464	3.573E-02	2.762E-06	2.937E-05	5.703E-05	1.304E-04	1.903E-04	17.8	4.36	7.200E-02	2.850E-03
ADREN	1.748E-06	2.049E-07	1.030E-09	1.292E-09	5.219E-09	3.566E-09	1.481E-04	1.526E-04	1.231E-03	4.347E-06	1.129E-06
BL WALL	2.846E-09	4.040E-09	1.014E-10	3.713E-09	1.112E-08	7.749E-08	1.481E-04	6.381E-05	6.610E-05	1.071E-08	4.962E-08
KIDNEYS	9.539E-08	4.268E-08	1.350E-09	4.471E-09	1.542E-08	8.760E-09	1.481E-04	9.464E-05	8.409E-04	16.3	1.528E-06
LIVER	1.752E-06	2.232E-07	1.254E-09	4.485E-09	1.916E-08	2.737E-09	1.481E-04	8.039E-05	170.	2.301E-07	1.975E-07
OVARIES	8.816E-09	7.605E-09	2.554E-10	1.441E-07	5.661E-07	2.459E-06	1.481E-04	9.495E-05	1.384E-04	3.702E-08	7.286E-08
PANCREAS	3.718E-07	1.174E-07	2.694E-08	2.833E-09	1.192E-08	6.539E-09	1.481E-04	1.060E-04	8.864E-04	2.492E-07	3.343E-06
BONE	7.364E-07	9.612E-08	4.646E-10	5.962E-09	1.159E-08	6.063E-08	7.386E-04	249.	1.803E-04	9.875E-08	1.475E-07
R MAR	8.310E-07	1.137E-07	7.038E-10	2.357E-08	4.294E-08	2.364E-07	1.481E-04	40.5	2.568E-04	2.601E-07	2.161E-07
Y MAR	9.034E-07	1.110E-07	6.640E-10	8.337E-09	1.655E-08	8.234E-08	1.481E-04	8.758E-04	2.646E-04	1.200E-07	2.191E-07
ENDOST	7.364E-07	9.612E-08	4.646E-10	5.962E-09	1.159E-08	6.063E-08	1.481E-04	479.	1.803E-04	9.875E-08	1.475E-07
SPLEEN	1.072E-06	1.646E-07	4.570E-09	2.036E-09	7.697E-09	9.164E-09	1.481E-04	7.898E-05	2.263E-04	1.452E-06	1.11
TESTES	6.496E-10	1.705E-09	2.666E-11	4.270E-10	1.803E-09	1.999E-08	1.481E-04	9.518E-05	3.412E-05	3.947E-09	2.240E-08
THYMUS	8.544E-07	2.138E-07	1.514E-10	1.103E-10	5.648E-10	4.464E-10	1.481E-04	8.067E-05	2.315E-04	6.878E-09	1.064E-07
THYROID	8.923E-08	4.768E-08	3.354E-11	3.440E-11	1.768E-10	1.749E-10	1.481E-04	5.752E-05	4.886E-05	2.591E-09	3.201E-08
UTERUS	7.772E-09	7.593E-09	2.526E-10	2.830E-08	3.135E-08	7.301E-08	1.481E-04	6.182E-05	1.168E-04	2.748E-08	1.047E-07

DOSE EQUIVALENT (REM/MICROCURIE)

SOURCE	TESTES	OVARIES	OTHER	TOTAL
TARGET				
LUNGS	6.314E-09	9.854E-09	4.613E-05	32.5
RES LYM	6.314E-09	9.854E-09	4.613E-05	167.
S WALL	2.412E-08	5.645E-08	4.558E-05	1.993E-03
SI WALL	1.044E-07	6.723E-07	5.123E-05	3.850E-03
ULI WALL	1.014E-07	6.914E-07	5.476E-05	1.974E-02
LLI WALL	4.872E-07	8.993E-07	5.620E-05	5.736E-02
T BODY	3.572E-03	1.123E-03	0.534	23.3
ADREN	1.778E-08	3.139E-08	1.11	1.11
BL WALL	8.618E-07	3.658E-07	0.552	0.553
KIDNEYS	2.622E-08	6.624E-08	5.037E-05	16.3
LIVER	1.957E-08	3.983E-08	3.757E-05	170.
OVARIES	0.0	7.15	6.844E-05	7.15
PANCREAS	2.603E-08	3.247E-08	1.11	1.11
BONE	1.272E-07	5.627E-08	6.344E-05	249.
R MAR	1.028E-07	1.827E-07	1.11	41.6
Y MAR	5.964E-08	7.408E-08	1.11	1.11
ENDOST	1.272E-07	5.627E-08	2.664E-04	479.
SPLEEN	2.341E-08	4.246E-08	4.951E-05	1.11
TESTES	7.14	0.0	4.422E-05	7.14
THYMUS	4.509E-09	4.967E-09	1.11	1.11
THYROID	2.046E-09	1.999E-09	1.11	1.11
UTERUS	0.0	1.005E-06	1.11	1.11

PERCENT DOSE EQUIVALENT..

NUCLIDE	PU-236	U-232	TH-228	RA-224	RN-220	PO-216	PB-212	BI-212	PO-212	TL-208
TARGET										
LUNGS	99.9	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
RES LYM	99.6	0.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
S WALL	72.0	0.1	0.5	0.5	0.0	0.2	2.9	3.3	0.0	20.6
SI WALL	37.2	0.1	0.2	0.2	0.0	0.0	1.4	1.6	0.0	9.7
ULI WALL	95.6	0.1	0.1	0.1	0.0	0.0	0.4	0.4	0.0	2.4
LLI WALL	99.5	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.3
T BODY	93.2	3.3	3.2	1.3	0.6	0.7	0.0	0.2	0.6	0.0
ADREN	69.3	12.0	11.8	2.9	1.2	1.3	0.0	0.4	1.1	0.1
BL WALL	69.4	12.0	11.8	2.9	1.2	1.3	0.0	0.4	1.1	0.0
KIDNEYS	99.9	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0
LIVER	74.1	10.3	9.9	2.4	1.0	1.1	0.0	0.3	0.9	0.0
OVARIES	73.4	10.5	10.4	2.5	1.0	1.0	0.0	0.3	0.9	0.0
PANCREAS	69.4	12.0	11.8	2.9	1.2	1.3	0.0	0.4	1.1	0.1
BONE	94.4	1.4	1.4	1.0	0.5	0.6	0.0	0.2	0.5	0.0
R MAR	95.0	0.3	1.7	1.0	0.6	0.6	0.0	0.2	0.5	0.0
Y MAR	69.4	12.0	11.8	2.9	1.2	1.3	0.0	0.4	1.1	0.0
ENDOST	96.9	0.1	1.6	1.0	0.5	0.5	0.0	0.2	0.2	0.0
SPLEEN	69.3	12.0	11.8	2.9	1.2	1.3	0.0	0.4	1.1	0.0
TESTES	73.4	10.5	10.4	2.5	1.0	1.0	0.0	0.3	0.9	0.0
THYMUS	69.4	12.0	11.8	2.9	1.2	1.3	0.0	0.4	1.1	0.0
THYROID	69.4	12.0	11.8	2.9	1.2	1.3	0.0	0.4	1.1	0.0
UTERUS	69.4	12.0	11.8	2.9	1.2	1.3	0.0	0.4	1.1	0.0

CASE 3.. INGESTION

INGESTION TRANSFER FRACTIONS (G. I. TRACT TO BLOOD)

	PU-236	U-232	TH-228	RA-224	RN-220	PO-216	PB-212	BI-212	PO-212	TL-208
STOMACH	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
S INT	3.000E-05	5.000E-02	1.000E-03	0.200	0.0	1.000E-01	8.000E-02	5.000E-02	1.000E-01	0.950
U L INT	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
L L INT	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

DOSE EQUIVALENT (REM/MICROCURIE)

SOURCE	S CONT	SI CONT	ULI CONT	LLI CONT	EXCRET.	BONE	LIVER	KIDNEYS	SPLEEN	TESTES	OVARIES
TARGET											
LUNGS	1.750E-09	2.516E-10	1.056E-09	4.539E-10	3.763E-08	2.907E-08	1.433E-07	1.948E-11	3.265E-10	2.236E-12	3.488E-12
RES LYM	1.750E-09	2.516E-10	1.056E-09	4.539E-10	3.763E-08	2.907E-08	1.433E-07	1.948E-11	3.265E-10	2.236E-12	3.488E-12
S WALL	2.492E-03	2.650E-08	1.489E-07	2.158E-08	3.763E-08	2.907E-08	1.433E-07	1.948E-11	3.265E-10	2.236E-12	3.488E-12
SI WALL	2.183E-09	6.232E-03	1.754E-06	1.758E-06	3.763E-08	2.318E-08	9.380E-08	5.425E-11	2.087E-10	3.695E-11	2.352E-10
ULI WALL	5.542E-09	5.949E-06	3.681E-02	1.538E-06	3.763E-08	2.190E-08	1.386E-07	5.210E-11	2.135E-10	3.598E-11	2.369E-10
LLI WALL	5.208E-10	6.049E-07	1.640E-07	0.111	3.763E-08	2.929E-08	1.988E-08	1.606E-11	1.052E-10	1.723E-10	3.088E-10
T BODY	5.375E-06	5.716E-05	1.110E-04	2.537E-04	4.836E-08	4.554E-03	1.114E-03	1.835E-05	1.218E-06	1.003E-06	3.151E-07
ADREN	1.312E-09	1.197E-09	4.776E-09	2.239E-09	3.763E-08	4.284E-08	3.181E-07	1.217E-09	9.234E-10	6.296E-12	1.111E-11
BL WALL	8.166E-11	4.516E-09	1.132E-08	9.851E-08	3.763E-08	1.795E-08	1.708E-08	7.052E-12	4.067E-11	3.048E-10	1.293E-10
KIDNEYS	1.725E-09	5.782E-09	1.743E-08	7.314E-09	3.763E-08	2.655E-08	2.173E-07	4.143E-03	1.230E-09	9.283E-12	2.344E-11
LIVER	1.862E-09	6.916E-09	2.528E-08	1.589E-09	3.763E-08	2.258E-08	4.328E-02	9.601E-11	1.618E-10	6.928E-12	1.409E-11
OVARIES	2.525E-10	2.716E-07	1.245E-06	4.635E-06	3.763E-08	2.671E-08	3.578E-08	1.991E-11	5.967E-11	0.0	2.007E-03
PANCREAS	4.792E-08	3.533E-09	1.202E-08	5.646E-09	3.763E-08	2.972E-08	2.290E-07	1.220E-10	2.670E-09	9.218E-12	1.149E-11
BONE	7.250E-10	1.078E-08	1.900E-08	1.079E-07	1.877E-07	6.379E-02	4.658E-08	3.522E-11	1.200E-10	4.497E-11	1.986E-11
R MAR	1.071E-09	4.333E-08	7.309E-08	4.305E-07	3.763E-08	1.033E-02	6.635E-08	9.136E-11	1.761E-10	3.635E-11	6.448E-11
Y MAR	1.042E-09	1.510E-08	2.723E-08	1.478E-07	3.763E-08	2.313E-07	6.835E-08	4.291E-11	1.783E-10	2.110E-11	2.615E-11
ENDOST	7.250E-10	1.078E-08	1.900E-08	1.079E-07	3.763E-09	0.122	4.658E-08	3.522E-11	1.200E-10	4.497E-11	1.986E-11
SPLEEN	6.375E-09	2.383E-09	8.609E-09	8.493E-09	3.763E-08	2.207E-08	5.848E-08	4.476E-10	4.734E-04	8.288E-12	1.503E-11
TESTES	9.750E-12	3.033E-10	9.259E-10	2.078E-08	3.763E-08	2.678E-08	8.817E-09	2.774E-12	1.836E-11	2.006E-03	0.0
THYMUS	1.558E-10	5.033E-11	2.193E-10	8.385E-11	3.763E-09	2.263E-08	5.984E-08	4.194E-12	8.719E-11	1.597E-12	1.758E-12
THYROID	1.362E-11	6.549E-12	2.405E-11	1.244E-11	3.763E-08	1.614E-08	1.263E-08	1.872E-12	2.624E-11	7.246E-13	7.076E-13
UTERUS	2.117E-10	4.699E-08	3.806E-08	8.982E-08	3.763E-08	1.739E-08	3.020E-08	1.601E-11	8.578E-11	0.0	3.547E-10

DOSE EQUIVALENT (REM/MICROCURIE)

SOURCE	OTHER	TOTAL
TARGET		
LUNGS	3.584E-08	2.498E-07
RES LYM	3.584E-08	2.498E-07
S WALL	3.697E-08	2.492E-03
SI WALL	4.134E-08	6.236E-03
ULI WALL	4.330E-08	3.682E-02
LLI WALL	4.561E-08	0.111
T BODY	2.278E-04	6.344E-03
ADREN	4.721E-04	4.725E-04
BL WALL	2.360E-04	2.362E-04
KIDNEYS	4.006E-08	4.143E-03
LIVER	3.024E-08	4.328E-02
OVARIES	5.352E-08	2.013E-03
PANCREAS	4.721E-04	4.725E-04
BONE	4.853E-08	6.379E-02
R MAR	4.721E-04	1.080E-02
Y MAR	4.721E-04	4.726E-04
ENDOST	1.723E-07	0.122
SPLEEN	3.949E-08	4.736E-04
TESTES	3.589E-08	2.006E-03
THYMUS	4.722E-04	4.723E-04
THYROID	4.721E-04	4.722E-04
UTERUS	4.722E-04	4.724E-04

PERCENT DOSE EQUIVALENT..

NUCLIDE	PU-236	U-232	TH-228	RA-224	RN-220	PO-216	PB-212	BI-212	PO-212	TL-208
TARGET										
LUNGS	18.7	0.6	1.7	1.5	0.0	0.0	9.1	10.1	0.0	58.3
RES LYM	18.7	0.6	1.7	1.5	0.0	0.0	9.1	10.1	0.0	58.3
S WALL	100.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
SI WALL	100.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
ULI WALL	100.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
LLI WALL	100.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
T BODY	88.9	3.8	3.7	1.4	0.7	0.7	0.0	0.2	0.6	0.0
ADREN	41.3	22.9	22.7	5.5	2.2	2.4	0.0	0.8	2.1	0.1
BL WALL	41.3	22.9	22.7	5.5	2.2	2.4	0.0	0.8	2.0	0.0
KIDNEYS	99.6	0.2	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0
LIVER	73.8	10.4	10.0	2.4	1.0	1.1	0.0	0.4	0.9	0.0
OVARIES	66.5	13.2	13.0	3.2	1.2	1.3	0.0	0.4	1.1	0.0
PANCREAS	41.3	22.9	22.7	5.5	2.2	2.4	0.0	0.8	2.1	0.1
BONE	93.8	1.6	1.5	1.1	0.6	0.6	0.0	0.2	0.5	0.0
R MAR	92.9	1.0	2.5	1.3	0.7	0.7	0.0	0.2	0.6	0.0
Y MAR	41.4	22.9	22.6	5.5	2.2	2.4	0.0	0.8	2.1	0.0
ENDOST	95.5	0.1	1.7	1.1	0.5	0.5	0.0	0.3	0.2	0.0
SPLEEN	41.2	22.9	22.7	5.5	2.3	2.5	0.0	0.8	2.1	0.0
TESTES	66.4	13.3	13.1	3.2	1.2	1.3	0.0	0.4	1.1	0.0
THYMUS	41.3	22.9	22.7	5.5	2.2	2.4	0.0	0.8	2.1	0.0
THYROID	41.3	22.9	22.7	5.5	2.2	2.4	0.0	0.8	2.1	0.0
UTERUS	41.3	22.9	22.7	5.5	2.2	2.4	0.0	0.8	2.1	0.0

RADIONUCLIDE: PU-238

PHYSICAL AND METABOLIC PARAMETERS FOR DOSIMETRICALLY SIGNIFICANT PROGENY:

NUCLIDE	RADIOACTIVE HALF-LIFE (DAYS)
PU-238	3.2000E 04

ORGAN ABSORBED	NUCLIDE	BLOOD TRANSFER FRACTION F2-PRIME	COMPARTMENT DEPOSITION FRACTION	COMPARTMENT BIOLOGICAL HALF-TIME (DAYS)
	PU-238	1.00	4.000E-02	0.500
			0.460	1.460E 04
			0.500	3.650E 04
EXCRET.	PU-238	4.000E-02	1.00	0.500
BONE	PU-238	0.450	1.00	3.650E 04
LIVER	PU-238	0.450	1.00	1.460E 04
KIDNEYS	PU-238	1.000E-02	1.00	1.460E 04
TESTES	PU-238	3.500E-04	1.00	3.650E 04
OVARIES	PU-238	1.100E-04	1.00	3.650E 04
OTHER	PU-238	5.000E-02	1.00	3.650E 04

S FACTORS (REM/MICROCURIE-DAY) FOR PU-238

TARGET ORGANS	SOURCE ORGANS												
	LUNGS	RES LYM	S CONT	SI CONT	ULI CONT	LLI CONT	EXCRET.	BONE	LIVER	KIDNEYS	TESTES	OVARIES	OTHER
LUNGS	0.290E 01	0.483E-03	0.319E-07	0.679E-09	0.891E-09	0.185E-09	0.415E-01	0.244E-07	0.205E-06	0.837E-08	0.403E-11	0.137E-09	0.407E-06
RES LYM	0.483E-03	0.194E 03	0.319E-07	0.679E-09	0.891E-09	0.185E-09	0.415E-01	0.244E-07	0.205E-06	0.837E-08	0.403E-11	0.137E-09	0.407E-06
S WALL	0.712E-07	0.712E-07	0.570E-01	0.140E-06	0.258E-06	0.120E-07	0.415E-01	0.183E-07	0.540E-07	0.215E-07	0.999E-10	0.339E-08	0.765E-07
SI WALL	0.545E-09	0.545E-09	0.381E-07	0.357E-01	0.319E-05	0.174E-05	0.415E-01	0.208E-07	0.264E-07	0.173E-07	0.117E-08	0.145E-05	0.128E-06
ULI WALL	0.746E-09	0.746E-09	0.113E-06	0.363E-04	0.649E-01	0.155E-05	0.415E-01	0.266E-07	0.365E-07	0.158E-07	0.976E-09	0.420E-05	0.325E-06
LLI WALL	0.129E-09	0.129E-09	0.661E-09	0.366E-05	0.290E-06	0.106E 00	0.415E-01	0.764E-07	0.539E-09	0.257E-08	0.178E-07	0.506E-05	0.864E-07
T BODY	0.415E-01	0.415E-01	0.123E-03	0.327E-03	0.195E-03	0.242E-03	0.533E-01	0.207E 00	0.415E-01	0.415E-01	0.415E-01	0.415E-01	0.413E-01
ADREN	0.151E-06	0.151E-06	0.163E-07	0.370E-08	0.439E-08	0.103E-08	0.415E-01	0.521E-07	0.297E-06	0.248E-05	0.275E-10	0.956E-09	0.851E-01
BL WALL	0.795E-10	0.795E-10	0.823E-09	0.139E-07	0.103E-07	0.565E-07	0.415E-01	0.214E-08	0.344E-09	0.542E-09	0.335E-07	0.544E-07	0.425E-01
KIDNEYS	0.408E-08	0.408E-08	0.220E-07	0.179E-07	0.168E-07	0.360E-08	0.415E-01	0.375E-07	0.118E-06	0.936E 01	0.667E-10	0.372E-08	0.256E-06
LIVER	0.151E-06	0.151E-06	0.346E-07	0.324E-07	0.330E-07	0.694E-09	0.415E-01	0.169E-07	0.161E 01	0.743E-07	0.493E-10	0.192E-08	0.111E-06
OVARIES	0.323E-09	0.323E-09	0.317E-08	0.159E-05	0.227E-05	0.463E-05	0.415E-01	0.659E-08	0.207E-08	0.509E-08	0.0	0.264E 03	0.532E-06
PANCREAS	0.178E-07	0.178E-07	0.105E-05	0.108E-07	0.111E-07	0.250E-08	0.415E-01	0.471E-07	0.190E-06	0.453E-07	0.561E-10	0.134E-08	0.851E-01
BONE	0.573E-07	0.573E-07	0.115E-07	0.569E-07	0.278E-07	0.966E-07	0.207E 00	0.290E 01	0.426E-07	0.380E-07	0.600E-08	0.178E-07	0.683E-06
R MAR	0.630E-07	0.630E-07	0.157E-07	0.232E-06	0.110E-06	0.394E-06	0.415E-01	0.479E 00	0.442E-07	0.101E-06	0.471E-08	0.703E-07	0.851E-01
Y MAR	0.723E-07	0.723E-07	0.163E-07	0.794E-07	0.392E-07	0.134E-06	0.415E-01	0.733E-05	0.626E-07	0.459E-07	0.197E-08	0.249E-07	0.851E-01
ENDOST	0.572E-07	0.572E-07	0.114E-07	0.567E-07	0.276E-07	0.964E-07	0.415E-01	0.612E 01	0.425E-07	0.379E-07	0.587E-08	0.177E-07	0.872E-05
SPLEEN	0.872E-07	0.872E-07	0.903E-07	0.708E-08	0.819E-08	0.435E-08	0.415E-01	0.750E-07	0.408E-08	0.746E-06	0.362E-10	0.151E-08	0.851E-01
TESTES	0.932E-11	0.932E-11	0.924E-10	0.765E-09	0.815E-09	0.115E-07	0.415E-01	0.251E-08	0.715E-10	0.107E-09	0.829E 02	0.0	0.694E-07
THYMUS	0.521E-07	0.521E-07	0.206E-08	0.971E-10	0.124E-09	0.265E-10	0.415E-01	0.938E-07	0.239E-09	0.547E-09	0.121E-11	0.213E-10	0.851E-01
THYROID	0.336E-08	0.336E-08	0.111E-09	0.106E-10	0.120E-10	0.320E-11	0.415E-01	0.184E-07	0.166E-09	0.474E-10	0.200E-12	0.264E-11	0.851E-01
UTERUS	0.268E-09	0.268E-09	0.219E-08	0.224E-06	0.377E-07	0.487E-07	0.415E-01	0.229E-08	0.133E-08	0.273E-08	0.0	0.363E-06	0.851E-01

α decay (87.75 Y 5)

Case 1 represents inhalation of oxides, hydroxides, and carbides; case 2 inhalation of nitrates; and case 3 ingestion of any compound.

CASE 1.. INHALATION

AMAD (MICRON).. 1.00 D3 =0.310 D4 =8.000E-02 D5 =0.249

	SOLUBILITY CLASS	G.I. UPTAKE FRACTIONS			
		STOMACH	S INT	U L INT	L L INT
PU-238	Y	0.0	3.000E-05	0.0	0.0

DOSE EQUIVALENT (REM/MICROCURIE)

SOURCE	LUNGS	RES LYM	S CONT	SI CONT	ULI CONT	LLI CONT	EXCRET.	BONE	LIVER	KIDNEYS	TESTES
TARGET											
LUNGS	309.	4.938E-02	7.759E-10	6.606E-11	2.817E-10	1.080E-10	5.778E-05	6.653E-06	4.525E-05	4.105E-08	8.547E-13
RES LYM	5.143E-02	1.983E 04	7.759E-10	6.606E-11	2.817E-10	1.080E-10	5.778E-05	6.653E-06	4.525E-05	4.105E-08	8.547E-13
S WALL	7.581E-06	7.279E-06	1.386E-03	1.362E-08	8.158E-08	7.005E-09	5.778E-05	4.990E-06	1.192E-05	1.055E-07	1.907E-11
SI WALL	5.803E-08	5.572E-08	9.267E-10	3.473E-03	1.009E-06	1.016E-06	5.778E-05	5.672E-06	5.827E-06	8.485E-08	2.481E-10
ULI WALL	7.943E-08	7.627E-08	2.749E-09	3.532E-06	2.049E-02	9.048E-07	5.778E-05	7.253E-06	8.056E-06	7.750E-08	2.070E-10
LLI WALL	1.374E-08	1.319E-08	1.608E-10	3.561E-07	9.170E-08	6.187E-02	5.778E-05	2.083E-05	1.190E-07	1.261E-08	3.775E-09
T BODY	4.42	4.24	2.992E-06	3.181E-05	6.166E-05	1.413E-04	7.421E-05	56.4	9.16	0.204	9.802E-03
ADREN	1.608E-05	1.544E-05	3.965E-10	3.600E-10	1.388E-09	6.012E-10	5.778E-05	1.421E-05	6.555E-05	1.216E-05	5.832E-12
BL WALL	8.465E-09	8.127E-09	2.002E-11	1.352E-09	3.257E-09	3.473E-08	5.778E-05	5.835E-07	7.593E-08	2.658E-09	7.105E-09
KIDNEYS	4.344E-07	4.171E-07	5.351E-10	1.742E-09	5.312E-09	2.101E-09	5.778E-05	1.023E-05	2.604E-05	45.9	1.415E-11
LIVER	1.608E-05	1.544E-05	8.416E-10	3.152E-09	1.043E-08	4.051E-10	5.778E-05	4.608E-06	355.	3.644E-07	1.046E-11
OVARIES	3.439E-08	3.302E-08	7.711E-11	1.547E-07	7.178E-07	2.703E-06	5.778E-05	1.797E-06	4.569E-07	2.497E-08	0.0
PANCREAS	1.895E-06	1.820E-06	2.554E-08	1.051E-09	3.510E-09	1.459E-09	5.778E-05	1.284E-05	4.194E-05	2.222E-07	1.190E-11
BONE	6.101E-06	5.858E-06	2.797E-10	5.536E-09	8.790E-09	5.639E-08	2.882E-04	791.	9.403E-06	1.864E-07	1.273E-09
R MAR	6.708E-06	6.441E-06	3.819E-10	2.257E-08	3.478E-08	2.300E-07	5.778E-05	131.	9.756E-06	4.954E-07	9.989E-10
Y MAR	7.699E-06	7.391E-06	3.965E-10	7.725E-09	1.239E-08	7.822E-08	5.778E-05	1.999E-03	1.382E-05	2.251E-07	4.178E-10
ENDOST	6.091E-06	5.848E-06	2.773E-10	5.516E-09	8.727E-09	5.627E-08	5.778E-05	1.669E 03	9.381E-06	1.859E-07	1.245E-09
SPLEEN	9.285E-06	8.915E-06	2.196E-09	6.888E-10	2.590E-09	2.539E-09	5.778E-05	2.045E-05	9.005E-07	3.659E-06	7.678E-12
TESTES	9.924E-10	9.528E-10	2.247E-12	7.443E-11	2.577E-10	6.713E-09	5.778E-05	6.844E-07	1.578E-08	5.248E-10	17.6
THYMUS	5.548E-06	5.326E-06	5.011E-11	9.447E-12	3.921E-11	1.547E-11	5.778E-05	9.217E-06	5.275E-07	2.633E-09	2.566E-13
THYROID	3.578E-07	3.435E-07	2.700E-12	1.031E-12	3.794E-12	1.868E-12	5.778E-05	5.017E-06	3.664E-08	2.325E-10	4.242E-14
UTERUS	2.854E-08	2.740E-08	5.327E-11	2.179E-08	1.192E-08	2.843E-08	5.778E-05	6.244E-07	2.936E-07	1.339E-08	0.0

DOSE EQUIVALENT (REM/MICROCURIE)

SOURCE	OVARIES	OTHER	TOTAL
TARGET			
LUNGS	9.132E-12	1.233E-05	309.
RES LYM	9.132E-12	1.233E-05	1.983E 04
S WALL	2.260E-10	2.318E-06	1.479E-03
SI WALL	9.665E-08	3.878E-06	3.549E-03
ULI WALL	2.800E-07	9.847E-06	2.058E-02
LLI WALL	3.373E-07	2.618E-06	6.196E-02
T BODY	2.766E-03	1.25	75.7
ADREN	6.372E-11	2.58	2.58
BL WALL	3.626E-09	1.29	1.29
KIDNEYS	2.480E-10	7.756E-06	45.9
LIVER	1.230E-10	3.363E-06	355.
OVARIES	17.6	1.612E-05	17.6
PANCREAS	8.932E-11	2.58	2.58
BONE	1.186E-09	2.069E-05	791.
R MAR	4.686E-09	2.58	133.
Y MAR	1.660E-09	2.58	2.58
ENDOST	1.180E-09	2.642E-04	1.669E 03
SPLEEN	1.007E-10	2.58	2.58
TESTES	0.0	2.103E-06	17.6
THYMUS	1.420E-12	2.58	2.58
THYROID	1.760E-13	2.58	2.58
UTERUS	2.420E-08	2.58	2.58

CASE 2.. INHALATION

AMAD (MICRON).. 1.00 D3 =0.310 D4 =8.000E-02 D5 =0.249

	SOLUBILITY CLASS	G.I. UPTAKE FRACTIONS STOMACH	S INT	U L INT	L L INT
PU-238	W	0.0	3.000E-05	0.0	0.0

DOSE EQUIVALENT (REM/MICROCURIE)

SOURCE	LUNGS	RES LYM	S CONT	SI CONT	ULI CONT	LLI CONT	EXCRET.	BONE	LIVER	KIDNEYS	TESTES
TARGET											
LUNGS	32.3	4.327E-04	6.837E-10	5.863E-11	2.501E-10	9.585E-11	1.446E-04	1.708E-05	1.155E-04	1.048E-07	2.194E-12
RES LYM	5.381E-03	174.	6.887E-10	5.863E-11	2.501E-10	9.585E-11	1.446E-04	1.708E-05	1.155E-04	1.048E-07	2.194E-12
S WALL	7.933E-07	6.378E-08	1.231E-03	1.209E-08	7.241E-08	6.217E-09	1.446E-04	1.281E-05	3.042E-05	2.692E-07	4.895E-11
SI WALL	6.072E-09	4.882E-10	8.225E-10	3.083E-03	8.953E-07	9.015E-07	1.446E-04	1.456E-05	1.487E-05	2.166E-07	6.371E-10
ULI WALL	8.311E-09	6.683E-10	2.440E-09	3.135E-06	1.819E-02	8.031E-07	1.446E-04	1.862E-05	2.056E-05	1.978E-07	5.314E-10
LLI WALL	1.437E-09	1.156E-10	1.427E-10	3.161E-07	8.139E-08	5.492E-02	1.446E-04	5.749E-05	3.037E-07	3.217E-08	9.692E-09
T BODY	0.462	3.718E-02	2.655E-06	2.824E-05	5.473E-05	1.254E-04	1.857E-04	145.	23.4	0.520	2.260E-02
ADREN	1.682E-06	1.353E-07	3.519E-10	3.195E-10	1.232E-09	5.336E-10	1.446E-04	3.647E-05	1.673E-04	3.105E-05	1.497E-11
BL WALL	8.857E-10	7.122E-11	1.777E-11	1.200E-09	2.891E-09	3.083E-08	1.446E-04	1.498E-06	1.938E-07	6.785E-09	1.824E-08
KIDNEYS	4.546E-08	3.655E-09	4.750E-10	1.546E-09	4.715E-09	1.865E-09	1.446E-04	2.625E-05	6.648E-05	117.	3.632E-11
LIVER	1.682E-06	1.353E-07	7.470E-10	2.798E-09	9.261E-09	3.596E-10	1.446E-04	1.183E-05	907.	9.302E-07	2.684E-11
OVARIES	3.599E-09	2.893E-10	6.844E-11	1.373E-07	6.371E-07	2.399E-06	1.446E-04	4.614E-06	1.166E-06	6.372E-08	0.0
PANCREAS	1.983E-07	1.595E-08	2.267E-08	9.326E-10	3.115E-09	1.295E-09	1.446E-04	3.297E-05	1.070E-04	5.671E-07	3.055E-11
BONE	6.384E-07	5.133E-08	2.483E-10	4.913E-09	7.802E-09	5.005E-08	7.212E-04	2.030E 03	2.400E-05	4.757E-07	3.267E-09
R MAR	7.019E-07	5.644E-08	3.386E-10	2.003E-08	8.087E-08	2.041E-07	1.446E-04	335.	2.490E-05	1.264E-06	2.565E-09
Y MAR	8.055E-07	6.477E-08	3.519E-10	6.856E-09	1.100E-08	6.943E-08	1.446E-04	5.132E-03	3.527E-05	5.746E-07	1.073E-09
ENDOST	6.373E-07	5.124E-08	2.461E-10	4.896E-09	7.746E-09	4.994E-08	1.446E-04	4.285E 03	2.394E-05	4.745E-07	3.196E-09
SPLEEN	9.715E-07	7.812E-08	1.949E-09	6.114E-10	2.299E-09	2.254E-09	1.446E-04	5.251E-05	2.299E-06	9.339E-06	1.971E-11
TESTES	1.038E-10	8.349E-12	1.995E-12	6.606E-11	2.287E-10	5.958E-09	1.446E-04	1.757E-06	4.028E-08	1.340E-09	45.1
THYMUS	5.805E-07	4.667E-08	4.447E-11	8.385E-12	3.480E-11	1.373E-11	1.446E-04	2.766E-05	1.346E-06	6.848E-09	6.589E-13
THYROID	3.744E-08	3.010E-09	2.396E-12	9.153E-13	3.369E-12	1.658E-12	1.446E-04	1.288E-05	9.352E-08	5.934E-10	1.089E-13
UTERUS	2.986E-09	2.401E-10	4.728E-11	1.934E-09	1.058E-08	2.523E-08	1.446E-04	1.603E-06	7.493E-07	3.419E-08	0.0

DOSE EQUIVALENT (REM/MICROCURIE)

SOURCE	OVARIES	OTHER	TOTAL
TARGET			
LUNGS	2.345E-11	3.166E-05	32.3
RES LYM	2.345E-11	3.166E-05	174.
S WALL	5.801E-10	5.951E-06	1.426E-03
SI WALL	2.481E-07	9.957E-06	3.269E-03
ULI WALL	7.188E-07	2.528E-05	1.840E-02
LLI WALL	8.659E-07	6.721E-06	5.513E-02
T BODY	7.102E-03	3.21	173.
ADREN	1.636E-10	6.62	6.62
BL WALL	9.310E-09	3.31	3.31
KIDNEYS	6.366E-10	1.991E-05	117.
LIVER	3.286E-10	8.634E-06	907.
OVARIES	45.2	4.138E-05	45.2
PANCREAS	2.293E-10	6.62	6.62
BONE	3.046E-09	5.313E-05	2.030E 03
R MAR	1.203E-08	6.62	342.
Y MAR	4.261E-09	6.62	6.62
ENDOST	3.029E-09	6.783E-04	4.285E 03
SPLEEN	2.584E-10	6.62	6.62
TESTES	0.0	5.398E-06	45.1
THYMUS	3.645E-12	6.62	6.62
THYROID	4.518E-13	6.62	6.62
UTERUS	6.212E-08	6.62	6.62

CASE 3.. INGESTION

INGESTION TRANSFER FRACTIONS (G. I. TRACT TO BLOOD)

	PU-238
STOMACH	0.0
S INT	3.000E-05
U L INT	0.0
L L INT	0.0

DOSE EQUIVALENT (REM/MICROCURIE)

SOURCE	S CONT	SI CONT	ULI CONT	LLI CONT	EXCRET.	BONE	LIVER	KIDNEYS	TESTES	OVARIES	OTHER
TARGET											
LUNGS	1.329E-09	1.132E-10	4.826E-10	1.850E-10	3.592E-08	4.244E-09	2.869E-08	2.603E-11	5.452E-16	5.825E-15	7.866E-09
RES LYM	1.329E-09	1.132E-10	4.826E-10	1.850E-10	3.592E-08	4.244E-09	2.869E-08	2.603E-11	5.452E-16	5.825E-15	7.866E-09
S WALL	2.375E-03	2.333E-08	1.397E-07	1.200E-08	3.592E-08	3.183E-09	7.559E-09	6.688E-11	1.216E-14	1.441E-13	1.479E-09
SI WALL	1.587E-09	5.950E-03	1.728E-06	1.740E-06	3.592E-08	3.618E-09	3.695E-09	5.381E-11	1.583E-13	6.165E-11	2.474E-09
ULI WALL	4.708E-09	6.050E-06	3.510E-02	1.550E-06	3.592E-08	4.627E-09	5.109E-09	4.915E-11	1.320E-13	1.786E-10	6.281E-09
LLI WALL	2.754E-10	6.100E-07	1.571E-07	0.106	3.592E-08	1.329E-08	7.545E-11	7.994E-12	2.408E-12	2.131E-10	1.670E-09
T BODY	5.125E-06	5.450E-05	1.056E-04	2.420E-04	4.614E-08	3.601E-02	5.809E-03	1.291E-04	5.615E-06	1.765E-06	7.982E-04
ADREN	6.792E-10	6.166E-10	2.378E-09	1.030E-09	3.592E-08	9.062E-09	4.157E-08	7.714E-09	3.720E-15	4.065E-14	1.645E-03
BL WALL	3.429E-11	2.317E-09	5.579E-09	5.950E-08	3.592E-08	3.722E-10	4.815E-11	1.686E-12	4.532E-12	2.313E-12	8.214E-04
KIDNEYS	9.167E-10	2.983E-09	9.100E-09	3.600E-09	3.592E-08	6.523E-09	1.652E-08	2.911E-02	9.024E-15	1.582E-13	4.948E-09
LIVER	1.442E-09	5.400E-09	1.787E-08	6.940E-10	3.592E-08	2.940E-09	0.225	2.311E-10	6.670E-15	8.164E-14	2.145E-09
OVARIES	1.321E-10	2.650E-07	1.230E-06	4.630E-06	3.592E-08	1.146E-09	2.897E-10	1.583E-11	0.0	1.123E-02	1.028E-08
PANCREAS	4.375E-08	1.800E-09	6.012E-09	2.500E-09	3.592E-08	8.193E-09	2.659E-08	1.409E-10	7.590E-15	5.698E-14	1.645E-03
BONE	4.792E-10	9.483E-09	1.506E-08	9.659E-08	1.792E-07	0.504	5.963E-09	1.182E-10	8.117E-13	7.569E-13	1.320E-08
R MAR	6.542E-10	3.867E-08	5.956E-08	3.940E-07	3.592E-08	8.332E-02	6.187E-09	3.142E-10	6.372E-13	2.989E-12	1.645E-03
Y MAR	6.792E-10	1.323E-08	2.123E-08	1.340E-07	3.592E-08	1.275E-06	8.762E-09	1.428E-10	2.665E-13	1.059E-12	1.645E-03
ENDOST	4.750E-10	9.450E-09	1.495E-08	9.639E-08	3.592E-08	1.06	5.949E-09	1.179E-10	7.942E-13	7.526E-13	1.685E-07
SPLEEN	3.762E-09	1.180E-09	4.436E-09	4.350E-09	3.592E-08	1.305E-08	5.711E-10	2.320E-09	4.897E-15	6.420E-14	1.645E-03
TESTES	3.850E-12	1.275E-10	4.414E-10	1.150E-08	3.592E-08	4.366E-10	1.001E-11	3.328E-13	1.122E-02	0.0	1.341E-09
THYMUS	8.583E-11	1.618E-11	6.716E-11	2.650E-11	3.592E-08	5.879E-09	3.345E-10	1.701E-12	1.637E-16	9.057E-16	1.645E-03
THYROID	4.625E-12	1.767E-12	6.500E-12	3.200E-12	3.592E-08	3.201E-09	2.324E-11	1.474E-13	2.706E-17	1.123E-16	1.645E-03
UTERUS	9.125E-11	3.733E-08	2.042E-08	4.870E-08	3.592E-08	3.983E-10	1.862E-10	8.492E-12	0.0	1.543E-11	1.645E-03

DOSE EQUIVALENT (REM/MICRCCURIE)

SOURCE	TOTAL
TARGET	
LUNGS	7.886E-08
RES LYM	7.886E-08
S WALL	2.375E-03
SI WALL	5.953E-03
ULI WALL	3.511E-02
LLI WALL	0.106
T BODY	4.316E-02
ADREN	1.645E-03
BL WALL	8.215E-04
KIDNEYS	2.911E-02
LIVER	0.225
OVARIES	1.123E-02
PANCREAS	1.645E-03
BONE	0.504
R MAR	8.496E-02
Y MAR	1.646E-03
ENDOST	1.06
SPLEEN	1.645E-03
TESTES	1.122E-02
THYMUS	1.645E-03
THYROID	1.645E-03
UTERUS	1.645E-03

CASE 2.. INHALATION

AMAD (MICRON).. 1.00 D3 =0.310 D4 =8.000E-02 D5 =0.249

	SOLUBILITY CLASS	G.I. UPTAKE FRACTIONS			
		STOMACH	S INT	U L INT	L L INT
PU-239	W	0.0	3.000E-05	0.0	0.0

DOSE EQUIVALENT (REM/MICROCURIE)

SOURCE	LUNGS	RES LYM	S CONT	SI CONT	ULI CONT	LLI CONT	EXCRET.	BONE	LIVER	KIDNEYS	TESTES
TARGET											
LUNGS	30.4	2.543E-04	5.636E-10	1.918E-10	7.692E-10	4.151E-10	1.356E-04	1.425E-05	6.501E-05	1.563E-07	2.953E-11
RES LYM	3.158E-03	164.	5.636E-10	1.918E-10	7.692E-10	4.151E-10	1.356E-04	1.425E-05	6.501E-05	1.563E-07	2.953E-11
S WALL	4.636E-07	3.774E-08	1.149E-03	7.256E-09	3.593E-08	1.011E-08	1.356E-04	9.974E-06	2.355E-05	5.823E-07	1.741E-10
SI WALL	2.187E-08	1.761E-09	8.120E-10	2.876E-03	3.762E-07	3.809E-07	1.356E-04	1.182E-05	1.599E-05	4.629E-07	2.308E-09
ULI WALL	2.578E-08	2.076E-09	1.546E-09	1.209E-06	1.693E-02	3.229E-07	1.356E-04	1.333E-05	2.335E-05	4.541E-07	1.975E-09
LLI WALL	6.394E-09	5.149E-10	2.678E-10	1.253E-07	3.874E-08	5.110E-02	1.356E-04	3.177E-05	1.592E-06	1.042E-07	1.890E-08
T BODY	0.434	3.496E-02	2.462E-06	2.635E-05	5.109E-05	1.171E-04	1.743E-04	163.	25.8	0.573	2.536E-02
ADREN	9.038E-07	7.279E-08	6.630E-10	7.377E-10	2.760E-09	1.716E-09	1.356E-04	2.322E-05	9.752E-05	1.518E-05	1.786E-10
BL WALL	3.537E-09	2.849E-10	6.673E-11	2.401E-09	6.766E-09	4.214E-08	1.356E-04	4.761E-06	1.115E-06	4.261E-08	3.370E-08
KIDNEYS	9.953E-08	8.016E-09	8.034E-10	3.049E-09	8.675E-09	4.525E-09	1.356E-04	1.760E-05	5.168E-05	130.	2.295E-10
LIVER	8.592E-07	6.919E-08	6.651E-10	2.419E-09	9.545E-09	1.301E-09	1.356E-04	1.023E-05	1.002E 03	8.960E-07	1.858E-10
OVARIES	9.853E-09	7.935E-10	1.222E-10	5.960E-08	2.704E-07	9.796E-07	1.356E-04	7.132E-06	3.012E-06	1.695E-07	0.0
PANCREAS	3.180E-07	2.561E-08	1.166E-08	1.909E-09	6.934E-09	4.250E-09	1.356E-04	2.045E-05	7.231E-05	1.063E-06	3.194E-10
BONE	3.693E-07	2.974E-08	2.613E-10	2.781E-09	5.671E-09	2.560E-08	6.764E-04	2.280E 03	1.678E-05	3.848E-07	6.910E-09
R MAR	4.329E-07	3.487E-08	4.406E-10	1.071E-08	2.027E-08	9.692E-08	1.356E-04	377.	2.050E-05	1.020E-06	5.482E-09
Y MAR	4.352E-07	3.505E-08	3.650E-10	3.904E-09	8.085E-09	3.421E-08	1.356E-04	2.364E-03	2.461E-05	4.688E-07	2.503E-09
ENDOST	3.693E-07	2.974E-08	2.613E-10	2.781E-09	5.671E-09	2.560E-08	1.356E-04	5.272E 03	1.678E-05	3.848E-07	6.910E-09
SPLEEN	5.836E-07	4.700E-08	2.419E-09	1.408E-09	4.403E-09	4.514E-09	1.356E-04	2.774E-05	6.462E-06	5.145E-06	1.121E-10
TESTES	6.996E-10	5.634E-11	1.006E-11	2.669E-10	7.440E-10	9.122E-09	1.356E-04	5.867E-06	3.748E-07	1.199E-08	50.7
THYMUS	6.383E-07	5.140E-08	6.241E-11	6.418E-11	2.796E-10	1.202E-10	1.356E-04	1.483E-05	4.518E-06	3.214E-08	1.186E-11
THYROID	1.149E-07	9.256E-09	1.678E-11	1.054E-11	3.818E-11	2.161E-11	1.356E-04	1.115E-05	8.027E-07	6.236E-09	2.066E-12
UTERUS	8.904E-09	7.171E-10	1.728E-10	1.391E-08	1.701E-08	3.944E-08	1.356E-04	4.911E-06	2.740E-06	1.377E-07	0.0

DOSE EQUIVALENT (REM/MICROCURIE)

SOURCE	OVARIES	OTHER	TOTAL
TARGET			
LUNGS	1.199E-10	1.537E-05	30.4
RES LYM	1.199E-10	1.537E-05	164.
S WALL	1.797E-09	3.585E-06	1.323E-03
SI WALL	1.328E-07	5.681E-06	3.047E-03
ULI WALL	3.462E-07	1.267E-05	1.717E-02
LLI WALL	4.179E-07	4.302E-06	5.128E-02
T BODY	7.970E-03	3.60	193.
ADREN	6.699E-10	7.44	7.44
BL WALL	1.625E-08	3.72	3.72
KIDNEYS	1.985E-09	1.006E-05	130.
LIVER	1.137E-09	4.721E-06	1.002E 03
OVARIES	50.8	2.030E-05	50.8
PANCREAS	1.108E-09	7.44	7.44
BONE	3.954E-09	2.691E-05	2.280E 03
R MAR	1.430E-08	7.44	385.
Y MAR	5.368E-09	7.44	7.44
ENDOST	3.954E-09	4.898E-04	5.272E 03
SPLEEN	1.018E-09	7.43	7.43
TESTES	0.0	3.269E-06	50.7
THYMUS	4.548E-11	7.43	7.43
THYROID	7.580E-12	7.44	7.44
UTERUS	6.064E-08	7.43	7.43

CASE 3.. INGESTION

INGESTION TRANSFER FRACTIONS (G. I. TRACT TO BLOOD)

	PU-239
STOMACH	0.0
S INT	3.000E-05
U L INT	0.0
L L INT	0.0

DOSE EQUIVALENT (REM/MICROCURIE)

SOURCE	S CONT	SI CONT	ULI CONT	LLI CONT	EXCRET.	BONE	LIVER	KIDNEYS	TESTES	OVARIES	OTHER
TARGET											
LUNGS	1.087E-09	3.700E-10	1.484E-09	8.010E-10	3.367E-08	3.537E-09	1.614E-08	3.880E-11	7.331E-15	2.975E-14	3.815E-09
RES LYM	1.087E-09	3.700E-10	1.484E-09	8.010E-10	3.367E-08	3.537E-09	1.614E-08	3.880E-11	7.331E-15	2.975E-14	3.815E-09
S WALL	2.217E-03	1.400E-08	6.933E-08	1.950E-08	3.367E-08	2.476E-09	5.847E-09	1.446E-10	4.321E-14	4.461E-13	8.901E-10
SI WALL	1.567E-09	5.550E-03	7.258E-07	7.350E-07	3.367E-08	2.934E-09	3.969E-09	1.149E-10	5.729E-13	3.296E-11	1.410E-09
ULI WALL	2.987E-09	2.333E-06	3.277E-02	6.230E-07	3.367E-08	3.308E-09	5.797E-09	1.127E-10	4.904E-13	8.596E-11	3.144E-09
LLI WALL	5.167E-10	2.417E-07	7.475E-08	9.860E-02	3.367E-08	7.886E-09	3.953E-10	2.588E-11	4.693E-12	1.038E-10	1.068E-09
T BODY	4.750E-06	5.083E-05	9.858E-05	2.260E-04	4.329E-08	4.037E-02	6.407E-03	1.424E-04	6.295E-06	1.979E-06	8.947E-04
ADREN	1.279E-09	1.423E-09	5.324E-09	3.310E-09	3.367E-08	5.764E-09	2.421E-08	3.770E-09	4.434E-14	1.663E-13	1.847E-03
BL WALL	1.287E-10	4.633E-09	1.305E-08	8.130E-08	3.367E-08	1.182E-09	2.767E-10	1.058E-11	8.367E-12	4.033E-12	9.225E-04
KIDNEYS	1.550E-09	5.883E-09	1.674E-08	8.730E-09	3.367E-08	4.370E-09	1.283E-08	3.217E-02	5.697E-14	4.929E-13	2.497E-09
LIVER	1.283E-09	4.667E-09	1.842E-08	2.510E-09	3.367E-08	2.539E-09	0.249	2.200E-10	4.612E-14	2.823E-13	1.172E-09
OVARIES	2.358E-10	1.150E-07	5.216E-07	1.890E-06	3.367E-08	1.771E-09	7.477E-10	4.209E-11	0.0	1.261E-02	5.040E-09
PANCREAS	2.250E-08	3.683E-09	1.338E-08	8.200E-09	3.367E-08	5.077E-09	1.795E-08	2.639E-10	7.930E-14	2.752E-13	1.847E-03
BONE	5.042E-10	5.367E-09	1.094E-08	4.940E-08	1.679E-07	0.566	4.167E-09	9.552E-11	1.715E-12	9.816E-13	6.681E-09
R MAR	3.500E-10	2.067E-08	3.911E-08	1.870E-07	3.367E-08	9.363E-02	5.089E-09	2.533E-10	1.361E-12	3.550E-12	1.847E-03
Y MAR	7.042E-10	7.533E-09	1.560E-08	6.600E-08	3.367E-08	5.868E-07	6.110E-09	1.164E-10	6.214E-13	1.333E-12	1.847E-03
ENDOST	5.042E-10	5.367E-09	1.094E-08	4.940E-08	3.367E-08	1.31	4.167E-09	9.552E-11	1.715E-12	9.816E-13	1.216E-07
SPLEEN	4.667E-09	2.717E-09	8.504E-09	8.710E-09	3.367E-08	6.887E-09	1.604E-09	1.277E-09	2.784E-14	2.528E-13	1.845E-03
TESTES	1.942E-11	5.150E-10	1.435E-09	1.760E-08	3.367E-08	1.457E-09	9.305E-11	2.976E-12	1.259E-02	0.0	8.115E-10
THYMUS	1.204E-10	1.238E-10	5.395E-10	2.320E-10	3.367E-08	3.683E-09	1.122E-09	7.979E-12	2.945E-15	1.129E-14	1.845E-03
THYROID	3.237E-11	2.033E-11	7.367E-11	4.170E-11	3.367E-08	2.767E-09	1.993E-10	1.548E-12	5.130E-16	1.892E-15	1.847E-03
UTERUS	3.333E-10	2.683E-08	3.282E-08	7.610E-08	3.367E-08	1.219E-09	6.802E-10	3.418E-11	0.0	1.506E-11	1.845E-03

DOSE EQUIVALENT (REM/MICROCURIE)

SOURCE	TOTAL
TARGET	
LUNGS	6.095E-08
RES LYM	6.095E-08
S WALL	2.217E-03
SI WALL	5.551E-03
ULI WALL	3.277E-02
LLI WALL	9.860E-02
T BODY	4.820E-02
ADREN	1.847E-03
BL WALL	9.226E-04
KIDNEYS	3.217E-02
LIVER	0.249
OVARIES	1.262E-02
PANCREAS	1.847E-03
BONE	0.566
R MAR	9.548E-02
Y MAR	1.848E-03
ENDOST	1.31
SPLEEN	1.845E-03
TESTES	1.259E-02
THYMUS	1.845E-03
THYROID	1.847E-03
UTERUS	1.845E-03

RADIONUCLIDE: PU-240

PHYSICAL AND METABOLIC PARAMETERS FOR DOSIMETRICALLY SIGNIFICANT PROGENY:

NUCLIDE	RADIOACTIVE HALF-LIFE (DAYS)
PU-240	2.3900E 06

ORGAN ABSORBED	NUCLIDE	BLOOD TRANSFER FRACTION F2-PRIME	COMPARTMENT DEPOSITION FRACTION	COMPARTMENT BIOLOGICAL HALF-TIME (DAYS)
	PU-240	1.00	4.000E-02	0.500
			0.460	1.460E 04
			0.500	3.650E 04
EXCRET.	PU-240	4.000E-02	1.00	0.500
BONE	PU-240	0.450	1.00	3.650E 04
LIVER	PU-240	0.450	1.00	1.460E 04
KIDNEYS	PU-240	1.000E-02	1.00	1.460E 04
TESTES	PU-240	3.500E-04	1.00	3.650E 04
OVARIES	PU-240	1.100E-04	1.00	3.650E 04
OTHER	PU-240	5.000E-02	1.00	3.650E 04

S FACTORS (REM/MICROCURIE-DAY) FOR PU-240

TARGET ORGANS	SOURCE ORGANS												
	LUNGS	RES LYM	S CONT	SI CONT	ULI CONT	LLI CONT	EXCRET.	BONE	LIVER	KIDNEYS	TESTES	OVARIES	OTHER
LUNGS	0.273E 01	0.484E-03	0.343E-07	0.964E-09	0.117E-08	0.311E-09	0.390E-01	0.249E-07	0.199E-06	0.939E-08	0.164E-10	0.234E-09	0.390E-06
RES LYM	0.484E-03	0.182E 03	0.343E-07	0.964E-09	0.117E-08	0.311E-09	0.390E-01	0.249E-07	0.199E-06	0.939E-08	0.164E-10	0.234E-09	0.390E-06
S WALL	0.719E-07	0.719E-07	0.537E-01	0.140E-06	0.253E-06	0.145E-07	0.390E-01	0.182E-07	0.549E-07	0.264E-07	0.184E-09	0.445E-08	0.759E-07
SI WALL	0.816E-09	0.816E-09	0.414E-07	0.335E-01	0.308E-05	0.167E-05	0.390E-01	0.208E-07	0.280E-07	0.215E-07	0.174E-08	0.140E-05	0.124E-06
ULI WALL	0.104E-08	0.104E-08	0.115E-06	0.346E-04	0.610E-01	0.148E-05	0.390E-01	0.262E-07	0.393E-07	0.198E-07	0.148E-08	0.403E-05	0.312E-06
LLI WALL	0.225E-09	0.225E-09	0.831E-08	0.350E-05	0.282E-06	0.993E-01	0.390E-01	0.742E-07	0.820E-09	0.352E-08	0.270E-07	0.495E-05	0.956E-07
T BODY	0.390E-01	0.390E-01	0.116E-03	0.307E-03	0.184E-03	0.228E-03	0.501E-01	0.195E 00	0.390E-01	0.390E-01	0.390E-01	0.390E-01	0.388E-01
ADREN	0.148E-06	0.148E-06	0.202E-07	0.501E-08	0.560E-08	0.145E-08	0.390E-01	0.520E-07	0.292E-06	0.238E-05	0.715E-10	0.140E-08	0.799E-01
BL WALL	0.125E-09	0.125E-09	0.121E-08	0.174E-07	0.138E-07	0.685E-07	0.390E-01	0.276E-08	0.590E-09	0.918E-09	0.369E-07	0.654E-07	0.400E-01
KIDNEYS	0.525E-08	0.525E-08	0.270E-07	0.222E-07	0.204E-07	0.479E-08	0.390E-01	0.375E-07	0.119E-06	0.980E 01	0.174E-09	0.503E-08	0.246E-06
LIVER	0.147E-06	0.147E-06	0.363E-07	0.340E-07	0.355E-07	0.104E-08	0.390E-01	0.171E-07	0.152E 01	0.781E-07	0.116E-09	0.262E-08	0.108E-06
OVARIES	0.439E-09	0.439E-09	0.423E-08	0.154E-05	0.218E-05	0.445E-05	0.390E-01	0.730E-08	0.280E-08	0.653E-08	0.0	0.248E 03	0.510E-06
PANCREAS	0.212E-07	0.212E-07	0.104E-05	0.135E-07	0.137E-07	0.336E-09	0.390E-01	0.461E-07	0.189E-06	0.551E-07	0.120E-09	0.198E-08	0.799E-01
BONE	0.611E-07	0.611E-07	0.144E-07	0.593E-07	0.336E-07	0.992E-07	0.195E 00	0.273E 01	0.455E-07	0.430E-07	0.111E-07	0.231E-07	0.671E-06
R MAR	0.638E-07	0.638E-07	0.174E-07	0.229E-06	0.111E-06	0.387E-06	0.390E-01	0.450E 00	0.447E-07	0.102E-06	0.574E-08	0.782E-07	0.799E-01
Y MAR	0.722E-07	0.722E-07	0.178E-07	0.787E-07	0.401E-07	0.131E-06	0.390E-01	0.699E-05	0.630E-07	0.472E-07	0.237E-08	0.277E-07	0.799E-01
ENDOST	0.575E-07	0.575E-07	0.123E-07	0.560E-07	0.288E-07	0.947E-07	0.390E-01	0.629E 01	0.425E-07	0.392E-07	0.753E-08	0.194E-07	0.865E-05
SPLEEN	0.868E-07	0.868E-07	0.106E-06	0.906E-08	0.100E-07	0.555E-08	0.390E-01	0.725E-07	0.536E-08	0.729E-06	0.958E-10	0.213E-08	0.799E-01
TESTES	0.226E-10	0.226E-10	0.184E-09	0.129E-08	0.271E-08	0.178E-07	0.390E-01	0.387E-08	0.143E-09	0.216E-09	0.779E 02	0.0	0.684E-07
THYMUS	0.568E-07	0.568E-07	0.263E-08	0.180E-09	0.203E-09	0.107E-09	0.390E-01	0.331E-07	0.315E-08	0.783E-09	0.670E-11	0.534E-10	0.799E-01
THYROID	0.448E-08	0.448E-08	0.205E-09	0.309E-10	0.315E-10	0.122E-10	0.390E-01	0.189E-07	0.282E-09	0.100E-09	0.208E-11	0.116E-10	0.799E-01
UTERUS	0.373E-09	0.373E-09	0.306E-08	0.232E-06	0.445E-07	0.586E-07	0.390E-01	0.283E-08	0.191E-08	0.378E-08	0.0	0.387E-06	0.799E-01

α decay (6537 Y 10)

Case 1 represents inhalation of oxides, hydroxides, and carbides; case 2 inhalation of nitrates; and case 3 ingestion of any compound.

CASE 1.. INHALATION

AMAD (MICRON).. 1.00 D3 =0.310 D4 =8.000E-02 D5 =0.249

	SOLUBILITY CLASS	G.I. UPTAKE FRACTIONS STOMACH	S INT	U L INT	L L INT
PU-240	Y	0.0	3.000E-05	0.0	0.0

DOSE EQUIVALENT (REM/MICROCURIE)

SOURCE	LUNGS	RES LYM	S CONT	SI CONT	ULI CONT	LLI CONT	EXCRET.	BONE	LIVER	KIDNEYS	TESTES
TARGET											
LUNGS	295.	5.601E-02	8.365E-10	9.403E-11	3.709E-10	1.820E-10	5.619E-05	8.332E-06	5.309E-05	5.566E-08	4.268E-12
RES LYM	5.232E-02	2.106E 04	8.365E-10	9.403E-11	3.709E-10	1.820E-10	5.619E-05	8.332E-06	5.309E-05	5.566E-08	4.268E-12
S WALL	7.773E-06	8.321E-06	1.310E-03	1.366E-09	8.021E-08	8.486E-09	5.619E-05	6.090E-06	1.465E-05	1.565E-07	4.788E-11
SI WALL	8.821E-08	9.443E-08	1.010E-09	3.268E-03	9.764E-07	9.774E-07	5.619E-05	6.960E-06	7.469E-06	1.275E-07	4.528E-10
ULI WALL	1.124E-07	1.204E-07	2.804E-09	3.375E-06	1.934E-02	8.662E-07	5.619E-05	8.767E-06	1.048E-05	1.174E-07	3.852E-10
LLI WALL	2.432E-08	2.604E-08	2.027E-10	3.414E-07	8.940E-08	5.812E-02	5.619E-05	2.483E-05	2.187E-07	2.087E-08	7.027E-09
T BODY	4.22	4.51	2.829E-06	2.995E-05	5.833E-05	1.334E-04	7.219E-05	65.2	10.4	0.231	1.015E-02
ADREN	1.600E-05	1.713E-05	4.926E-10	4.887E-10	1.775E-09	8.486E-10	5.619E-05	1.740E-05	7.790E-05	1.411E-05	1.861E-11
BL WALL	1.351E-08	1.447E-08	2.951E-11	1.697E-09	4.375E-09	4.009E-08	5.619E-05	9.235E-07	1.574E-07	5.442E-09	9.603E-09
KIDNEYS	5.675E-07	6.076E-07	6.584E-10	2.165E-09	6.467E-09	2.803E-09	5.619E-05	1.255E-05	3.175E-05	52.2	4.528E-11
LIVER	1.589E-05	1.701E-05	8.852E-10	3.316E-09	1.125E-08	6.087E-10	5.619E-05	5.722E-06	405.	4.630E-07	3.019E-11
OVARIES	4.746E-08	5.080E-08	1.032E-10	1.502E-07	6.911E-07	2.604E-06	5.619E-05	2.443E-06	7.469E-07	3.871E-08	0.0
PANCREAS	2.292E-06	2.453E-06	2.536E-08	1.317E-09	4.343E-09	1.966E-09	5.619E-05	1.543E-05	5.042E-05	3.266E-07	3.123E-11
BONE	6.605E-06	7.071E-06	3.512E-10	5.784E-09	1.065E-08	5.806E-08	2.810E-04	913.	1.214E-05	2.549E-07	2.889E-09
R MAR	6.897E-06	7.383E-06	4.243E-10	2.234E-08	3.519E-08	2.265E-07	5.619E-05	151.	1.192E-05	6.047E-07	1.494E-09
Y MAR	7.805E-06	8.356E-06	4.341E-10	7.677E-09	1.271E-08	7.667E-08	5.619E-05	2.339E-03	1.681E-05	2.798E-07	6.168E-10
ENDOST	6.216E-06	6.654E-06	3.000E-10	5.462E-09	9.130E-09	5.542E-08	5.619E-05	2.105E 03	1.134E-05	2.324E-07	1.960E-09
SPLEEN	9.383E-06	1.005E-05	2.585E-09	8.837E-10	3.170E-09	3.248E-09	5.619E-05	2.426E-05	1.430E-06	4.322E-06	2.493E-11
TESTES	2.443E-09	2.615E-09	4.487E-12	1.258E-10	8.591E-10	1.042E-08	5.619E-05	1.295E-06	3.815E-08	1.280E-09	20.3
THYMUS	6.140E-06	6.573E-06	6.414E-11	1.756E-11	6.435E-11	6.262E-11	5.619E-05	1.108E-05	8.403E-07	4.642E-09	1.744E-12
THYROID	4.843E-07	5.185E-07	4.999E-12	3.014E-12	9.986E-12	7.140E-12	5.619E-05	6.324E-06	7.523E-08	5.928E-10	5.417E-13
UTERUS	4.032E-08	4.317E-08	7.462E-11	2.263E-09	1.411E-08	3.430E-08	5.619E-05	9.469E-07	5.095E-07	2.241E-08	0.0

DOSE EQUIVALENT (REM/MICROCURIE)

SOURCE	OVARIES	OTHER	TOTAL
TARGET			
LUNGS	1.914E-11	1.450E-05	295.
RES LYM	1.914E-11	1.450E-05	2.106E 04
S WALL	3.640E-10	2.822E-06	1.406E-03
SI WALL	1.145E-07	4.610E-06	3.348E-03
ULI WALL	3.296E-07	1.160E-05	1.943E-02
LLI WALL	3.967E-07	3.182E-06	5.820E-02
T BODY	3.190E-03	1.44	86.1
ADREN	1.145E-10	2.97	2.97
BL WALL	5.349E-09	1.49	1.49
KIDNEYS	4.114E-10	9.146E-06	52.2
LIVER	2.143E-10	4.015E-06	405.
OVARIES	20.3	1.896E-05	20.3
PANCREAS	1.619E-10	2.97	2.97
BONE	1.889E-09	2.495E-05	913.
R MAR	6.396E-09	2.97	154.
Y MAR	2.266E-09	2.97	2.97
ENDOST	1.587E-09	3.216E-04	2.108E 03
SPLEEN	1.742E-10	2.97	2.97
TESTES	0.0	2.550E-06	20.3
THYMUS	4.368E-12	2.97	2.97
THYROID	9.488E-13	2.97	2.97
UTERUS	3.165E-08	2.97	2.97

CASE 2.. INHALATION

AMAD (MICRON).. 1.00 D3 =0.310 D4 =8.000E-02 D5 =0.249

	SOLUBILITY CLASS	G.I. UPTAKE FRACTIONS STOMACH	S INT	U L INT	L L INT
PU-240	W	0.0	3.000E-05	0.0	0.0

DOSE EQUIVALENT (REM/MICROCURIE)

SOURCE	LUNGS	RES LYM	S CONT	SI CONT	ULI CONT	LLI CONT	EXCRET.	BONE	LIVER	KIDNEYS	TESTES
TARGET											
LUNGS	30.5	4.349E-04	7.407E-10	8.327E-11	3.285E-10	1.612E-10	1.360E-04	2.083E-05	1.318E-04	1.382E-07	1.067E-11
RES LYM	5.400E-03	164.	7.407E-10	8.327E-11	3.285E-10	1.612E-10	1.360E-04	2.083E-05	1.318E-04	1.382E-07	1.067E-11
S WALL	8.023E-07	6.461E-08	1.160E-03	1.209E-08	7.103E-08	7.515E-09	1.360E-04	1.523E-05	3.636E-05	3.886E-07	1.197E-10
SI WALL	9.105E-09	7.332E-10	8.941E-10	2.894E-03	8.647E-07	8.655E-07	1.360E-04	1.740E-05	1.854E-05	3.164E-07	1.132E-09
ULI WALL	1.160E-08	9.345E-10	2.484E-09	2.989E-06	1.713E-02	7.671E-07	1.360E-04	2.192E-05	2.603E-05	2.914E-07	9.630E-10
LLI WALL	2.511E-09	2.022E-10	1.795E-10	3.023E-07	7.917E-08	5.147E-02	1.360E-04	6.208E-05	5.431E-07	5.181E-08	1.757E-08
T BODY	0.435	3.504E-02	2.505E-06	2.652E-05	5.166E-05	1.182E-04	1.747E-04	163.	25.8	0.574	2.538E-02
ADREN	1.651E-06	1.330E-07	4.362E-10	4.328E-10	1.572E-09	7.515E-10	1.360E-04	4.350E-05	1.934E-04	3.503E-05	4.652E-11
BL WALL	1.395E-09	1.123E-10	2.613E-11	1.503E-09	3.874E-09	3.550E-08	1.360E-04	2.309E-06	3.908E-07	1.351E-08	2.401E-08
KIDNEYS	5.858E-08	4.718E-09	5.831E-10	1.918E-09	5.727E-09	2.483E-09	1.360E-04	3.137E-05	7.881E-05	130.	1.132E-10
LIVER	1.640E-06	1.321E-07	7.839E-10	2.937E-09	9.966E-09	5.390E-10	1.360E-04	1.431E-05	1.007E 03	1.149E-06	7.548E-11
OVARIES	4.898E-09	3.945E-10	9.135E-11	1.330E-07	6.120E-07	2.306E-06	1.360E-04	6.107E-06	1.854E-06	9.611E-08	0.0
PANCREAS	2.366E-07	1.905E-08	2.246E-08	1.166E-09	3.846E-09	1.741E-09	1.360E-04	3.857E-05	1.252E-04	8.110E-07	7.808E-11
BONE	6.818E-07	5.490E-08	3.110E-10	5.122E-09	9.433E-09	5.141E-08	6.799E-04	2.284E 03	3.013E-05	6.329E-07	7.223E-09
R MAR	7.119E-07	5.733E-08	3.758E-10	1.978E-08	3.116E-08	2.006E-07	1.360E-04	376.	2.960E-05	1.501E-06	3.735E-09
Y MAR	8.056E-07	6.488E-08	3.844E-10	6.798E-09	1.126E-08	6.789E-08	1.360E-04	5.848E-03	4.173E-05	6.947E-07	1.542E-09
ENDOST	6.416E-07	5.167E-08	2.656E-10	4.837E-09	8.085E-09	4.908E-08	1.360E-04	5.262E 03	2.815E-05	5.769E-07	4.900E-09
SPLEEN	9.685E-07	7.800E-08	2.289E-09	7.826E-10	2.807E-09	2.876E-09	1.360E-04	6.065E-05	3.550E-06	1.073E-05	6.234E-11
TESTES	2.522E-10	2.031E-11	3.974E-12	1.114E-10	7.608E-10	9.225E-09	1.360E-04	3.238E-06	9.471E-08	3.179E-09	50.7
THYMUS	6.338E-07	5.104E-08	5.680E-11	1.555E-11	5.699E-11	5.546E-11	1.360E-04	2.769E-05	2.086E-06	1.152E-08	4.360E-12
THYROID	4.999E-08	4.026E-09	4.427E-12	2.669E-12	8.843E-12	6.323E-12	1.360E-04	1.581E-05	1.868E-07	1.472E-09	1.353E-12
UTERUS	4.162E-09	3.352E-10	6.608E-11	2.004E-08	1.249E-08	3.037E-08	1.360E-04	2.368E-06	1.265E-06	5.563E-08	0.0

DOSE EQUIVALENT (REM/MICROCURIE)

SOURCE	OVARIES	OTHER	TOTAL
TARGET			
LUNGS	4.785E-11	3.625E-05	30.5
RES LYM	4.785E-11	3.625E-05	164.
S WALL	9.100E-10	7.055E-06	1.356E-03
SI WALL	2.863E-07	1.153E-05	3.080E-03
ULI WALL	8.241E-07	2.900E-05	1.734E-02
LLI WALL	9.918E-07	7.957E-06	5.167E-02
T BODY	7.976E-03	3.61	194.
ADREN	2.863E-10	7.43	7.43
BL WALL	1.337E-08	3.72	3.72
KIDNEYS	1.029E-09	2.287E-05	130.
LIVER	5.358E-10	1.004E-05	1.007E 03
OVARIES	50.7	4.741E-05	50.7
PANCREAS	4.049E-10	7.43	7.43
BONE	4.724E-09	6.237E-05	2.284E 03
R MAR	1.599E-08	7.43	384.
Y MAR	5.665E-09	7.43	7.43
ENDOST	3.967E-09	8.041E-04	5.262E 03
SPLEEN	4.356E-10	7.43	7.43
TESTES	0.0	6.377E-06	50.7
THYMUS	1.092E-11	7.43	7.43
THYROID	2.372E-12	7.43	7.43
UTERUS	7.914E-08	7.43	7.43

CASE 3.. INGESTION

INGESTION TRANSFER FRACTIONS (G. I. TRACT TO BLOOD)

	PU-240
STOMACH	0.0
S INT	3.000E-05
U L INT	0.0
L L INT	0.0

DOSE EQUIVALENT (REM/MICROCURIE)

SOURCE	S CONT	SI CONT	ULI CONT	LLI CONT	EXCRET.	BONE	LIVER	KIDNEYS	TESTES	OVARIES	OTHER
TARGET											
LUNGS	1.429E-09	1.607E-10	6.337E-10	3.110E-10	3.376E-08	5.172E-09	3.272E-08	3.431E-11	2.649E-15	1.188E-14	9.000E-09
RES LYM	1.429E-09	1.607E-10	6.337E-10	3.110E-10	3.376E-08	5.172E-09	3.272E-08	3.431E-11	2.649E-15	1.188E-14	9.000E-09
S WALL	2.237E-03	2.333E-08	1.370E-07	1.450E-08	3.376E-08	3.780E-09	9.027E-09	9.646E-11	2.972E-14	2.259E-13	1.752E-09
SI WALL	1.725E-09	5.583E-03	1.668E-06	1.670E-06	3.376E-08	4.320E-09	4.604E-09	7.856E-11	2.811E-13	7.108E-11	2.862E-09
ULI WALL	4.792E-09	5.766E-06	3.304E-02	1.480E-06	3.376E-08	5.442E-09	6.462E-09	7.235E-11	2.391E-13	2.046E-10	7.200E-09
LLI WALL	3.462E-10	5.833E-07	1.527E-07	9.930E-02	3.376E-08	1.541E-08	1.348E-10	1.286E-11	4.362E-12	2.462E-10	1.975E-09
T BODY	4.833E-06	5.117E-05	9.966E-05	2.280E-04	4.337E-08	4.050E-02	6.413E-03	1.425E-04	6.300E-06	1.980E-06	8.954E-04
ADREN	8.417E-10	8.350E-10	3.033E-09	1.450E-09	3.376E-08	1.080E-08	4.801E-08	8.696E-09	1.155E-14	7.108E-14	1.844E-03
BL WALL	5.042E-11	2.900E-09	7.475E-09	6.850E-08	3.376E-08	5.732E-10	9.701E-11	3.354E-12	5.961E-12	3.320E-12	9.231E-04
KIDNEYS	1.125E-09	3.700E-09	1.105E-08	4.790E-09	3.376E-08	7.789E-09	1.957E-08	3.215E-02	2.811E-14	2.554E-13	5.677E-09
LIVER	1.512E-09	5.666E-09	1.923E-08	1.040E-09	3.376E-08	3.552E-09	0.250	2.854E-10	1.874E-14	1.330E-13	2.492E-09
OVARIES	1.762E-10	2.567E-07	1.181E-06	4.450E-06	3.376E-08	1.516E-09	4.604E-10	2.386E-11	0.0	1.259E-02	1.177E-08
PANCREAS	4.333E-08	2.250E-09	7.421E-09	3.360E-09	3.376E-08	9.575E-09	3.108E-08	2.013E-10	1.938E-14	1.005E-13	1.844E-03
BONE	6.000E-10	9.883E-09	1.820E-08	9.920E-08	1.688E-07	0.567	7.481E-09	1.571E-10	1.793E-12	1.173E-12	1.548E-03
R MAR	7.250E-10	3.817E-08	6.012E-08	3.870E-07	3.376E-08	9.346E-02	7.350E-09	3.727E-10	9.272E-13	3.970E-12	1.844E-03
Y MAR	7.417E-10	1.312E-08	2.172E-08	1.310E-07	3.376E-08	1.452E-06	1.036E-08	1.725E-10	3.829E-13	1.406E-12	1.844E-03
ENDOST	5.125E-10	9.333E-09	1.560E-08	9.470E-08	3.376E-08	1.31	6.988E-09	1.432E-10	1.216E-12	9.849E-13	1.996E-07
SPLEEN	4.417E-09	1.510E-09	5.417E-09	5.550E-09	3.376E-08	1.506E-08	8.813E-10	2.664E-09	1.548E-14	1.081E-13	1.844E-03
TESTES	7.667E-12	2.150E-10	1.468E-09	1.780E-08	3.376E-08	8.038E-10	2.351E-11	7.892E-13	1.258E-02	0.0	1.583E-09
THYMUS	1.096E-10	3.000E-11	1.100E-10	1.070E-10	3.376E-08	6.875E-09	5.179E-10	2.861E-12	1.082E-15	2.711E-15	1.844E-03
THYROID	8.542E-12	5.150E-12	1.706E-11	1.220E-11	3.376E-08	3.925E-09	4.637E-11	3.654E-13	3.360E-16	5.889E-16	1.844E-03
UTERUS	1.275E-10	3.867E-08	2.410E-08	5.860E-08	3.376E-08	5.878E-10	3.141E-10	1.381E-11	0.0	1.965E-11	1.844E-03

DOSE EQUIVALENT (REM/MICROCURIE)

SOURCE	TOTAL
TARGET	
LUNGS	8.322E-08
RES LYM	8.322E-08
S WALL	2.238E-03
SI WALL	5.587E-03
ULI WALL	3.305E-02
LLI WALL	9.930E-02
T BODY	4.834E-02
ADREN	1.844E-03
BL WALL	9.232E-04
KIDNEYS	3.215E-02
LIVER	0.250
OVARIES	1.260E-02
PANCREAS	1.844E-03
BONE	0.567
R MAR	9.531E-02
Y MAR	1.846E-03
ENDOST	1.31
SPLEEN	1.844E-03
TESTES	1.258E-02
THYMUS	1.844E-03
THYROID	1.844E-03
UTERUS	1.844E-03

CASE 2.. INHALATION

AMAD (MICRON).. 1.00 D3 =0.310 D4 =8.000E-02 D5 =0.249

	SOLUBILITY CLASS	G.I. UPTAKE FRACTIONS STOMACH	S INT	U L INT	L L INT
PU-241	W	0.0	3.000E-05	0.0	0.0
AM-241	W	0.0	1.000E-03	0.0	0.0

DOSE EQUIVALENT (REM/MICROCURIE)

SOURCE	LUNGS	RES LYM	S CONT	SI CONT	ULI CONT	LLI CONT	EXCRET.	BONE	LIVER	KIDNEYS	TESTES
TARGET											
LUNGS	9.025E-03	2.359E-04	1.690E-11	3.836E-12	1.685E-11	7.068E-12	1.371E-08	7.908E-05	1.941E-04	9.914E-07	4.991E-11
RES LYM	2.954E-03	0.103	1.690E-11	3.836E-12	1.685E-11	7.068E-12	1.371E-08	7.908E-05	1.941E-04	9.914E-07	4.991E-11
S WALL	2.178E-08	4.681E-09	1.163E-05	1.298E-10	5.032E-10	3.765E-10	1.371E-08	3.354E-05	1.172E-04	4.716E-06	9.314E-10
SI WALL	9.989E-10	2.147E-10	2.194E-11	2.903E-05	2.637E-09	2.716E-09	1.371E-08	5.607E-05	8.693E-05	3.671E-06	1.250E-08
ULI WALL	1.340E-09	2.881E-10	3.364E-11	1.613E-09	1.718E-04	1.212E-09	1.371E-08	4.796E-05	1.579E-04	3.510E-06	1.046E-08
LLI WALL	2.366E-10	5.087E-11	8.596E-12	3.665E-10	3.868E-10	5.171E-04	1.371E-08	7.794E-05	5.884E-06	5.841E-07	1.802E-07
T BODY	1.289E-04	2.200E-05	2.501E-08	2.661E-07	5.146E-07	1.195E-06	1.384E-08	3.36	0.500	1.112E-02	5.228E-04
ADREN	2.722E-08	5.852E-09	2.177E-11	1.987E-11	8.065E-11	3.765E-11	1.371E-08	1.034E-04	2.930E-04	2.031E-05	3.605E-10
BL WALL	1.451E-10	3.119E-11	1.186E-12	7.540E-11	1.901E-10	1.572E-09	1.371E-08	2.949E-05	3.798E-06	1.353E-07	3.403E-07
KIDNEYS	7.099E-09	1.526E-09	2.925E-11	9.507E-11	3.032E-10	1.294E-10	1.371E-08	5.996E-05	2.604E-04	2.51	7.461E-10
LIVER	3.015E-08	6.482E-09	1.513E-11	5.645E-11	2.357E-10	2.592E-11	1.371E-08	4.456E-05	19.5	5.734E-06	5.697E-10
OVARIES	5.675E-10	1.220E-10	4.192E-12	4.806E-10	1.490E-09	5.397E-09	1.371E-08	5.801E-05	2.062E-05	1.131E-06	0.0
PANCREAS	2.911E-08	6.257E-09	1.993E-10	5.842E-11	2.037E-10	9.338E-11	1.371E-08	5.898E-05	2.918E-04	9.431E-06	7.209E-10
BONE	2.638E-08	5.672E-09	9.588E-12	5.829E-11	1.727E-10	5.954E-10	1.655E-08	47.0	1.002E-04	2.921E-06	6.050E-08
R MAR	3.225E-08	6.932E-09	1.510E-11	2.144E-10	6.109E-10	2.116E-09	1.371E-08	7.75	1.218E-04	7.797E-06	4.512E-08
Y MAR	2.848E-08	6.122E-09	1.399E-11	8.261E-11	2.527E-10	7.839E-10	1.371E-08	9.107E-04	1.567E-04	3.564E-06	1.928E-08
ENDOST	2.638E-08	5.672E-09	9.588E-12	5.829E-11	1.727E-10	5.954E-10	1.371E-08	99.2	1.002E-04	2.921E-06	6.050E-08
SPLEEN	2.576E-08	5.537E-09	1.034E-10	3.888E-11	1.481E-10	1.534E-10	1.371E-08	5.121E-05	4.124E-05	1.570E-05	4.008E-10
TESTES	1.807E-11	3.885E-12	1.354E-13	4.426E-12	1.444E-11	3.928E-10	1.371E-08	3.452E-05	8.597E-07	2.840E-08	1.05
THYMUS	4.837E-08	1.040E-08	2.681E-12	6.334E-13	2.791E-12	1.092E-12	1.371E-08	3.646E-05	2.460E-05	1.305E-07	1.638E-11
THYROID	6.094E-09	1.310E-09	1.755E-13	7.409E-14	2.935E-13	1.482E-13	1.371E-08	5.331E-05	1.941E-06	1.302E-08	2.319E-12
UTERUS	4.753E-10	1.022E-10	3.120E-12	4.045E-10	6.702E-10	1.683E-09	1.371E-08	3.160E-05	1.375E-05	6.377E-07	0.0

DOSE EQUIVALENT (REM/MICROCURIE)

SOURCE	OVARIES	OTHER	TOTAL
TARGET			
LUNGS	4.793E-10	1.479E-05	9.550E-03
RES LYM	4.793E-10	1.479E-05	0.106
S WALL	1.137E-08	1.407E-05	1.812E-04
SI WALL	3.232E-07	1.458E-05	1.906E-04
ULI WALL	3.197E-07	1.564E-05	3.972E-04
LLI WALL	4.357E-07	1.608E-05	6.182E-04
T BODY	1.643E-04	7.465E-02	3.94
ADREN	3.276E-09	0.154	0.154
BL WALL	1.695E-07	7.701E-02	7.704E-02
KIDNEYS	1.244E-08	1.463E-05	2.61
LIVER	6.496E-09	1.022E-05	19.5
OVARIES	1.05	2.134E-05	1.05
PANCREAS	4.753E-09	0.154	0.154
BONE	4.753E-09	1.626E-05	47.0
R MAR	1.850E-07	0.154	7.90
Y MAR	6.655E-08	0.154	0.155
ENDOST	4.753E-08	2.598E-04	99.2
SPLEEN	5.149E-09	0.154	0.154
TESTES	0.0	1.078E-05	1.05
THYMUS	8.912E-11	0.154	0.154
THYROID	1.137E-11	0.154	0.154
UTERUS	5.347E-07	0.154	0.154

PERCENT DOSE EQUIVALENT..

NUCLIDE	PU-241	AM-241
TARGET		
LUNGS	33.4	66.6
RES LYM	17.6	82.4
S WALL	6.4	93.6
SI WALL	15.1	84.9
ULI WALL	42.9	57.1
LLI WALL	82.9	17.1
T BODY	0.1	99.9
ADREN	0.2	99.8
BL WALL	0.2	99.8
KIDNEYS	0.2	99.8
LIVER	0.2	99.8
OVARIES	0.2	99.8
PANCREAS	0.2	99.8
BONE	0.0	100.0
R MAR	0.0	100.0
Y MAR	0.2	99.8
ENDOST	0.0	100.0
SPLEEN	0.2	99.8
TESTES	0.2	99.8
THYMUS	0.2	99.8
THYROID	0.2	99.8
UTERUS	0.2	99.8

CASE 3.. INGESTION

INGESTION TRANSFER FRACTIONS (G. I. TRACT TO BLOOD)

	PU-241	AM-241
STOMACH	0.0	0.0
S INT	3.000E-05	1.000E-03
U L INT	0.0	0.0
L L INT	0.0	0.0

DOSE EQUIVALENT (REM/MICROCURIE)

SOURCE	S CONT	SI CONT	ULI CONT	LLI CONT	EXCRET.	BONE	LIVER	KIDNEYS	TESTES	OVARIES	OTHER
TARGET											
LUNGS	7.921E-14	8.902E-14	1.366E-12	1.266E-12	3.420E-12	1.965E-08	4.822E-08	2.462E-10	1.240E-14	1.191E-13	3.664E-09
RES LYM	7.921E-14	8.902E-14	1.366E-12	1.266E-12	3.420E-12	1.965E-08	4.822E-08	2.462E-10	1.240E-14	1.191E-13	3.664E-09
S WALL	2.229E-05	3.013E-12	4.080E-11	6.746E-11	3.420E-12	8.334E-09	2.911E-08	1.171E-09	2.314E-13	2.824E-12	3.484E-09
SI WALL	1.028E-13	5.567E-05	2.138E-10	4.865E-10	3.420E-12	1.393E-08	2.159E-08	9.118E-10	3.106E-12	8.030E-11	3.610E-09
ULI WALL	1.577E-13	3.743E-11	3.294E-04	2.172E-10	3.420E-12	1.192E-08	3.923E-08	8.718E-10	2.599E-12	7.942E-11	3.974E-09
LLI WALL	4.029E-14	8.506E-12	3.139E-11	9.916E-04	3.420E-12	1.936E-08	1.461E-09	1.451E-10	4.478E-11	1.083E-10	3.982E-09
T BODY	4.792E-08	5.100E-07	9.861E-07	2.271E-06	3.452E-12	8.337E-04	1.243E-04	2.761E-06	1.299E-07	4.082E-08	1.849E-05
ADREN	1.021E-13	4.611E-13	6.538E-12	6.746E-12	3.420E-12	2.569E-08	7.277E-08	5.045E-09	8.956E-14	8.139E-13	3.814E-05
BL WALL	5.560E-15	1.750E-12	1.541E-11	2.816E-10	3.420E-12	7.327E-09	9.434E-10	3.361E-11	8.455E-11	4.212E-11	1.907E-05
KIDNEYS	1.371E-13	2.206E-12	2.458E-11	2.318E-11	3.420E-12	1.490E-08	6.469E-08	6.236E-04	1.854E-13	3.090E-12	3.623E-09
LIVER	7.091E-14	1.310E-12	2.316E-11	4.643E-12	3.420E-12	1.107E-08	4.832E-03	1.424E-09	1.415E-13	1.614E-12	2.530E-09
OVARIES	1.965E-14	1.115E-11	1.208E-10	9.669E-10	3.420E-12	1.441E-08	5.121E-09	2.808E-10	0.0	2.603E-04	5.285E-09
PANCREAS	9.292E-13	1.356E-12	1.651E-11	1.673E-11	3.420E-12	1.465E-08	7.247E-08	2.343E-09	1.791E-13	1.181E-12	3.814E-05
BONE	4.494E-14	1.353E-12	1.400E-11	1.067E-10	3.873E-12	1.168E-02	2.489E-08	7.254E-10	1.503E-11	1.181E-11	4.029E-09
R MAR	7.076E-14	4.976E-12	4.952E-11	3.791E-10	3.420E-12	1.924E-03	3.025E-08	1.937E-09	1.121E-11	4.596E-11	3.814E-05
Y MAR	6.558E-14	1.917E-12	2.049E-11	1.404E-10	3.420E-12	2.263E-07	3.893E-08	8.851E-10	4.791E-12	1.653E-11	3.814E-05
ENDOST	4.494E-14	1.353E-12	1.400E-11	1.067E-10	3.420E-12	2.464E-02	2.489E-08	7.254E-10	1.503E-11	1.181E-11	6.474E-08
SPLEEN	4.844E-13	9.024E-13	1.201E-11	2.747E-11	3.420E-12	1.272E-08	1.024E-08	3.900E-09	9.958E-14	1.279E-12	3.814E-05
TESTES	6.344E-16	1.027E-13	1.170E-12	7.037E-11	3.420E-12	8.575E-09	2.135E-10	7.054E-12	2.598E-04	0.0	2.669E-09
THYMUS	1.257E-14	1.470E-14	2.262E-13	1.957E-13	3.420E-12	9.058E-09	6.109E-09	3.241E-11	4.071E-15	2.214E-14	3.814E-05
THYROID	8.226E-16	1.719E-15	2.298E-14	2.655E-14	3.420E-12	1.325E-08	4.822E-10	3.234E-12	5.762E-16	2.824E-15	3.814E-05
UTERUS	1.462E-14	9.389E-12	5.433E-11	3.016E-10	3.420E-12	7.851E-09	3.414E-09	1.584E-10	0.0	1.329E-10	3.814E-05

DOSE EQUIVALENT (REM/MICROCURIE)

SOURCE	TOTAL
TARGET	
LUNGS	7.178E-08
RES LYM	7.178E-08
S WALL	2.233E-05
SI WALL	5.571E-05
ULI WALL	3.295E-04
LLI WALL	9.916E-04
T BODY	9.832E-04
ADREN	3.825E-05
BL WALL	1.908E-05
KIDNEYS	6.237E-04
LIVER	4.832E-03
OVARIES	2.603E-04
PANCREAS	3.823E-05
BONE	1.168E-02
R MAR	1.963E-03
Y MAR	3.841E-05
ENDOST	2.464E-02
SPLEEN	3.817E-05
TESTES	2.598E-04
THYMUS	3.816E-05
THYROID	3.816E-05
UTERUS	3.815E-05

PERCENT DOSE EQUIVALENT..

NUCLIDE	PU-241	AM-241
TARGET		
LUNGS	0.0	100.0
RES LYM	0.0	100.0
S WALL	99.8	0.2
SI WALL	99.9	0.1
ULI WALL	99.9	0.1
LLI WALL	99.9	0.1
T BODY	0.5	99.5
ADREN	0.2	99.8
BL WALL	0.2	99.8
KIDNEYS	0.2	99.8
LIVER	0.2	99.8
OVARIES	0.2	99.8
PANCREAS	0.2	99.8
BONE	0.0	100.0
R MAR	0.0	100.0
Y MAR	0.2	99.8
ENDOST	0.0	100.0
SPLEEN	0.2	99.8
TESTES	0.2	99.8
THYMUS	0.2	99.8
THYROID	0.2	99.8
UTERUS	0.2	99.8

RADIONUCLIDE: PU-242

PHYSICAL AND METABOLIC PARAMETERS FOR DOSIMETRICALLY SIGNIFICANT PROGENY:

NUCLIDE	RADIOACTIVE HALF-LIFE (DAYS)
PU-242	1.4100E 08

ORGAN ABSORBED	NUCLIDE	BLOOD TRANSFER FRACTION F2-PRIME	COMPARTMENT DEPOSITION FRACTION	COMPARTMENT BIOLOGICAL HALF-TIME (DAYS)
	PU-242	1.00	4.000E-02	0.500
			0.460	1.460E 04
			0.500	3.650E 04
EXCRET.	PU-242	4.000E-02	1.00	0.500
BONE	PU-242	0.450	1.00	3.650E 04
LIVER	PU-242	0.450	1.00	1.460E 04
KIDNEYS	PU-242	1.000E-02	1.00	1.460E 04
TESTES	PU-242	3.500E-04	1.00	3.650E 04
OVARIES	PU-242	1.100E-04	1.00	3.650E 04
OTHER	PU-242	5.000E-02	1.00	3.650E 04

S FACTORS (REM/MICROCURIE-DAY) FOR PU-242

TARGET ORGANS	SOURCE ORGANS												
	LUNGS	RES LYM	S CONT	SI CONT	ULI CONT	LLI CONT	EXCRET.	BONE	LIVER	KIDNEYS	TESTES	OVARIES	OTHER
LUNGS	0.259E 01	0.383E-03	0.287E-06	0.296E-07	0.271E-07	0.142E-07	0.370E-01	0.128E-06	0.267E-06	0.109E-06	0.153E-08	0.111E-07	0.489E-06
RES LYM	0.383E-03	0.173E 03	0.287E-06	0.296E-07	0.271E-07	0.142E-07	0.370E-01	0.128E-06	0.267E-06	0.109E-06	0.153E-08	0.111E-07	0.489E-06
S WALL	0.347E-06	0.347E-06	0.508E-01	0.504E-06	0.635E-06	0.205E-06	0.370E-01	0.681E-07	0.270E-06	0.394E-06	0.106E-07	0.130E-06	0.283E-06
SI WALL	0.292E-07	0.292E-07	0.389E-06	0.318E-01	0.495E-05	0.241E-05	0.370E-01	0.715E-07	0.228E-06	0.354E-06	0.598E-07	0.238E-05	0.228E-06
ULI WALL	0.304E-07	0.304E-07	0.496E-06	0.301E-04	0.577E-01	0.167E-05	0.370E-01	0.671E-07	0.316E-06	0.328E-06	0.533E-07	0.456E-05	0.403E-06
LLI WALL	0.107E-07	0.107E-07	0.146E-06	0.370E-05	0.609E-06	0.940E-01	0.370E-01	0.150E-06	0.311E-07	0.939E-07	0.935E-06	0.576E-05	0.301E-06
T BODY	0.370E-01	0.370E-01	0.110E-03	0.291E-03	0.174E-03	0.216E-03	0.475E-01	0.185E 00	0.370E-01	0.370E-01	0.370E-01	0.370E-01	0.368E-01
ADREN	0.405E-06	0.405E-06	0.324E-06	0.125E-06	0.107E-06	0.434E-07	0.370E-01	0.200E-06	0.825E-06	0.327E-05	0.547E-08	0.470E-07	0.758E-01
BL WALL	0.507E-08	0.507E-08	0.410E-07	0.294E-06	0.326E-06	0.758E-06	0.370E-01	0.577E-07	0.281E-07	0.433E-07	0.103E-06	0.818E-06	0.379E-01
KIDNEYS	0.106E-06	0.106E-06	0.355E-06	0.357E-06	0.277E-06	0.113E-06	0.370E-01	0.173E-06	0.554E-06	0.935E 01	0.127E-07	0.127E-06	0.350E-06
LIVER	0.225E-06	0.225E-06	0.251E-06	0.236E-06	0.260E-06	0.367E-07	0.370E-01	0.882E-07	0.144E 01	0.523E-06	0.785E-08	0.690E-07	0.214E-06
OVARIES	0.114E-07	0.114E-07	0.973E-07	0.246E-05	0.249E-05	0.578E-05	0.370E-01	0.614E-07	0.693E-07	0.128E-06	0.0	0.235E 03	0.617E-06
PANCREAS	0.252E-06	0.252E-06	0.265E-05	0.225E-06	0.210E-06	0.865E-07	0.370E-01	0.121E-06	0.627E-06	0.785E-06	0.773E-08	0.691E-07	0.759E-01
BONE	0.567E-06	0.567E-06	0.304E-06	0.480E-06	0.710E-06	0.658E-06	0.185E 00	0.259E 01	0.442E-06	0.611E-06	0.547E-06	0.500E-06	0.128E-05
R MAR	0.195E-06	0.195E-06	0.122E-06	0.468E-05	0.312E-06	0.705E-06	0.370E-01	0.427E 00	0.154E-06	0.123E-06	0.862E-07	0.422E-06	0.758E-01
Y MAR	0.173E-06	0.173E-06	0.112E-06	0.181E-06	0.127E-06	0.240E-06	0.370E-01	0.580E-05	0.189E-06	0.188E-06	0.334E-07	0.148E-06	0.758E-01
ENDOST	0.154E-06	0.154E-06	0.609E-07	0.993E-07	0.166E-06	0.149E-06	0.370E-01	0.638E 01	0.108E-06	0.175E-06	0.144E-06	0.708E-07	0.658E-05
SPLEEN	0.299E-06	0.299E-06	0.121E-05	0.179E-06	0.147E-06	0.105E-06	0.370E-01	0.134E-06	0.120E-06	0.168E-05	0.706E-08	0.635E-07	0.758E-01
TESTES	0.161E-08	0.161E-08	0.106E-07	0.590E-07	0.220E-06	0.642E-06	0.370E-01	0.143E-06	0.872E-08	0.130E-07	0.739E 02	0.0	0.264E-06
THYMUS	0.464E-06	0.464E-06	0.478E-07	0.100E-07	0.968E-08	0.964E-08	0.370E-01	0.108E-06	0.728E-07	0.254E-07	0.694E-09	0.399E-08	0.758E-01
THYROID	0.111E-06	0.111E-06	0.111E-07	0.254E-08	0.245E-08	0.114E-08	0.370E-01	0.114E-06	0.137E-07	0.649E-08	0.240E-09	0.112E-08	0.759E-01
UTERUS	0.107E-07	0.107E-07	0.915E-07	0.122E-05	0.465E-06	0.730E-06	0.370E-01	0.463E-07	0.599E-07	0.107E-06	0.0	0.247E-05	0.758E-01

α decay (3.87E5 Y 2)

Case 1 represents inhalation of oxides, hydroxides, and carbides; case 2 inhalation of nitrates; and case 3 ingestion of any compound.

CASE 1.. INHALATION

AMAD (MICRON).. 1.00 D3 =0.310 D4 =8.000E-02 D5 =0.249

	SOLUBILITY CLASS	G.I. UPTAKE FRACTIONS STOMACH	S INT	U L INT	L L INT
PU-242	Y	0.0	3.000E-05	0.0	0.0

DOSE EQUIVALENT (REM/MICRCCURIE)

SOURCE	LUNGS	RES LYM	S CONT	SI CONT	ULI CONT	LLI CONT	EXCRET.	BONE	LIVER	KIDNEYS	TESTES
TARGET											
LUNGS	280.	4.440E-02	6.999E-09	2.887E-09	8.591E-09	8.311E-09	5.334E-05	4.295E-05	7.141E-05	6.479E-07	3.993E-10
RES LYM	4.141E-02	2.006E 04	6.999E-09	2.887E-09	8.591E-09	8.311E-09	5.334E-05	4.295E-05	7.141E-05	6.479E-07	3.993E-10
S WALL	3.752E-05	4.023E-05	1.239E-03	4.916E-08	2.013E-07	1.200E-07	5.334E-05	2.285E-05	7.221E-05	2.342E-06	2.766E-09
SI WALL	3.157E-06	3.385E-06	9.267E-09	3.102E-03	1.569E-06	1.411E-06	5.334E-05	2.399E-05	6.098E-05	2.104E-06	1.561E-09
ULI WALL	3.237E-06	3.524E-06	1.210E-08	2.936E-06	1.829E-02	9.774E-07	5.334E-05	2.251E-05	8.452E-05	1.949E-06	1.391E-08
LLI WALL	1.157E-06	1.240E-06	3.561E-09	3.609E-07	1.931E-07	5.502E-02	5.334E-05	5.023E-05	8.318E-06	5.581E-07	2.440E-07
T BODY	4.00	4.29	2.683E-06	2.839E-05	5.516E-05	1.264E-04	6.847E-05	62.1	9.90	0.220	9.656E-03
ADREN	4.379E-05	4.695E-05	7.901E-09	1.219E-08	3.392E-08	2.540E-08	5.334E-05	6.711E-05	2.207E-04	2.003E-05	1.417E-09
BL WALL	5.482E-07	5.878E-07	9.999E-10	2.868E-08	1.034E-07	4.436E-07	5.334E-05	1.936E-05	7.516E-06	2.574E-07	2.688E-09
KIDNEYS	1.146E-05	1.229E-05	9.633E-09	3.482E-08	8.782E-09	6.614E-08	5.334E-05	5.805E-05	1.482E-04	49.6	3.314E-09
LIVER	2.433E-05	2.608E-05	6.121E-09	2.302E-09	8.243E-08	2.148E-08	5.334E-05	2.959E-05	385.	3.108E-06	2.049E-09
OVARIES	1.233E-06	1.322E-06	2.373E-09	2.400E-07	7.894E-07	3.383E-06	5.334E-05	2.060E-05	1.854E-05	7.608E-07	0.0
PANCREAS	2.725E-05	2.921E-05	7.194E-08	2.195E-08	6.658E-08	5.063E-08	5.334E-05	4.060E-05	1.677E-04	4.666E-06	2.030E-09
BONE	6.131E-05	6.573E-05	7.414E-09	4.682E-08	2.251E-07	3.851E-07	2.667E-04	869.	1.182E-04	3.632E-06	1.428E-07
R MAR	2.108E-05	2.261E-05	2.975E-09	4.565E-08	9.891E-08	4.126E-07	5.334E-05	143.	4.119E-05	7.311E-07	2.250E-08
Y MAR	1.871E-05	2.006E-05	2.731E-09	1.766E-08	4.026E-08	1.405E-07	5.334E-05	1.946E-03	5.055E-05	1.117E-06	8.717E-09
ENDOST	1.665E-05	1.785E-05	1.485E-09	9.686E-09	5.263E-08	8.721E-08	5.334E-05	2.141E 03	2.889E-05	1.040E-06	3.758E-08
SPLEEN	3.233E-05	3.466E-05	2.951E-08	1.736E-08	4.660E-08	6.145E-08	5.334E-05	4.496E-05	5.210E-05	9.985E-06	1.842E-09
TESTES	1.741E-07	1.866E-07	2.585E-10	5.755E-09	6.975E-08	3.757E-07	5.334E-05	4.798E-05	2.332E-06	7.727E-08	19.3
THYMUS	5.017E-05	5.379E-05	1.166E-09	9.755E-10	3.069E-09	5.642E-09	5.334E-05	3.624E-05	1.947E-05	1.510E-07	1.811E-10
THYROID	1.200E-05	1.287E-05	2.707E-10	2.478E-10	7.767E-10	6.672E-10	5.334E-05	3.825E-05	3.664E-06	3.857E-08	6.263E-11
UTERUS	1.157E-06	1.240E-06	2.231E-09	1.190E-07	1.474E-07	4.273E-07	5.334E-05	1.554E-05	1.602E-05	6.360E-07	0.0

DOSE EQUIVALENT (REM/MICRCCURIE)

SOURCE	OVARIES	OTHER	TOTAL
TARGET			
LUNGS	9.104E-10	1.823E-05	280.
RES LYM	9.104E-10	1.823E-05	2.006E 04
S WALL	8.202E-09	1.055E-05	1.478E-03
SI WALL	1.952E-07	8.500E-06	3.261E-03
ULI WALL	3.740E-07	1.502E-05	1.848E-02
LLI WALL	4.724E-07	1.122E-05	5.514E-02
T BODY	3.035E-03	1.37	81.9
ADREN	3.855E-09	2.83	2.83
BL WALL	6.709E-08	1.41	1.41
KIDNEYS	1.042E-08	1.305E-05	49.6
LIVER	5.659E-09	7.978E-06	385.
OVARIES	19.3	2.300E-05	19.3
PANCREAS	5.668E-09	2.83	2.83
BONE	4.101E-08	4.772E-05	869.
R MAR	3.461E-08	2.83	146.
Y MAR	1.214E-08	2.83	2.83
ENDOST	5.807E-09	2.602E-04	2.141E 03
SPLEEN	5.208E-09	2.83	2.83
TESTES	0.0	9.470E-06	19.3
THYMUS	3.277E-10	2.83	2.83
THYROID	9.186E-11	2.83	2.83
UTERUS	2.026E-07	2.83	2.83

CASE 2.. INHALATION

AMAD (MICRON).. 1.00 D3 =0.310 D4 =8.000E-02 D5 =0.249

	SOLUBILITY CLASS	G.I. UPTAKE FRACTIONS STOMACH	S INT	U L INT	L L INT
PU-242	W	0.0	3.000E-05	0.0	0.0

DOSE EQUIVALENT (REM/MICROCURIE)

SOURCE	LUNGS	RES LYM	S CONT	SI CONT	ULI CONT	LLI CONT	EXCRET.	BONE	LIVER	KIDNEYS	TESTES
TARGET											
LUNGS	28.9	3.442E-04	6.198E-09	2.557E-09	7.608E-09	7.360E-09	1.290E-04	1.073E-04	1.772E-04	1.608E-06	9.980E-10
RES LYM	4.274E-03	155.	6.198E-09	2.557E-09	7.608E-09	7.360E-09	1.290E-04	1.073E-04	1.772E-04	1.608E-06	9.980E-10
S WALL	3.872E-06	3.118E-07	1.097E-03	4.354E-08	1.783E-07	1.062E-07	1.290E-04	5.711E-05	1.792E-04	5.812E-06	6.914E-09
SI WALL	3.258E-07	2.624E-08	8.206E-09	2.747E-03	1.390E-06	1.249E-06	1.290E-04	5.996E-05	1.513E-04	5.222E-06	3.901E-08
ULI WALL	3.392E-07	2.732E-08	1.071E-08	2.600E-06	1.620E-02	8.655E-07	1.290E-04	5.627E-05	2.098E-04	4.838E-06	3.477E-08
LLI WALL	1.194E-07	9.615E-09	3.153E-09	3.196E-07	1.710E-07	4.872E-02	1.290E-04	1.258E-04	2.064E-05	1.385E-06	6.099E-07
T BODY	0.413	3.325E-02	2.376E-06	2.514E-05	4.885E-05	1.119E-04	1.656E-04	155.	24.6	0.546	2.413E-02
ADREN	4.519E-06	3.639E-07	6.997E-09	1.080E-08	3.004E-08	2.249E-08	1.290E-04	1.677E-04	5.476E-04	4.971E-05	3.542E-09
BL WALL	5.657E-08	4.556E-09	8.854E-10	2.540E-08	9.152E-08	7.929E-07	1.290E-04	4.839E-05	1.865E-05	6.387E-07	6.719E-08
KIDNEYS	1.183E-06	9.525E-08	8.530E-09	3.084E-08	7.776E-08	5.857E-08	1.290E-04	1.451E-04	3.677E-04	123.	8.284E-09
LIVER	2.511E-06	2.022E-07	5.421E-09	2.039E-08	7.299E-08	1.902E-08	1.290E-04	7.397E-05	956.	7.715E-06	5.120E-09
OVARIES	1.272E-07	1.024E-08	2.101E-09	2.125E-07	6.990E-07	2.996E-06	1.290E-04	5.149E-05	4.600E-05	1.888E-06	0.0
PANCREAS	2.812E-06	2.265E-07	6.371E-08	1.944E-08	5.896E-08	4.483E-08	1.290E-04	1.015E-04	4.162E-04	1.158E-05	5.075E-09
BONE	6.327E-06	5.095E-07	6.565E-09	4.146E-08	1.993E-07	3.410E-07	6.451E-04	2.172E 03	2.934E-04	9.013E-06	3.568E-07
R MAR	2.176E-06	1.752E-07	2.635E-09	4.043E-08	8.759E-08	3.654E-07	1.290E-04	358.	1.022E-04	1.814E-06	5.623E-08
Y MAR	1.930E-06	1.555E-07	2.419E-09	1.563E-08	3.565E-08	1.244E-07	1.290E-04	4.364E-03	1.255E-04	2.773E-06	2.179E-08
ENDOST	1.718E-06	1.384E-07	1.315E-09	8.578E-09	4.660E-08	7.722E-08	1.290E-04	5.351E 03	7.169E-05	2.581E-06	9.793E-03
SPLEEN	3.336E-06	2.687E-07	2.613E-08	1.538E-08	4.127E-08	5.442E-08	1.290E-04	1.124E-04	7.965E-05	2.478E-05	4.605E-09
TESTES	1.796E-08	1.447E-09	2.289E-10	5.096E-09	6.176E-08	3.327E-07	1.290E-04	1.199E-04	5.788E-06	1.918E-07	48.2
THYMUS	5.177E-06	4.170E-07	1.032E-09	8.638E-10	2.718E-09	4.996E-09	1.290E-04	9.057E-05	4.832E-05	3.747E-07	4.527E-10
THYROID	1.239E-06	9.975E-08	2.397E-10	2.194E-10	6.878E-10	5.908E-10	1.290E-04	9.561E-05	9.094E-06	9.573E-08	1.565E-10
UTERUS	1.194E-07	9.615E-09	1.976E-09	1.054E-07	1.305E-07	3.783E-07	1.290E-04	3.883E-05	3.976E-05	1.578E-06	0.0

DOSE EQUIVALENT (REM/MICROCURIE)

SOURCE	OVARIES	OTHER	TOTAL
TARGET			
LUNGS	2.276E-09	4.557E-05	28.9
RES LYM	2.276E-09	4.557E-05	155.
S WALL	2.050E-08	2.637E-05	1.499E-03
SI WALL	4.879E-07	2.125E-05	3.117E-03
ULI WALL	9.348E-07	3.755E-05	1.664E-02
LLI WALL	1.181E-06	2.805E-05	4.903E-02
T BODY	7.585E-03	3.43	184.
ADREN	9.635E-09	7.06	7.06
BL WALL	1.677E-07	3.53	3.53
KIDNEYS	2.604E-08	3.261E-05	123.
LIVER	1.415E-08	1.994E-05	956.
OVARIES	48.2	5.749E-05	48.2
PANCREAS	1.417E-08	7.07	7.07
BONE	1.025E-07	1.193E-04	2.172E 03
R MAR	8.651E-08	7.06	365.
Y MAR	3.034E-08	7.06	7.07
ENDOST	1.451E-08	6.504E-04	5.351E 03
SPLEEN	1.302E-08	7.06	7.06
TESTES	0.0	2.367E-05	43.2
THYMUS	8.180E-10	7.06	7.06
THYROID	2.296E-10	7.07	7.07
UTERUS	5.064E-07	7.06	7.06

CASE 3.. INGESTION

INGESTION TRANSFER FRACTIONS (G. I. TRACT TO BLOOD)

	PU-242
STOMACH	0.0
S INT	3.000E-05
U L INT	0.0
L L INT	0.0

DOSE EQUIVALENT (REM/MICROCURIE)

SOURCE	S CONT	SI CONT	ULI CONT	LLI CONT	EXCRET.	BONE	LIVER	KIDNEYS	TESTES	OVARIES	OTHER
TARGET											
LUNGS	1.196E-08	4.933E-09	1.468E-08	1.420E-08	3.203E-08	2.665E-08	4.400E-08	3.992E-10	2.478E-13	5.649E-13	1.131E-08
RES LYM	1.196E-08	4.933E-09	1.468E-08	1.420E-08	3.203E-08	2.665E-08	4.400E-08	3.992E-10	2.478E-13	5.649E-13	1.131E-08
S WALL	2.117E-03	8.400E-08	3.440E-07	2.050E-07	3.203E-08	1.418E-08	4.449E-08	1.443E-09	1.717E-12	5.089E-12	6.547E-09
SI WALL	1.583E-08	5.300E-03	2.681E-06	2.410E-06	3.203E-08	1.489E-08	3.757E-08	1.296E-09	9.684E-12	1.211E-10	5.275E-09
ULI WALL	2.067E-08	5.017E-06	3.125E-02	1.670E-06	3.203E-08	1.397E-08	5.207E-08	1.201E-09	8.631E-12	2.321E-10	9.323E-09
LLI WALL	6.083E-09	6.166E-07	3.299E-07	9.400E-02	3.203E-08	3.123E-08	5.125E-09	3.439E-10	1.514E-10	2.932E-10	6.963E-09
T BODY	4.583E-06	4.850E-05	9.425E-05	2.160E-04	4.112E-08	3.852E-02	6.097E-03	1.355E-04	5.992E-06	1.883E-06	8.513E-04
ADREN	1.350E-08	2.083E-08	5.796E-08	4.340E-08	3.203E-08	4.164E-08	1.360E-07	1.234E-08	8.793E-13	2.392E-12	1.754E-03
BL WALL	1.708E-09	4.900E-08	1.766E-07	7.580E-07	3.203E-08	1.201E-08	4.631E-09	1.586E-10	1.668E-11	4.163E-11	8.768E-04
KIDNEYS	1.646E-08	5.950E-08	1.500E-07	1.130E-07	3.203E-08	3.602E-08	9.129E-08	3.058E-02	2.057E-12	6.464E-12	8.097E-09
LIVER	1.046E-08	3.933E-08	1.408E-07	3.670E-08	3.203E-08	1.836E-08	0.237	1.915E-09	1.271E-12	3.512E-12	4.951E-09
OVARIES	4.054E-09	4.100E-07	1.349E-06	5.780E-06	3.203E-08	1.278E-08	1.142E-08	4.687E-10	0.0	1.196E-02	1.427E-08
PANCREAS	1.229E-07	3.750E-08	1.137E-07	8.650E-08	3.203E-08	2.519E-08	1.033E-07	2.875E-09	1.260E-12	3.517E-12	1.756E-03
BONE	1.267E-08	8.000E-08	3.846E-07	6.580E-07	1.601E-07	0.539	7.284E-08	2.238E-09	8.858E-11	2.545E-11	2.961E-08
R MAR	5.083E-09	7.800E-08	1.690E-07	7.050E-07	3.203E-08	8.890E-02	2.538E-08	4.504E-10	1.396E-11	2.148E-11	1.754E-03
Y MAR	4.667E-09	3.017E-08	6.879E-08	2.400E-07	3.203E-08	1.208E-06	3.115E-08	6.885E-10	5.409E-12	7.532E-12	1.754E-03
ENDOST	2.537E-09	1.655E-08	8.991E-08	1.490E-07	3.203E-08	1.33	1.780E-08	6.409E-10	2.332E-11	3.603E-12	1.615E-07
SPLEEN	5.042E-08	2.967E-08	7.962E-08	1.050E-07	3.203E-08	2.790E-08	1.977E-08	6.152E-09	1.143E-12	3.232E-12	1.754E-03
TESTES	4.417E-10	9.833E-09	1.192E-07	6.420E-07	3.203E-08	2.977E-08	1.437E-09	4.761E-11	1.197E-02	0.0	5.876E-09
THYMUS	1.992E-09	1.667E-09	5.243E-09	9.640E-09	3.203E-08	2.249E-08	1.200E-08	9.302E-11	1.124E-13	2.031E-13	1.754E-03
THYROID	4.625E-10	4.233E-10	1.327E-09	1.140E-09	3.203E-08	2.374E-08	2.258E-09	2.377E-11	3.886E-14	5.700E-14	1.756E-03
UTERUS	3.812E-09	2.033E-07	2.519E-07	7.300E-07	3.203E-08	9.640E-09	9.871E-09	3.918E-10	0.0	1.257E-10	1.754E-03

DOSE EQUIVALENT (REM/MICROCURIE)

SOURCE	TOTAL
TARGET	
LUNGS	1.602E-07
RES LYM	1.602E-07
S WALL	2.117E-03
SI WALL	5.305E-03
ULI WALL	3.126E-02
LLI WALL	9.400E-02
T BODY	4.597E-02
ADREN	1.754E-03
BL WALL	8.778E-04
KIDNEYS	3.058E-02
LIVER	0.237
OVARIES	1.197E-02
PANCREAS	1.756E-03
BONE	0.539
R MAR	9.066E-02
Y MAR	1.755E-03
ENDOST	1.33
SPLEEN	1.754E-03
TESTES	1.197E-02
THYMUS	1.754E-03
THYROID	1.756E-03
UTERUS	1.755E-03

RADIONUCLIDE: PU-243

PHYSICAL AND METABOLIC PARAMETERS FOR DOSIMETRICALLY SIGNIFICANT PROGENY:

NUCLIDE	RADIOACTIVE HALF-LIFE (DAYS)
PU-243	0.2070
AM-243	2.6900E 06
NP-239	2.360

BRANCHING RATIOS:

FROM	TO	FRACTION
PU-243	AM-243	1.000
AM-243	NP-239	1.000

ORGAN ABSORBED	NUCLIDE	BLOOD TRANSFER FRACTION F2-PRIME	COMPARTMENT DEPOSITION FRACTION	COMPARTMENT BIOLOGICAL HALF-TIME (DAYS)
	PU-243	1.00	4.000E-02	0.500
			0.460	1.460E 04
			0.500	3.650E 04
	AM-243	1.00	0.460	1.460E 04
			0.540	3.650E 04
	NP-239	1.00	0.460	1.460E 04
			0.540	3.650E 04
EXCRET.	PU-243	4.000E-02	1.00	0.500
	AM-243	0.0	1.00	0.500
	NP-239	0.0	1.00	0.500
BONE	PU-243	0.450	1.00	3.650E 04
	AM-243	0.450	1.00	3.650E 04
	NP-239	0.450	1.00	3.650E 04
LIVER	PU-243	0.450	1.00	1.460E 04
	AM-243	0.450	1.00	1.460E 04
	NP-239	0.450	1.00	1.460E 04
KIDNEYS	PU-243	1.000E-02	1.00	1.460E 04
	AM-243	1.000E-02	1.00	1.460E 04
	NP-239	1.000E-02	1.00	1.460E 04
TESTES	PU-243	3.500E-04	1.00	3.650E 04
	AM-243	3.500E-04	1.00	3.650E 04
	NP-239	3.500E-04	1.00	3.650E 04
OVARIES	PU-243	1.100E-04	1.00	3.650E 04
	AM-243	1.100E-04	1.00	3.650E 04
	NP-239	1.100E-04	1.00	3.650E 04
OTHER	PU-243	5.000E-02	1.00	3.650E 04
	AM-243	9.000E-02	1.00	3.650E 04
	NP-239	9.000E-02	1.00	3.650E 04

S FACTORS (REM/MICROCURIE-DAY) FOR PU-243

TARGET ORGANS	SOURCE ORGANS												
	LUNGS	RES LYM	S CONT	SI CONT	ULI CONT	LLI CONT	EXCRET.	BONE	LIVER	KIDNEYS	TESTES	OVARIES	OTHER
LUNGS	0.882E-02	0.882E-02	0.901E-05	0.858E-06	0.106E-05	0.288E-06	0.133E-03	0.455E-05	0.133E-04	0.391E-05	0.157E-07	0.220E-06	0.653E-05
RES LYM	0.882E-02	0.580E 00	0.901E-05	0.858E-06	0.106E-05	0.288E-06	0.133E-03	0.455E-05	0.133E-04	0.391E-05	0.157E-07	0.220E-06	0.653E-05
S WALL	0.922E-05	0.922E-05	0.177E-01	0.180E-04	0.195E-04	0.846E-05	0.133E-03	0.237E-05	0.895E-05	0.173E-04	0.123E-06	0.349E-05	0.644E-05
SI WALL	0.740E-06	0.740E-06	0.130E-04	0.111E-01	0.928E-04	0.507E-04	0.135E-03	0.342E-05	0.741E-05	0.136E-04	0.139E-05	0.659E-04	0.731E-05
ULI WALL	0.915E-06	0.915E-06	0.180E-04	0.158E-03	0.200E-01	0.227E-04	0.135E-03	0.305E-05	0.124E-04	0.133E-04	0.114E-05	0.617E-04	0.756E-05
LLI WALL	0.199E-06	0.199E-06	0.535E-05	0.418E-04	0.161E-04	0.325E-01	0.134E-03	0.475E-05	0.869E-06	0.279E-05	0.133E-04	0.830E-04	0.804E-05
T BODY	0.133E-03	0.133E-03	0.474E-04	0.111E-03	0.703E-04	0.847E-04	0.133E-03	0.133E-03	0.134E-03	0.134E-03	0.132E-03	0.136E-03	0.131E-03
ADREN	0.128E-04	0.128E-04	0.133E-04	0.349E-05	0.409E-05	0.127E-05	0.133E-03	0.546E-05	0.214E-04	0.618E-04	0.956E-07	0.128E-05	0.264E-03
BL WALL	0.122E-06	0.122E-06	0.118E-05	0.121E-04	0.975E-05	0.340E-04	0.134E-03	0.228E-05	0.630E-06	0.101E-05	0.242E-04	0.372E-04	0.138E-03
KIDNEYS	0.376E-05	0.376E-05	0.168E-04	0.150E-04	0.136E-04	0.350E-05	0.133E-03	0.370E-05	0.197E-04	0.286E-01	0.135E-06	0.386E-05	0.696E-05
LIVER	0.124E-04	0.124E-04	0.945E-05	0.855E-05	0.123E-04	0.939E-06	0.134E-03	0.295E-05	0.500E-02	0.193E-04	0.100E-06	0.215E-05	0.525E-05
OVARIES	0.357E-06	0.357E-06	0.252E-05	0.581E-04	0.593E-04	0.939E-04	0.135E-03	0.352E-05	0.181E-05	0.472E-05	0.0	0.799E 00	0.996E-05
PANCREAS	0.129E-04	0.129E-04	0.977E-04	0.938E-05	0.101E-04	0.307E-05	0.135E-03	0.357E-05	0.221E-04	0.325E-04	0.150E-06	0.195E-05	0.269E-03
BONE	0.924E-05	0.924E-05	0.500E-05	0.721E-05	0.646E-05	0.102E-04	0.138E-03	0.168E-02	0.653E-05	0.854E-05	0.463E-05	0.925E-05	0.211E-04
R MAR	0.115E-04	0.115E-04	0.845E-05	0.254E-04	0.218E-04	0.341E-04	0.140E-03	0.382E-03	0.878E-05	0.226E-04	0.355E-05	0.345E-04	0.220E-03
Y MAR	0.974E-05	0.974E-05	0.713E-05	0.102E-04	0.936E-05	0.130E-04	0.137E-03	0.320E-04	0.993E-05	0.104E-04	0.160E-05	0.128E-04	0.267E-03
ENDOST	0.924E-05	0.924E-05	0.500E-05	0.721E-05	0.646E-05	0.102E-04	0.138E-03	0.126E-02	0.653E-05	0.854E-05	0.463E-05	0.925E-05	0.140E-03
SPLEEN	0.113E-04	0.113E-04	0.528E-04	0.667E-05	0.676E-05	0.376E-05	0.133E-03	0.285E-05	0.397E-05	0.462E-04	0.898E-07	0.190E-05	0.257E-03
TESTES	0.246E-07	0.246E-07	0.151E-06	0.111E-05	0.104E-05	0.830E-05	0.131E-03	0.270E-05	0.195E-06	0.278E-06	0.251E 00	0.0	0.534E-05
THYMUS	0.215E-04	0.215E-04	0.139E-05	0.255E-06	0.334E-06	0.811E-07	0.134E-03	0.251E-05	0.282E-05	0.837E-06	0.767E-08	0.782E-07	0.275E-03
THYROID	0.399E-05	0.399E-05	0.269E-06	0.441E-07	0.488E-07	0.160E-07	0.131E-03	0.344E-05	0.397E-06	0.146E-06	0.168E-08	0.146E-07	0.264E-03
UTERUS	0.307E-06	0.307E-06	0.295E-05	0.509E-04	0.277E-04	0.350E-04	0.135E-03	0.233E-05	0.157E-05	0.342E-05	0.0	0.109E-03	0.278E-03

β^- decay (4.956 H 3)

Case 1 represents inhalation of oxides, hydroxides, and carbides; case 2 inhalation of nitrates; and case 3 ingestion of any compound.

CASE 1.. INHALATION

AMAD (MICRON).. 1.00 D3 =0.310 D4 =8.000E-02 D5 =0.249

	SOLUBILITY CLASS	G.I. UPTAKE FRACTIONS STOMACH	S INT	U L INT	L L INT
PU-243	Y	0.0	3.000E-05	0.0	0.0
AM-243	Y	0.0	1.000E-03	0.0	0.0
NP-239	Y	0.0	1.000E-03	0.0	0.0

DOSE EQUIVALENT (REM/MICROCURIE)

SOURCE	LUNGS	RES LYM	S CONT	SI CONT	ULI CONT	LLI CONT	EXCRET.	BONE	LIVER	KIDNEYS	TESTES
TARGET											
LUNGS	1.290E-03	1.404E-07	5.062E-08	1.238E-08	1.766E-08	2.038E-09	4.189E-09	3.326E-09	8.963E-09	5.974E-11	1.156E-14
RES LYM	1.269E-03	1.552E-03	5.062E-08	1.238E-08	1.766E-08	2.038E-09	4.189E-09	3.326E-09	8.963E-09	5.974E-11	1.156E-14
S WALL	1.327E-06	6.415E-10	9.944E-05	2.596E-07	3.249E-07	5.995E-08	4.189E-09	1.770E-09	6.125E-09	2.615E-10	7.851E-14
SI WALL	1.065E-07	5.932E-11	7.304E-08	1.601E-04	1.546E-06	3.587E-07	4.252E-09	2.516E-09	5.107E-09	2.067E-10	8.347E-13
ULI WALL	1.317E-07	7.270E-11	1.011E-07	2.279E-06	3.332E-04	1.606E-07	4.252E-09	2.268E-09	8.426E-09	2.029E-10	6.884E-13
LLI WALL	2.865E-08	2.096E-11	3.006E-08	6.029E-07	2.682E-07	2.299E-04	4.220E-09	3.495E-09	6.209E-10	4.431E-11	7.530E-12
T BODY	1.944E-05	3.324E-07	2.663E-07	1.601E-06	1.171E-06	5.991E-07	4.189E-09	5.164E-06	8.833E-07	1.963E-08	8.478E-10
ADREN	1.842E-06	8.926E-10	7.472E-08	5.034E-08	6.814E-08	8.986E-09	4.189E-09	4.017E-09	1.473E-08	9.173E-10	6.334E-14
BL WALL	1.756E-08	1.158E-11	6.630E-09	1.745E-07	1.624E-07	2.405E-07	4.220E-09	1.685E-09	4.502E-10	1.626E-11	1.362E-11
KIDNEYS	5.412E-07	2.801E-10	9.439E-08	2.163E-07	2.266E-07	2.476E-08	4.189E-09	2.754E-09	1.336E-08	4.406E-06	8.711E-14
LIVER	1.785E-06	8.604E-10	5.309E-08	1.233E-07	2.049E-07	6.644E-09	4.220E-09	2.180E-09	3.426E-05	2.915E-10	6.370E-14
OVARIES	5.138E-08	3.072E-11	1.416E-08	8.380E-07	9.830E-07	6.643E-07	4.252E-09	2.569E-09	1.265E-09	7.343E-11	0.0
PANCREAS	1.857E-06	8.973E-10	5.489E-07	1.353E-07	1.683E-07	2.172E-08	4.252E-09	2.716E-09	1.490E-08	4.905E-10	9.839E-14
BONE	1.330E-06	5.618E-10	2.809E-08	1.040E-07	1.076E-07	7.216E-08	4.347E-09	7.203E-05	4.297E-09	1.247E-10	2.572E-12
R MAR	1.655E-06	7.058E-10	4.747E-08	3.663E-07	3.632E-07	2.412E-07	4.409E-09	1.195E-05	5.830E-09	3.293E-10	1.986E-12
Y MAR	1.402E-06	5.832E-10	4.006E-08	1.471E-07	1.559E-07	9.196E-08	4.315E-09	2.188E-08	6.516E-09	1.520E-10	9.022E-13
ENDOST	1.330E-06	5.618E-10	2.809E-08	1.040E-07	1.076E-07	7.216E-08	4.346E-09	1.603E-04	4.297E-09	1.247E-10	2.572E-12
SPLEEN	1.626E-06	7.888E-10	2.966E-07	9.620E-08	1.126E-07	2.660E-08	4.189E-09	2.100E-09	2.759E-09	6.910E-10	5.567E-14
TESTES	3.541E-09	2.671E-12	8.494E-10	1.601E-08	1.733E-08	5.872E-08	4.126E-09	2.009E-09	1.487E-10	4.690E-12	1.687E-06
THYMUS	3.094E-06	1.471E-09	7.809E-09	3.678E-09	5.565E-09	5.739E-10	4.220E-09	1.833E-09	1.978E-09	1.314E-11	5.418E-15
THYROID	5.743E-07	2.947E-10	1.511E-09	6.361E-10	8.131E-10	1.132E-10	4.126E-09	2.595E-09	3.149E-10	2.505E-12	1.213E-15
UTERUS	4.419E-08	2.549E-11	1.657E-08	7.341E-07	4.615E-07	2.476E-07	4.252E-09	1.759E-09	1.103E-09	5.458E-11	0.0

DOSE EQUIVALENT (REM/MICROCURIE)

SOURCE	OVARIES	OTHER	TOTAL
TARGET			
LUNGS	4.242E-14	6.392E-10	1.291E-03
RES LYM	4.242E-14	6.392E-10	2.821E-03
S WALL	6.332E-13	6.391E-10	1.014E-04
SI WALL	1.151E-11	7.261E-10	1.622E-04
ULI WALL	1.080E-11	7.499E-10	3.359E-04
LLI WALL	1.444E-11	7.978E-10	2.308E-04
T BODY	2.671E-10	2.040E-07	2.969E-05
ADREN	2.424E-13	4.199E-07	2.489E-06
BL WALL	6.534E-12	2.104E-07	8.185E-07
KIDNEYS	7.128E-13	6.893E-10	5.531E-06
LIVER	3.993E-13	5.015E-10	3.644E-05
OVARIES	1.687E-06	9.768E-10	4.252E-06
PANCREAS	3.611E-13	4.203E-07	3.174E-06
BONE	1.569E-12	1.529E-09	7.368E-05
R MAR	5.809E-12	4.172E-07	1.505E-05
Y MAR	2.163E-12	4.200E-07	2.290E-06
ENDOST	1.569E-12	9.075E-09	1.620E-04
SPLEEN	3.578E-13	4.201E-07	2.589E-06
TESTES	0.0	5.324E-10	1.790E-06
THYMUS	1.639E-14	4.208E-07	3.542E-06
THYROID	3.203E-15	4.198E-07	1.005E-06
UTERUS	1.913E-11	4.211E-07	1.932E-06

PERCENT DOSE EQUIVALENT..

NUCLIDE	PU-243	AM-243	NP-239
TARGET			
LUNGS	98.3	1.7	0.0
RES LYM	45.1	54.7	0.2
S WALL	100.0	0.0	0.0
SI WALL	100.0	0.0	0.0
ULI WALL	100.0	0.0	0.0
LLI WALL	100.0	0.0	0.0
T BODY	77.2	22.8	0.0
ADREN	83.4	16.3	0.3
BL WALL	75.1	24.6	0.2
KIDNEYS	26.0	73.6	0.4
LIVER	12.8	86.7	0.4
OVARIES	62.6	37.2	0.2
PANCREAS	37.0	12.8	0.2
BONE	3.4	96.5	0.1
R MAR	19.2	80.7	0.1
Y MAR	81.9	17.7	0.3
ENDOST	1.4	98.6	0.0
SPLEEN	84.2	15.6	0.2
TESTES	11.2	88.4	0.4
THYMUS	88.4	11.4	0.1
THYROID	59.5	40.2	0.3
UTERUS	79.0	20.9	0.2

CASE 2.. INHALATION

AMAD (MICRON).. 1.00 D3 =0.310 D4 =8.000E-02 D5 =0.249

	SOLUBILITY CLASS	G.I. UPTAKE FRACTIONS STOMACH	S INT	U L INT	L L INT
PU-243	W	0.0	3.000E-05	0.0	0.0
AM-243	W	0.0	1.000E-03	0.0	0.0
NP-239	W	0.0	1.000E-03	0.0	0.0

DOSE EQUIVALENT (REM/MICROCURIE)

SOURCE	LUNGS	RES LYM	S CONT	SI CONT	ULI CONT	LLI CONT	EXCRET.	BONE	LIVER	KIDNEYS	TESTES
TARGET											
LUNGS	1.179E-03	1.356E-07	4.098E-08	1.002E-03	1.430E-08	1.649E-09	7.628E-08	4.464E-08	1.282E-07	8.409E-10	1.277E-13
RES LYM	1.177E-03	2.091E-05	4.098E-08	1.002E-03	1.430E-08	1.649E-09	7.628E-08	4.464E-08	1.282E-07	8.409E-10	1.277E-13
S WALL	1.230E-06	1.460E-10	8.050E-05	2.102E-07	2.630E-07	4.844E-08	7.628E-08	2.337E-08	8.653E-08	3.712E-09	9.644E-13
SI WALL	9.875E-08	1.179E-11	5.913E-08	1.296E-04	1.252E-06	2.903E-07	7.742E-08	3.760E-08	7.175E-08	2.922E-09	1.074E-11
ULI WALL	1.221E-07	1.457E-11	8.187E-08	1.845E-06	2.697E-04	1.300E-07	7.742E-08	3.004E-08	1.197E-07	2.859E-09	8.820E-12
LLI WALL	2.656E-08	3.215E-12	2.433E-08	4.881E-07	2.171E-07	1.861E-04	7.685E-08	4.667E-08	8.480E-09	6.050E-10	1.014E-10
T BODY	1.778E-05	4.613E-09	2.156E-07	1.296E-06	9.481E-07	4.850E-07	7.628E-08	1.649E-05	3.653E-06	8.117E-08	3.324E-09
ADREN	1.708E-06	2.027E-10	6.049E-08	4.075E-08	5.516E-08	7.272E-09	7.628E-08	5.365E-08	2.072E-07	1.321E-08	7.565E-13
BL WALL	1.628E-08	1.960E-12	5.367E-09	1.413E-07	1.315E-07	1.947E-07	7.685E-08	2.243E-08	6.148E-09	2.197E-10	1.843E-10
KIDNEYS	5.017E-07	5.970E-11	7.641E-08	1.751E-07	1.834E-07	2.004E-08	7.628E-08	3.645E-08	1.901E-07	1.797E-05	1.061E-12
LIVER	1.655E-06	1.963E-10	4.298E-08	9.983E-08	1.659E-07	5.377E-09	7.685E-08	2.901E-08	1.402E-04	4.141E-09	7.837E-13
OVARIES	4.764E-08	5.706E-12	1.146E-08	6.784E-07	7.997E-07	5.376E-07	7.742E-08	3.452E-08	1.758E-08	1.019E-09	0.0
PANCREAS	1.721E-06	2.042E-10	4.443E-07	1.095E-07	1.362E-07	1.758E-08	7.742E-08	3.535E-08	2.130E-07	6.971E-09	1.184E-12
BONE	1.233E-06	1.455E-10	2.274E-08	8.418E-08	8.712E-08	5.840E-08	7.914E-08	2.287E-04	6.262E-08	1.819E-09	3.515E-11
R MAR	1.535E-06	1.812E-10	3.843E-08	2.966E-07	2.940E-07	1.952E-07	8.029E-08	3.873E-05	8.436E-08	4.813E-09	2.699E-11
Y MAR	1.300E-06	1.534E-10	3.243E-08	1.191E-07	1.262E-07	7.443E-08	7.857E-08	3.095E-07	9.517E-08	2.216E-09	1.219E-11
ENDOST	1.233E-06	1.455E-10	2.274E-08	8.418E-08	8.712E-08	5.840E-08	7.914E-08	4.902E-04	6.262E-08	1.819E-09	3.515E-11
SPLEEN	1.508E-06	1.789E-10	2.401E-07	7.788E-08	9.117E-08	2.153E-08	7.628E-08	2.801E-08	3.851E-08	9.892E-09	6.991E-13
TESTES	3.283E-09	3.983E-13	6.968E-10	1.296E-08	1.403E-08	4.752E-08	7.513E-08	2.660E-08	1.931E-09	6.111E-11	6.545E-06
THYMUS	2.869E-06	3.402E-10	6.322E-09	2.977E-09	4.504E-09	4.644E-10	7.685E-08	2.462E-08	2.741E-08	1.811E-10	6.170E-14
THYROID	5.324E-07	6.333E-11	1.223E-09	5.149E-10	6.581E-10	9.162E-11	7.513E-08	3.399E-08	3.967E-09	3.222E-11	1.359E-14
UTERUS	4.097E-08	4.898E-12	1.342E-08	5.943E-07	3.736E-07	2.004E-07	7.742E-08	2.303E-08	1.526E-08	7.425E-10	0.0

DOSE EQUIVALENT (REM/MICROCURIE)

SOURCE	OVARIES	OTHER	TOTAL
TARGET			
LUNGS	5.370E-13	7.295E-09	1.180E-03
RES LYM	5.370E-13	7.295E-09	1.198E-03
S WALL	8.399E-12	7.216E-09	8.245E-05
SI WALL	1.573E-10	8.193E-09	1.315E-04
ULI WALL	1.473E-10	8.470E-09	2.721E-04
LLI WALL	1.979E-10	9.009E-09	1.870E-04
T BODY	1.054E-09	6.155E-07	4.165E-05
ADREN	3.111E-12	1.262E-06	3.484E-06
BL WALL	8.888E-11	6.374E-07	1.232E-06
KIDNEYS	9.364E-12	7.795E-09	1.924E-05
LIVER	5.202E-12	5.659E-09	1.423E-04
OVARIES	6.546E-06	1.113E-08	8.763E-06
PANCREAS	4.715E-12	1.267E-06	4.029E-06
BONE	2.193E-11	2.226E-08	2.304E-04
R MAR	8.168E-11	1.217E-06	4.247E-05
Y MAR	3.033E-11	1.265E-06	2.402E-06
ENDOST	2.193E-11	1.450E-07	4.920E-04
SPLEEN	4.612E-12	1.265E-06	3.357E-06
TESTES	0.0	5.990E-09	6.733E-06
THYMUS	1.948E-13	1.274E-06	4.287E-06
THYROID	3.680E-14	1.262E-06	1.910E-06
UTERUS	2.604E-10	1.277E-06	2.616E-06

PERCENT DOSE EQUIVALENT..

NUCLIDE	PU-243	AM-243	NP-239
TARGET			
LUNGS	99.8	0.2	0.0
RES LYM	98.0	1.0	0.0
S WALL	100.0	0.0	0.0
SI WALL	100.0	0.0	0.0
ULI WALL	100.0	0.0	0.0
LLI WALL	100.0	0.0	0.0
T BODY	56.1	43.8	0.1
ADREN	71.0	28.5	0.5
BL WALL	59.5	40.2	0.4
KIDNEYS	36.7	63.0	0.3
LIVER	33.5	66.1	0.3
OVARIES	45.6	54.1	0.3
PANCREAS	75.0	24.7	0.4
BONE	7.4	92.5	0.1
R MAR	14.7	85.2	0.1
Y MAR	70.1	29.3	0.6
ENDOST	2.7	97.3	0.0
SPLEEN	70.2	29.5	0.3
TESTES	29.2	70.4	0.4
THYMUS	76.7	23.1	0.2
THYROID	47.8	51.8	0.4
UTERUS	61.9	37.8	0.3

CASE 3.. INGESTION

INGESTION TRANSFER FRACTIONS (G. I. TRACT TO BLOOD)

	PU-243	AM-243	NP-239
STOMACH	0.0	0.0	0.0
S INT	3.000E-05	1.000E-03	1.000E-03
U L INT	0.0	0.0	0.0
L L INT	0.0	0.0	0.0

DOSE EQUIVALENT (REM/MICROCURIE)

SOURCE	S CONT	SI CONT	ULI CONT	LLI CONT	EXCRET.	BONE	LIVER	KIDNEYS	TESTES	OVARIES	OTHER
TARGET											
LUNGS	3.295E-07	8.054E-08	1.149E-07	1.326E-08	1.899E-11	2.022E-11	5.178E-11	3.495E-13	7.911E-17	2.684E-16	4.300E-12
RES LYM	3.295E-07	8.054E-08	1.149E-07	1.326E-08	1.899E-11	2.022E-11	5.178E-11	3.495E-13	7.911E-17	2.684E-16	4.300E-12
S WALL	6.472E-04	1.690E-06	2.114E-06	3.894E-07	1.899E-11	1.089E-11	3.573E-11	1.519E-12	5.062E-16	3.882E-15	4.325E-12
SI WALL	4.753E-07	1.042E-03	1.006E-05	2.334E-06	1.927E-11	1.535E-11	2.991E-11	1.205E-12	5.224E-15	6.908E-14	4.916E-12
ULI WALL	6.582E-07	1.483E-05	2.168E-03	1.045E-06	1.927E-11	1.392E-11	4.894E-11	1.186E-12	4.320E-15	6.485E-14	5.074E-12
LLI WALL	1.956E-07	3.924E-06	1.746E-06	1.496E-03	1.913E-11	2.132E-11	3.714E-12	2.652E-13	4.567E-14	8.649E-14	5.399E-12
T BODY	1.733E-06	1.042E-05	7.622E-06	3.899E-06	1.899E-11	4.847E-08	7.966E-09	1.770E-10	7.758E-12	2.442E-12	1.926E-09
ADREN	4.863E-07	3.276E-07	4.434E-07	5.846E-08	1.899E-11	2.451E-11	8.625E-11	5.270E-12	4.153E-16	1.519E-15	3.966E-09
BL WALL	4.315E-08	1.136E-06	1.057E-06	1.565E-06	1.913E-11	1.031E-11	2.693E-12	9.808E-14	3.233E-14	3.934E-14	1.986E-09
KIDNEYS	6.143E-07	1.408E-06	1.475E-06	1.611E-07	1.899E-11	1.691E-11	7.745E-11	3.981E-08	5.644E-16	4.399E-15	4.661E-12
LIVER	3.455E-07	8.026E-07	1.334E-06	4.322E-08	1.913E-11	1.333E-11	3.095E-07	1.693E-12	4.103E-16	2.478E-15	3.395E-12
OVARIES	9.214E-08	5.454E-06	6.429E-06	4.322E-06	1.927E-11	1.560E-11	7.474E-12	4.342E-13	0.0	1.546E-08	6.578E-12
PANCREAS	3.572E-06	8.805E-07	1.095E-06	1.413E-07	1.927E-11	1.687E-11	8.610E-11	2.848E-12	6.422E-16	2.238E-15	3.969E-09
BONE	1.828E-07	6.768E-07	7.004E-07	4.695E-07	1.970E-11	6.765E-07	2.445E-11	7.090E-13	1.543E-14	9.253E-15	8.737E-12
R MAR	3.090E-07	2.384E-06	2.364E-06	1.570E-06	1.999E-11	1.120E-07	3.337E-11	1.870E-12	1.196E-14	3.412E-14	3.953E-09
Y MAR	2.607E-07	9.575E-07	1.015E-06	5.984E-07	1.956E-11	1.280E-10	3.701E-11	8.650E-13	5.460E-15	1.273E-14	3.967E-09
ENDOST	1.828E-07	6.768E-07	7.004E-07	4.695E-07	1.970E-11	1.512E-06	2.445E-11	7.090E-13	1.543E-14	9.253E-15	4.766E-11
SPLEEN	1.931E-06	6.261E-07	7.329E-07	1.731E-07	1.899E-11	1.282E-11	1.624E-11	3.990E-12	3.539E-16	2.237E-15	3.963E-09
TESTES	5.521E-09	1.042E-07	1.128E-07	3.820E-07	1.870E-11	1.233E-11	9.219E-13	2.900E-14	1.546E-08	0.0	3.610E-12
THYMUS	5.083E-08	2.394E-08	3.621E-08	3.733E-09	1.913E-11	1.113E-11	1.171E-11	7.812E-14	3.650E-17	1.077E-16	3.973E-09
THYROID	9.836E-09	4.140E-09	5.291E-09	7.365E-10	1.870E-11	1.605E-11	1.990E-12	1.562E-14	8.244E-18	2.147E-17	3.966E-09
UTERUS	1.079E-07	4.778E-06	3.003E-06	1.611E-06	1.927E-11	1.088E-11	6.531E-12	3.275E-13	0.0	1.152E-13	3.974E-09

DOSE EQUIVALENT (REM/MICROCURIE)

SOURCE	TOTAL
TARGET	
LUNGS	5.383E-07
RES LYM	5.383E-07
S WALL	6.514E-04
SI WALL	1.055E-03
ULI WALL	2.185E-03
LLI WALL	1.502E-03
T BODY	2.373E-05
ADREN	1.320E-06
BL WALL	3.803E-06
KIDNEYS	3.698E-06
LIVER	2.834E-06
OVARIES	1.631E-05
PANCREAS	5.693E-06
BONE	2.706E-06
R MAR	6.742E-06
Y MAR	2.836E-06
ENDOST	3.541E-06
SPLEEN	3.467E-06
TESTES	6.200E-07
THYMUS	1.187E-07
THYROID	2.401E-08
UTERUS	9.504E-06

PERCENT DOSE EQUIVALENT..

NUCLIDE	PU-243	AM-243	NP-239
TARGET			
LUNGS	100.0	0.0	0.0
RES LYM	100.0	0.0	0.0
S WALL	100.0	0.0	0.0
SI WALL	100.0	0.0	0.0
ULI WALL	100.0	0.0	0.0
LLI WALL	100.0	0.0	0.0
T BODY	99.8	0.2	0.0
ADREN	99.7	0.3	0.0
BL WALL	99.9	0.1	0.0
KIDNEYS	99.0	1.0	0.0
LIVER	89.5	10.5	0.1
OVARIES	99.9	0.1	0.0
PANCREAS	99.9	0.1	0.0
BONE	75.1	24.8	0.0
R MAR	98.3	1.7	0.0
Y MAR	99.9	0.1	0.0
ENDOST	57.4	42.6	0.0
SPLEEN	99.9	0.1	0.0
TESTES	97.6	2.4	0.0
THYMUS	96.7	3.3	0.0
THYROID	83.7	16.2	0.1
UTERUS	100.0	0.0	0.0

RADIONUCLIDE: PU-244

PHYSICAL AND METABOLIC PARAMETERS FOR DOSIMETRICALLY SIGNIFICANT PROGENY:

NUCLIDE	RADIOACTIVE HALF-LIFE (DAYS)
PU-244	3.0100E 10
U-240	0.5880
NP-240M	5.1400E-03
NP-240	4.5100E-02
PU-240	2.3900E 06

BRANCHING RATIOS:

FROM	TO	FRACTION
PU-244	U-240	1.000
U-240	NP-240M	1.000
NP-240M	NP-240	1.0000E-03
NP-240M	PU-240	0.9990
NP-240	PU-240	1.000

ORGAN	NUCLIDE	BLOOD TRANSFER FRACTION F2-PRIME	COMPARTMENT DEPOSITION FRACTION	COMPARTMENT BIOLOGICAL HALF-TIME (DAYS)
ABSORBED	PU-244	1.00	4.000E-02	0.500
			0.460	1.460E 04
			0.500	3.650E 04
	U-240	1.00	0.120	6.00
			0.200	20.0
			5.200E-04	1.500E 03
			0.679	5.000E 03
	NP-240M	1.00	0.460	1.460E 04
			0.540	3.650E 04
	NP-240	1.00	0.460	1.460E 04
			0.540	3.650E 04
	PU-240	1.00	0.460	1.460E 04
			0.540	3.650E 04
EXCRET.	PU-244	4.000E-02	1.00	0.500
	U-240	0.0	1.00	0.500
	NP-240M	0.0	1.00	0.500
	NP-240	0.0	1.00	0.500
	PU-240	0.0	1.00	0.500
BONE	PU-244	0.450	1.00	3.650E 04
	U-240	0.223	0.897	20.0
			0.103	5.000E 03
	NP-240M	0.450	1.00	3.650E 04
	NP-240	0.450	1.00	3.650E 04
	PU-240	0.450	1.00	3.650E 04
LIVER	PU-244	0.450	1.00	1.460E 04
	*U-240	3.290E-02	1.00	5.000E 03
	NP-240M	0.450	1.00	1.460E 04
	NP-240	0.450	1.00	1.460E 04
	PU-240	0.450	1.00	1.460E 04
KIDNEYS	PU-244	1.000E-02	1.00	1.460E 04
	U-240	0.121	0.996	6.00
			4.000E-03	1.500E 03
	NP-240M	1.000E-02	1.00	1.460E 04
	NP-240	1.000E-02	1.00	1.460E 04
	PU-240	1.000E-02	1.00	1.460E 04
TESTES	PU-244	3.500E-04	1.00	3.650E 04
	*U-240	6.400E-04	1.00	5.000E 03
	NP-240M	3.500E-04	1.00	3.650E 04
	NP-240	3.500E-04	1.00	3.650E 04
	PU-240	3.500E-04	1.00	3.650E 04
OVARIES	PU-244	1.100E-04	1.00	3.650E 04
	*U-240	2.010E-04	1.00	5.000E 03
	NP-240M	1.100E-04	1.00	3.650E 04
	NP-240	1.100E-04	1.00	3.650E 04
	PU-240	1.100E-04	1.00	3.650E 04
OTHER	PU-244	5.000E-02	1.00	3.650E 04
	U-240	0.622	1.00	5.000E 03
	NP-240M	9.000E-02	1.00	3.650E 04
	NP-240	9.000E-02	1.00	3.650E 04
	PU-240	9.000E-02	1.00	3.650E 04

α decay (8.26E7 Y 9)

Case 1 represents inhalation of oxides, hydroxides, and carbides; case 2 inhalation of nitrates; and case 3 ingestion of any compound.

*Retention data derived from "other tissues" compartment.

S FACTORS (REM/MICROCURIE-DAY) FOR PU-244

TARGET ORGANS	SOURCE ORGANS									
	LUNGS	RES LYM	S CONT	SI CONT	ULI CONT	LLI CONT	EXCRET.	BONE	LIVER	KIDNEYS
LUNGS	0.265E 01	0.175E-02	0.613E-04	0.686E-05	0.624E-05	0.333E-05	0.378E-01	0.257E-04	0.266E-04	0.240E-04
RES LYM	0.175E-02	0.176E 03	0.613E-04	0.686E-05	0.624E-05	0.333E-05	0.378E-01	0.257E-04	0.266E-04	0.240E-04
S WALL	0.685E-04	0.685E-04	0.549E-01	0.931E-04	0.103E-03	0.458E-04	0.378E-01	0.128E-04	0.536E-04	0.882E-04
SI WALL	0.678E-05	0.678E-05	0.820E-04	0.342E-01	0.598E-03	0.259E-03	0.378E-01	0.131E-04	0.487E-04	0.796E-04
ULI WALL	0.706E-05	0.706E-05	0.957E-04	0.699E-03	0.614E-01	0.121E-03	0.378E-01	0.111E-04	0.674E-04	0.737E-04
LLI WALL	0.248E-05	0.248E-05	0.330E-04	0.224E-03	0.914E-04	0.100E 00	0.378E-01	0.218E-04	0.724E-03	0.216E-04
T BODY	0.378E-01	0.378E-01	0.172E-03	0.361E-03	0.243E-03	0.291E-03	0.486E-01	0.189E 00	0.378E-01	0.378E-01
ADREN	0.681E-04	0.681E-04	0.726E-04	0.286E-04	0.244E-04	0.100E-04	0.378E-01	0.377E-04	0.141E-03	0.354E-03
BL WALL	0.120E-05	0.120E-05	0.951E-05	0.664E-04	0.743E-04	0.166E-03	0.378E-01	0.132E-04	0.656E-05	0.101E-04
KIDNEYS	0.240E-04	0.240E-04	0.882E-04	0.802E-04	0.618E-04	0.258E-04	0.378E-01	0.339E-04	0.109E-03	0.853E 01
LIVER	0.262E-04	0.262E-04	0.526E-04	0.495E-04	0.550E-04	0.853E-05	0.378E-01	0.177E-04	0.147E 01	0.109E-03
OVARIES	0.264E-05	0.264E-05	0.223E-04	0.295E-03	0.194E-03	0.541E-03	0.378E-01	0.133E-04	0.159E-04	0.291E-04
PANCREAS	0.557E-04	0.557E-04	0.504E-03	0.507E-04	0.473E-04	0.198E-04	0.378E-01	0.201E-04	0.113E-03	0.176E-03
BONE	0.122E-03	0.122E-03	0.687E-04	0.101E-03	0.160E-03	0.136E-03	0.189E 00	0.264E 01	0.951E-04	0.135E-03
R MAR	0.341E-04	0.341E-04	0.256E-04	0.680E-04	0.530E-04	0.944E-04	0.378E-01	0.399E 00	0.280E-04	0.106E-04
Y MAR	0.275E-04	0.275E-04	0.231E-04	0.281E-04	0.226E-04	0.323E-04	0.378E-01	0.749E-04	0.329E-04	0.355E-04
ENDOST	0.258E-04	0.258E-04	0.121E-04	0.131E-04	0.336E-04	0.177E-04	0.378E-01	0.642E 01	0.177E-04	0.339E-04
SPLEEN	0.546E-04	0.546E-04	0.267E-03	0.403E-04	0.328E-04	0.239E-04	0.378E-01	0.182E-04	0.273E-04	0.262E-03
TESTES	0.387E-06	0.387E-06	0.251E-05	0.137E-04	0.511E-04	0.147E-03	0.378E-01	0.331E-04	0.207E-05	0.307E-05
THYMUS	0.991E-04	0.991E-04	0.109E-04	0.237E-05	0.228E-05	0.226E-05	0.378E-01	0.195E-04	0.167E-04	0.586E-05
THYROID	0.253E-04	0.253E-04	0.263E-05	0.609E-06	0.589E-06	0.276E-06	0.378E-01	0.233E-04	0.323E-05	0.154E-05
UTERUS	0.250E-05	0.250E-05	0.212E-04	0.244E-03	0.102E-03	0.161E-03	0.378E-01	0.105E-04	0.138E-04	0.245E-04

S FACTORS (REM/MICROCURIE-DAY) FOR PU-244

TARGET ORGANS	SOURCE ORGANS		
	TESTES	OVARIES	OTHER
LUNGS	0.368E-06	0.261E-05	0.430E-04
RES LYM	0.368E-06	0.261E-05	0.430E-04
S WALL	0.249E-05	0.229E-04	0.526E-04
SI WALL	0.139E-04	0.302E-03	0.308E-04
ULI WALL	0.123E-04	0.331E-03	0.374E-04
LLI WALL	0.214E-03	0.461E-03	0.552E-04
T BODY	0.378E-01	0.378E-01	0.376E-01
ADREN	0.129E-05	0.109E-04	0.776E-01
BL WALL	0.186E-04	0.181E-03	0.388E-01
KIDNEYS	0.298E-05	0.291E-04	0.371E-04
LIVER	0.185E-05	0.159E-04	0.306E-04
OVARIES	0.0	0.240E 03	0.512E-04
PANCREAS	0.184E-05	0.160E-04	0.776E-01
BONE	0.126E-03	0.113E-03	0.178E-03
R MAR	0.192E-04	0.848E-04	0.776E-01
Y MAR	0.745E-05	0.297E-04	0.776E-01
ENDOST	0.325E-04	0.132E-04	0.559E-04
SPLEEN	0.167E-05	0.147E-04	0.775E-01
TESTES	0.756E 02	0.0	0.473E-04
THYMUS	0.170E-06	0.954E-06	0.776E-01
THYROID	0.595E-07	0.273E-06	0.775E-01
UTERUS	0.0	0.512E-03	0.776E-01

CASE 1.. INHALATION

AMAD (MICRON).. 1.00 D3 =0.310 D4 =8.000E-02 D5 =0.249

	SOLUBILITY CLASS	G.I. UPTAKE FRACTIONS STOMACH	S INT	U L INT	L L INT
PU-244	Y	0.0	3.000E-05	0.0	0.0
U-240	Y	0.0	2.000E-03	0.0	0.0
NP-240M	Y	0.0	1.000E-03	0.0	0.0
NP-240	Y	0.0	1.000E-03	0.0	0.0
PU-240	Y	0.0	3.000E-05	0.0	0.0

DOSE EQUIVALENT (REM/MICROCURIE)

SOURCE	LUNGS	RES LYM	S CONT	SI CONT	ULI CONT	LLI CONT	EXCRET.	BONE	LIVER	KIDNEYS	TESTES
TARGET											
LUNGS	290.	4.26	5.535E-05	3.432E-05	7.795E-05	2.607E-05	5.492E-05	2.705E-02	4.426E-02	4.400E-04	4.314E-07
RES LYM	4.09	2.068E 04	5.535E-05	3.432E-05	7.795E-05	2.607E-05	5.492E-05	2.705E-02	4.426E-02	4.400E-04	4.314E-07
S WALL	1.762E-02	1.855E-02	4.414E-02	3.508E-04	7.619E-04	3.522E-04	5.493E-05	1.510E-02	4.346E-02	1.534E-03	2.269E-06
SI WALL	2.334E-03	2.450E-03	7.777E-05	9.332E-02	3.525E-03	1.882E-03	5.494E-05	1.952E-02	3.724E-02	1.325E-03	1.160E-05
ULI WALL	2.930E-03	3.070E-03	9.921E-05	2.741E-03	0.352	8.988E-04	5.494E-05	1.737E-02	5.548E-02	1.322E-03	8.483E-06
LLI WALL	7.170E-04	7.538E-04	3.968E-05	7.368E-04	6.574E-04	0.552	5.494E-05	2.584E-02	6.770E-03	4.058E-04	9.526E-05
T BODY	4.15	4.45	1.483E-04	1.033E-03	1.463E-03	1.692E-03	7.049E-05	63.8	10.3	0.229	1.007E-02
ADREN	2.029E-02	2.133E-02	7.017E-05	1.243E-04	2.279E-04	1.005E-04	5.495E-05	4.592E-02	0.111	5.985E-03	1.516E-06
BL WALL	5.754E-04	6.022E-04	1.394E-05	3.099E-04	4.166E-04	1.165E-03	5.494E-05	1.586E-02	6.210E-03	1.881E-04	8.002E-05
KIDNEYS	8.238E-03	8.645E-03	9.878E-05	3.168E-04	5.822E-04	1.817E-04	5.493E-05	3.004E-02	8.609E-02	51.6	2.602E-06
LIVER	1.578E-02	1.649E-02	6.084E-05	1.858E-04	5.192E-04	7.605E-05	5.493E-05	1.931E-02	401.	1.856E-03	1.602E-06
OVARIES	1.164E-03	1.219E-03	2.451E-05	9.457E-04	2.266E-03	3.516E-03	5.493E-05	2.354E-02	1.103E-02	5.701E-04	0.0
PANCREAS	2.005E-02	2.103E-02	5.185E-04	2.050E-04	4.045E-04	1.515E-04	5.493E-05	2.482E-02	9.933E-02	3.072E-03	1.505E-06
BONE	1.864E-02	1.980E-02	1.944E-05	8.862E-05	1.972E-04	2.796E-04	2.729E-04	891.	3.669E-02	1.107E-03	4.274E-05
R MAR	1.056E-02	1.109E-02	3.093E-05	2.551E-04	4.529E-04	6.552E-04	5.493E-05	135.	2.375E-02	8.321E-04	1.279E-05
Y MAR	8.696E-03	9.134E-03	2.530E-05	1.114E-04	2.150E-04	2.664E-04	5.492E-05	9.735E-02	2.537E-02	5.881E-04	6.226E-06
ENDOST	8.234E-03	8.648E-03	1.806E-05	8.004E-05	1.572E-04	2.104E-04	5.492E-05	2.162E 03	1.599E-02	5.057E-04	1.834E-05
SPLEEN	1.738E-02	1.825E-02	2.842E-04	1.606E-04	2.762E-04	2.035E-04	5.493E-05	2.173E-02	2.301E-02	4.127E-03	2.015E-06
TESTES	2.038E-04	2.131E-04	2.471E-06	4.463E-05	1.213E-04	4.437E-04	5.493E-05	2.278E-02	2.916E-03	6.769E-05	20.1
THYMUS	3.179E-02	3.338E-02	1.348E-05	1.503E-05	3.382E-05	1.388E-05	5.492E-05	2.052E-02	2.136E-02	1.322E-04	2.645E-07
THYROID	9.317E-03	9.771E-03	4.851E-06	4.701E-06	1.033E-05	4.470E-06	5.492E-05	2.581E-02	3.818E-03	4.128E-05	9.787E-08
UTERUS	9.528E-04	9.989E-04	2.798E-05	8.710E-04	9.674E-04	1.162E-03	5.494E-05	1.612E-02	1.057E-02	4.171E-04	0.0

DOSE EQUIVALENT (REM/MICROCURIE)

SOURCE	OVARIES	OTHER	TOTAL
TARGET			
LUNGS	8.319E-07	4.401E-03	295.
RES LYM	8.319E-07	4.401E-03	2.069E 04
S WALL	5.811E-06	4.931E-03	0.147
SI WALL	7.934E-05	4.369E-03	0.166
ULI WALL	8.026E-05	4.737E-03	0.441
LLI WALL	1.053E-04	5.581E-03	0.604
T BODY	3.166E-03	1.43	84.4
ADREN	3.629E-06	2.95	3.16
BL WALL	4.625E-05	1.48	1.50
KIDNEYS	7.606E-06	4.560E-03	51.7
LIVER	4.264E-06	3.476E-03	401.
OVARIES	20.0	6.048E-03	20.1
PANCREAS	4.371E-06	2.95	3.12
BONE	1.356E-05	1.255E-02	891.
R MAR	2.117E-05	2.94	138.
Y MAR	8.150E-06	2.95	3.09
ENDOST	5.374E-06	2.902E-02	2.162E 03
SPLEEN	4.263E-06	2.95	3.03
TESTES	0.0	4.288E-03	20.1
THYMUS	4.019E-07	2.95	3.06
THYROID	1.294E-07	2.95	3.00
UTERUS	1.233E-04	2.96	2.99

PERCENT DOSE EQUIVALENT..

NUCLIDE	PU-244	U-240	NP-240M	NP-240	PU-240
TARGET					
LUNGS	97.3	0.5	2.3	0.0	0.0
RES LYM	98.6	0.2	1.1	0.0	0.1
S WALL	25.8	5.0	69.0	0.2	0.0
SI WALL	14.6	9.1	76.1	0.2	0.0
ULI WALL	10.2	12.6	77.1	0.1	0.0
LLI WALL	11.7	13.9	74.3	0.1	0.0
T BODY	99.1	0.1	0.6	0.0	0.3
ADREN	93.8	0.3	5.6	0.0	0.3
BL WALL	96.7	0.3	2.7	0.0	0.3
KIDNEYS	98.2	0.2	1.3	0.0	0.3
LIVER	98.1	0.3	1.3	0.0	0.3
OVARIES	98.0	0.3	1.4	0.0	0.3
PANCREAS	94.3	0.3	5.1	0.0	0.3
BONE	99.4	0.0	0.2	0.0	0.3
R MAR	99.0	0.0	0.6	0.0	0.3
Y MAR	94.9	0.6	4.2	0.0	0.3
ENDOST	99.6	0.0	0.1	0.0	0.3
SPLEEN	96.2	0.3	3.2	0.0	0.3
TESTES	98.1	0.3	1.3	0.0	0.3
THYMUS	95.6	0.3	3.8	0.0	0.3
THYROID	96.9	0.3	2.5	0.0	0.3
UTERUS	97.1	0.3	2.3	0.0	0.3

CASE 2.. INHALATION

AMAD (MICRON).. 1.00 D3 =0.310 D4 =8.000E-02 D5 =0.249

	SOLUBILITY CLASS	G.I. UPTAKE FRACTIONS STOMACH	S INT	U L INT	L L INT
PU-244	W	0.0	3.000E-05	0.0	0.0
U-240	W	0.0	5.000E-02	0.0	0.0
NP-240M	W	0.0	1.000E-03	0.0	0.0
NP-240	W	0.0	1.000E-03	0.0	0.0
PU-240	W	0.0	3.000E-05	0.0	0.0

DOSE EQUIVALENT (REM/MICROCURIE)

SOURCE	LUNGS	RES LYM	S CONT	SI CONT	ULI CONT	LLI CONT	EXCRET.	BONE	LIVER	KIDNEYS	TESTES
TARGET											
LUNGS	30.0	3.813E-02	8.179E-06	4.940E-06	1.353E-05	7.128E-06	1.328E-04	6.760E-02	0.110	1.092E-03	1.078E-06
RES LYM	0.417	161.	8.179E-06	4.940E-06	1.353E-05	7.128E-06	1.328E-04	6.760E-02	0.110	1.092E-03	1.078E-06
S WALL	1.804E-03	1.573E-04	6.637E-03	5.220E-05	1.420E-04	9.662E-05	1.329E-04	3.774E-02	0.108	3.807E-03	5.670E-06
SI WALL	2.387E-04	2.110E-05	1.141E-05	1.458E-02	6.849E-04	5.220E-04	1.329E-04	4.878E-02	9.241E-02	3.286E-03	2.899E-05
ULI WALL	2.993E-04	2.665E-05	1.440E-05	4.058E-04	6.884E-02	2.482E-04	1.329E-04	4.342E-02	0.138	3.280E-03	2.120E-05
LLI WALL	7.336E-05	6.434E-06	5.661E-06	1.117E-04	1.231E-04	0.165	1.329E-04	6.459E-02	1.680E-02	1.007E-03	2.381E-04
T BODY	0.428	3.456E-02	2.207E-05	1.601E-04	2.827E-04	4.898E-04	1.705E-04	159.	25.6	0.568	2.515E-02
ADREN	2.076E-03	1.823E-04	1.027E-05	1.817E-05	4.099E-05	2.638E-05	1.329E-04	0.115	0.276	1.485E-02	3.788E-06
BL WALL	5.876E-05	5.255E-06	1.950E-06	4.494E-05	8.180E-05	3.252E-04	1.329E-04	3.964E-02	1.541E-02	4.665E-04	2.000E-04
KIDNEYS	8.422E-04	7.444E-05	1.420E-05	4.685E-05	1.046E-04	5.068E-05	1.329E-04	7.507E-02	0.214	128.	6.502E-06
LIVER	1.610E-03	1.448E-04	8.716E-06	2.766E-05	9.322E-05	2.034E-05	1.329E-04	4.826E-02	994.	4.604E-03	4.004E-06
OVARIES	1.189E-04	1.060E-05	3.532E-06	1.440E-04	3.940E-04	9.973E-04	1.329E-04	5.884E-02	2.739E-02	1.414E-03	0.0
PANCREAS	2.050E-03	1.815E-04	7.532E-05	3.023E-05	7.366E-05	4.159E-05	1.329E-04	6.204E-02	0.247	7.621E-03	3.763E-06
BONE	1.916E-03	1.606E-04	3.744E-06	1.890E-05	6.763E-05	1.153E-04	6.600E-04	2.226E 03	9.106E-02	2.746E-03	1.069E-04
R MAR	1.080E-03	9.504E-05	4.410E-06	3.798E-05	8.249E-05	1.833E-04	1.329E-04	338.	5.893E-02	2.064E-03	3.197E-05
Y MAR	8.894E-04	7.834E-05	3.647E-06	1.647E-05	3.856E-05	7.219E-05	1.328E-04	0.243	6.298E-02	1.459E-03	1.556E-05
ENDOST	8.421E-04	7.420E-05	2.522E-06	1.131E-05	3.215E-05	5.399E-05	1.329E-04	5.402E 03	3.968E-02	1.255E-03	4.584E-05
SPLEEN	1.777E-03	1.566E-04	4.111E-05	2.373E-05	5.041E-05	5.416E-05	1.329E-04	5.430E-02	5.710E-02	1.024E-02	5.035E-06
TESTES	2.080E-05	1.865E-06	3.609E-07	6.777E-06	3.064E-05	1.563E-04	1.329E-04	5.693E-02	7.236E-03	1.679E-04	50.2
THYMUS	3.251E-03	2.865E-04	1.917E-06	2.117E-06	5.772E-06	3.984E-06	1.329E-04	5.129E-02	5.301E-02	3.280E-04	6.610E-07
THYROID	9.523E-04	8.441E-05	6.660E-07	6.523E-07	1.738E-06	1.108E-06	1.328E-04	6.451E-02	9.475E-03	1.024E-04	2.346E-07
UTERUS	9.737E-05	8.641E-06	3.954E-06	1.305E-04	1.736E-04	3.227E-04	1.329E-04	4.029E-02	2.623E-02	1.035E-03	0.0

DOSE EQUIVALENT (REM/MICROCURIE)

SOURCE	OVARIES	OTHER	TOTAL
TARGET			
LUNGS	2.079E-06	1.100E-02	30.2
RES LYM	2.079E-06	1.100E-02	161.
S WALL	1.452E-05	1.232E-02	0.171
SI WALL	1.983E-04	1.092E-02	0.172
ULI WALL	2.006E-04	1.184E-02	0.266
LLI WALL	2.632E-04	1.394E-02	0.262
T BODY	7.910E-03	3.57	190.
ADREN	9.070E-06	7.37	7.78
BL WALL	1.156E-04	3.69	3.75
KIDNEYS	1.901E-05	1.139E-02	128.
LIVER	1.066E-05	8.685E-03	994.
OVARIES	50.1	1.511E-02	50.2
PANCREAS	1.093E-05	7.37	7.69
BONE	3.389E-05	3.136E-02	2.226E 03
R MAR	5.292E-05	7.34	345.
Y MAR	2.037E-05	7.37	7.67
ENDOST	1.343E-05	7.250E-02	5.402E 03
SPLEEN	1.065E-05	7.36	7.49
TESTES	0.0	1.071E-02	50.2
THYMUS	1.004E-06	7.38	7.49
THYROID	3.235E-07	7.36	7.43
UTERUS	3.083E-04	7.38	7.46

PERCENT DOSE EQUIVALENT..

NUCLIDE	PU-244	U-240	NP-240M	NP-240	PU-240
TARGET					
LUNGS	98.1	0.2	1.7	0.0	0.0
RES LYM	98.2	0.3	1.5	0.0	0.0
S WALL	32.1	0.8	66.9	0.3	0.0
SI WALL	29.6	1.4	68.8	0.3	0.0
ULI WALL	28.6	3.5	67.7	0.2	0.0
LLI WALL	30.9	7.4	61.6	0.1	0.0
T BODY	99.2	0.1	0.5	0.0	0.2
ADREN	94.7	0.3	4.8	0.0	0.2
BL WALL	96.9	0.3	2.6	0.0	0.2
KIDNEYS	98.2	0.2	1.3	0.0	0.2
LIVER	98.2	0.3	1.3	0.0	0.2
OVARIES	98.1	0.3	1.4	0.0	0.3
PANCREAS	95.3	0.3	4.2	0.0	0.2
BONE	99.5	0.0	0.2	0.0	0.3
R MAR	99.1	0.0	0.6	0.0	0.3
Y MAR	95.3	0.6	3.8	0.0	0.2
ENDOST	99.7	0.0	0.1	0.0	0.2
SPLEEN	97.0	0.3	2.5	0.0	0.2
TESTES	98.2	0.3	1.3	0.0	0.3
THYMUS	97.0	0.3	2.5	0.0	0.2
THYROID	97.4	0.3	2.0	0.0	0.3
UTERUS	97.3	0.3	2.2	0.0	0.3

CASE 3.. INGESTION

INGESTION TRANSFER FRACTIONS (G. I. TRACT TO BLOOD)

	PU-244	U-240	NP-240M	NP-240	PU-240
STOMACH	0.0	0.0	0.0	0.0	0.0
S INT	3.000E-05	5.000E-02	1.000E-03	1.000E-03	3.000E-05
U L INT	0.0	0.0	0.0	0.0	0.0
L L INT	0.0	0.0	0.0	0.0	0.0

DOSE EQUIVALENT (REM/MICROCURIE)

SOURCE	S CONT	SI CONT	ULI CONT	LLI CONT	EXCRET.	BONE	LIVER	KIDNEYS	TESTES	OVARIES	OTHER
TARGET											
LUNGS	2.726E-06	1.748E-06	9.169E-06	8.885E-06	3.298E-08	1.689E-05	2.731E-05	3.234E-07	2.748E-10	5.293E-10	3.134E-06
RES LYM	2.726E-06	1.748E-06	9.169E-06	8.885E-06	3.298E-08	1.689E-05	2.731E-05	3.234E-07	2.748E-10	5.293E-10	3.134E-06
S WALL	2.428E-03	2.165E-05	1.114E-04	1.208E-04	3.299E-08	9.432E-06	2.681E-05	1.123E-06	1.442E-09	3.689E-09	3.488E-06
SI WALL	3.658E-06	7.329E-03	5.781E-04	6.578E-04	3.299E-08	1.220E-05	2.297E-05	9.659E-07	7.366E-09	5.039E-08	3.175E-06
ULI WALL	4.296E-06	1.647E-04	5.868E-02	3.118E-04	3.299E-08	1.086E-05	3.422E-05	9.701E-07	5.375E-09	5.093E-08	3.421E-06
LLI WALL	1.499E-06	5.019E-05	9.740E-05	0.216	3.299E-08	1.614E-05	4.176E-06	2.988E-07	5.994E-08	6.677E-08	3.971E-06
T BODY	7.637E-06	7.820E-05	2.373E-04	6.399E-04	4.233E-08	3.959E-02	6.355E-03	1.417E-04	6.248E-06	1.965E-06	8.916E-04
ADREN	3.243E-06	6.948E-06	2.999E-05	3.180E-05	3.300E-08	2.869E-05	6.863E-05	4.370E-06	9.655E-10	2.310E-09	1.838E-03
BL WALL	4.399E-07	1.652E-05	7.020E-05	4.120E-04	3.299E-08	9.907E-06	3.831E-06	1.384E-07	5.125E-08	2.937E-08	9.209E-04
KIDNEYS	3.983E-06	1.892E-05	7.635E-05	6.417E-05	3.299E-08	1.875E-05	5.310E-05	3.191E-02	1.653E-09	4.830E-09	3.287E-06
LIVER	2.381E-06	1.150E-05	6.802E-05	2.490E-05	3.299E-08	1.206E-05	0.247	1.356E-06	1.018E-09	2.708E-09	2.493E-06
OVARIES	1.005E-06	6.564E-05	2.680E-04	1.278E-03	3.299E-08	1.472E-05	6.806E-06	4.211E-07	0.0	1.244E-02	4.350E-06
PANCREAS	2.261E-05	1.204E-05	5.530E-05	5.202E-05	3.299E-08	1.551E-05	6.127E-05	2.250E-06	9.559E-10	2.777E-09	1.839E-03
BONE	2.919E-06	1.825E-05	9.783E-05	1.821E-04	1.639E-07	0.553	2.262E-05	7.353E-07	2.673E-08	8.505E-09	8.641E-06
R MAR	1.163E-06	1.580E-05	6.194E-05	2.326E-04	3.298E-08	8.382E-02	1.465E-05	6.479E-07	8.103E-09	1.344E-08	1.828E-03
Y MAR	1.041E-06	6.636E-06	2.808E-05	8.933E-05	3.298E-08	6.082E-05	1.565E-05	4.287E-07	3.954E-09	5.178E-09	1.837E-03
ENDOST	5.608E-07	3.598E-06	2.936E-05	6.379E-05	3.298E-08	1.34	9.862E-06	3.650E-07	1.159E-08	3.426E-09	2.189E-05
SPLEEN	1.201E-05	9.530E-06	3.802E-05	6.685E-05	3.299E-08	1.357E-05	1.419E-05	2.994E-06	1.284E-09	2.710E-09	1.837E-03
TESTES	1.123E-07	3.061E-06	3.569E-05	2.294E-04	3.299E-08	1.420E-05	1.799E-06	5.040E-08	1.247E-02	0.0	3.024E-06
THYMUS	4.962E-07	6.608E-07	3.757E-06	5.152E-06	3.298E-08	1.282E-05	1.318E-05	9.860E-08	1.688E-10	2.562E-10	1.841E-03
THYROID	1.248E-07	1.848E-07	1.092E-06	1.268E-06	3.298E-08	1.612E-05	2.356E-06	3.108E-08	5.991E-11	8.259E-11	1.836E-03
UTERUS	9.708E-07	5.588E-05	1.265E-04	4.070E-04	3.299E-08	1.008E-05	6.519E-06	3.047E-07	0.0	7.826E-08	1.842E-03

DOSE EQUIVALENT (REM/MICROCURIE)

SOURCE	TOTAL
TARGET	
LUNGS	7.022E-05
RES LYM	7.022E-05
S WALL	2.723E-03
SI WALL	8.608E-03
ULI WALL	5.921E-02
LLI WALL	0.216
T BODY	4.795E-02
ADREN	2.012E-03
BL WALL	1.434E-03
KIDNEYS	3.215E-02
LIVER	0.247
OVARIES	1.408E-02
PANCREAS	2.061E-03
BONE	0.553
R MAR	8.598E-02
Y MAR	2.039E-03
ENDOST	1.34
SPLEEN	1.994E-03
TESTES	1.276E-02
THYMUS	1.877E-03
THYROID	1.857E-03
UTERUS	2.449E-03

PERCENT DOSE EQUIVALENT..

NUCLIDE	PU-244	U-240	NP-240M	NP-240	PU-240
TARGET					
LUNGS	30.3	0.5	69.0	0.3	0.0
RES LYM	30.3	0.5	69.0	0.3	0.0
S WALL	88.8	1.0	10.2	0.0	0.0
SI WALL	73.2	3.4	23.4	0.0	0.0
ULI WALL	56.6	7.2	36.1	0.0	0.0
LLI WALL	46.3	9.0	44.7	0.0	0.0
T BODY	98.2	0.2	1.3	0.0	0.2
ADREN	92.4	0.3	7.0	0.0	0.3
BL WALL	78.1	0.3	21.4	0.1	0.2
KIDNEYS	97.5	0.3	1.9	0.0	0.3
LIVER	98.2	0.3	1.4	0.0	0.2
OVARIES	91.7	0.4	7.7	0.0	0.2
PANCREAS	91.9	0.3	7.4	0.0	0.3
BONE	99.5	0.0	0.2	0.0	0.3
R MAR	98.9	0.1	0.8	0.0	0.3
Y MAR	91.5	0.6	7.5	0.0	0.3
ENDOST	99.7	0.0	0.1	0.0	0.2
SPLEEN	93.4	0.3	6.0	0.0	0.3
TESTES	97.4	0.3	2.1	0.0	0.3
THYMUS	96.3	0.3	3.1	0.0	0.3
THYROID	96.9	0.3	2.4	0.0	0.4
UTERUS	84.0	0.3	15.4	0.1	0.3

RADIONUCLIDE: AM-241

PHYSICAL AND METABOLIC PARAMETERS FOR DOSIMETRICALLY SIGNIFICANT PROGENY:

NUCLIDE	RADIOACTIVE HALF-LIFE (DAYS)
AM-241	1.5800E 05

ORGAN ABSORBED	NUCLIDE	BLOOD TRANSFER FRACTION F2-PRIME	COMPARTMENT DEPOSITION FRACTION	COMPARTMENT BIOLOGICAL HALF-TIME (DAYS)
	AM-241	1.00	4.000E-02	0.500
			0.460	1.460E 04
			0.500	3.650E 04
EXCRET.	AM-241	4.000E-02	1.00	0.500
BONE	AM-241	0.450	1.00	3.650E 04
LIVER	AM-241	0.450	1.00	1.460E 04
KIDNEYS	AM-241	1.000E-02	1.00	1.460E 04
TESTES	AM-241	3.500E-04	1.00	3.650E 04
OVARIES	AM-241	1.100E-04	1.00	3.650E 04
OTHER	AM-241	5.000E-02	1.00	3.650E 04

S FACTORS (REM/MICROCURIE-DAY) FOR AM-241

TARGET ORGANS	SOURCE ORGANS												
	LUNGS	RES LYM	S CONT	SI CONT	ULI CONT	LLI CONT	EXCRET.	BONE	LIVER	KIDNEYS	TESTES	OVARIES	OTHER
LUNGS	0.290E 01	0.113E-02	0.104E-04	0.585E-06	0.757E-06	0.165E-06	0.414E-01	0.488E-05	0.161E-04	0.370E-05	0.396E-08	0.121E-06	0.819E-05
RES LYM	0.113E-02	0.193E 03	0.104E-04	0.585E-06	0.767E-06	0.165E-06	0.414E-01	0.488E-05	0.161E-04	0.370E-05	0.396E-08	0.121E-06	0.819E-05
S WALL	0.104E-04	0.104E-04	0.583E-01	0.199E-04	0.239E-04	0.879E-05	0.414E-01	0.207E-05	0.972E-05	0.176E-04	0.739E-07	0.287E-05	0.778E-05
SI WALL	0.477E-06	0.477E-06	0.135E-04	0.365E-01	0.120E-03	0.634E-04	0.414E-01	0.346E-05	0.721E-05	0.137E-04	0.992E-06	0.816E-04	0.806E-05
ULI WALL	0.640E-06	0.640E-06	0.207E-04	0.246E-03	0.662E-01	0.283E-04	0.414E-01	0.296E-05	0.131E-04	0.131E-04	0.830E-06	0.807E-04	0.865E-05
LLI WALL	0.113E-06	0.113E-06	0.529E-05	0.559E-04	0.176E-04	0.108E 00	0.414E-01	0.481E-05	0.488E-06	0.218E-05	0.143E-04	0.110E-03	0.869E-05
T BODY	0.414E-01	0.414E-01	0.137E-03	0.345E-03	0.212E-03	0.259E-03	0.532E-01	0.207E 00	0.414E-01	0.414E-01	0.414E-01	0.414E-01	0.412E-01
ADRN	0.130E-04	0.130E-04	0.134E-04	0.303E-35	0.367E-05	0.479E-06	0.414E-01	0.638E-05	0.243E-04	0.759E-04	0.396E-07	0.827E-06	0.850E-01
BL WALL	0.693E-07	0.693E-07	0.730E-06	0.115E-34	0.865E-05	0.367E-04	0.414E-01	0.182E-05	0.315E-06	0.505E-06	0.270E-04	0.428E-04	0.425E-01
KIDNEYS	0.339E-05	0.339E-05	0.160E-04	0.145E-04	0.138E-04	0.302E-05	0.414E-01	0.370E-05	0.216E-04	0.935E 01	0.592E-07	0.314E-05	0.809E-05
LIVER	0.144E-04	0.144E-04	0.931E-05	0.861E-05	0.130E-04	0.605E-06	0.414E-01	0.275E-05	0.161E 01	0.214E-04	0.452E-07	0.164E-05	0.565E-05
OVARIES	0.271E-06	0.271E-06	0.258E-05	0.733E-04	0.678E-04	0.126E-03	0.414E-01	0.358E-05	0.171E-05	0.422E-05	0.0	0.264E-03	0.119E-04
PANCREAS	0.139E-04	0.139E-04	0.122E-03	0.891E-05	0.927E-05	0.218E-05	0.414E-01	0.364E-05	0.242E-04	0.352E-04	0.577E-07	0.120E-05	0.850E-01
BONE	0.126E-04	0.126E-04	0.590E-05	0.889E-05	0.786E-05	0.139E-04	0.207E 00	0.290E 01	0.831E-05	0.109E-04	0.480E-35	0.120E-04	0.869E-05
R MAR	0.154E-04	0.154E-04	0.929E-05	0.327E-04	0.278E-04	0.454E-04	0.414E-01	0.478E 00	0.101E-04	0.291E-04	0.358E-05	0.467E-04	0.850E-01
Y MAR	0.136E-04	0.136E-04	0.861E-05	0.126E-34	0.115E-04	0.183E-04	0.414E-01	0.562E-04	0.130E-04	0.133E-04	0.153E-05	0.168E-04	0.850E-01
ENDOST	0.126E-04	0.126E-04	0.590E-05	0.889E-35	0.786E-05	0.139E-04	0.414E-01	0.612E 01	0.831E-05	0.109E-04	0.480E-05	0.120E-04	0.869E-04
SPLEEN	0.127E-04	0.123E-04	0.636E-04	0.593E-05	0.674E-05	0.358E-05	0.414E-01	0.316E-05	0.342E-05	0.586E-04	0.318E-07	0.130E-05	0.850E-01
TESTES	0.863E-08	0.863E-08	0.823E-07	0.675E-06	0.657E-06	0.917E-05	0.414E-01	0.213E-05	0.713E-07	0.106E-06	0.624E 02	0.0	0.566E-05
THYMUS	0.231E-04	0.231E-04	0.165E-05	0.966E-07	0.127E-06	0.255E-07	0.414E-01	0.225E-05	0.204E-03	0.487E-06	0.132E-08	0.225E-07	0.850E-01
THYROID	0.291E-05	0.291E-05	0.108E-06	0.113E-07	0.129E-07	0.346E-08	0.414E-01	0.329E-05	0.161E-06	0.486E-07	0.184E-09	0.287E-08	0.850E-01
UTERUS	0.227E-06	0.227E-06	0.152E-05	0.617E-04	0.305E-04	0.353E-04	0.414E-01	0.195E-05	0.114E-05	0.238E-05	0.0	0.135E-03	0.850E-01

α decay (433 Y 2)

Case 1 represents inhalation of oxides, hydroxides, and carbides; case 2 inhalation of nitrates; and case 3 ingestion of any compound.

CASE 1.. INHALATION

AMAD (MICRON).. 1.00 D3 =0.310 D4 =8.000E-02 DS =0.249

	SOLUBILITY CLASS	G.I. UPTAKE FRACTIONS STOMACH	S INT	U L INT	L L INT
AM-241	Y	0.0	1.000E-03	0.0	0.0

DOSE EQUIVALENT (REM/MICROCURIE)

SOURCE	LUNGS	RES LYM	S CONT	SI CONT	ULI CONT	LLI CONT	EXCRET.	BONE	LIVER	KIDNEYS	TESTES
TARGET											
LUNGS	313.	0.128	2.535E-07	5.698E-08	2.428E-07	9.642E-08	5.993E-05	1.587E-03	4.186E-03	2.138E-05	1.002E-09
RES LYM	0.122	2.179E 04	2.535E-07	5.698E-08	2.428E-07	9.642E-08	5.993E-05	1.587E-03	4.186E-03	2.138E-05	1.002E-09
S WALL	1.121E-03	1.174E-03	1.421E-03	1.929E-06	7.249E-06	5.137E-06	5.993E-05	6.732E-04	2.527E-03	1.017E-04	1.869E-08
SI WALL	5.142E-05	5.386E-05	3.291E-07	3.555E-03	3.799E-05	3.705E-05	5.993E-05	1.125E-03	1.875E-03	7.916E-05	2.509E-07
ULI WALL	6.899E-05	7.227E-05	5.045E-07	2.396E-05	2.096E-02	1.654E-05	5.993E-05	9.626E-04	3.406E-03	7.569E-05	2.099E-07
LLI WALL	1.218E-05	1.276E-05	1.289E-07	5.445E-06	5.571E-06	6.311E-02	5.993E-05	1.564E-03	1.269E-04	1.260E-05	3.617E-06
T BODY	4.46	4.68	3.339E-06	3.360E-05	6.711E-05	1.514E-04	7.702E-05	67.3	10.8	0.239	1.047E-02
ADREN	1.401E-03	1.468E-03	3.266E-07	2.951E-07	1.162E-06	5.137E-07	5.993E-05	2.075E-03	6.319E-03	4.390E-04	7.234E-09
BL WALL	7.470E-06	7.826E-06	1.779E-08	1.120E-06	2.738E-06	2.145E-05	5.993E-05	5.919E-04	8.191E-05	2.918E-06	6.829E-06
KIDNEYS	3.654E-04	3.829E-04	4.387E-07	1.412E-06	4.368E-06	1.765E-06	5.993E-05	1.203E-03	5.616E-03	54.0	1.497E-08
LIVER	1.552E-03	1.626E-03	2.269E-07	8.386E-07	4.115E-06	3.536E-07	5.993E-05	8.943E-04	419.	1.237E-04	1.143E-08
OVARIES	2.921E-05	3.060E-05	6.289E-08	7.139E-05	2.146E-05	7.363E-05	5.993E-05	1.164E-03	4.446E-04	2.438E-05	0.0
PANCREAS	1.498E-03	1.570E-03	2.974E-06	8.678E-07	2.934E-06	1.274E-06	5.993E-05	1.184E-03	6.293E-03	2.034E-04	1.447E-08
BONE	1.358E-03	1.423E-03	1.438E-07	8.659E-07	2.489E-06	8.123E-06	2.997E-04	943.	2.161E-03	6.298E-05	1.214E-06
R MAR	1.660E-03	1.739E-03	2.264E-07	3.185E-06	8.800E-06	2.887E-05	5.993E-05	155.	2.626E-03	1.681E-04	9.055E-07
Y MAR	1.466E-03	1.536E-03	2.099E-07	1.227E-06	3.640E-06	1.069E-05	5.993E-05	1.828E-02	3.380E-03	7.695E-05	3.870E-07
ENDOST	1.358E-03	1.423E-03	1.438E-07	8.659E-07	2.488E-06	8.123E-06	5.993E-05	1.990E 03	2.161E-03	6.298E-05	1.214E-06
SPLEEN	1.326E-03	1.389E-03	1.550E-06	5.776E-07	2.134E-06	2.092E-06	5.993E-05	1.028E-03	8.893E-04	3.386E-04	8.044E-09
TESTES	9.302E-07	9.745E-07	2.030E-09	6.574E-08	2.080E-07	5.359E-06	5.993E-05	6.927E-04	1.854E-05	6.125E-07	20.9
THYMUS	2.490E-03	2.609E-03	4.022E-08	9.409E-09	4.020E-08	1.490E-08	5.993E-05	7.317E-04	5.304E-04	2.814E-06	3.289E-10
THYROID	3.137E-04	3.286E-04	2.632E-09	1.101E-09	4.084E-09	2.022E-09	5.993E-05	1.070E-02	4.186E-05	2.808E-07	4.654E-11
UTERUS	2.447E-05	2.563E-05	4.680E-08	6.010E-06	9.655E-06	2.297E-05	5.993E-05	6.342E-04	2.964E-04	1.375E-05	0.0

DOSE EQUIVALENT (REM/MICROCURIE)

SOURCE	OVARIES	OTHER	TOTAL
TARGET			
LUNGS	9.619E-09	2.956E-04	313.
RES LYM	9.619E-09	2.956E-04	2.179E 04
S WALL	2.282E-07	2.811E-04	7.374E-03
SI WALL	6.487E-06	2.912E-04	7.173E-03
ULI WALL	6.415E-06	3.126E-04	2.596E-02
LLI WALL	8.745E-06	3.212E-04	6.525E-02
T BODY	3.291E-03	1.49	89.0
ADREN	6.574E-08	3.07	3.08
BL WALL	3.402E-06	1.54	1.54
KIDNEYS	2.496E-07	2.923E-04	54.0
LIVER	1.304E-07	2.042E-04	419.
OVARIES	21.0	4.264E-04	21.0
PANCREAS	9.540E-08	3.07	3.08
BONE	9.540E-07	3.140E-04	943.
R MAR	3.712E-06	3.07	159.
Y MAR	1.336E-06	3.07	3.10
ENDOST	9.540E-07	9.323E-04	1.990E 03
SPLEEN	1.033E-07	3.07	3.08
TESTES	0.0	2.154E-04	20.9
THYMUS	1.789E-09	3.07	3.08
THYROID	2.282E-10	3.07	3.07
UTERUS	1.073E-05	3.07	3.07

CASE 2.. INHALATION

AMAD (MICRON).. 1.00 D3 =0.310 D4 =8.000E-02 D5 =0.249

	SOLUBILITY CLASS	G.I. UPTAKE FRACTIONS STOMACH	S INT	U L INT	L L INT
AM-241	W	0.0	1.000E-03	0.0	0.0

DOSE EQUIVALENT (REM/MICROCURIE)

SOURCE	LUNGS	RES LYM	S CONT	SI CONT	ULI CONT	LLI CONT	EXCRET.	BONE	LIVER	KIDNEYS	TESTES
TARGET											
LUNGS	32.3	1.015E-03	2.246E-07	5.048E-08	2.151E-07	8.543E-08	1.449E-04	3.958E-03	1.037E-02	5.296E-05	2.498E-09
RES LYM	1.260E-02	173.	2.246E-07	5.048E-09	2.151E-07	8.543E-08	1.449E-04	3.958E-03	1.037E-02	5.296E-05	2.498E-09
S WALL	1.160E-04	9.340E-06	1.259E-03	1.709E-06	6.422E-06	4.551E-06	1.449E-04	1.679E-03	6.261E-03	2.519E-04	4.662E-08
SI WALL	5.321E-06	4.284E-07	2.915E-07	3.150E-03	3.365E-05	3.282E-05	1.449E-04	2.806E-03	4.644E-03	1.961E-04	6.258E-07
ULI WALL	7.139E-06	5.748E-07	4.470E-07	2.123E-05	1.857E-02	1.465E-05	1.449E-04	2.401E-03	9.438E-03	1.875E-04	5.236E-07
LLI WALL	1.260E-06	1.015E-07	1.142E-07	4.824E-06	4.936E-06	5.592E-02	1.449E-04	3.901E-03	3.143E-04	3.121E-05	9.021E-06
T BODY	0.462	3.718E-02	2.958E-06	2.977E-05	5.946E-05	1.341E-04	1.862E-04	168.	26.7	0.593	2.612E-02
ADREN	1.450E-04	1.167E-05	2.894E-07	2.615E-07	1.029E-06	4.551E-07	1.449E-04	5.175E-03	1.565E-02	1.085E-03	1.304E-08
BL WALL	7.730E-07	6.223E-08	1.576E-08	9.923E-07	2.426E-06	1.900E-05	1.449E-04	1.476E-03	2.029E-04	7.229E-06	1.703E-05
KIDNEYS	3.781E-05	3.044E-06	3.887E-07	1.251E-06	3.870E-06	1.564E-06	1.449E-04	3.001E-03	1.391E-02	134.	3.735E-08
LIVER	1.606E-04	1.293E-05	2.010E-07	7.430E-07	3.646E-06	3.132E-07	1.449E-04	2.230E-03	1.037E 03	3.063E-04	2.951E-08
OVARIES	3.023E-06	2.434E-07	5.571E-08	6.325E-06	1.901E-05	6.524E-05	1.449E-04	2.904E-03	1.101E-03	6.041E-05	0.0
PANCREAS	1.551E-04	1.248E-05	2.635E-06	7.689E-07	2.600E-06	1.129E-06	1.449E-04	2.952E-03	1.559E-02	5.039E-04	3.608E-08
BONE	1.406E-04	1.132E-05	1.274E-07	7.671E-07	2.204E-06	7.197E-06	7.246E-04	2.352E 03	5.353E-03	1.560E-04	3.029E-06
R MAR	1.718E-04	1.383E-05	2.006E-07	2.822E-06	7.796E-06	2.558E-05	1.449E-04	388.	6.506E-03	4.165E-04	2.258E-06
Y MAR	1.517E-04	1.221E-05	1.859E-07	1.087E-06	3.225E-06	9.475E-06	1.449E-04	4.558E-02	8.374E-03	1.904E-04	9.652E-07
ENDOST	1.406E-04	1.132E-05	1.274E-07	7.671E-07	2.204E-06	7.197E-06	1.449E-04	4.964E 03	5.353E-03	1.560E-04	3.028E-06
SPLEEN	1.372E-04	1.105E-05	1.373E-06	5.117E-07	1.890E-06	1.854E-06	1.449E-04	2.563E-03	2.203E-03	8.388E-04	2.006E-08
TESTES	9.627E-08	7.750E-09	1.799E-09	5.825E-08	1.843E-07	4.748E-06	1.449E-04	1.728E-03	4.593E-05	1.517E-06	52.2
THYMUS	2.577E-04	2.074E-05	3.563E-08	8.336E-09	3.562E-08	1.320E-08	1.449E-04	1.825E-03	1.314E-03	6.971E-06	8.201E-10
THYROID	3.246E-05	2.613E-06	2.332E-09	9.751E-10	3.618E-09	1.791E-09	1.449E-04	2.668E-03	1.037E-04	6.957E-07	1.161E-10
UTERUS	2.532E-06	2.039E-07	4.146E-08	5.324E-06	8.554E-06	2.035E-05	1.449E-04	1.582E-03	7.343E-04	3.407E-05	0.0

DOSE EQUIVALENT (REM/MICROCURIE)

SOURCE	OVARIES	OTHER	TOTAL
TARGET			
LUNGS	2.399E-08	7.372E-04	32.4
RES LYM	2.399E-08	7.372E-04	173.
S WALL	5.690E-07	7.011E-04	1.044E-02
SI WALL	1.618E-05	7.264E-04	1.176E-02
ULI WALL	1.600E-05	7.795E-04	3.058E-02
LLI WALL	2.181E-05	8.012E-04	6.115E-02
T BODY	8.208E-03	3.71	199.
ADREN	1.640E-07	7.66	7.68
BL WALL	8.486E-06	3.83	3.83
KIDNEYS	6.226E-07	7.291E-04	134.
LIVER	3.252E-07	5.092E-04	1.037E 03
OVARIES	52.3	1.063E-03	52.3
PANCREAS	2.379E-07	7.66	7.68
BONE	2.379E-06	7.831E-04	2.352E 03
R MAR	9.259E-06	7.66	395.
Y MAR	3.331E-06	7.66	7.71
ENDOST	2.379E-06	2.325E-03	4.964E 03
SPLEEN	2.577E-07	7.66	7.67
TESTES	0.0	5.371E-04	52.2
THYMUS	4.461E-09	7.66	7.66
THYROID	5.690E-10	7.66	7.66
UTERUS	2.677E-05	7.66	7.66

CASE 3.. INGESTION

INGESTION TRANSFER FRACTIONS (G. I. TRACT TO BLOOD)

	AM-241
STOMACH	0.0
S INT	1.000E-03
U L INT	0.0
L L INT	0.0

DOSE EQUIVALENT (REM/MICROCURIE)

SOURCE	S CONT	SI CONT	ULI CONT	LLI CONT	EXCRET.	BONE	LIVER	KIDNEYS	TESTES	OVARIES	OTHER
TARGET											
LUNGS	4.333E-07	9.740E-08	4.150E-07	1.648E-07	1.195E-06	3.262E-05	8.548E-05	4.365E-07	2.059E-11	1.977E-10	6.076E-06
RES LYM	4.333E-07	9.740E-08	4.150E-07	1.648E-07	1.195E-06	3.262E-05	8.548E-05	4.365E-07	2.059E-11	1.977E-10	6.076E-06
S WALL	2.429E-03	3.297E-06	1.239E-05	8.781E-06	1.195E-06	1.384E-05	5.161E-05	2.077E-06	3.843E-10	4.690E-09	5.779E-06
SI WALL	5.625E-07	6.077E-03	6.494E-05	6.334E-05	1.195E-06	2.313E-05	3.828E-05	1.616E-06	5.158E-09	1.333E-07	5.987E-06
ULI WALL	8.625E-07	4.096E-05	3.582E-02	2.827E-05	1.195E-06	1.979E-05	6.955E-05	1.546E-06	4.316E-09	1.319E-07	6.425E-06
LLI WALL	2.204E-07	9.307E-06	9.524E-06	0.108	1.195E-06	3.216E-05	2.591E-06	2.572E-07	7.436E-08	1.798E-07	6.604E-06
T BODY	5.708E-06	5.744E-05	1.147E-04	2.587E-04	1.535E-06	1.38	0.220	4.885E-03	2.153E-04	6.765E-05	3.060E-02
ADREN	5.583E-07	5.045E-07	1.986E-06	8.781E-07	1.195E-06	4.265E-05	1.290E-04	8.943E-06	1.487E-10	1.351E-09	6.314E-02
BL WALL	3.042E-08	1.915E-06	4.681E-06	3.666E-05	1.195E-06	1.217E-05	1.672E-06	5.958E-08	1.404E-07	6.994E-08	3.157E-02
KIDNEYS	7.500E-07	2.414E-06	7.468E-06	3.017E-06	1.195E-06	2.474E-05	1.147E-04	1.10	3.078E-10	5.131E-09	6.009E-06
LIVER	3.879E-07	1.434E-06	7.035E-06	6.044E-07	1.195E-06	1.838E-05	8.55	2.525E-06	2.350E-10	2.680E-09	4.197E-06
OVARIES	1.075E-07	1.220E-05	3.669E-05	1.259E-04	1.195E-06	2.393E-05	9.079E-06	4.979E-07	0.0	0.431	8.765E-06
PANCREAS	5.083E-06	1.484E-06	5.016E-06	2.178E-06	1.195E-06	2.433E-05	1.285E-04	4.153E-06	2.974E-10	1.961E-09	6.314E-02
BONE	2.458E-07	1.480E-06	4.253E-06	1.389E-05	5.973E-06	19.4	4.412E-05	1.286E-06	2.496E-08	1.961E-08	6.455E-06
R MAR	3.871E-07	5.445E-06	1.504E-05	4.935E-05	1.195E-06	3.20	5.362E-05	3.433E-06	1.861E-08	7.632E-08	6.314E-02
Y MAR	3.587E-07	2.098E-06	6.223E-06	1.828E-05	1.195E-06	3.757E-04	6.902E-05	1.569E-06	7.955E-09	2.745E-08	6.314E-02
ENDOST	2.458E-07	1.480E-06	4.253E-06	1.389E-05	1.195E-06	40.9	4.412E-05	1.286E-06	2.496E-08	1.961E-08	1.916E-05
SPLEEN	2.650E-06	9.873E-07	3.647E-06	3.576E-06	1.195E-06	2.113E-05	1.816E-05	6.914E-06	1.653E-10	2.124E-09	6.314E-02
TESTES	3.471E-09	1.124E-07	3.555E-07	9.161E-06	1.195E-06	1.424E-05	3.786E-07	1.251E-08	0.431	0.0	4.427E-06
THYMUS	6.875E-08	1.608E-08	6.872E-08	2.547E-08	1.195E-06	1.504E-05	1.083E-05	5.746E-08	6.760E-12	3.677E-11	6.314E-02
THYROID	4.500E-09	1.881E-09	6.981E-09	3.457E-09	1.195E-06	2.199E-05	8.548E-07	5.734E-09	9.567E-13	4.690E-12	6.314E-02
UTERUS	8.000E-08	1.027E-05	1.650E-05	3.926E-05	1.195E-06	1.304E-05	6.053E-06	2.808E-07	0.0	2.296E-07	6.314E-02

DOSE EQUIVALENT (REM/MICROCURIE)

SOURCE	TOTAL
TARGET	
LUNGS	1.269E-04
RES LYM	1.269E-04
S WALL	2.528E-03
SI WALL	6.276E-03
ULI WALL	3.599E-02
LLI WALL	0.108
T BODY	1.64
ADREN	6.332E-02
BL WALL	3.163E-02
KIDNEYS	1.10
LIVER	8.55
OVARIES	0.432
PANCREAS	6.331E-02
BONE	19.4
R MAR	3.26
Y MAR	6.361E-02
ENDOST	40.9
SPLEEN	6.320E-02
TESTES	0.431
THYMUS	6.317E-02
THYROID	6.316E-02
UTERUS	6.323E-02

RADIONUCLIDE: AM-242

PHYSICAL AND METABOLIC PARAMETERS FOR DOSIMETRICALLY SIGNIFICANT PROGENY:

NUCLIDE	RADIOACTIVE HALF-LIFE (DAYS)
AM-242	0.6680
CM-242	163.0
PU-238	3.2000E 04

BRANCHING RATIOS:

FROM	TO	FRACTION
AM-242	CM-242	0.8270
CM-242	PU-238	1.000

ORGAN	NUCLIDE	BLOOD TRANSFER FRACTION F2-PRIME	COMPARTMENT DEPOSITION FRACTION	COMPARTMENT BIOLOGICAL HALF-TIME (DAYS)
ABSORBED	AM-242	1.00	4.000E-02	0.500
			0.460	1.460E 04
			0.500	3.650E 04
	CM-242	1.00	0.460	1.460E 04
			0.540	3.650E 04
	PU-238	1.00	0.460	1.460E 04
			0.540	3.650E 04
EXCRET.	AM-242	4.000E-02	1.00	0.500
	CM-242	0.0	1.00	0.500
	PU-238	0.0	1.00	0.500
BONE	AM-242	0.450	1.00	3.650E 04
	CM-242	0.450	1.00	3.650E 04
	PU-238	0.450	1.00	3.650E 04
LIVER	AM-242	0.450	1.00	1.460E 04
	CM-242	0.450	1.00	1.460E 04
	PU-238	0.450	1.00	1.460E 04
KIDNEYS	AM-242	1.000E-02	1.00	1.460E 04
	CM-242	1.000E-02	1.00	1.460E 04
	PU-238	1.000E-02	1.00	1.460E 04
TESTES	AM-242	3.500E-04	1.00	3.650E 04
	CM-242	3.500E-04	1.00	3.650E 04
	PU-238	3.500E-04	1.00	3.650E 04
OVARIES	AM-242	1.100E-04	1.00	3.650E 04
	CM-242	1.100E-04	1.00	3.650E 04
	PU-238	1.100E-04	1.00	3.650E 04
OTHER	AM-242	5.000E-02	1.00	3.650E 04
	CM-242	9.000E-02	1.00	3.650E 04
	PU-238	9.000E-02	1.00	3.650E 04

S FACTORS (REM/MICROCURIE-DAY) FOR AM-242

TARGET ORGANS	SOURCE ORGANS												
	LUNGS	RES LYM	S CONT	SI CONT	ULI CONT	LLI CONT	EXCRET.	BONE	LIVER	KIDNEYS	TESTES	OVARIES	OTHER
LUNGS	0.917E-02	0.917E-02	0.461E-05	0.532E-06	0.662E-06	0.192E-06	0.134E-03	0.244E-05	0.684E-05	0.223E-05	0.941E-08	0.139E-06	0.356E-05
RES LYM	0.917E-02	0.605E 00	0.461E-05	0.532E-06	0.662E-06	0.192E-06	0.134E-03	0.244E-05	0.684E-05	0.223E-05	0.941E-08	0.139E-06	0.356E-05
S WALL	0.485E-05	0.485E-05	0.163E-01	0.974E-05	0.102E-04	0.462E-05	0.135E-03	0.142E-05	0.477E-05	0.967E-05	0.605E-07	0.214E-05	0.321E-05
SI WALL	0.473E-06	0.473E-06	0.719E-05	0.115E-01	0.473E-04	0.265C-04	0.136E-03	0.189E-05	0.422E-05	0.758E-05	0.843E-06	0.337E-04	0.358E-05
ULI WALL	0.556E-06	0.556E-06	0.937E-05	0.997E-04	0.208E-01	0.127E-04	0.136E-03	0.174E-05	0.671E-05	0.751E-05	0.713E-06	0.333E-04	0.422E-05
LLI WALL	0.129E-06	0.129E-06	0.257E-05	0.232E-04	0.893E-05	0.338E-01	0.135E-03	0.273E-05	0.581E-06	0.163E-05	0.704E-05	0.441E-04	0.431E-05
T BODY	0.135E-03	0.135E-03	0.448E-04	0.110E-03	0.682E-04	0.932E-04	0.134E-03	0.135E-03	0.135E-03	0.135E-03	0.134E-03	0.136E-03	0.133E-03
ADREN	0.736E-05	0.736E-05	0.758E-05	0.192E-05	0.239E-05	0.775E-06	0.136E-03	0.263E-05	0.111E-04	0.329E-04	0.622E-07	0.781E-06	0.272E-03
BL WALL	0.729E-07	0.729E-07	0.765E-06	0.676E-05	0.589E-06	0.185E-04	0.135E-03	0.139E-05	0.407E-04	0.694E-06	0.126E-04	0.193E-04	0.139E-03
KIDNEYS	0.216E-05	0.216E-05	0.906E-05	0.861E-05	0.754E-05	0.239E-05	0.135E-03	0.206E-05	0.106E-04	0.297E-01	0.803E-07	0.234E-05	0.379E-05
LIVER	0.651E-05	0.651E-05	0.536E-05	0.479E-05	0.669E-05	0.600E-06	0.135E-03	0.171E-05	0.515E-02	0.102E-04	0.663E-07	0.134E-05	0.274E-05
OVARIES	0.207E-06	0.207E-06	0.140E-05	0.299E-04	0.328E-04	0.477E-04	0.136E-03	0.187E-05	0.109E-05	0.276E-05	0.0	0.832E 00	0.569E-05
PANCREAS	0.689E-05	0.689E-05	0.483E-04	0.539E-05	0.599E-05	0.201E-05	0.135E-03	0.195E-05	0.119E-04	0.174E-04	0.113E-06	0.132E-05	0.275E-03
BONE	0.473E-05	0.435E-05	0.262E-05	0.372E-05	0.334E-05	0.495E-05	0.136E-03	0.172E-02	0.327E-05	0.421E-05	0.262E-05	0.453E-05	0.262E-04
R MAR	0.553E-05	0.553E-05	0.465E-05	0.128E-04	0.109E-04	0.154E-04	0.138E-03	0.416E-03	0.471E-05	0.111E-04	0.204E-05	0.163E-04	0.216E-03
Y MAR	0.449E-05	0.449E-05	0.369E-05	0.524E-05	0.481E-05	0.604E-05	0.176E-03	0.185E-04	0.486E-05	0.515E-05	0.935E-06	0.617E-05	0.272E-03
ENDOST	0.435E-05	0.435E-05	0.262E-05	0.372E-05	0.334E-05	0.485E-05	0.137E-03	0.127E-02	0.327E-05	0.421E-05	0.262E-05	0.453E-05	0.145E-03
SPLEEN	0.609E-05	0.609E-05	0.263E-04	0.395E-05	0.394E-05	0.213E-05	0.135E-03	0.149E-05	0.237E-05	0.229E-04	0.409E-07	0.119E-05	0.273E-03
TESTES	0.139E-07	0.139E-07	0.109E-06	0.738E-06	0.639E-06	0.423E-05	0.134E-07	0.171E-05	0.121E-06	0.189E-06	0.262E 00	0.0	0.264E-05
THYMUS	0.113E-04	0.113E-04	0.708E-06	0.173E-06	0.236E-06	0.529E-07	0.135E-03	0.148E-05	0.166E-05	0.531E-06	0.386E-08	2.503E-07	0.277E-03
THYROID	0.253E-05	0.253E-05	0.179E-06	0.273E-07	0.305E-07	0.913E-08	0.133E-03	0.188E-05	0.270E-06	0.973E-07	0.633E-09	0.801E-08	0.272E-03
UTERUS	0.189E-06	0.189E-06	0.193E-05	0.256E-04	0.149E-04	0.185E-04	0.136E-03	0.141E-05	0.100E-05	0.223E-05	0.0	0.537E-04	0.279E-03

β^+ decay 17.3% (16.02 H 2)
β^- decay 82.7%

Case 1 represents inhalation of oxides, hydroxides, and carbides; case 2 inhalation of nitrates; and case 3 ingestion of any compound.

CASE 1.. INHALATION

AMAD (MICRON).. 1.00 D3 =0.310 D4 =8.000E-02 D5 =0.249

	SOLUBILITY CLASS	G.I. UPTAKE FRACTIONS STOMACH	S INT	U L INT	L L INT
AM-242	Y	0.0	1.000E-03	0.0	0.0
CM-242	Y	0.0	1.000E-03	0.0	0.0
PU-238	Y	0.0	3.000E-05	0.0	0.0

DOSE EQUIVALENT (REM/MICROCURIE)

SOURCE	LUNGS	RES LYM	S CONT	SI CONT	ULI CONT	LLI CONT	EXCRET.	BONE	LIVER	KIDNEYS	TESTES
TARGET											
LUNGS	0.251	3.338E-06	5.224E-08	2.054E-08	5.318E-08	1.397E-08	1.692E-08	4.494E-09	1.347E-08	8.908E-11	1.305E-14
RES LYM	3.141E-03	1.36	5.224E-08	2.054E-08	5.318E-08	1.397E-08	1.692E-08	4.494E-09	1.347E-08	8.908E-11	1.305E-14
S WALL	1.649E-06	7.335E-10	2.097E-04	3.761E-07	8.196E-07	3.363E-07	1.698E-08	2.644E-09	8.795E-09	3.841E-10	8.427E-14
SI WALL	1.603E-07	2.808E-11	8.147E-08	4.506E-04	3.802E-06	1.932E-06	1.705E-08	3.493E-09	7.652E-09	3.012E-10	1.171E-12
ULI WALL	1.884E-07	3.323E-11	1.062E-07	3.856E-06	1.721E-03	9.270E-07	1.705E-08	3.267E-09	1.213E-08	2.983E-10	9.972E-13
LLI WALL	4.338E-08	7.719E-12	3.365E-08	8.964E-07	7.176E-07	2.639E-03	1.698E-08	5.361E-09	1.035E-09	6.663E-11	9.830E-12
T BODY	3.585E-03	2.905E-04	5.126E-07	4.308E-06	5.629E-06	6.468E-06	1.917E-08	1.409E-03	2.567E-04	5.705E-06	2.199E-07
ADREN	2.506E-06	1.406E-09	8.589E-08	7.413E-08	1.920E-07	5.641E-08	1.698E-08	5.019E-09	2.152E-08	1.665E-09	9.615E-14
BL WALL	2.471E-08	4.326E-12	8.669E-09	2.610E-07	4.732E-07	1.347E-06	1.698E-08	2.481E-09	7.252E-10	2.747E-11	1.754E-11
KIDNEYS	7.321E-07	1.347E-10	1.027E-07	3.324E-07	6.057E-07	1.521E-07	1.698E-08	3.912E-09	1.953E-08	1.287E-03	1.123E-13
LIVER	2.219E-06	1.447E-09	6.074E-08	1.849E-07	3.374E-07	4.367E-08	1.698E-08	3.149E-09	9.965E-03	4.123E-10	9.199E-14
OVARIES	7.016E-08	1.261E-11	1.586E-09	1.155E-06	2.637E-06	3.479E-06	1.705E-08	3.761E-09	1.948E-09	1.095E-10	0.0
PANCREAS	2.335E-06	4.497E-10	5.473E-07	2.077E-07	4.812E-07	1.463E-07	1.698E-08	3.779E-09	2.228E-08	6.921E-10	1.565E-13
BONE	1.479E-06	6.573E-10	2.969E-08	1.436E-07	2.683E-07	3.532E-07	4.845E-08	1.977E-02	6.087E-09	1.715E-10	3.663E-12
R MAR	1.879E-06	7.213E-10	5.269E-08	4.942E-07	8.757E-07	1.122E-06	1.719E-08	3.254E-03	8.635E-09	4.508E-10	2.840E-12
Y MAR	1.527E-06	7.454E-10	4.170E-08	2.023E-07	3.864E-07	4.398E-07	1.705E-08	8.102E-08	9.019E-09	2.091E-10	1.301E-12
ENDOST	1.479E-06	6.242E-10	2.969E-08	1.436E-07	2.683E-07	3.532E-07	1.712E-08	3.793E-02	6.070E-09	1.710E-10	3.648E-12
SPLEEN	2.070E-06	8.966E-10	2.980E-07	1.525E-07	3.085E-07	1.550E-07	1.698E-08	3.152E-09	4.232E-09	1.001E-09	5.685E-14
TESTES	4.711E-09	8.346E-13	1.235E-09	2.849E-08	5.053E-08	3.079E-07	1.692E-08	3.055E-09	2.332E-10	7.478E-12	4.395E-04
THYMUS	4.002E-06	9.240E-10	8.023E-09	6.679E-09	1.896E-08	3.850E-09	1.698E-08	2.856E-09	2.961E-09	2.103E-11	5.354E-15
THYROID	8.574E-07	1.493E-10	2.028E-09	1.054E-09	2.450E-09	6.645E-10	1.685E-08	2.461E-09	4.805E-10	3.848E-12	8.813E-16
UTERUS	6.405E-08	1.138E-11	2.187E-08	9.884E-07	1.197E-06	1.347E-06	1.705E-08	2.517E-09	1.784E-09	8.835E-11	0.0

DOSE EQUIVALENT (REM/MICROCURIE)

SOURCE	OVARIES	OTHER	TOTAL
TARGET			
LUNGS	6.061E-14	1.185E-09	0.251
RES LYM	6.061E-14	1.185E-09	1.36
S WALL	9.341E-13	7.277E-10	2.129E-04
SI WALL	1.714E-11	9.393E-10	4.566E-04
ULI WALL	2.179E-11	1.207E-09	1.726E-03
LLI WALL	2.797E-11	9.564E-10	2.641E-03
T BODY	6.911E-08	4.882E-05	5.613E-03
ADREN	3.406E-13	1.006E-04	1.036E-04
BL WALL	8.458E-12	5.027E-05	5.241E-05
KIDNEYS	1.022E-12	1.057E-09	1.289E-03
LIVER	5.847E-13	6.748E-10	9.968E-03
OVARIES	4.394E-04	1.743E-09	4.468E-04
PANCREAS	5.752E-13	1.006E-04	1.044E-04
BONE	1.996E-12	4.765E-09	1.977E-02
R MAR	7.177E-12	1.006E-04	3.359E-03
Y MAR	2.714E-12	1.006E-04	1.033E-04
ENDOST	1.991E-12	3.802E-08	3.793E-02
SPLEEN	5.190E-13	1.006E-04	1.036E-04
TESTES	0.0	6.461E-10	4.399E-04
THYMUS	2.189E-14	1.006E-04	1.047E-04
THYROID	3.489E-15	1.006E-04	1.015E-04
UTERUS	2.388E-11	1.006E-04	1.042E-04

PERCENT DOSE EQUIVALENT..

NUCLIDE	AM-242	CM-242	PU-238
TARGET			
LUNGS	1.2	98.0	0.8
RES LYM	0.2	85.5	14.2
S WALL	98.9	1.1	0.0
SI WALL	98.5	1.5	0.0
ULI WALL	97.1	2.9	0.0
LLI WALL	93.2	6.8	0.0
T BODY	1.1	83.7	15.1
ADREN	2.9	48.6	48.5
BL WALL	4.1	48.0	47.9
KIDNEYS	0.2	58.9	40.8
LIVER	0.1	59.0	40.9
OVARIES	1.7	53.0	45.2
PANCREAS	3.6	48.2	48.1
BONE	0.0	54.1	45.9
R MAR	0.2	53.7	46.1
Y MAR	3.6	48.7	47.6
ENDOST	0.0	49.5	50.5
SPLEEN	2.9	48.6	48.5
TESTES	0.2	53.9	45.9
THYMUS	3.9	48.1	48.0
THYROID	0.9	49.6	49.5
UTERUS	3.5	48.3	48.2

CASE 2.. INHALATION

AMAD (MICRON).. 1.00 D3 =0.310 D4 =8.000E-02 D5 =0.249

	SOLUBILITY CLASS	G.I. UPTAKE FRACTIONS STOMACH	S INT	U L INT	L L INT
AM-242	W	0.0	1.000E-03	0.0	0.0
CM-242	W	0.0	1.000E-03	0.0	0.0
PU-238	W	0.0	3.000E-05	0.0	0.0

DOSE EQUIVALENT (REM/MICROCURIE)

SOURCE	LUNGS	RES LYM	S CONT	SI CONT	ULI CONT	LLI CONT	EXCRET.	BONE	LIVER	KIDNEYS	TESTES
TARGET											
LUNGS	8.055E-02	2.111E-06	4.364E-08	1.716E-08	4.442E-08	1.167E-08	2.921E-07	7.616E-08	2.219E-07	1.529E-09	2.250E-13
RES LYM	2.940E-03	0.326	4.364E-08	1.716E-08	4.442E-08	1.167E-08	2.921E-07	7.616E-08	2.219E-07	1.529E-09	2.250E-13
S WALL	1.551E-06	8.782E-10	1.756E-04	3.142E-07	6.847E-07	2.809E-07	2.933E-07	4.457E-08	1.491E-07	6.609E-09	1.450E-12
SI WALL	1.511E-07	7.523E-11	6.806E-08	3.776E-04	3.177E-06	1.614E-06	2.944E-07	5.810E-08	1.308E-07	5.182E-09	2.016E-11
ULI WALL	1.777E-07	8.846E-11	8.870E-08	3.222E-06	1.444E-03	7.747E-07	2.944E-07	5.484E-08	2.076E-07	5.132E-09	1.717E-11
LLI WALL	4.090E-08	2.040E-11	2.811E-08	7.490E-07	5.995E-07	2.224E-03	2.933E-07	8.806E-08	1.784E-08	1.147E-09	1.688E-10
T BODY	1.151E-03	6.999E-05	4.292E-07	3.609E-06	4.722E-06	5.448E-06	3.310E-07	1.210E-02	2.314E-03	5.143E-05	1.889E-06
ADREN	2.355E-06	1.403E-09	7.175E-08	6.193E-08	1.604E-07	4.712E-08	2.933E-07	8.360E-08	3.565E-07	2.571E-08	1.486E-12
BL WALL	2.329E-08	1.160E-11	7.241E-09	2.180E-07	3.953E-07	1.125E-06	2.933E-07	4.272E-08	1.250E-08	4.736E-10	3.015E-10
KIDNEYS	6.902E-07	3.449E-10	8.576E-08	2.777E-07	5.060E-07	1.271E-07	2.933E-07	6.532E-08	3.512E-07	1.160E-02	1.933E-12
LIVER	2.084E-06	1.293E-09	5.074E-08	1.545E-07	4.490E-07	3.648E-08	2.933E-07	5.338E-08	8.984E-02	7.036E-09	1.585E-12
OVARIES	6.614E-08	3.299E-11	1.325E-08	9.647E-07	2.203E-06	2.907E-06	2.944E-07	5.766E-08	3.352E-08	1.886E-09	2.0
PANCREAS	2.202E-06	1.105E-09	4.572E-07	1.735E-07	4.020E-07	1.222E-07	2.933E-07	6.248E-08	3.750E-07	1.190E-08	2.698E-12
BONE	1.392E-06	7.893E-10	2.480E-08	1.200E-07	2.242E-07	2.951E-07	8.366E-07	0.170	1.028E-07	2.917E-09	6.290E-11
R MAR	1.769E-06	9.741E-10	4.402E-08	4.129E-07	7.315E-07	9.370E-07	2.968E-07	2.790E-02	1.468E-07	7.673E-09	4.882E-11
Y MAR	1.437E-06	8.298E-10	3.483E-08	1.690E-07	3.228E-07	3.675E-07	2.944E-07	9.736E-07	1.525E-07	3.560E-09	2.237E-11
ENDOST	1.391E-06	7.800E-10	2.480E-08	1.200E-07	2.242E-07	2.950E-07	2.956E-07	0.311	1.026E-07	2.911E-09	6.271E-11
SPLEEN	1.948E-06	1.096E-09	2.490E-07	1.274E-07	2.577E-07	1.295E-07	2.933E-07	6.001E-08	7.285E-08	1.644E-08	9.790E-13
TESTES	4.442E-09	2.215E-12	1.032E-09	2.380E-08	4.221E-08	2.572E-07	2.921E-07	5.259E-08	4.021E-09	1.289E-10	3.776E-03
THYMUS	3.771E-06	1.929E-09	6.702E-09	5.580E-09	1.584E-08	3.216E-09	2.933E-07	4.732E-08	5.100E-08	3.624E-10	9.229E-14
THYROID	8.084E-07	4.020E-10	1.694E-09	8.805E-10	2.047E-09	5.551E-10	2.909E-07	5.863E-08	8.287E-09	6.637E-11	1.518E-14
UTERUS	6.039E-08	3.009E-11	1.827E-08	8.257E-07	9.999E-07	1.125E-06	2.944E-07	4.337E-08	3.073E-08	1.522E-09	0.0

DOSE EQUIVALENT (REM/MICROCURIE)

SOURCE	OVARIES	OTHER	TOTAL
TARGET			
LUNGS	1.044E-12	1.564E-08	8.055E-02
RES LYM	1.044E-12	1.564E-08	0.329
S WALL	1.608E-11	1.163E-08	1.789E-04
SI WALL	2.745E-10	1.469E-08	3.831E-04
ULI WALL	3.138E-10	1.705E-08	1.449E-03
LLI WALL	4.078E-10	1.547E-08	2.226E-03
T BODY	5.936E-07	3.546E-04	1.606E-02
ADREN	5.866E-12	7.308E-04	7.342E-04
BL WALL	1.457E-10	3.653E-04	3.674E-04
KIDNEYS	1.758E-11	1.518E-08	1.160E-02
LIVER	1.007E-11	1.032E-08	8.985E-02
OVARIES	3.773E-03	2.370E-08	3.780E-03
PANCREAS	9.911E-12	7.308E-04	7.345E-04
BONE	3.421E-11	7.434E-08	0.170
R MAR	1.230E-10	7.306E-04	2.864E-02
Y MAR	4.652E-11	7.308E-04	7.345E-04
ENDOST	3.414E-11	5.584E-07	0.311
SPLEEN	8.938E-12	7.309E-04	7.339E-04
TESTES	0.0	1.031E-08	3.777E-03
THYMUS	3.775E-13	7.308E-04	7.350E-04
THYROID	6.016E-14	7.308E-04	7.319E-04
UTERUS	4.072E-10	7.308E-04	7.342E-04

PERCENT DOSE EQUIVALENT..

NUCLIDE	AM-242	CM-242	PU-238
TARGET			
LUNGS	3.6	96.3	0.1
RES LYM	0.9	98.8	0.2
S WALL	98.6	1.4	0.0
SI WALL	98.2	1.8	0.0
ULI WALL	96.7	3.3	0.0
LLI WALL	92.4	7.6	0.0
T BODY	0.4	80.7	18.9
ADREN	0.6	78.2	21.3
BL WALL	0.7	78.1	21.2
KIDNEYS	0.2	82.2	17.6
LIVER	0.2	82.2	17.6
OVARIES	0.3	78.7	21.0
PANCREAS	0.7	78.1	21.2
BONE	0.0	79.0	21.0
R MAR	0.1	78.9	21.1
Y MAR	0.6	78.2	21.3
ENDOST	0.0	75.8	24.2
SPLEEN	0.5	78.2	21.3
TESTES	0.2	78.9	21.0
THYMUS	0.7	78.1	21.2
THYROID	0.3	78.4	21.3
UTERUS	0.6	78.2	21.3

CASE 3.. INGESTION

INGESTION TRANSFER FRACTIONS (G. I. TRACT TO BLOOD)

	AM-242	CM-242	PU-238
STOMACH	0.0	0.0	0.0
S INT	1.000E-03	1.000E-03	3.000E-05
U L INT	0.0	0.0	0.0
L L INT	0.0	0.0	0.0

DOSE EQUIVALENT (REM/MICROCURIE)

SOURCE	S CONT	SI CONT	ULI CONT	LLI CONT	EXCRET.	BONE	LIVER	KIDNEYS	TESTES	OVARIES	OTHER
TARGET											
LUNGS	1.841E-07	7.240E-08	1.874E-07	4.926E-08	3.380E-09	8.769E-10	2.529E-09	1.765E-11	2.601E-15	1.207E-14	1.661E-10
RES LYM	1.841E-07	7.240E-08	1.874E-07	4.926E-08	3.380E-09	8.769E-10	2.529E-09	1.765E-11	2.601E-15	1.207E-14	1.661E-10
S WALL	7.313E-04	1.326E-06	2.888E-06	1.185E-06	3.393E-09	5.124E-10	1.716E-09	7.639E-11	1.675E-14	1.859E-13	1.316E-10
SI WALL	2.872E-07	1.569E-03	1.340E-05	6.803E-06	3.407E-09	6.801E-10	1.508E-09	5.989E-11	2.330E-13	3.108E-12	1.651E-10
ULI WALL	3.742E-07	1.357E-05	5.952E-03	3.262E-06	3.407E-09	6.298E-10	2.396E-09	6.932E-11	1.985E-13	3.433E-12	1.860E-10
LLI WALL	1.186E-07	3.158E-06	2.529E-06	8.964E-03	3.393E-09	1.005E-09	2.063E-10	1.527E-11	1.950E-12	4.480E-12	1.756E-10
T BODY	1.790E-06	1.501E-05	1.950E-05	2.202E-05	3.830E-09	1.026E-04	1.968E-05	4.373E-07	1.603E-08	5.037E-09	2.611E-06
ADREN	3.027E-07	2.613E-07	6.767E-07	1.988E-07	3.393E-09	9.579E-10	4.075E-09	2.873E-10	1.718E-14	6.782E-14	5.381E-06
BL WALL	3.055E-08	9.200E-07	1.668E-06	4.746E-06	3.393E-09	4.939E-10	1.445E-10	5.476E-12	3.484E-12	1.679E-12	2.690E-06
KIDNEYS	3.619E-07	1.172E-06	2.135E-06	5.362E-07	3.393E-09	7.490E-10	3.813E-09	9.865E-05	2.235E-14	2.033E-13	1.660E-10
LIVER	2.141E-07	6.519E-07	1.894E-06	1.539E-07	3.393E-09	6.145E-10	7.640E-04	8.112E-11	1.832E-14	1.164E-13	1.152E-10
OVARIES	5.592E-08	4.069E-06	9.289E-06	1.225E-05	3.407E-09	6.660E-10	3.875E-10	2.180E-11	0.0	3.201E-05	2.545E-10
PANCREAS	1.929E-06	7.322E-07	1.696E-06	5.156E-07	3.393E-09	7.144E-10	4.307E-09	1.375E-10	3.120E-14	1.146E-13	5.382E-06
BONE	1.046E-07	5.063E-07	9.457E-07	1.244E-06	9.680E-09	1.440E-03	1.182E-09	7.360E-11	7.264E-13	3.949E-13	8.366E-10
R MAR	1.857E-07	1.742E-06	3.086E-06	3.952E-06	3.434E-09	2.367E-04	1.691E-09	8.842E-11	5.642E-13	1.420E-12	5.379E-06
Y MAR	1.470E-07	7.131E-07	1.362E-06	1.550E-06	3.407E-09	1.001E-08	1.753E-09	4.103E-11	2.585E-13	5.373E-13	5.381E-06
ENDOST	1.046E-07	5.063E-07	9.457E-07	1.244E-06	3.420E-09	2.629E-03	1.180E-09	3.254E-11	7.247E-13	3.944E-13	6.187E-09
SPLEEN	1.050E-06	5.375E-07	1.087E-06	5.464E-07	3.393E-09	5.651E-10	8.422E-10	1.874E-10	1.131E-14	1.033E-13	5.381E-06
TESTES	4.353E-09	1.004E-07	1.781E-07	1.085E-06	3.380E-09	6.079E-10	4.650E-11	1.491E-12	3.204E-05	0.0	1.166E-10
THYMUS	2.828E-08	2.354E-08	6.682E-08	1.357E-08	3.393E-09	5.414E-10	5.897E-10	4.190E-12	1.067E-15	4.365E-15	5.382E-06
THYROID	7.149E-09	3.715E-09	8.636E-09	2.342E-09	3.366E-09	6.756E-10	9.584E-11	7.675E-13	1.753E-16	6.955E-16	5.381E-06
UTERUS	7.708E-08	3.484E-06	4.219E-06	4.746E-06	3.407E-09	5.009E-10	3.553E-10	1.760E-11	0.0	4.696E-12	5.382E-06

DOSE EQUIVALENT (REM/MICROCURIE)

SOURCE	TOTAL
TARGET	
LUNGS	5.002E-07
RES LYM	5.002E-07
S WALL	7.367E-04
SI WALL	1.590E-03
ULI WALL	5.969E-03
LLI WALL	8.969E-03
T BODY	1.837E-04
ADREN	6.830E-06
BL WALL	1.006E-05
KIDNEYS	1.029E-04
LIVER	7.669E-04
OVARIES	5.768E-05
PANCREAS	1.026E-05
BONE	1.443E-03
R MAR	2.510E-04
Y MAR	9.169E-06
ENDOST	2.632E-03
SPLEEN	8.608E-06
TESTES	3.341E-05
THYMUS	5.518E-06
THYROID	5.407E-06
UTERUS	1.791E-05

PERCENT DOSE EQUIVALENT..

NUCLIDE	AM-242	CM-242	PU-238
TARGET			
LUNGS	99.7	0.3	0.0
RES LYM	99.7	0.3	0.0
S WALL	99.9	0.1	0.0
SI WALL	99.7	0.3	0.0
ULI WALL	98.9	1.1	0.0
LLI WALL	96.7	3.3	0.0
T BODY	31.3	55.4	13.2
ADREN	21.3	63.0	15.7
BL WALL	73.3	21.4	5.3
KIDNEYS	4.3	79.7	16.0
LIVER	0.6	82.8	16.6
OVARIES	44.6	44.4	11.0
PANCREAS	47.7	41.9	10.4
BONE	0.2	79.9	19.8
R MAR	3.6	77.1	19.3
Y MAR	41.4	47.0	11.7
ENDOST	0.1	76.9	23.0
SPLEEN	37.6	50.0	12.4
TESTES	4.3	76.6	19.1
THYMUS	2.6	78.0	19.4
THYROID	0.6	79.6	19.8
UTERUS	70.0	24.0	6.0

RADIONUCLIDE: AM-242M

PHYSICAL AND METABOLIC PARAMETERS FOR DOSIMETRICALLY SIGNIFICANT PROGENY:

NUCLIDE	RADIOACTIVE HALF-LIFE (DAYS)
AM-242M	5.5500E 04
AM-242	0.6680
CM-242	163.0
PU-238	3.2000E 04

BRANCHING RATIOS:

FROM	TO	FRACTION
AM-242M	AM-242	1.000
AM-242	CM-242	0.8270
CM-242	PU-238	1.000

ORGAN ABSORBED	NUCLIDE	BLOOD TRANSFER FRACTION F2-PRIME	COMPARTMENT DEPOSITION FRACTION	COMPARTMENT BIOLOGICAL HALF-TIME (DAYS)
	AM-242M	1.00	4.000E-02	0.500
			0.460	1.460E 04
			0.500	3.650E 04
	AM-242	1.00	0.460	1.460E 04
			0.540	3.650E 04
	CM-242	1.00	0.460	1.460E 04
			0.540	3.650E 04
	PU-238	1.00	0.460	1.460E 04
			0.540	3.650E 04
EXCRET.	AM-242M	4.000E-02	1.00	0.500
	AM-242	0.0	1.00	0.500
	CM-242	0.0	1.00	0.500
	PU-238	0.0	1.00	0.500
BONE	AM-242M	0.450	1.00	3.650E 04
	AM-242	0.450	1.00	3.650E 04
	CM-242	0.450	1.00	3.650E 04
	PU-238	0.450	1.00	3.650E 04
LIVER	AM-242M	0.450	1.00	1.460E 04
	AM-242	0.450	1.00	1.460E 04
	CM-242	0.450	1.00	1.460E 04
	PU-238	0.450	1.00	1.460E 04
KIDNEYS	AM-242M	1.000E-02	1.00	1.460E 04
	AM-242	1.000E-02	1.00	1.460E 04
	CM-242	1.000E-02	1.00	1.460E 04
	PU-238	1.000E-02	1.00	1.460E 04
TESTES	AM-242M	3.500E-04	1.00	3.650E 04
	AM-242	3.500E-04	1.00	3.650E 04
	CM-242	3.500E-04	1.00	3.650E 04
	PU-238	3.500E-04	1.00	3.650E 04
OVARIES	AM-242M	1.100E-04	1.00	3.650E 04
	AM-242	1.100E-04	1.00	3.650E 04
	CM-242	1.100E-04	1.00	3.650E 04
	PU-238	1.100E-04	1.00	3.650E 04
OTHER	AM-242M	5.000E-02	1.00	3.650E 04
	AM-242	9.000E-02	1.00	3.650E 04
	CM-242	9.000E-02	1.00	3.650E 04
	PU-238	9.000E-02	1.00	3.650E 04

IT decay 99.5% (152 Y 7)
α decay 0.476%

Case 1 represents inhalation of oxides, hydroxides, and carbides; case 2 inhalation of nitrates; and case 3 ingestion of any compound.

S FACTORS (REM/MICROCURIE-DAY) FOR AM-242M

TARGET ORGANS	SOURCE ORGANS									
	LUNGS	RES LYM	S CONT	SI CONT	ULI CONT	LLI CONT	EXCRET.	BONE	LIVER	KIDNEYS
LUNGS	0.152E-01	0.203E-02	0.167E-06	0.951E-08	0.120E-07	0.319E-08	0.218E-03	0.110E-06	0.824E-06	0.579E-07
RES LYM	0.203E-02	0.100E 01	0.167E-06	0.951E-08	0.120E-07	0.319E-08	0.218E-03	0.110E-06	0.824E-06	0.579E-07
S WALL	0.288E-06	0.288E-06	0.417E-02	0.601E-05	0.231E-05	0.106E-06	0.219E-03	0.755E-07	0.235E-06	0.209E-06
SI WALL	0.820E-08	0.820E-08	0.232E-06	0.265E-02	0.117E-04	0.342E-05	0.218E-03	0.908E-07	0.142E-06	0.165E-06
ULI WALL	0.101E-07	0.101E-07	0.486E-05	0.103E-03	0.472E-02	0.505E-05	0.218E-03	0.106E-06	0.211E-06	0.159E-06
LLI WALL	0.219E-08	0.219E-08	0.641E-07	0.115E-04	0.101E-05	0.736E-02	0.218E-03	0.270E-06	0.955E-08	0.319E-07
T BODY	0.218E-03	0.218E-03	0.119E-04	0.262E-04	0.170E-04	0.203E-04	0.272E-03	0.971E-03	0.218E-03	0.218E-03
ADREN	0.562E-06	0.362E-06	0.151E-06	0.390E-07	0.489E-07	0.141E-07	0.219E-03	0.198E-06	0.107E-05	0.901E-06
BL WALL	0.126E-08	0.126E-08	0.129E-07	0.142E-06	0.116E-06	0.461E-06	0.218E-03	0.262E-07	0.654E-08	0.110E-07
KIDNEYS	0.439E-07	0.439E-07	0.204E-06	0.181E-06	0.163E-06	0.412E-07	0.218E-03	0.143E-06	0.515E-06	0.492E-01
LIVER	0.625E-06	0.625E-06	0.183E-06	0.177E-06	0.200E-06	0.104E-07	0.218E-03	0.757E-07	0.847E-02	0.380E-06
OVARIES	0.395E-08	0.395E-08	0.302E-07	0.525E-06	0.763E-06	0.147E-04	0.221E-03	0.482E-07	0.221E-07	0.555E-07
PANCREAS	0.159E-06	0.159E-06	0.394E-06	0.111E-06	0.121E-06	0.455E-07	0.218E-03	0.171E-06	0.751E-06	0.402E-06
BONE	0.265E-06	0.265E-06	0.748E-07	0.241E-06	0.135E-06	0.411E-06	0.971E-03	0.136E-01	0.194E-06	0.181E-06
R MAR	0.302E-06	0.302E-06	0.117E-06	0.952E-06	0.502E-06	0.162E-05	0.219E-03	0.438E-02	0.219E-06	0.481E-06
Y MAR	0.321E-06	0.321E-06	0.106E-06	0.339E-06	0.193E-06	0.950E-06	0.219E-03	0.206E-04	0.287E-06	0.220E-06
ENDOST	0.265E-06	0.265E-06	0.748E-07	0.241E-06	0.135E-06	0.411E-06	0.219E-03	0.132E-01	0.194E-06	0.181E-06
SPLEEN	0.355E-06	0.355E-06	0.688E-06	0.787E-07	0.815E-07	0.443E-07	0.218E-03	0.248E-06	0.464E-07	0.260E-06
TESTES	0.220E-09	0.220E-09	0.177E-04	0.125E-07	0.111E-07	0.996E-07	0.218E-03	0.317E-07	0.198E-08	0.287E-08
THYMUS	0.336E-06	0.336E-06	0.171E-07	0.262E-08	0.353E-08	0.749E-09	0.219E-03	0.123E-06	0.306E-07	0.891E-08
THYROID	0.455E-07	0.455E-07	0.277E-04	0.401E-09	0.449E-08	0.133E-09	0.218E-03	0.833E-07	0.422E-08	0.145E-08
UTERUS	0.349E-08	0.349E-08	0.433E-07	0.104E-05	0.340E-06	0.431E-06	0.218E-03	0.273E-07	0.130E-07	0.795E-07

S FACTORS (REM/MICROCURIE-DAY) FOR AM-242M

TARGET ORGANS	SOURCE ORGANS		
	TESTES	OVARIES	OTHER
LUNGS	0.143E-09	0.232E-08	0.130E-06
RES LYM	0.143E-09	0.232E-08	0.130E-06
S WALL	0.114E-08	0.407E-07	0.313E-06
SI WALL	0.154E-07	0.348E-05	0.475E-06
ULI WALL	0.131E-07	0.149E-04	0.700E-06
LLI WALL	0.160E-06	0.181E-04	0.359E-06
T BODY	0.218E-03	0.218E-03	0.217E-03
ADREN	0.921E-09	0.138E-07	0.446E-03
BL WALL	0.295E-06	0.462E-06	0.223E-03
KIDNEYS	0.131E-09	0.447E-07	0.887E-06
LIVER	0.105E-08	0.247E-07	0.402E-06
OVARIES	0.0	0.138E 01	0.177E-06
PANCREAS	0.165E-09	0.221E-07	0.450E-03
BONE	0.565E-07	0.126E-06	0.236E-06
R MAR	0.442E-07	0.477E-06	0.443E-03
Y MAR	0.156E-07	0.174E-06	0.444E-03
ENDOST	0.565E-07	0.126E-06	0.351E-04
SPLEEN	0.663E-09	0.212E-07	0.447E-03
TESTES	0.434E 00	0.0	0.281E-06
THYMUS	0.664E-10	0.742E-09	0.450E-03
THYROID	0.935E-11	0.117E-09	0.447E-03
UTERUS	0.0	0.195E-05	0.443E-03

CASE 1.. INHALATION

AMAD (MICRON).. 1.00 D3 =0.310 D4 =8.000E-02 D5 =0.249

	SOLUBILITY CLASS	G.I. UPTAKE FRACTIONS STOMACH	S INT	U L INT	L L INT
AM-242M	Y	0.0	1.000E-03	0.0	0.0
AM-242	Y	0.0	1.000E-03	0.0	0.0
CM-242	Y	0.0	1.000E-03	0.0	0.0
PU-238	Y	0.0	3.000F-05	0.0	0.0

DOSE EQUIVALENT (REM/MICROCURIE)

SOURCE	LUNGS	RES LYM	S CONT	SI CONT	ULI CONT	LLI CONT	EXCRET.	BONE	LIVER	KIDNEYS	TESTES
TARGET											
LUNGS	112.	1.11	2.323E-06	9.204E-07	2.460E-06	7.044E-07	4.648E-07	7.750E-04	1.912E-03	1.235E-05	2.240E-09
RES LYM	1.09	1.588E 04	2.323E-06	9.204E-07	2.460E-06	7.044E-07	4.648E-07	7.750E-04	1.912E-03	1.235E-05	2.240E-09
S WALL	4.864E-04	4.900E-04	9.727E-03	1.690E-05	3.816E-05	1.697E-05	4.655E-07	4.558E-04	1.225E-03	5.323E-05	1.447E-08
SI WALL	4.507E-05	4.514E-05	3.623E-06	2.122E-02	1.795E-04	1.011E-04	4.661E-07	6.025E-04	1.062E-03	4.174E-05	2.012E-07
ULI WALL	5.303E-05	5.311E-05	4.726E-06	1.834E-04	8.557E-02	4.974E-05	4.661E-07	5.639E-04	1.684E-03	4.132E-05	1.714E-07
LLI WALL	1.219E-05	1.221E-05	1.496E-06	4.134E-05	3.348E-05	0.150	4.655E-07	9.271E-04	1.431E-04	9.221E-06	1.691E-06
T BODY	1.61	3.41	2.373E-05	2.026E-04	2.793E-04	3.672E-04	5.624E-07	67.7	10.8	0.241	1.059E-02
ADREN	7.530E-04	7.604E-04	3.817E-06	3.322E-06	8.882E-06	2.844E-06	4.669E-07	8.676E-04	3.021E-03	2.408E-04	1.479E-08
BL WALL	6.946E-06	6.957E-06	3.852E-07	1.170E-05	2.189E-05	6.796E-05	4.655E-07	4.268E-04	1.002E-04	3.795E-06	3.024E-06
KIDNEYS	2.065E-04	2.069E-04	4.563E-06	1.490E-05	2.803E-05	7.671E-06	4.655E-07	6.751E-04	2.719E-03	54.3	1.926E-08
LIVER	6.809E-04	6.888E-04	2.701E-06	8.297E-06	2.489E-05	2.201E-06	4.655E-07	5.427E-04	421.	5.730E-05	1.579E-08
OVARIES	1.976E-05	1.980E-05	7.050E-07	5.224E-05	1.242E-04	1.841E-04	4.704E-07	5.791E-04	2.696E-04	1.517E-05	0.0
PANCREAS	6.609E-04	6.623E-04	2.440E-05	9.310E-06	2.226E-05	7.375E-06	4.655E-07	6.533E-04	3.109E-03	9.596E-05	2.687E-08
BONE	4.370E-04	4.402E-04	1.320E-06	6.455E-06	1.244E-05	1.801E-05	1.827E-06	951.	8.504E-04	2.384E-05	6.290E-07
R MAR	5.511E-04	5.545E-04	2.342E-06	2.222E-05	4.061E-05	5.738E-05	4.687E-07	157.	1.204E-03	6.280E-05	4.888E-07
Y MAR	4.565E-04	4.603E-04	1.854E-06	9.092E-06	1.791E-05	2.245E-05	4.675E-07	1.402E-02	1.262E-03	2.912E-05	2.239E-07
ENDOST	4.368E-04	4.398E-04	1.320E-06	6.455E-06	1.244E-05	1.801E-05	4.681E-07	1.714E 03	8.494E-04	2.382E-05	6.278E-07
SPLEEN	6.099E-04	6.142E-04	1.325E-05	6.835E-06	1.427E-05	7.819E-06	4.655E-07	5.471E-04	5.857E-04	1.408E-04	9.751E-09
TESTES	1.322E-06	1.325E-06	5.488E-08	1.277E-06	2.337E-06	1.554E-05	4.648E-07	5.251E-04	3.221E-05	1.033E-06	21.2
THYMUS	1.140E-03	1.143E-03	3.566E-07	2.993E-07	8.767E-07	1.940E-07	4.669E-07	4.933E-04	4.097E-04	2.907E-06	9.182E-10
THYROID	2.412E-04	2.416E-04	9.011E-08	4.722E-03	1.133E-07	3.348E-08	4.642E-07	5.966E-04	6.641E-05	5.315E-07	1.509E-10
UTERUS	1.803E-05	1.806E-05	9.717E-07	4.436E-05	5.539E-05	6.794E-05	4.661E-07	4.331E-04	2.467E-04	1.222E-05	0.0

DOSE EQUIVALENT (REM/MICROCURIE)

SOURCE	OVARIES	OTHER	TOTAL
TARGET			
LUNGS	1.041E-08	1.778E-04	114.
RES LYM	1.041E-08	1.778E-04	1.589E 04
S WALL	1.607E-07	1.209E-04	1.263E-02
SI WALL	3.005E-06	1.539E-04	2.346E-02
ULI WALL	3.906E-06	1.858E-04	8.839E-02
LLI WALL	5.009E-06	1.595E-04	0.152
T BODY	3.328E-03	1.55	85.4
ADREN	5.855E-08	3.20	3.21
BL WALL	1.457E-06	1.60	1.60
KIDNEYS	1.757E-07	1.663E-04	54.3
LIVER	1.005E-07	1.094E-04	421.
OVARIES	21.2	2.664E-04	21.2
PANCREAS	9.884E-08	3.20	3.21
BONE	3.440E-07	7.783E-04	951.
R MAR	1.239E-06	3.20	160.
Y MAR	4.682E-07	3.20	3.22
ENDOST	3.436E-07	6.300E-03	1.714E 03
SPLEEN	8.922E-08	3.20	3.21
TESTES	0.0	1.071E-04	21.2
THYMUS	3.758E-09	3.20	3.21
THYROID	5.987E-10	3.20	3.20
UTERUS	4.120E-06	3.20	3.20

PERCENT DOSE EQUIVALENT..

NUCLIDE	AM-242M	AM-242	CM-242	PU-238
TARGET				
LUNGS	1.6	1.5	96.1	0.8
RES LYM	0.7	0.4	94.2	4.7
S WALL	2.0	94.4	3.5	0.0
SI WALL	1.5	93.8	4.7	0.0
ULI WALL	1.8	90.3	7.8	0.0
LLI WALL	3.0	82.3	14.6	0.0
T BODY	0.5	0.1	85.6	13.8
ADREN	0.5	0.4	83.2	15.9
BL WALL	0.5	0.3	83.3	15.9
KIDNEYS	0.5	0.3	85.6	13.7
LIVER	0.5	0.3	85.6	13.7
OVARIES	0.5	0.3	84.7	14.6
PANCREAS	0.5	0.4	83.2	15.9
BONE	0.4	0.1	84.9	14.6
R MAR	0.8	0.1	84.5	14.6
Y MAR	0.7	0.5	83.0	15.9
ENDOST	0.2	0.0	82.7	17.0
SPLEEN	0.5	0.4	83.3	15.9
TESTES	0.5	0.3	84.7	14.5
THYMUS	0.5	0.4	83.2	15.9
THYROID	0.5	0.3	83.3	15.9
UTERUS	0.5	0.3	83.3	15.9

CASE 2.. INHALATION

AMAD (MICRON).. 1.00 D3 =0.310 D4 =8.000E-02 D5 =0.249

	SOLUBILITY CLASS	G.I. UPTAKE FRACTIONS STOMACH	S INT	U L INT	L L INT
AM-242M	W	0.0	1.000E-03	0.0	0.0
AM-242	W	0.0	1.000E-03	0.0	0.0
CM-242	W	0.0	1.000E-03	0.0	0.0
PU-238	W	0.0	3.000E-05	0.0	0.0

DOSE EQUIVALENT (REM/MICROCURIE)

SOURCE	LUNGS	RES LYM	S CONT	SI CONT	ULI CONT	LLI CONT	EXCRET.	BONE	LIVER	KIDNEYS	TESTES
TARGET											
LUNGS	3.76	1.011E-02	3.001E-07	1.241E-07	3.895E-07	1.537E-07	1.138E-06	1.951E-03	4.779E-03	3.090E-05	5.641E-09
RES LYM	0.111	53.3	3.001E-07	1.241E-07	3.895E-07	1.537E-07	1.138E-06	1.951E-03	4.779E-03	3.090E-05	5.641E-09
S WALL	4.970E-05	4.605E-06	1.331E-03	2.310E-06	6.214E-06	3.714E-06	1.140E-06	1.148E-03	3.064E-03	1.332E-04	3.644E-08
SI WALL	4.618E-06	4.296E-07	4.672E-07	3.060E-03	3.092E-05	2.437E-05	1.141E-06	1.517E-03	2.658E-03	1.045E-04	5.068E-07
ULI WALL	5.433E-06	5.054E-07	6.131E-07	3.216E-05	1.451E-02	1.273E-05	1.141E-06	1.420E-03	4.213E-03	1.034E-04	4.317E-07
LLI WALL	1.249E-06	1.162E-07	1.924E-07	6.396E-06	5.496E-06	3.422E-02	1.140E-06	2.333E-03	3.581E-04	2.308E-05	4.258E-06
T BODY	5.370E-02	1.143E-02	3.277E-06	2.928E-05	4.773E-05	8.442E-05	1.377E-06	165.	26.0	0.579	2.574E-02
ADREN	7.687E-05	7.111E-06	4.909E-07	4.485E-07	1.407E-06	6.212E-07	1.143E-06	2.184E-03	7.553E-03	6.011E-04	3.725E-08
BL WALL	7.117E-07	6.621E-08	4.947E-08	1.579E-06	3.468E-06	1.489E-05	1.140E-06	1.075E-03	2.508E-04	9.499E-06	7.616E-06
KIDNEYS	2.116E-05	1.968E-06	5.870E-07	2.012E-06	4.443E-06	1.677E-06	1.140E-06	1.699E-03	6.803E-03	131.	4.851E-08
LIVER	6.945E-05	6.413E-06	3.487E-07	1.126E-06	3.958E-06	4.806E-07	1.140E-06	1.366E-03	1.011E 03	1.434E-04	3.977E-08
OVARIES	2.025E-06	1.883E-07	9.068E-08	7.391E-06	2.122E-05	4.554E-05	1.152E-06	1.458E-03	6.749E-04	3.796E-05	0.0
PANCREAS	6.771E-05	6.295E-06	3.192E-06	1.257E-06	3.528E-06	1.610E-06	1.140E-06	1.644E-03	7.777E-03	2.401E-04	6.767E-08
BONE	4.465E-05	4.136E-06	1.701E-07	8.834E-07	1.986E-06	4.058E-06	4.473E-06	2.311E 03	2.127E-03	5.966E-05	1.584E-06
R MAR	5.636E-05	5.223E-06	3.016E-07	3.050E-06	6.499E-06	1.305E-05	1.148E-06	381.	3.013E-03	1.571E-04	1.231E-06
Y MAR	4.663E-05	4.315E-06	2.389E-07	1.244E-06	2.860E-06	5.078E-06	1.145E-06	3.511E-02	3.157E-03	7.286E-05	5.638E-07
ENDOST	4.465E-05	4.135E-06	1.701E-07	8.834E-07	1.986E-06	4.057E-06	1.146E-06	4.155E 03	2.125E-03	5.959E-05	1.581E-06
SPLEEN	6.233E-05	5.775E-06	1.706E-06	9.225E-07	2.263E-06	1.710E-06	1.140E-06	1.376E-03	1.466E-03	3.520E-04	2.456E-08
TESTES	1.355E-07	1.261E-08	7.047E-09	1.722E-07	3.700E-07	3.402E-06	1.138E-06	1.323E-03	8.061E-05	2.585E-06	51.5
THYMUS	1.167E-04	1.084E-05	4.590E-08	4.033E-08	1.386E-07	4.231E-08	1.143E-06	1.241E-03	1.025E-03	7.275E-06	2.313E-09
THYROID	2.472E-05	2.299E-06	1.157E-08	6.363E-09	1.791E-08	7.300E-09	1.137E-06	1.502E-03	1.662E-04	1.330E-06	3.799E-10
UTERUS	1.848E-06	1.719E-07	1.248E-07	6.029E-06	8.786E-06	1.488E-05	1.141E-06	1.091E-03	6.175E-04	3.058E-05	0.0

DOSE EQUIVALENT (REM/MICROCURIE)

SOURCE	OVARIES	OTHER	TOTAL
TARGET			
LUNGS	2.622E-08	4.453E-04	3.78
RES LYM	2.622E-08	4.453E-04	53.4
S WALL	4.046E-07	3.039E-04	6.048E-03
SI WALL	7.558E-06	3.868E-04	7.797E-03
ULI WALL	9.807E-06	4.661E-04	2.078E-02
LLI WALL	1.258E-05	4.013E-04	3.737E-02
T BODY	8.091E-03	3.67	195.
ADREN	1.475E-07	7.55	7.56
BL WALL	3.670E-06	3.78	3.78
KIDNEYS	4.425E-07	4.172E-04	131.
LIVER	2.532E-07	2.747E-04	1.011E 03
OVARIES	51.4	6.677E-04	51.4
PANCREAS	2.489E-07	7.55	7.56
BONE	8.662E-07	1.956E-03	2.311E 03
R MAR	3.119E-06	7.55	389.
Y MAR	1.179E-06	7.55	7.59
ENDOST	8.653E-07	1.582E-02	4.155E 03
SPLEEN	2.247E-07	7.55	7.56
TESTES	0.0	2.694E-04	51.5
THYMUS	9.465E-09	7.55	7.56
THYROID	1.508E-09	7.55	7.56
UTERUS	1.038E-05	7.55	7.56

PERCENT DOSE EQUIVALENT..

NUCLIDE	AM-242M	AM-242	CM-242	PU-238
TARGET				
LUNGS	4.6	2.7	92.7	0.1
RES LYM	1.7	1.2	96.9	0.2
S WALL	5.3	92.7	1.9	0.1
SI WALL	5.6	91.7	2.6	0.1
ULI WALL	7.9	86.7	5.4	0.0
LLI WALL	11.3	79.2	9.5	0.0
T BODY	0.5	0.1	86.5	12.9
ADREN	0.5	0.4	86.0	13.0
BL WALL	0.5	0.3	86.1	13.0
KIDNEYS	0.5	0.3	87.2	12.0
LIVER	0.5	0.3	87.2	12.0
OVARIES	0.5	0.3	86.1	13.0
PANCREAS	0.5	0.4	86.0	13.0
BONE	0.4	0.1	86.4	13.0
R MAR	0.9	0.1	86.0	13.1
Y MAR	0.7	0.5	85.8	13.0
ENDOST	0.2	0.0	84.4	15.3
SPLEEN	0.5	0.3	86.1	13.0
TESTES	0.5	0.3	86.2	13.0
THYMUS	0.5	0.3	86.1	13.0
THYROID	0.5	0.3	86.1	13.0
UTERUS	0.5	0.3	86.1	13.0

CASE 3.. INGESTION

INGESTION TRANSFER FRACTIONS (G. I. TRACT TO BLOOD)

	AM-242M	AM-242	CM-242	PU-238
STOMACH	0.0	0.0	0.0	0.0
S INT	1.000E-03	1.000E-03	1.000E-03	3.000E-05
U L INT	0.0	0.0	0.0	0.0
L L INT	0.0	0.0	0.0	0.0

DOSE EQUIVALENT (REM/MICROCURIE)

SOURCE	S CONT	SI CONT	ULI CONT	LLI CONT	EXCRET.	BONE	LIVER	KIDNEYS	TESTES	OVARIES	OTHER
TARGET											
LUNGS	1.492E-08	1.776E-08	1.773E-07	1.457E-07	9.385E-09	1.609E-05	3.940E-05	2.548E-07	4.651E-11	2.162E-10	3.671E-06
RES LYM	1.492E-08	1.776E-08	1.773E-07	1.457E-07	9.385E-09	1.609E-05	3.940E-05	2.548E-07	4.651E-11	2.162E-10	3.671E-06
S WALL	2.054E-04	3.963E-07	3.135E-06	3.536E-06	9.398E-09	9.462E-06	2.526E-05	1.098E-06	3.004E-10	3.386E-09	2.506E-06
SI WALL	2.167E-08	7.917E-04	1.854E-05	2.610E-05	9.410E-09	1.251E-05	2.191E-05	8.612E-07	4.179E-09	6.231E-08	3.189E-06
ULI WALL	3.643E-08	2.018E-05	7.960E-03	1.448E-05	9.410E-09	1.170E-05	3.474E-05	8.526E-07	3.559E-09	8.084E-08	3.842E-06
LLI WALL	7.799E-09	2.637E-06	2.851E-06	3.317E-02	9.398E-09	1.923E-05	2.952E-06	1.903E-07	3.511E-08	1.037E-07	3.308E-06
T BODY	5.732E-07	7.714E-06	2.691E-05	8.302E-05	1.136E-08	1.36	0.214	4.764E-03	2.120E-04	6.662E-05	3.015E-02
ADREN	1.980E-08	6.503E-08	6.426E-07	5.895E-07	9.427E-09	1.800E-05	6.227E-05	4.955E-06	3.071E-10	1.216E-09	6.213E-02
BL WALL	1.859E-09	2.292E-07	1.582E-06	1.420E-05	9.398E-09	8.862E-06	2.067E-06	7.832E-08	6.279E-08	3.026E-08	3.106E-02
KIDNEYS	2.414E-08	2.920E-07	2.033E-06	1.593E-06	9.398E-09	1.401E-05	5.609E-05	1.07	3.999E-10	5.648E-09	3.439E-06
LIVER	1.688E-08	1.751E-07	1.834E-06	4.559E-07	9.399E-09	1.127E-05	8.32	1.182E-06	3.279E-10	2.088E-09	2.265E-06
OVARIES	3.676E-09	1.783E-06	1.243E-05	5.012E-05	9.497E-09	1.202E-05	5.564E-06	3.139E-07	0.0	0.423	5.504E-06
PANCREAS	2.476E-07	1.923E-07	1.611E-06	1.528E-06	9.398E-09	1.356E-05	6.412E-05	1.980E-06	5.579E-10	2.052E-09	6.213E-02
BONE	7.641E-09	1.533E-07	9.347E-07	4.012E-06	3.688E-08	19.0	1.754E-05	4.918E-07	1.306E-08	7.142E-09	1.613E-05
R MAR	1.290E-08	5.478E-07	3.084E-06	1.305E-05	9.464E-09	3.14	2.484E-05	1.295E-06	1.015E-08	2.572E-08	6.209E-02
Y MAR	1.077E-03	2.156E-07	1.345E-06	5.044E-06	9.439E-09	2.894E-04	2.603E-05	6.007E-07	4.648E-09	9.722E-09	6.213E-02
ENDOST	7.641E-09	1.533E-07	9.347E-07	4.012E-06	9.451E-09	34.2	1.752E-05	4.913E-07	1.304E-08	7.134E-09	1.304E-04
SPLEEN	7.408E-08	1.332E-07	1.035E-06	1.626E-06	9.398E-09	1.134E-05	1.209E-05	2.902E-06	2.025E-10	1.853E-09	6.213E-02
TESTES	2.620E-10	2.453E-08	1.683E-07	3.240E-06	9.385E-09	1.090E-05	6.646E-07	2.131E-08	0.424	0.0	2.221E-06
THYMUS	1.935E-09	5.697E-09	6.279E-08	4.006E-08	9.427E-09	1.024E-05	8.453E-06	5.998E-08	1.907E-11	7.804E-11	6.213E-02
THYROID	4.245E-10	8.968E-10	8.111E-09	6.912E-09	9.373E-09	1.239E-05	1.370E-06	1.097E-08	3.132E-12	1.243E-11	6.213E-02
UTERUS	4.720E-09	9.584E-07	4.028E-06	1.417E-05	9.410E-09	8.994E-06	5.091E-06	2.522E-07	0.0	8.554E-08	6.217E-02

DOSE EQUIVALENT (REM/MICROCURIE)

SOURCE	TOTAL
TARGET	
LUNGS	5.978E-05
RES LYM	5.978E-05
S WALL	2.508E-04
SI WALL	8.749E-04
ULI WALL	8.046E-03
LLI WALL	3.320E-02
T BODY	1.61
ADREN	6.222E-02
BL WALL	3.109E-02
KIDNEYS	1.07
LIVER	8.32
OVARIES	0.423
PANCREAS	6.222E-02
BONE	19.0
R MAR	3.20
Y MAR	6.245E-02
ENDOST	34.2
SPLEEN	6.216E-02
TESTES	0.424
THYMUS	6.215E-02
THYROID	6.214E-02
UTERUS	6.217E-02

PERCENT DOSE EQUIVALENT..

NUCLIDE	AM-242M	AM-242	CM-242	PU-238
TARGET				
LUNGS	9.6	87.7	2.4	0.3
RES LYM	9.6	87.7	2.4	0.3
S WALL	70.3	29.5	0.2	0.0
SI WALL	52.1	47.8	0.1	0.0
ULI WALL	32.1	67.4	0.5	0.0
LLI WALL	23.1	75.7	1.3	0.0
T BODY	0.5	0.1	86.5	12.9
ADREN	0.5	0.4	86.1	13.0
BL WALL	0.5	0.4	86.1	13.0
KIDNEYS	0.5	0.3	87.2	12.0
LIVER	0.5	0.3	87.2	12.0
OVARIES	0.5	0.3	86.2	13.0
PANCREAS	0.5	0.4	86.1	13.0
BONE	0.4	0.1	86.5	13.0
R MAR	0.9	0.1	86.0	13.0
Y MAR	0.7	0.5	85.8	13.0
ENDOST	0.2	0.0	84.4	15.3
SPLEEN	0.5	0.3	86.1	13.0
TESTES	0.5	0.3	86.2	13.0
THYMUS	0.5	0.3	86.1	13.0
THYROID	0.5	0.3	86.2	13.0
UTERUS	0.5	0.4	86.1	13.0

RADIONUCLICE: AM-243

PHYSICAL AND METABOLIC PARAMETERS FOR DOSIMETRICALLY SIGNIFICANT PROGENY:

NUCLIDE	RADIOACTIVE HALF-LIFE (DAYS)
AM-243	2.6900E 06
NP-239	2.360
PU-239	8.9000E 06

BRANCHING RATIOS:

FROM	TO	FRACTION
AM-243	NP-239	1.000
NP-239	PU-239	1.000

ORGAN	NUCLIDE	BLOOD TRANSFER FRACTION F2-PRIME	COMPARTMENT DEPOSITION FRACTION	COMPARTMENT BIOLOGICAL HALF-TIME (DAYS)
ABSORBED	AM-243	1.00	4.000E-02	0.500
			0.460	1.460E 04
			0.500	3.650E 04
	NP-239	1.00	0.460	1.460E 04
			0.540	3.650E 04
	PU-239	1.00	0.460	1.460E 04
			0.540	3.650E 04
EXCRET.	AM-243	4.000E-02	1.00	0.500
	NP-239	0.0	1.00	0.500
	PU-239	0.0	1.00	0.500
BONE	AM-243	0.450	1.00	3.650E 04
	NP-239	0.450	1.00	3.650E 04
	PU-239	0.450	1.00	3.650E 04
LIVER	AM-243	0.450	1.00	1.460E 04
	NP-239	0.450	1.00	1.460E 04
	PU-239	0.450	1.00	1.460E 04
KIDNEYS	AM-243	1.000E-02	1.00	1.460E 04
	NP-239	1.000E-02	1.00	1.460E 04
	PU-239	1.000E-02	1.00	1.460E 04
TESTES	AM-243	3.500E-04	1.00	3.650E 04
	NP-239	3.500E-04	1.00	3.650E 04
	PU-239	3.500E-04	1.00	3.650E 04
OVARIES	AM-243	1.100E-04	1.00	3.650E 04
	NP-239	1.100E-04	1.00	3.650E 04
	PU-239	1.100E-04	1.00	3.650E 04
OTHER	AM-243	5.000E-02	1.00	3.650E 04
	NP-239	9.000E-02	1.00	3.650E 04
	PU-239	9.000E-02	1.00	3.650E 04

S FACTORS (REM/MICROCURIE-DAY) FOR AM-243

TARGET ORGANS	SOURCE ORGANS													
	LUNGS	RES LYM	S CONT	SI CONT	ULI CONT	LLI CONT	EXCRET.	BONE	LIVER	KIDNEYS	TESTES	OVARIES	OTHER
LUNGS	0.278E 01	0.107E-02	0.224E-04	0.166E-05	0.213E-05	0.531E-06	0.398E-01	0.189E-04	0.436E-04	0.889E-05	0.181E-07	0.238E-05	0.159E-04
RES LYM	0.107E-02	0.196E 03	0.224E-04	0.166E-05	0.213E-05	0.531E-06	0.398E-01	0.189E-04	0.436E-04	0.889E-05	0.181E-07	0.238E-05	0.159E-04
S WALL	0.226E-04	0.226E-04	0.562E-01	0.437E-04	0.436E-04	0.201E-04	0.398E-01	0.517E-05	0.216E-04	0.410E-04	0.197E-06	0.751E-05	0.162E-04
SI WALL	0.143E-05	0.142E-05	0.310E-04	0.751E-01	0.236E-03	0.127E-03	0.398E-01	0.736E-05	0.171E-04	0.320E-04	0.373E-05	0.167E-03	0.175E-04
ULI WALL	0.179E-05	0.179E-05	0.443E-04	0.771E-03	0.636E-01	0.547E-04	0.398E-01	0.694E-05	0.207E-04	0.399E-04	0.370E-05	0.152E-03	0.180E-04
LLI WALL	0.347E-06	0.347E-06	0.124E-04	0.103E-03	0.387E-04	0.103E 00	0.398E-01	0.110E-04	0.159E-05	0.575E-05	0.323E-04	0.208E-03	0.195E-04
T BODY	0.390E-01	0.398E-01	0.143E-03	0.344E-03	0.216E-03	0.362E-03	0.511E-01	0.199E 00	0.398E-01	0.798E-01	0.398E-01	0.398E-01	0.398E-01
ADREN	0.301E-04	0.301E-04	0.316E-04	0.726E-05	0.910E-05	0.344E-05	0.398E-01	0.133E-04	0.518E-04	0.152E-03	0.131E-06	0.230E-05	0.816E-01
BL WALL	0.208E-06	0.208E-06	0.225E-05	0.279E-04	0.219E-04	0.930E-05	0.398E-01	0.483E-05	0.108E-05	0.178E-05	0.595E-04	0.403E-04	0.406E-01
KIDNEYS	0.833E-05	0.833E-05	0.406E-04	0.347E-04	0.321E-04	0.763E-05	0.398E-01	0.949E-05	0.480E-04	0.398E 01	0.796E-06	0.822E-05	0.167E-04
LIVER	0.308E-04	0.308E-04	0.219E-04	0.200E-04	0.205E-04	0.179E-05	0.398E-01	0.663E-05	0.155E 01	0.172E-04	0.147E-06	0.444E-05	0.121E-04
OVARIES	0.709E-06	0.709E-06	0.600E-05	0.149E-03	0.142E-03	0.240E-03	0.398E-01	0.917E-05	0.418E-05	0.194E-04	0.0	0.253E 03	0.238E-04
PANCREAS	0.313E-04	0.313E-04	0.252E-03	0.215E-04	0.220E-04	0.628E-05	0.398E-01	0.815E-05	0.537E-04	0.790E-04	0.347E-06	0.576E-05	0.816E-01
BONE	0.253E-04	0.253E-04	0.188E-04	0.168E-04	0.179E-04	0.379E-04	0.199E 00	0.273E 01	0.173E-04	0.229E-04	0.112E-04	0.249E-04	0.162E-04
R MAR	0.313E-04	0.313E-04	0.210E-04	0.678E-04	0.582E-04	0.962E-04	0.398E-01	0.459E 00	0.223E-04	0.605E-04	0.847E-05	0.653E-04	0.816E-01
Y MAR	0.253E-04	0.270E-04	0.185E-04	0.266E-04	0.245E-04	0.352E-04	0.398E-01	0.878E-04	0.267E-04	0.277E-04	0.537E-05	0.247E-04	0.816E-01
ENDOST	0.253E-04	0.257E-04	0.129E-04	0.188E-04	0.169E-04	0.270E-04	0.398E-01	0.624E 01	0.173E-04	0.228E-04	0.112E-04	0.249E-04	0.305E-04
SPLEEN	0.274E-04	0.274E-04	0.135E-03	0.149E-04	0.159E-04	0.358E-05	0.398E-01	0.667E-05	0.866E-05	0.119E-03	0.103E-06	0.771E-05	0.814E-01
TESTES	0.321E-07	0.321E-07	0.281E-06	0.210E-05	0.131E-05	0.201E-04	0.398E-01	0.576E-05	0.294E-06	0.471E-06	0.795E-03	0.0	0.120E-04
THYMUS	0.525E-04	0.525E-04	0.365E-05	0.393E-06	0.533E-06	0.113E-05	0.398E-01	0.548E-05	0.583E-05	0.159E-05	0.709E-04	0.104E-06	0.816E-01
THYROID	0.816E-05	0.816E-05	0.417E-06	0.553E-07	0.619E-07	0.177E-07	0.399E-01	0.767E-05	0.618E-05	0.311E-06	0.167E-03	0.152E-07	0.815E-01
UTERUS	0.619E-06	0.619E-06	0.574E-05	0.131E-03	0.684E-04	0.370E-04	0.398E-01	0.501E-05	0.320E-05	0.684E-05	0.0	0.283E-03	0.816E-01

α decay (7380 Y 40)

Case 1 represents inhalation of oxides, hydroxides, and carbides; case 2 inhalation of nitrates; and case 3 ingestion of any compound.

CASE 1.. INHALATION

AMAD (MICRON).. 1.00 D3 =0.310 D4 =8.000E-02 D5 =0.249

	SOLUBILITY CLASS	G.I. UPTAKE FRACTIONS STOMACH	S INT	U L INT	L L INT
AM-243	Y	0.0	1.000E-03	0.0	0.0
NP-239	Y	0.0	1.000E-03	0.0	0.0
PU-239	Y	0.0	3.000E-05	0.0	0.0

DOSE EQUIVALENT (REM/MICROCURIE)

SOURCE	LUNGS	RES LYM	S CONT	SI CONT	ULI CONT	LLI CONT	EXCRET.	BONE	LIVER	KIDNEYS	TESTES
TARGET											
LUNGS	302.	1.39	1.738E-05	8.943E-06	2.922E-05	1.298E-05	5.806E-05	1.385E-02	3.045E-02	2.147E-04	7.199E-08
RES LYM	1.13	2.161E 04	1.738E-05	8.943E-06	2.922E-05	1.298E-05	5.806E-05	1.385E-02	3.045E-02	2.147E-04	7.199E-08
S WALL	7.050E-03	8.355E-03	9.447E-03	1.404E-04	4.121E-04	2.864E-04	5.806E-05	7.711E-03	2.173E-02	9.119E-04	4.049E-07
SI WALL	6.475E-04	7.798E-04	2.672E-05	2.271E-02	1.873E-03	1.553E-03	5.806E-05	1.062E-02	1.847E-02	7.325E-04	3.880E-06
ULI WALL	7.939E-04	9.552E-04	3.544E-05	1.091E-03	0.118	7.173E-04	5.806E-05	9.801E-03	2.932E-02	7.259E-04	3.232E-06
LLI WALL	2.297E-04	2.796E-04	1.209E-05	2.964E-04	3.471E-04	0.291	5.806E-05	1.477E-02	2.457E-03	1.755E-04	3.108E-05
T BODY	4.32	4.63	3.845E-05	2.773E-04	5.693E-04	9.864E-04	7.452E-05	67.5	10.8	0.240	1.055E-02
ADREN	9.790E-03	1.163E-02	2.614E-05	4.284E-05	1.004E-04	6.108E-05	5.806E-05	1.697E-02	5.313E-02	3.036E-03	3.453E-07
BL WALL	1.265E-04	1.537E-04	2.784E-06	1.020E-04	2.362E-04	1.089E-03	5.806E-05	7.190E-03	1.782E-03	6.648E-05	5.547E-05
KIDNEYS	3.059E-03	3.665E-03	3.472E-05	1.213E-04	3.070E-04	1.390E-04	5.806E-05	1.191E-02	4.617E-02	54.2	4.567E-07
LIVER	9.461E-03	1.120E-02	2.006E-05	7.011E-05	2.800E-04	4.182E-05	5.806E-05	9.289E-03	421.	1.015E-03	3.274E-07
OVARIES	3.363E-04	4.055E-04	4.881E-06	4.110E-04	1.309E-03	2.985E-03	5.806E-05	1.066E-02	4.746E-03	2.766E-04	0.0
PANCREAS	9.857E-03	1.169E-02	1.816E-04	7.831E-05	2.496E-04	1.176E-04	5.806E-05	1.228E-02	5.067E-02	1.734E-03	5.287E-07
BONE	6.198E-03	7.242E-03	8.574E-06	4.574E-05	1.176E-04	2.530E-04	2.901E-04	943.	1.358E-02	3.924E-04	1.017E-05
R MAR	7.784E-03	9.104E-03	1.521E-05	1.545E-04	3.781E-04	7.908E-04	5.806E-05	156.	1.895E-02	1.029E-03	7.973E-06
Y MAR	6.493E-03	7.578E-03	1.199E-05	6.425E-05	1.691E-04	3.145E-04	5.806E-05	7.748E-02	2.041E-02	4.800E-04	3.690E-06
ENDOST	6.198E-03	7.242E-03	8.574E-06	4.574E-05	1.176E-04	2.530E-04	5.806E-05	2.115E 03	1.358E-02	3.924E-04	1.017E-05
SPLEEN	8.665E-03	1.028E-02	1.001E-04	5.837E-05	1.546E-04	1.302E-04	5.806E-05	8.897E-03	1.019E-02	2.340E-03	2.737E-07
TESTES	2.912E-05	3.567E-05	4.896E-07	1.204E-05	3.234E-05	2.947E-04	5.805E-05	8.690E-03	6.760E-04	2.112E-05	21.1
THYMUS	1.616E-02	1.914E-02	2.593E-06	3.399E-06	1.167E-05	4.937E-06	5.806E-05	7.613E-03	7.487E-03	5.064E-05	3.216E-08
THYROID	3.217E-03	3.853E-03	9.633E-07	6.941E-07	2.164E-06	1.120E-06	5.805E-05	1.154E-02	1.536E-03	1.165E-05	7.394E-09
UTERUS	2.790E-04	3.358E-04	7.814E-06	3.642E-04	5.696E-04	1.121E-03	5.806E-05	7.826E-03	4.185E-03	2.186E-04	0.0

DOSE EQUIVALENT (REM/MICROCURIE)

SOURCE	OVARIES	OTHER	TOTAL
TARGET			
LUNGS	2.049E-07	2.100E-03	303.
RES LYM	2.049E-07	2.100E-03	2.161E 04
S WALL	2.724E-06	2.138E-03	5.825E-02
SI WALL	4.553E-05	2.431E-03	5.995E-02
ULI WALL	4.288E-05	2.507E-03	0.164
LLI WALL	5.662E-05	2.668E-03	0.312
T BODY	3.317E-03	1.50	89.0
ADREN	1.133E-06	3.09	3.18
BL WALL	2.619E-05	1.55	1.56
KIDNEYS	3.146E-06	2.300E-03	54.2
LIVER	1.800E-06	1.679E-03	421.
OVARIES	21.1	3.218E-03	21.1
PANCREAS	1.619E-06	3.09	3.18
BONE	5.770E-06	2.702E-03	943.
R MAR	2.097E-05	3.09	159.
Y MAR	7.881E-06	3.09	3.20
ENDOST	5.770E-06	9.767E-03	2.115E 03
SPLEEN	1.656E-06	3.09	3.13
TESTES	0.0	1.791E-03	21.1
THYMUS	9.015E-08	3.09	3.14
THYROID	1.873E-08	3.09	3.11
UTERUS	7.657E-05	3.09	3.11

PERCENT DOSE EQUIVALENT..

NUCLIDE	AM-243	NP-239	PU-239
TARGET			
LUNGS	99.2	0.8	0.0
RES LYM	99.6	0.4	0.0
S WALL	25.7	74.3	0.0
SI WALL	20.2	79.8	0.0
ULI WALL	19.5	80.5	0.0
LLI WALL	20.9	79.1	0.0
T BODY	99.7	0.2	0.1
ADREN	97.3	2.6	0.1
BL WALL	98.8	1.1	0.1
KIDNEYS	99.4	0.6	0.1
LIVER	99.4	0.5	0.1
OVARIES	99.4	0.5	0.1
PANCREAS	97.4	2.5	0.1
BONE	99.8	0.1	0.1
R MAR	99.8	0.1	0.1
Y MAR	97.2	2.7	0.1
ENDOST	99.9	0.0	0.1
SPLEEN	98.5	1.5	0.1
TESTES	99.4	0.5	0.1
THYMUS	98.2	1.7	0.1
THYROID	98.9	1.0	0.1
UTERUS	98.9	1.0	0.1

CASE 2.. INHALATION

AMAD (MICRON).. 1.00 D3 =0.310 D4 =8.000E-02 D5 =0.249

	SOLUBILITY CLASS	G.I. UPTAKE FRACTIONS STOMACH	S INT	U L INT	L L INT
AM-243	W	0.0	1.000E-03	0.0	0.0
NP-239	W	0.0	1.000E-03	0.0	0.0
PU-239	W	0.0	3.000E-05	0.0	0.0

DOSE EQUIVALENT (REM/MICROCURIE)

SOURCE	LUNGS	RES LYM	S CONT	SI CONT	ULI CONT	LLI CONT	EXCRET.	BONE	LIVER	KIDNEYS	TESTES
TARGET											
LUNGS	31.1	1.225E-02	2.599E-06	1.272E-06	4.546E-06	2.283E-06	1.395E-04	3.436E-02	7.503E-02	5.290E-04	1.786E-07
RES LYM	0.112	168.	2.599E-06	1.272E-06	4.546E-06	2.283E-06	1.395E-04	3.436E-02	7.503E-02	5.290E-04	1.786E-07
S WALL	7.071E-04	7.144E-05	2.229E-03	2.127E-05	6.852E-05	5.393E-05	1.395E-04	1.913E-02	5.354E-02	2.247E-03	1.004E-06
SI WALL	6.463E-05	6.759E-06	3.932E-06	5.509E-03	3.150E-04	3.001E-04	1.395E-04	2.635E-02	4.550E-02	1.805E-03	9.626E-06
ULI WALL	7.926E-05	8.273E-06	5.283E-06	1.676E-04	3.137E-02	1.369E-04	1.395E-04	2.432E-02	7.223E-02	1.788E-03	8.018E-06
LLI WALL	2.285E-05	2.445E-06	1.749E-06	4.571E-05	5.718E-05	8.990E-02	1.395E-04	3.663E-02	6.053E-03	4.323E-04	7.711E-05
T BODY	0.446	3.596E-02	7.482E-06	6.103E-05	1.299E-04	2.677E-04	1.791E-04	168.	26.6	0.592	2.617E-02
ADREN	9.813E-04	9.960E-05	3.871E-06	6.043E-06	1.604E-05	1.072E-05	1.395E-04	4.209E-02	0.131	7.479E-03	8.567E-07
BL WALL	1.259E-05	1.342E-06	3.915E-07	1.513E-05	3.784E-05	2.078E-04	1.395E-04	1.784E-02	4.390E-03	1.638E-04	1.376E-04
KIDNEYS	3.071E-04	3.155E-05	5.115E-06	1.815E-05	5.007E-05	2.528E-05	1.395E-04	2.956E-02	0.114	133.	1.133E-06
LIVER	9.491E-04	9.573E-05	2.926E-06	1.049E-05	4.572E-05	7.388E-06	1.395E-04	2.305E-02	1.037E 03	2.501E-03	8.123E-07
OVARIES	3.355E-05	3.519E-06	7.245E-07	6.383E-05	2.147E-04	5.751E-04	1.395E-04	2.644E-02	1.169E-02	6.814E-04	0.0
PANCREAS	9.884E-04	9.997E-05	2.749E-05	1.165E-05	3.996E-05	2.130E-05	1.395E-04	3.046E-02	0.125	4.198E-03	1.312E-06
BONE	6.242E-04	6.117E-05	1.315E-06	7.267E-06	2.025E-05	5.195E-05	6.969E-04	2.340E 03	3.346E-02	9.667E-04	2.523E-05
R MAR	7.837E-04	7.696E-05	2.300E-06	2.487E-05	6.609E-05	1.662E-04	1.395E-04	386.	4.669E-02	2.535E-03	1.978E-05
Y MAR	6.542E-04	6.393E-05	1.850E-06	1.022E-05	2.920E-05	6.523E-05	1.395E-04	0.192	5.029E-02	1.182E-03	9.156E-06
ENDOST	6.242E-04	6.117E-05	1.315E-06	7.267E-06	2.025E-05	5.195E-05	1.395E-04	5.249E 03	3.346E-02	9.667E-04	2.523E-05
SPLEEN	8.688E-04	8.792E-05	1.509E-05	8.596E-06	2.516E-05	2.429E-05	1.395E-04	2.207E-02	2.512E-02	5.765E-03	6.790E-07
TESTES	2.891E-06	3.136E-07	6.673E-08	1.703E-06	4.927E-06	5.525E-05	1.395E-04	2.156E-02	1.665E-03	5.204E-05	52.2
THYMUS	1.621E-03	1.635E-04	3.916E-07	4.660E-07	1.741E-06	8.304E-07	1.395E-04	1.889E-02	1.844E-02	1.247E-04	7.978E-08
THYROID	3.216E-04	3.325E-05	1.288E-07	9.330E-08	3.141E-07	1.850E-07	1.395E-04	2.863E-02	3.783E-03	2.869E-05	1.834E-08
UTERUS	2.785E-05	2.910E-06	1.088E-06	5.649E-05	9.500E-05	2.146E-04	1.395E-04	1.942E-02	1.031E-02	5.396E-04	0.0

DOSE EQUIVALENT (REM/MICROCURIE)

SOURCE	OVARIES	OTHER	TOTAL
TARGET			
LUNGS	5.083E-07	5.210E-03	31.2
RES LYM	5.083E-07	5.210E-03	168.
S WALL	6.759E-06	5.303E-03	8.352E-02
SI WALL	1.130E-04	6.031E-03	8.614E-02
ULI WALL	1.064E-04	6.218E-03	0.137
LLI WALL	1.405E-04	6.619E-03	0.140
T BODY	8.231E-03	3.72	199.
ADREN	2.812E-06	7.66	7.84
BL WALL	6.498E-05	3.83	3.86
KIDNEYS	7.805E-06	5.704E-03	134.
LIVER	4.465E-06	4.164E-03	1.037E 03
OVARIES	52.2	7.982E-03	52.3
PANCREAS	4.017E-06	7.66	7.83
BONE	1.432E-05	6.703E-03	2.340E 03
R MAR	5.203E-05	7.66	394.
Y MAR	1.955E-05	7.66	7.91
ENDOST	1.432E-05	2.423E-02	5.249E 03
SPLEEN	4.110E-06	7.66	7.72
TESTES	0.0	4.444E-03	52.3
THYMUS	2.237E-07	7.67	7.71
THYROID	4.646E-08	7.66	7.69
UTERUS	1.900E-04	7.67	7.70

PERCENT DOSE EQUIVALENT..

NUCLIDE	AM-243	NP-239	PU-239
TARGET			
LUNGS	99.4	0.6	0.0
RES LYM	99.5	0.5	0.0
S WALL	26.9	73.1	0.0
SI WALL	27.3	72.7	0.0
ULI WALL	33.5	66.5	0.0
LLI WALL	46.9	53.1	0.0
T BODY	99.8	0.2	0.1
ADREN	97.7	2.2	0.1
BL WALL	98.9	1.1	0.1
KIDNEYS	99.4	0.5	0.1
LIVER	99.4	0.5	0.1
OVARIES	99.4	0.5	0.1
PANCREAS	97.9	2.0	0.1
BONE	99.8	0.1	0.1
R MAR	99.8	0.1	0.1
Y MAR	97.5	2.5	0.1
ENDOST	99.9	0.0	0.1
SPLEEN	98.9	1.0	0.1
TESTES	99.4	0.5	0.1
THYMUS	99.0	1.0	0.1
THYROID	99.1	0.8	0.1
UTERUS	99.0	0.9	0.1

CASE 3.. INGESTION

INGESTION TRANSFER FRACTIONS (G. I. TRACT TO BLOOD)

	AM-243	NP-239	PU-239
STOMACH	0.0	0.0	0.0
S INT	1.000E-03	1.000E-03	3.000E-05
U L INT	0.0	0.0	0.0
L L INT	0.0	0.0	0.0

DOSE EQUIVALENT (REM/MICROCURIE)

SOURCE	S CONT	SI CONT	ULI CONT	LLI CONT	EXCRET.	BONE	LIVER	KIDNEYS	TESTES	OVARIES	OTHER
TARGET											
LUNGS	9.607E-07	3.482E-07	2.014E-06	1.485E-06	1.150E-06	2.832E-04	6.183E-04	4.359E-06	1.472E-09	4.189E-09	4.293E-05
RES LYM	9.607E-07	3.482E-07	2.014E-06	1.485E-06	1.150E-06	2.832E-04	6.183E-04	4.359E-06	1.472E-09	4.189E-09	4.293E-05
S WALL	2.355E-03	8.389E-06	3.827E-05	4.077E-05	1.150E-06	1.577E-04	4.412E-04	1.851E-05	8.277E-09	5.570E-08	4.370E-05
SI WALL	1.334E-06	6.002E-03	1.820E-04	2.383E-04	1.150E-06	2.171E-04	3.749E-04	1.487E-05	7.932E-08	9.309E-07	4.970E-05
ULI WALL	1.923E-06	7.040E-06	3.737E-02	1.063E-04	1.150E-06	2.004E-04	5.953E-04	1.474E-05	6.608E-08	8.767E-07	5.124E-05
LLI WALL	5.359E-07	1.949E-05	3.104E-05	0.120	1.150E-06	3.019E-04	4.988E-05	3.563E-06	6.355E-07	1.158E-06	5.455E-05
T BODY	6.015E-06	5.927E-05	1.320E-04	3.245E-04	1.476E-06	1.38	0.220	4.880E-03	2.157E-04	6.783E-05	3.066E-02
ADREN	1.358E-06	1.553E-06	7.865E-06	6.933E-06	1.150E-06	3.469E-04	1.079E-03	6.163E-05	7.060E-09	2.317E-08	6.315E-02
BL WALL	9.819E-08	5.374E-06	1.871E-05	1.613E-04	1.150E-06	1.470E-04	3.617E-05	1.350E-06	1.134E-06	5.355E-07	3.160E-02
KIDNEYS	1.747E-06	6.742E-06	2.633E-05	1.777E-05	1.150E-06	2.436E-04	9.373E-04	1.10	9.338E-09	6.432E-08	4.701E-05
LIVER	9.443E-07	3.888E-06	2.413E-05	4.861E-06	1.150E-06	1.899E-04	8.54	2.061E-05	6.694E-09	3.680E-08	3.431E-05
OVARIES	2.577E-07	2.805E-05	1.150E-04	4.541E-04	1.150E-06	2.179E-04	9.636E-05	5.615E-06	0.0	0.431	6.578E-05
PANCREAS	1.079E-05	4.203E-06	1.970E-05	1.486E-05	1.150E-06	2.510E-04	1.029E-03	3.459E-05	1.081E-08	3.311E-08	6.317E-02
BONE	5.468E-07	3.489E-06	1.248E-05	4.571E-05	5.743E-06	19.3	2.757E-04	7.966E-06	2.079E-07	1.180E-07	5.524E-05
R MAR	8.989E-07	1.250E-05	4.238E-05	1.515E-04	1.150E-06	3.18	3.848E-04	2.089E-05	1.630E-07	4.287E-07	6.312E-02
Y MAR	7.896E-07	4.933E-06	1.813E-05	5.827E-05	1.150E-06	1.584E-03	4.144E-04	9.744E-06	7.545E-08	1.611E-07	6.314E-02
ENDOST	5.468E-07	3.489E-06	1.248E-05	4.571E-05	1.150E-06	43.3	2.757E-04	7.966E-06	2.079E-07	1.180E-07	1.996E-04
SPLEEN	5.783E-06	2.930E-06	1.312E-05	1.801E-05	1.150E-06	1.819E-04	2.070E-04	4.750E-05	5.595E-09	3.387E-08	6.316E-02
TESTES	1.249E-08	4.465E-07	1.991E-06	4.141E-05	1.149E-06	1.777E-04	1.372E-05	4.289E-07	0.430	0.0	3.662E-05
THYMUS	1.520E-07	9.293E-08	6.364E-07	4.800E-07	1.150E-06	1.557E-04	1.520E-04	1.028E-06	6.575E-10	1.843E-09	6.320E-02
THYROID	1.893E-08	1.479E-08	9.820E-08	1.013E-07	1.149E-06	2.359E-04	3.118E-05	2.364E-07	1.512E-10	3.828E-10	6.314E-02
UTERUS	2.517E-07	2.469E-05	5.354E-05	1.675E-04	1.150E-06	1.600E-04	8.496E-05	4.438E-06	0.0	1.566E-06	6.321E-02

DOSE EQUIVALENT (REM/MICROCURIE)

SOURCE	TOTAL
TARGET	
LUNGS	9.547E-04
RES LYM	9.547E-04
S WALL	3.105E-03
SI WALL	7.082E-03
ULI WALL	3.841E-02
LLI WALL	0.121
T BODY	1.64
ADREN	6.465E-02
BL WALL	3.197E-02
KIDNEYS	1.10
LIVER	8.54
OVARIES	0.431
PANCREAS	6.453E-02
BONE	19.3
R MAR	3.25
Y MAR	6.524E-02
ENDOST	43.3
SPLEEN	6.364E-02
TESTES	0.431
THYMUS	6.351E-02
THYROID	6.341E-02
UTERUS	6.371E-02

PERCENT DOSE EQUIVALENT..

NUCLIDE	AM-243	NP-239	PU-239
TARGET			
LUNGS	29.0	71.0	0.0
RES LYM	29.0	71.0	0.0
S WALL	82.7	17.3	0.0
SI WALL	88.5	11.5	0.0
ULI WALL	90.5	9.5	0.0
LLI WALL	85.3	14.7	0.0
T BODY	99.7	0.2	0.1
ADREN	97.7	2.2	0.1
BL WALL	98.6	1.3	0.1
KIDNEYS	99.4	0.5	0.1
LIVER	99.4	0.5	0.1
OVARIES	99.4	0.6	0.1
PANCREAS	97.9	2.0	0.1
BONE	99.8	0.1	0.1
R MAR	99.8	0.1	0.1
Y MAR	97.4	2.5	0.1
ENDOST	99.9	0.0	0.1
SPLEEN	98.9	1.1	0.1
TESTES	99.4	0.5	0.1
THYMUS	99.0	1.0	0.1
THYROID	99.1	0.8	0.1
UTERUS	98.9	1.1	0.1

RADIONUCLIDE: CM-242

PHYSICAL AND METABOLIC PARAMETERS FOR DOSIMETRICALLY SIGNIFICANT PROGENY:

NUCLIDE	RADIOACTIVE HALF-LIFE (DAYS)
CM-242	163.0
PU-238	3.2000E 04

BRANCHING RATIOS: FROM CM-242 TO PU-238 FRACTION 1.000

ORGAN ABSORBED	NUCLIDE	BLOOD TRANSFER FRACTION F2-PRIME	COMPARTMENT DEPOSITION FRACTION	COMPARTMENT BIOLOGICAL HALF-TIME (DAYS)
	CM-242	1.00	4.000E-02	0.500
			0.460	1.460E 04
			0.500	3.650E 04
	PU-238	1.00	0.460	1.460E 04
			0.540	3.650E 04
EXCRET.	CM-242	4.000E-02	1.00	0.500
	PU-238	0.0	1.00	0.500
BONE	CM-242	0.450	1.00	3.650E 04
	PU-238	0.450	1.00	3.650E 04
LIVER	CM-242	0.450	1.00	1.460E 04
	PU-238	0.450	1.00	1.460E 04
KIDNEYS	CM-242	1.000E-02	1.00	1.460E 04
	PU-238	1.000E-02	1.00	1.460E 04
TESTES	CM-242	3.500E-04	1.00	3.650E 04
	PU-238	3.500E-04	1.00	3.650E 04
OVARIES	CM-242	1.100E-04	1.00	3.650E 04
	PU-238	1.100E-04	1.00	3.650E 04
OTHER	CM-242	5.000E-02	1.00	3.650E 04
	PU-238	9.000E-02	1.00	3.650E 04

S FACTORS (REM/MICROCURIE-DAY) FOR CM-242

TARGET ORGANS	SOURCE ORGANS												
	LUNGS	RES LYM	S CONT	SI CONT	ULI CONT	LLI CONT	EXCRET.	BONE	LIVER	KIDNEYS	TESTES	OVARIES	OTHER
LUNGS	0.323E 01	0.447E-03	0.357E-07	0.101E-38	0.116E-08	0.365E-09	0.461E-01	0.269E-07	0.250E-06	0.959E-08	0.236E-10	0.275E-09	0.457E-06
RES LYM	0.447E-03	0.215E 03	0.357E-07	0.101E-38	0.116E-09	0.365E-09	0.461E-01	0.269E-07	0.250E-06	0.959E-08	0.236E-10	0.275E-09	0.457E-06
S WALL	0.795E-07	0.795E-07	0.633E-01	0.163E-36	0.293E-06	0.134E-07	0.461E-01	0.204E-07	0.567E-07	0.237E-07	0.223E-09	0.435E-38	0.937E-07
SI WALL	0.893E-09	0.893E-09	0.430E-07	0.396E-01	0.349E-05	0.212E-05	0.461E-01	0.227E-07	0.300E-07	0.198E-07	0.186E-09	0.175E-05	0.149E-06
ULI WALL	0.107E-08	0.107E-08	0.124E-06	0.380E-04	0.719E-01	0.176E-05	0.461E-01	0.292E-07	0.404E-07	0.181E-07	0.169E-08	0.511E-05	0.349E-06
LLI WALL	0.267E-09	0.267E-09	0.769E-08	0.411E-05	0.321E-06	0.117E 00	0.461E-01	0.842E-07	0.933E-09	0.355E-08	0.283E-37	0.615E-05	0.105E-06
T BODY	0.461E-01	0.461E-01	0.137E-03	0.362E-03	0.217E-03	0.269E-03	0.693E-01	0.230E 00	0.461E-01	0.461E-01	0.461E-01	0.461E-01	0.455E-01
ADREN	0.167E-06	0.167E-06	0.184E-07	0.487E-38	0.536E-08	0.151E-08	0.461E-01	0.676E-07	0.329E-06	0.703E-05	0.101E-39	0.183E-08	0.986E-01
BL WALL	0.138E-09	0.138E-09	0.132E-08	0.159E-07	0.135E-07	0.646E-07	0.461E-01	0.268E-08	0.716E-09	0.112E-08	0.294E-37	0.574E-07	0.473E-01
KIDNEYS	0.497E-08	0.497E-08	0.241E-07	0.204E-07	0.191E-07	0.468E-08	0.461E-01	0.423E-07	0.130E-06	0.104E 02	0.235E-33	0.501E-08	0.269E-06
LIVER	0.182E-06	0.182E-06	0.386E-07	0.383E-07	0.359E-07	0.113E-08	0.461E-01	0.189E-07	0.179E 01	0.920E-07	0.153E-09	0.265E-38	0.130E-06
OVARIES	0.434E-09	0.434E-09	0.403E-08	0.175E-05	0.250E-05	0.510E-05	0.461E-01	0.697E-08	0.273E-08	0.616E-08	0.0	0.293E 03	0.609E-06
PANCREAS	0.187E-07	0.187E-07	0.115E-05	0.123E-37	0.125E-07	0.346E-08	0.461E-01	0.521E-07	0.209E-06	0.497E-07	0.162E-01	0.223E-08	0.946E-01
BONE	0.724E-07	0.724E-07	0.151E-07	0.696E-37	0.390E-07	0.122E-06	0.230E 00	0.323E 01	0.542E-07	0.469E-07	0.130E-07	0.227E-07	0.714E-06
R MAR	0.727E-07	0.727E-07	0.160E-07	0.264E-36	0.115E-06	0.471E-06	0.461E-01	0.530E 00	0.511E-07	0.103E-06	0.571E-08	0.672E-07	0.946E-01
Y MAR	0.847E-07	0.847E-07	0.167E-07	0.900E-37	0.410E-07	0.159E-06	0.461E-01	0.763E-05	0.726E-07	0.485E-07	0.213E-08	0.233E-07	0.946E-01
ENDOST	0.663E-07	0.663E-07	0.115E-07	0.639E-37	0.300E-07	0.114E-06	0.461E-01	0.867E 01	0.492E-07	0.403E-07	0.704E-08	0.164E-07	0.866E-05
SPLEEN	0.957E-07	0.957E-07	0.952E-07	0.859E-38	0.931E-08	0.517E-09	0.461E-01	0.829E-07	0.520E-08	0.320E-06	0.128E-09	0.223E-08	0.946E-01
TESTES	0.292E-10	0.292E-10	0.230E-09	0.152E-38	0.388E-08	0.188E-07	0.461E-01	0.423E-08	0.188E-09	0.296E-09	0.992E 02	0.0	0.852E-07
THYMUS	0.565E-07	0.565E-07	0.237E-08	0.233E-39	0.259E-09	0.162E-09	0.461E-01	0.378E-07	0.310E-08	0.953E-09	0.960E-11	0.749E-10	0.946E-01
THYROID	0.452E-08	0.452E-08	0.260E-09	0.440E-10	0.440E-10	0.176E-10	0.461E-01	0.707E-07	0.350E-09	0.135E-09	0.286E-11	0.167E-10	0.946E-01
UTERUS	0.377E-09	0.377E-09	0.325E-08	0.243E-36	0.383E-07	0.512E-07	0.461E-01	0.262E-08	0.202E-08	0.394E-09	0.0	0.383E-06	0.946E-01

α decay (163.2 D 4)

Case 1 represents inhalation of oxides, hydroxides, and carbides; case 2 inhalation of nitrates; and case 3 ingestion of any compound.

CASE 1.. INHALATION

AMAD (MICRON).. 1.00 D3 =0.310 D4 =8.000E-02 D5 =0.249

	SOLUBILITY CLASS	G.I. UPTAKE FRACTIONS STOMACH	S INT	U L INT	L L INT
CM-242	Y	0.0	1.000E-03	0.0	0.0
PU-238	Y	0.0	3.000E-05	0.0	0.0

DOSE EQUIVALENT (REM/MICROCURIE)

SOURCE	LUNGS	RES LYM	S CONT	SI CONT	ULI CONT	LLI CONT	EXCRET.	BONE	LIVER	KIDNEYS	TESTES
TARGET											
LUNGS	87.6	1.013E-03	7.571E-10	8.551E-11	3.185E-10	1.842E-10	1.144E-05	4.958E-08	3.963E-07	3.472E-10	1.991E-14
RES LYM	1.214E-02	474.	7.571E-10	8.551E-11	3.185E-10	1.842E-10	1.144E-05	4.958E-08	3.963E-07	3.472E-10	1.991E-14
S WALL	2.155E-06	1.750E-07	1.342E-03	1.380E-08	7.771E-08	6.764E-09	1.144E-05	3.739E-08	9.885E-08	8.732E-10	2.297E-13
SI WALL	2.415E-08	1.877E-09	9.119E-10	3.353E-03	1.068E-06	1.070E-06	1.144E-05	4.205E-08	4.906E-08	7.172E-10	2.252E-12
ULI WALL	2.895E-08	2.281E-09	2.630E-09	3.218E-06	1.974E-02	8.884E-07	1.144E-05	5.393E-08	6.686E-08	6.554E-10	1.913E-12
LLI WALL	7.211E-09	5.493E-10	1.631E-10	3.480E-07	8.814E-08	5.906E-02	1.144E-05	1.552E-07	1.291E-09	1.188E-10	3.426E-11
T BODY	1.25	0.102	2.905E-06	3.065E-05	5.959E-05	1.358E-04	1.472E-05	0.422	7.616E-02	1.693E-03	6.583E-05
ADREN	4.528E-06	3.682E-07	3.902E-10	4.123E-10	1.444E-09	7.621E-10	1.144E-05	1.060E-07	5.442E-07	1.065E-07	9.344E-14
BL WALL	3.730E-09	2.884E-10	2.799E-11	1.346E-09	3.706E-09	3.261E-08	1.144E-05	4.640E-09	9.328E-10	3.250E-11	4.754E-11
KIDNEYS	1.346E-07	1.081E-08	5.111E-10	1.727E-09	4.970E-09	2.362E-09	1.144E-05	7.706E-08	2.156E-07	0.382	2.196E-13
LIVER	4.931E-06	3.965E-07	8.186E-10	3.243E-09	9.331E-09	5.703E-10	1.144E-05	3.458E-08	2.96	3.019E-09	1.477E-13
OVARIES	1.175E-08	9.325E-10	8.545E-11	1.482E-07	6.865E-07	2.574E-06	1.144E-05	1.312E-08	4.188E-09	2.177E-10	0.0
PANCREAS	5.072E-07	4.154E-08	2.439E-08	1.042E-09	3.432E-09	1.746E-09	1.144E-05	9.586E-08	3.468E-07	1.835E-09	1.595E-13
BONE	1.961E-06	1.568E-07	3.202E-10	5.893E-09	1.043E-08	6.158E-08	5.709E-05	5.92	8.439E-08	1.642E-09	1.400E-11
R MAR	1.970E-06	1.593E-07	3.393E-10	2.236E-08	3.158E-08	2.377E-07	1.144E-05	0.975	8.293E-08	3.935E-09	7.526E-12
Y MAR	2.295E-06	1.852E-07	3.542E-10	7.621E-09	1.126E-08	8.026E-08	1.144E-05	1.448E-05	1.177E-07	1.822E-09	3.119E-12
ENDOST	1.797E-06	1.452E-07	2.439E-10	5.411E-09	8.238E-09	5.754E-08	1.144E-05	11.5	7.980E-08	1.510E-09	9.678E-12
SPLEEN	2.595E-06	2.112E-07	2.019E-09	7.274E-10	2.474E-09	2.610E-09	1.144E-05	1.526E-07	8.091E-09	3.025E-08	1.195E-13
TESTES	7.875E-10	5.840E-11	4.875E-12	1.287E-10	1.065E-09	9.488E-09	1.144E-05	6.430E-09	2.293E-10	7.718E-12	0.132
THYMUS	1.532E-06	1.249E-07	5.026E-11	1.972E-11	7.082E-11	8.172E-11	1.144E-05	6.916E-08	4.788E-09	2.727E-11	7.757E-15
THYROID	1.224E-07	9.711E-09	5.511E-12	3.724E-12	1.207E-11	8.878E-12	1.144E-05	3.776E-08	4.542E-10	3.586E-12	2.182E-15
UTERUS	1.020E-08	8.056E-10	6.891E-11	2.058E-08	1.052E-08	2.585E-08	1.144E-05	4.739E-09	2.931E-09	1.295E-10	0.0

DOSE EQUIVALENT (REM/MICROCURIE)

SOURCE	OVARIES	OTHER	TOTAL
TARGET			
LUNGS	9.559E-14	1.209E-07	87.6
RES LYM	9.559E-14	1.209E-07	474.
S WALL	1.820E-12	2.351E-08	1.356E-03
SI WALL	7.538E-10	3.854E-08	3.367E-03
ULI WALL	2.193E-09	9.450E-08	1.976E-02
LLI WALL	2.640E-09	2.646E-08	5.907E-02
T BODY	2.069E-05	1.222E-02	1.86
ADREN	5.739E-13	2.518E-02	2.519E-02
BL WALL	2.645E-11	1.258E-02	1.259E-02
KIDNEYS	2.050E-12	7.709E-08	0.382
LIVER	1.072E-12	3.351E-08	2.96
OVARIES	0.132	1.592E-07	0.132
PANCREAS	8.261E-13	2.518E-02	2.519E-02
BONE	9.524E-12	1.975E-07	5.92
R MAR	3.263E-11	2.518E-02	1.00
Y MAR	1.156E-11	2.518E-02	2.520E-02
ENDOST	8.099E-12	2.415E-06	11.5
SPLEEN	8.756E-13	2.518E-02	2.519E-02
TESTES	0.0	2.134E-08	0.132
THYMUS	2.198E-14	2.518E-02	2.519E-02
THYROID	4.376E-15	2.518E-02	2.519E-02
UTERUS	1.778E-10	2.518E-02	2.519E-02

PERCENT DOSE EQUIVALENT..

NUCLIDE	CM-242	PU-238
TARGET		
LUNGS	99.2	0.8
RES LYM	85.7	14.3
S WALL	99.9	0.1
SI WALL	99.9	0.1
ULI WALL	99.9	0.1
LLI WALL	99.9	0.1
T BODY	84.9	15.1
ADREN	38.0	62.0
BL WALL	38.0	62.0
KIDNEYS	54.7	45.3
LIVER	54.7	45.3
OVARIES	49.5	50.5
PANCREAS	38.0	62.0
BONE	49.6	50.4
R MAR	49.1	50.9
Y MAR	38.0	62.0
ENDOST	45.0	55.0
SPLEEN	38.0	62.0
TESTES	49.6	50.4
THYMUS	38.0	62.0
THYROID	38.0	62.0
UTERUS	38.0	62.0

CASE 2.. INHALATION

AMAD (MICRON).. 1.00 D3 =0.310 D4 =8.000E-02 D5 =0.249

	SOLUBILITY CLASS	G.I. UPTAKE FRACTIONS STOMACH	S INT	U L INT	L L INT
CM-242	W	0.0	1.000E-03	0.0	0.0
PU-238	W	0.0	3.000E-05	0.0	0.0

DOSE EQUIVALENT (REM/MICRCCURIE)

SOURCE	LUNGS	RES LYM	S CONT	SI CONT	ULI CONT	LLI CONT	EXCRET.	BONE	LIVER	KIDNEYS	TESTES
TARGET											
LUNGS	27.9	2.359E-04	7.339E-10	8.291E-11	3.088E-10	1.786E-10	1.424E-04	3.875E-07	3.370E-06	2.903E-09	2.183E-13
RES LYM	3.856E-03	113.	7.339E-10	8.291E-11	3.088E-10	1.786E-10	1.424E-04	3.875E-07	3.370E-06	2.903E-09	2.183E-13
S WALL	6.858E-07	4.194E-08	1.301E-03	1.338E-08	7.533E-08	6.557E-09	1.424E-04	2.932E-07	8.184E-07	7.224E-09	2.200E-12
SI WALL	7.701E-09	4.707E-10	8.840E-10	3.251E-03	1.035E-06	1.037E-06	1.424E-04	3.277E-07	4.093E-07	5.995E-09	1.947E-11
ULI WALL	9.228E-09	5.642E-10	2.549E-09	3.120E-06	1.914E-02	8.613E-07	1.424E-04	4.210E-07	5.537E-07	5.479E-09	1.667E-11
LLI WALL	2.302E-09	1.407E-10	1.581E-10	3.374E-07	8.545E-08	5.726E-02	1.424E-04	1.213E-06	1.196E-08	1.043E-09	2.962E-10
T BODY	0.398	2.432E-02	2.816E-06	2.972E-05	5.776E-05	1.316E-04	1.832E-04	3.31	0.631	1.403E-02	5.157E-04
ADREN	1.441E-06	8.810E-08	3.783E-10	3.998E-10	1.400E-09	7.389E-10	1.424E-04	8.292E-07	4.509E-06	9.048E-07	9.616E-13
BL WALL	1.190E-09	7.274E-11	2.713E-11	1.305E-09	3.593E-09	3.161E-08	1.424E-04	3.761E-08	8.986E-09	3.126E-10	3.466E-10
KIDNEYS	4.287E-08	2.621E-09	4.955E-10	1.675E-09	4.818E-09	2.290E-09	1.424E-04	6.064E-07	1.783E-06	3.17	2.245E-12
LIVER	1.570E-06	9.600E-08	7.935E-10	3.144E-09	9.530E-09	5.529E-10	1.424E-04	2.714E-07	24.5	2.499E-08	1.477E-12
OVARIES	3.743E-09	2.289E-10	8.285E-11	1.437E-07	6.655E-07	2.496E-06	1.424E-04	1.013E-07	3.633E-08	1.847E-09	0.0
PANCREAS	1.613E-07	9.867E-09	2.364E-08	1.010E-09	3.327E-09	1.693E-09	1.424E-04	7.500E-07	2.868E-06	1.516E-08	1.574E-12
BONE	6.244E-07	3.818E-08	3.104E-10	5.714E-09	1.011E-08	5.970E-08	7.105E-04	46.4	7.255E-07	1.399E-08	1.303E-10
R MAR	6.271E-07	3.835E-08	3.289E-10	2.167E-08	3.061E-08	2.305E-07	1.424E-04	7.63	6.950E-07	3.185E-08	5.921E-11
Y MAR	7.306E-07	4.468E-08	3.433E-10	7.388E-09	1.091E-08	7.781E-08	1.424E-04	1.113E-04	9.869E-07	1.490E-08	2.440E-11
ENDOST	5.719E-07	3.497E-08	2.364E-10	5.246E-09	7.986E-09	5.579E-08	1.424E-04	85.0	6.690E-07	1.237E-08	7.751E-11
SPLEEN	8.255E-07	5.049E-08	1.957E-09	7.052E-10	2.398E-09	2.530E-09	1.424E-04	1.193E-06	6.958E-08	2.501E-07	1.222E-12
TESTES	2.517E-10	1.538E-11	4.728E-12	1.248E-10	1.033E-09	9.199E-09	1.424E-04	5.641E-08	2.308E-09	7.792E-11	1.03
THYMUS	4.874E-07	2.981E-08	4.872E-11	1.912E-11	6.867E-11	7.926E-11	1.424E-04	5.428E-07	4.137E-08	2.467E-10	8.768E-14
THYROID	3.898E-08	2.384E-09	5.344E-12	3.611E-12	1.171E-11	8.611E-12	1.424E-04	2.969E-07	4.387E-09	3.659E-11	2.569E-14
UTERUS	3.251E-09	1.989E-10	6.681E-11	1.995E-09	1.020E-08	2.506E-08	1.424E-04	3.745E-08	2.633E-08	1.150E-09	0.0

DOSE EQUIVALENT (REM/MICRCCURIE)

SOURCE	OVARIES	OTHER	TOTAL
TARGET			
LUNGS	8.746E-13	7.387E-07	27.9
RES LYM	8.746E-13	7.387E-07	113.
S WALL	1.485E-11	1.487E-07	1.446E-03
SI WALL	6.048E-09	2.389E-07	3.396E-03
ULI WALL	1.763E-08	5.648E-07	1.929E-02
LLI WALL	2.122E-08	1.669E-07	5.740E-02
T BODY	1.621E-04	7.436E-02	4.45
ADREN	4.945E-12	0.153	0.153
BL WALL	2.041E-10	7.661E-02	7.675E-02
KIDNEYS	1.695E-11	4.779E-07	3.17
LIVER	8.928E-12	2.082E-07	24.5
OVARIES	1.03	9.802E-07	1.03
PANCREAS	7.200E-12	0.153	0.153
BONE	7.761E-11	1.173E-06	46.4
R MAR	2.444E-10	0.153	7.78
Y MAR	8.656E-11	0.153	0.154
ENDOST	6.010E-11	1.365E-05	85.0
SPLEEN	7.425E-12	0.153	0.153
TESTES	0.0	1.351E-07	1.03
THYMUS	2.246E-13	0.153	0.153
THYROID	4.838E-14	0.153	0.153
UTERUS	1.378E-09	0.153	0.153

PERCENT DOSE EQUIVALENT..

NUCLIDE	CM-242	PU-238
TARGET		
LUNGS	99.9	0.1
RES LYM	99.7	0.3
S WALL	100.0	0.0
SI WALL	100.0	0.0
ULI WALL	100.0	0.0
LLI WALL	100.0	0.0
T BODY	81.2	18.8
ADREN	77.6	22.4
BL WALL	77.7	22.3
KIDNEYS	82.0	18.0
LIVER	82.1	17.9
OVARIES	78.6	21.4
PANCREAS	77.6	22.4
BONE	78.7	21.3
R MAR	78.6	21.4
Y MAR	77.6	22.4
ENDOST	75.5	24.5
SPLEEN	77.6	22.4
TESTES	78.7	21.3
THYMUS	77.6	22.4
THYROID	77.6	22.4
UTERUS	77.6	22.4

CASE 3.. INGESTION

INGESTION TRANSFER FRACTIONS (G. I. TRACT TO BLOOD)

	CM-242	PU-238
STOMACH	0.0	0.0
S INT	1.000E-03	3.000E-05
U L INT	0.0	0.0
L L INT	0.0	0.0

DOSE EQUIVALENT (REM/MICROCURIE)

SOURCE	S CONT	SI CONT	ULI CONT	LLI CONT	EXCRET.	BONE	LIVER	KIDNEYS	TESTES	OVARIES	OTHER
TARGET											
LUNGS	1.487E-09	1.680E-10	6.257E-10	3.619E-10	1.325E-06	3.542E-09	3.092E-08	2.662E-11	2.023E-15	8.051E-15	6.662E-09
RES LYM	1.487E-09	1.680E-10	6.257E-10	3.619E-10	1.325E-06	3.542E-09	3.092E-08	2.662E-11	2.023E-15	8.051E-15	6.662E-09
S WALL	2.637E-03	2.712E-08	1.527E-07	1.329E-09	1.325E-06	2.680E-09	7.502E-09	6.622E-11	2.029E-14	1.361E-13	1.343E-09
SI WALL	1.791E-09	6.588E-03	2.058E-06	2.102E-06	1.325E-06	2.995E-09	3.753E-09	5.498E-11	1.788E-13	5.535E-11	2.157E-09
ULI WALL	5.166E-09	6.321E-06	3.878E-02	1.745E-06	1.325E-06	3.848E-09	5.076E-09	5.025E-11	1.531E-13	1.614E-10	5.087E-09
LLI WALL	3.204E-10	6.837E-07	1.732E-07	0.116	1.325E-06	1.109E-08	1.101E-10	9.581E-12	2.720E-12	1.943E-10	1.508E-09
T BODY	5.707E-06	6.022E-05	1.171E-04	2.668E-04	1.704E-06	3.024E-02	5.789E-03	1.286E-04	4.714E-06	1.482E-06	6.705E-04
ADREN	7.665E-10	8.101E-10	2.837E-09	1.497E-09	1.325E-06	7.580E-09	4.133E-08	8.303E-09	8.891E-15	4.540E-14	1.382E-03
BL WALL	5.499E-11	2.645E-09	7.282E-09	6.406E-08	1.325E-06	3.444E-10	8.289E-11	2.883E-12	3.157E-12	1.864E-12	6.907E-04
KIDNEYS	1.004E-09	3.394E-09	9.763E-09	4.641E-09	1.325E-06	5.544E-09	1.635E-08	2.902E-02	2.075E-14	1.554E-13	4.314E-09
LIVER	1.608E-09	6.371E-09	1.931E-08	1.121E-09	1.325E-06	2.482E-09	0.225	2.291E-10	1.364E-14	8.185E-14	1.880E-09
OVARIES	1.679E-10	2.911E-07	1.349E-06	5.057E-06	1.325E-06	9.256E-10	3.337E-10	1.695E-11	0.0	9.418E-03	8.844E-09
PANCREAS	4.791E-08	2.046E-09	6.743E-09	3.431E-09	1.325E-06	6.856E-09	2.629E-08	1.390E-10	1.453E-14	6.614E-14	1.382E-03
BONE	6.291E-10	1.158E-08	2.050E-08	1.210E-07	6.610E-06	0.424	6.661E-09	1.284E-10	1.200E-12	7.108E-13	1.056E-08
R MAR	6.665E-10	4.392E-08	6.203E-08	4.671E-07	1.325E-06	6.974E-02	6.374E-09	2.917E-10	5.414E-13	2.229E-12	1.382E-03
Y MAR	6.957E-10	1.497E-08	2.212E-08	1.577E-07	1.325E-06	1.017E-06	9.052E-09	1.365E-10	2.231E-13	7.896E-13	1.382E-03
ENDOST	4.791E-10	1.063E-08	1.612E-08	1.130E-07	1.325E-06	0.775	6.136E-09	1.133E-10	7.093E-13	5.480E-13	1.225E-07
SPLEEN	3.966E-09	1.429E-09	4.860E-09	5.127E-09	1.325E-06	1.091E-08	6.389E-10	2.292E-09	1.130E-14	6.813E-14	1.382E-03
TESTES	9.582E-12	2.529E-10	2.093E-09	1.864E-08	1.325E-06	5.183E-10	2.133E-11	7.200E-13	9.426E-03	0.0	1.221E-09
THYMUS	9.873E-11	3.876E-11	1.392E-10	1.606E-10	1.325E-06	4.963E-09	3.799E-10	2.270E-12	8.133E-16	2.076E-15	1.382E-03
THYROID	1.083E-11	7.320E-12	2.373E-11	1.745E-11	1.325E-06	2.715E-09	4.047E-11	3.383E-13	2.387E-16	4.485E-16	1.382E-03
UTERUS	1.354E-10	4.042E-08	2.066E-08	5.077E-08	1.325E-06	3.425E-10	2.422E-10	1.057E-11	0.0	1.259E-11	1.382E-03

DOSE EQUIVALENT (REM/MICROCURIE)

SOURCE	TOTAL
TARGET	
LUNGS	1.369E-06
RES LYM	1.369E-06
S WALL	2.639E-03
SI WALL	6.593E-03
ULI WALL	3.879E-02
LLI WALL	0.116
T BODY	3.728E-02
ADREN	1.383E-03
BL WALL	6.921E-04
KIDNEYS	2.902E-02
LIVER	0.225
OVARIES	9.426E-03
PANCREAS	1.383E-03
BONE	0.424
R MAR	7.112E-02
Y MAR	1.384E-03
ENDOST	0.775
SPLEEN	1.383E-03
TESTES	9.427E-03
THYMUS	1.383E-03
THYROID	1.383E-03
UTERUS	1.383E-03

PERCENT DOSE EQUIVALENT..

NUCLIDE	CM-242	PU-238
TARGET		
LUNGS	99.5	0.5
RES LYM	99.5	0.5
S WALL	100.0	0.0
SI WALL	100.0	0.0
ULI WALL	100.0	0.0
LLI WALL	100.0	0.0
T BODY	80.8	19.2
ADREN	80.1	19.9
BL WALL	80.1	19.9
KIDNEYS	83.3	16.7
LIVER	83.3	16.7
OVARIES	80.1	19.9
PANCREAS	80.1	19.9
BONE	80.1	19.9
R MAR	80.0	20.0
Y MAR	80.1	19.9
ENDOST	77.0	23.0
SPLEEN	80.1	19.9
TESTES	80.1	19.9
THYMUS	80.1	19.9
THYROID	80.1	19.9
UTERUS	80.1	19.9

RADIONUCLIDE: CM-243

PHYSICAL AND METABOLIC PARAMETERS FOR DOSIMETRICALLY SIGNIFICANT PROGENY:

NUCLIDE	RADIOACTIVE HALF-LIFE (DAYS)
CM-243	1.0400E 04

ORGAN ABSORBED	NUCLIDE	BLOOD TRANSFER FRACTION F2-PRIME	COMPARTMENT DEPOSITION FRACTION	COMPARTMENT BIOLOGICAL HALF-TIME (DAYS)
		1.00	4.000E-02	0.500
			0.460	1.460E 04
			0.500	3.650E 04
EXCRET.	CM-243	4.000E-02	1.00	0.500
BONE	CM-243	0.450	1.00	3.650E 04
LIVER	CM-243	0.450	1.00	1.460E 04
KIDNEYS	CM-243	1.000E-02	1.00	1.460E 04
TESTES	CM-243	3.500E-04	1.00	3.650E 04
OVARIES	CM-243	1.100E-04	1.00	3.650E 04
OTHER	CM-243	5.000E-02	1.00	3.650E 04

S FACTORS (REM/MICROCURIE-DAY) FOR CM-243

TARGET ORGANS	SOURCE ORGANS													
	LUNGS	RES LYM	S CONT	SI CONT	ULI CONT	LLI CONT	EXCRET.	BONE	LIVER	KIDNEYS	TESTES	OVARIES	OTHER
LUNGS	0.309E 01	0.697E-02	0.407E-04	0.562E-05	0.639E-05	0.195E-05	0.442E-01	0.226E-04	0.596E-04	0.201E-04	0.204E-06	0.159E-05	0.307E-04
RES LYM	0.697E-02	0.236E 03	0.407E-04	0.562E-05	0.639E-05	0.195E-05	0.442E-01	0.226E-04	0.596E-04	0.201E-04	0.204E-06	0.159E-05	0.307E-04
S WALL	0.436E-04	0.436E-04	0.738E-01	0.863E-04	0.890E-04	0.417E-04	0.442E-01	0.133E-04	0.444E-04	0.325E-04	0.133E-05	0.133E-04	0.308E-04
SI WALL	0.468E-05	0.468E-05	0.627E-04	0.462E-01	0.407E-03	0.228E-03	0.442E-01	0.176E-04	0.386E-04	0.674E-04	0.614E-05	0.280E-03	0.316E-04
ULI WALL	0.569E-05	0.569E-05	0.830E-04	0.732E-03	0.935E-01	0.107E-03	0.442E-01	0.166E-04	0.589E-04	0.675E-04	0.761E-05	0.383E-03	0.320E-04
LLI WALL	0.192E-05	0.192E-05	0.288E-04	0.188E-03	0.746E-04	0.136E 00	0.442E-01	0.246E-04	0.564E-05	0.179E-04	0.645E-04	0.347E-03	0.387E-04
T BODY	0.442E-01	0.442E-01	0.202E-03	0.466E-03	0.298E-03	0.358E-03	0.564E-01	0.220E 00	0.442E-01	0.443E-01	0.443E-01	0.443E-01	0.443E-01
ADREN	0.615E-04	0.615E-04	0.607E-04	0.280E-04	0.217E-04	0.929E-05	0.442E-01	0.280E-04	0.111E-01	0.367E-03	0.919E-06	0.853E-05	0.806E-01
BL WALL	0.101E-05	0.101E-05	0.648E-05	0.628E-04	0.510E-04	0.157E-03	0.442E-01	0.121E-04	0.412E-05	0.704E-05	0.113E-03	0.166E-03	0.165E-01
KIDNEYS	0.205E-04	0.205E-04	0.818E-04	0.742E-04	0.660E-04	0.207E-04	0.442E-01	0.203E-04	0.921E-04	0.997E 01	0.111E-05	0.224E-04	0.332E-04
LIVER	0.582E-04	0.582E-04	0.472E-04	0.433E-04	0.627E-05	0.442E-01	0.137E-04	0.172E 01	0.910E-04	0.930E-06	0.131E-04	0.246E-04
OVARIES	0.251E-05	0.251E-05	0.113E-04	0.254E-03	0.286E-03	0.446E-03	0.442E-01	0.174E-04	0.102E-04	0.271E-04	0.0	0.241E-03	0.472E-04
PANCREAS	0.608E-04	0.608E-04	0.426E-03	0.493E-04	0.543E-04	0.172E-04	0.442E-01	0.217E-04	0.992E-04	0.153E-03	0.137E-05	0.114E-04	0.307E-01
BONE	0.320E-04	0.320E-04	0.156E-04	0.273E-04	0.245E-04	0.353E-04	0.220E 00	0.309E 01	0.243E-04	0.313E-04	0.303E-04	0.328E-04	0.385E-04
R MAR	0.406E-04	0.406E-04	0.349E-04	0.917E-04	0.795E-04	0.110E-03	0.442E-01	0.510E 00	0.352E-04	0.819E-04	0.141E-04	0.115E-03	0.906E-01
Y MAR	0.331E-04	0.331E-04	0.274E-04	0.383E-04	0.352E-04	0.437E-04	0.442E-01	0.121E-03	0.360E-04	0.384E-04	0.761E-05	0.442E-04	0.906E-01
ENDOST	0.320E-04	0.320E-04	0.156E-04	0.273E-04	0.245E-04	0.353E-04	0.442E-01	0.586E 01	0.243E-04	0.313E-04	0.303E-04	0.328E-04	0.385E-04
SPLEEN	0.539E-04	0.539E-04	0.234E-03	0.361E-04	0.332E-04	0.190E-04	0.442E-01	0.150E-04	0.218E-04	0.255E-03	0.600E-06	0.123E-04	0.906E-01
TESTES	0.252E-06	0.252E-06	0.122E-05	0.763E-05	0.717E-05	0.436E-04	0.442E-01	0.148E-04	0.171E-05	0.239E-05	0.841E-02	0.0	0.362E-04
THYMUS	0.984E-04	0.984E-04	0.603E-05	0.219E-05	0.260E-05	0.765E-06	0.442E-01	0.126E-04	0.166E-04	0.515E-05	0.902E-07	0.765E-04	0.902E-01
THYROID	0.219E-04	0.219E-04	0.238E-05	0.453E-06	0.496E-06	0.175E-06	0.442E-01	0.201E-04	0.399E-05	0.134E-05	0.211E-07	0.161E-06	0.906E-01
UTERUS	0.204E-05	0.204E-05	0.187E-04	0.222E-03	0.120E-03	0.163E-03	0.442E-01	0.137E-04	0.924E-05	0.226E-04	0.0	0.492E-03	0.907E-01

α decay (28.5 Y 2)

Case 1 represents inhalation of oxides, hydroxides, and carbides; case 2 inhalation of nitrates; and case 3 ingestion of any compound.

CASE 1.. INHALATION

AMAD (MICRON).. 1.00 D3 =0.310 D4 =8.000E-02 D5 =0.249

	SOLUBILITY CLASS	G.I. UPTAKE FRACTIONS STOMACH	S INT	U L INT	L L INT
CM-243	Y	0.0	1.000E-03	0.0	0.0

DOSE EQUIVALENT (REM/MICROCURIE)

SOURCE	LUNGS	RES LYM	S CONT	SI CONT	ULI CONT	LLI CONT	EXCRET.	BONE	LIVER	KIDNEYS	TESTES
TARGET											
LUNGS	319.	0.574	9.848E-07	5.434E-07	2.008E-06	1.131E-06	5.816E-05	4.219E-03	9.280E-03	6.955E-05	2.962E-08
RES LYM	0.719	1.697E 04	9.848E-07	5.434E-07	2.008E-06	1.131E-06	5.816E-05	4.219E-03	9.280E-03	6.955E-05	2.962E-08
S WALL	4.500E-03	3.592E-03	1.786E-03	8.344E-06	2.797E-05	2.419E-05	5.816E-05	2.483E-02	6.913E-03	2.855E-04	1.495E-07
SI WALL	4.830E-04	3.856E-04	1.517E-06	4.467E-03	1.279E-04	1.323E-04	5.816E-05	3.285E-03	6.010E-03	2.332E-04	1.327E-06
ULI WALL	5.873E-04	4.688E-04	2.008E-06	7.078E-05	2.624E-02	6.207E-05	5.816E-05	3.099E-03	9.171E-03	2.336E-04	1.106E-06
LLI WALL	1.982E-04	1.582E-04	6.969E-07	1.818E-05	2.344E-05	7.889E-02	5.816E-05	4.592E-03	8.782E-04	6.194E-05	9.365E-06
T BODY	4.56	3.64	4.888E-06	4.506E-05	9.364E-05	2.077E-04	7.474E-05	41.1	6.88	0.153	6.417E-03
ADREN	6.348E-03	5.067E-03	1.469E-06	2.707E-06	6.819E-06	5.383E-06	5.816E-05	5.227E-03	1.728E-02	9.239E-04	1.334E-07
BL WALL	1.042E-04	8.321E-05	1.568E-07	6.072E-06	1.603E-05	9.107E-05	5.816E-05	2.259E-03	6.415E-04	2.436E-05	1.641E-05
KIDNEYS	2.116E-03	1.689E-03	1.979E-06	7.174E-06	2.074E-05	1.201E-05	5.816E-05	3.789E-03	1.434E-02	34.5	1.713E-07
LIVER	6.007E-03	4.795E-03	1.142E-06	4.187E-06	1.898E-05	3.637E-06	5.816E-05	2.931E-03	268.	3.149E-04	1.205E-07
OVARIES	2.591E-04	2.068E-04	2.734E-07	2.456E-05	8.987E-05	2.587E-04	5.816E-05	3.248E-03	1.588E-03	9.377E-05	0.0
PANCREAS	6.275E-03	5.009E-03	1.031E-05	4.670E-06	1.706E-05	9.977E-06	5.816E-05	4.051E-03	1.545E-02	5.294E-04	1.989E-07
BONE	3.303E-03	2.636E-03	4.743E-07	2.640E-06	7.699E-06	2.048E-05	2.895E-04	577.	3.784E-03	1.083E-04	2.933E-06
R MAR	4.190E-03	3.345E-03	8.445E-07	8.866E-06	2.467E-05	6.381E-05	5.816E-05	95.2	5.481E-03	2.830E-04	2.338E-06
Y MAR	3.416E-03	2.727E-03	6.630E-07	3.703E-06	1.106E-05	2.535E-05	5.816E-05	2.259E-02	5.605E-03	1.329E-04	1.105E-06
ENDOST	3.303E-03	2.636E-03	4.743E-07	2.640E-05	7.699E-06	2.048E-05	5.816E-05	1.094E 03	3.784E-03	1.083E-04	2.933E-06
SPLEEN	5.563E-03	4.441E-03	5.662E-06	3.491E-06	1.043E-05	1.102E-05	5.816E-05	2.800E-03	3.394E-03	7.093E-04	1.005E-07
TESTES	2.601E-05	2.076E-05	2.952E-08	7.377E-07	2.253E-06	2.529E-05	5.816E-05	2.763E-03	2.663E-04	8.235E-06	12.8
THYMUS	1.016E-02	8.107E-03	1.459E-07	2.118E-07	8.170E-07	4.438E-07	5.816E-05	2.352E-03	2.585E-03	1.782E-05	1.310E-08
THYROID	2.250E-03	1.796E-03	5.759E-08	4.380E-08	1.559E-07	1.015E-07	5.816E-05	3.752E-03	6.213E-04	4.637E-06	3.063E-09
UTERUS	2.106E-04	1.681E-04	4.525E-07	2.147E-05	3.771E-05	9.455E-05	5.816E-05	2.557E-03	1.439E-03	7.820E-05	0.0

DOSE EQUIVALENT (REM/MICROCURIE)

SOURCE	OVARIES	OTHER	TOTAL
TARGET			
LUNGS	7.255E-08	6.368E-04	320.
RES LYM	7.255E-08	6.368E-04	1.697E 04
S WALL	8.670E-07	6.388E-04	2.032E-02
SI WALL	1.319E-05	7.384E-04	1.594E-02
ULI WALL	1.291E-05	7.674E-04	4.077E-02
LLI WALL	1.675E-05	8.027E-04	8.571E-02
T BODY	2.017E-03	0.913	57.2
ADREN	3.920E-07	1.88	1.91
BL WALL	7.575E-06	0.940	0.943
KIDNEYS	1.022E-06	7.031E-04	34.5
LIVER	5.978E-07	5.102E-04	268.
OVARIES	12.8	9.790E-04	12.8
PANCREAS	5.384E-07	1.88	1.91
BONE	1.497E-06	7.985E-04	577.
R MAR	5.248E-06	1.88	97.1
Y MAR	2.017E-06	1.88	1.91
ENDOST	1.497E-06	2.759E-03	1.094E 03
SPLEEN	5.613E-07	1.88	1.90
TESTES	0.0	5.434E-04	12.8
THYMUS	3.491E-08	1.88	1.90
THYROID	7.529E-09	1.88	1.89
UTERUS	2.199E-05	1.88	1.89

CASE 2.. INHALATION

AMAD (MICRON).. 1.00 D3 =0.310 D4 =8.000E-02 D5 =0.249

	SOLUBILITY CLASS	G.I. UPTAKE FRACTIONS STOMACH	S INT	U L INT	L L INT
CM-243	W	0.0	1.000E-03	0.0	0.0

DOSE EQUIVALENT (REM/MICROCURIE)

SOURCE	LUNGS	RES LYM	S CONT	SI CONT	ULI CONT	LLI CONT	EXCRET.	BONE	LIVER	KIDNEYS	TESTES
TARGET											
LUNGS	34.3	6.204E-03	8.781E-07	4.845E-07	1.790E-06	1.009E-06	1.544E-04	1.136E-02	2.490E-02	1.866E-04	7.977E-08
RES LYM	7.741E-02	183.	8.781E-07	4.845E-07	1.790E-06	1.009E-06	1.544E-04	1.136E-02	2.490E-02	1.866E-04	7.977E-08
S WALL	4.842E-04	3.881E-05	1.592E-03	7.440E-06	2.494E-05	2.157E-05	1.544E-04	6.687E-03	1.855E-02	7.660E-04	4.028E-07
SI WALL	5.198E-05	4.165E-06	1.353E-06	3.983E-03	1.140E-04	1.179E-04	1.544E-04	8.849E-03	1.613E-02	6.258E-04	3.574E-06
ULI WALL	6.320E-05	5.064E-06	1.791E-06	6.311E-05	2.340E-02	5.534E-05	1.544E-04	8.346E-03	2.461E-02	6.267E-04	2.980E-06
LLI WALL	2.132E-05	1.709E-06	6.214E-07	1.621E-05	2.090E-05	7.034E-02	1.544E-04	1.237E-02	2.357E-03	1.662E-04	2.522E-05
T BODY	0.491	3.934E-02	4.358E-06	4.017E-05	8.349E-05	1.852E-04	1.984E-04	111.	18.5	0.410	1.723E-02
ADREN	6.831E-04	5.474E-05	1.310E-06	2.414E-06	6.080E-06	4.800E-06	1.544E-04	1.408E-02	4.638E-02	2.479E-03	3.594E-07
BL WALL	1.122E-05	8.989E-07	1.398E-07	5.414E-06	1.429E-05	8.120E-05	1.544E-04	6.084E-03	1.721E-03	6.537E-05	4.419E-05
KIDNEYS	2.277E-04	1.825E-05	1.765E-06	6.397E-06	1.849E-05	1.071E-05	1.544E-04	1.021E-02	3.848E-02	92.6	4.614E-07
LIVER	6.464E-04	5.180E-05	1.018E-06	3.733E-06	1.692E-05	3.243E-06	1.544E-04	7.894E-03	719.	8.449E-04	3.246E-07
OVARIES	2.788E-05	2.234E-06	2.438E-07	2.190E-05	8.013E-05	2.307E-04	1.544E-04	8.748E-03	4.262E-03	2.516E-04	0.0
PANCREAS	6.753E-04	5.411E-05	9.191E-06	4.164E-06	1.521E-05	8.896E-06	1.544E-04	1.091E-02	4.145E-02	1.421E-03	5.357E-07
BONE	3.554E-04	2.848E-05	4.229E-07	2.354E-06	6.864E-06	1.826E-05	7.684E-04	1.554E 03	1.015E-02	2.906E-04	7.899E-06
R MAR	4.509E-04	3.614E-05	7.530E-07	7.906E-06	2.199E-05	5.689E-05	1.544E-04	256.	1.471E-02	7.595E-04	6.296E-06
Y MAR	3.676E-04	2.946E-05	5.911E-07	3.302E-06	9.862E-06	2.260E-05	1.544E-04	6.084E-02	1.504E-02	3.565E-04	2.976E-06
ENDOST	3.554E-04	2.848E-05	4.229E-07	2.354E-06	6.864E-06	1.826E-05	1.544E-04	2.946E 03	1.015E-02	2.906E-04	7.899E-06
SPLEEN	5.986E-04	4.797E-05	5.049E-06	3.112E-06	9.302E-06	9.827E-06	1.544E-04	7.542E-03	9.109E-03	1.903E-03	2.706E-07
TESTES	2.799E-06	2.243E-07	2.632E-08	6.578E-07	2.009E-06	2.255E-05	1.544E-04	7.441E-03	7.145E-04	2.210E-05	34.5
THYMUS	1.093E-03	8.758E-05	1.301E-07	1.888E-07	7.285E-07	3.957E-07	1.544E-04	6.335E-03	6.936E-03	4.782E-05	3.527E-08
THYROID	2.421E-04	1.940E-05	5.135E-08	3.905E-08	1.390E-07	9.051E-08	1.544E-04	1.011E-02	1.667E-03	1.244E-05	8.251E-09
UTERUS	2.266E-05	1.816E-06	4.034E-07	1.914E-05	3.362E-05	8.431E-05	1.544E-04	6.888E-03	3.861E-03	2.098E-04	0.0

DOSE EQUIVALENT (REM/MICROCURIE)

SOURCE	OVARIES	OTHER	TOTAL
TARGET			
LUNGS	1.954E-07	1.715E-03	34.4
RES LYM	1.954E-07	1.715E-03	183.
S WALL	2.335E-06	1.721E-03	3.005E-02
SI WALL	3.552E-05	1.989E-03	3.206E-02
ULI WALL	3.478E-05	2.067E-03	5.943E-02
LLI WALL	4.511E-05	2.162E-03	6.768E-02
T BODY	5.432E-03	2.46	133.
ADREN	1.056E-06	5.06	5.13
BL WALL	2.040E-05	2.53	2.54
KIDNEYS	2.753E-06	1.394E-03	92.6
LIVER	1.610E-06	1.374E-03	719.
OVARIES	34.5	2.637E-03	34.6
PANCREAS	1.450E-06	5.07	5.12
BONE	4.031E-06	2.151E-03	1.554E 03
R MAR	1.413E-05	5.06	261.
Y MAR	5.432E-06	5.06	5.14
ENDOST	4.031E-06	7.430E-03	2.946E 03
SPLEEN	1.512E-06	5.06	5.08
TESTES	0.0	1.464E-03	34.5
THYMUS	9.402E-08	5.07	5.08
THYROID	2.028E-08	5.06	5.07
UTERUS	5.924E-05	5.07	5.08

CASE 3.. INGESTION

INGESTION TRANSFER FRACTIONS (G. I. TRACT TO BLOOD)

	CM-243
STOMACH	0.0
S INT	1.000E-03
U L INT	0.0
L L INT	0.0

DOSE EQUIVALENT (REM/MICROCURIE)

SOURCE	S CONT	SI CONT	ULI CONT	LLI CONT	EXCRET.	BONE	LIVER	KIDNEYS	TESTES	OVARIES	OTHER
TARGET											
LUNGS	1.696E-06	9.357E-07	3.458E-06	1.948E-06	1.275E-06	9.387E-05	2.057E-04	1.542E-06	6.590E-10	1.614E-09	1.417E-05
RES LYM	1.696E-06	9.357E-07	3.458E-06	1.948E-06	1.275E-06	9.387E-05	2.057E-04	1.542E-06	6.590E-10	1.614E-09	1.417E-05
S WALL	3.075E-03	1.437E-05	4.816E-05	4.165E-05	1.275E-06	5.524E-05	1.533E-04	6.328E-06	3.327E-09	1.929E-08	1.421E-05
SI WALL	2.612E-06	7.692E-03	2.202E-04	2.277E-04	1.275E-06	7.310E-05	1.332E-04	5.170E-06	2.953E-08	2.934E-07	1.643E-05
ULI WALL	3.458E-06	1.219E-04	4.518E-02	1.069E-04	1.275E-06	6.895E-05	2.033E-04	5.178E-06	2.462E-08	2.873E-07	1.708E-05
LLI WALL	1.200E-06	3.130E-05	4.037E-05	0.136	1.275E-06	1.022E-04	1.947E-05	1.373E-06	2.084E-07	3.726E-07	1.786E-05
T BODY	8.417E-06	7.759E-05	1.612E-04	3.576E-04	1.639E-06	0.914	0.153	3.390E-03	1.428E-04	4.488E-05	2.031E-02
ADREN	2.529E-06	4.662E-06	1.174E-05	9.270E-06	1.275E-06	1.163E-04	3.831E-04	2.048E-05	2.969E-09	8.722E-09	4.181E-02
BL WALL	2.700E-07	1.046E-05	2.760E-05	1.569E-04	1.275E-06	5.026E-05	1.422E-05	5.400E-07	3.651E-07	1.685E-07	2.091E-02
KIDNEYS	3.408E-06	1.235E-05	3.571E-05	2.068E-05	1.275E-06	8.432E-05	3.179E-04	0.765	3.812E-09	2.274E-08	1.565E-05
LIVER	1.967E-06	7.209E-06	3.268E-05	6.263E-06	1.275E-06	6.521E-05	5.94	6.980E-06	2.681E-09	1.330E-08	1.135E-05
OVARIES	4.708E-07	4.229E-05	1.548E-04	4.455E-04	1.275E-06	7.227E-05	3.521E-05	2.079E-06	0.0	0.285	2.178E-05
PANCREAS	1.775E-05	8.042E-06	2.938E-05	1.718E-05	1.275E-06	9.013E-05	3.424E-04	1.174E-05	4.426E-09	1.198E-08	4.186E-02
BONE	8.167E-07	4.545E-06	1.326E-05	3.526E-05	6.347E-06	12.8	8.388E-05	2.401E-06	6.526E-08	3.330E-08	1.777E-05
R MAR	1.454E-06	1.527E-05	4.248E-05	1.099E-04	1.275E-06	2.12	1.215E-04	6.275E-06	5.201E-08	1.168E-07	4.181E-02
Y MAR	1.142E-06	6.377E-06	1.905E-05	4.365E-05	1.275E-06	5.026E-04	1.243E-04	2.945E-06	2.458E-08	4.488E-08	4.181E-02
ENDOST	8.167E-07	4.545E-06	1.326E-05	3.526E-05	1.275E-06	24.3	8.388E-05	2.401E-06	6.526E-08	3.330E-08	6.138E-05
SPLEEN	9.750E-06	6.011E-06	1.796E-05	1.898E-05	1.275E-06	6.230E-05	7.525E-05	1.572E-05	2.236E-09	1.249E-08	4.181E-02
TESTES	5.083E-08	1.270E-06	3.880E-06	4.355E-05	1.275E-06	6.147E-05	5.902E-06	1.826E-07	0.285	0.0	1.209E-05
THYMUS	2.512E-07	3.646E-07	1.407E-06	7.641E-07	1.275E-06	5.233E-05	5.730E-05	3.950E-07	2.914E-10	7.767E-10	4.186E-02
THYROID	9.917E-08	7.542E-08	2.684E-07	1.748E-07	1.275E-06	8.349E-05	1.377E-05	1.029E-07	6.816E-11	1.675E-10	4.181E-02
UTERUS	7.792E-07	3.696E-05	6.493E-05	1.628E-04	1.275E-06	5.690E-05	3.189E-05	1.734E-06	0.0	4.894E-07	4.186E-02

DOSE EQUIVALENT (REM/MICROCURIE)

SOURCE	TOTAL
TARGET	
LUNGS	3.246E-04
RES LYM	3.246E-04
S WALL	3.410E-03
SI WALL	8.372E-03
ULI WALL	4.571E-02
LLI WALL	0.136
T BODY	1.09
ADREN	4.236E-02
BL WALL	2.117E-02
KIDNEYS	0.765
LIVER	5.94
OVARIES	0.286
PANCREAS	4.238E-02
BONE	12.8
R MAR	2.16
Y MAR	4.251E-02
ENDOST	24.3
SPLEEN	4.202E-02
TESTES	0.285
THYMUS	4.197E-02
THYROID	4.191E-02
UTERUS	4.222E-02

RADIONUCLIDE: CM-244

PHYSICAL AND METABOLIC PARAMETERS FOR DOSIMETRICALLY SIGNIFICANT PROGENY:

NUCLIDE	RADIOACTIVE HALF-LIFE (DAYS)
CM-244	6610.

ORGAN ABSORBED	NUCLIDE	BLOOD TRANSFER FRACTION F2-PRIME	COMPARTMENT DEPOSITION FRACTION	COMPARTMENT BIOLOGICAL HALF-TIME (DAYS)
	CM-244	1.00	4.000E-02	0.500
			0.460	1.460E 04
			0.500	3.650E 04
EXCRET.	CM-244	4.000E-02	1.00	0.500
BONE	CM-244	0.450	1.00	3.650E 04
LIVER	CM-244	0.450	1.00	1.460E 04
KIDNEYS	CM-244	1.000E-02	1.00	1.460E 04
TESTES	CM-244	3.500E-04	1.00	3.650E 04
OVARIES	CM-244	1.100E-04	1.00	3.650E 04
OTHER	CM-244	5.000E-02	1.00	3.650E 04

S FACTORS (REM/MICROCURIE-DAY) FOR CM-244

TARGET ORGANS	SOURCE ORGANS												
	LUNGS	RES LYM	S CONT	SI CONT	ULI CONT	LLI CONT	EXCRET.	BONE	LIVER	KIDNEYS	TESTES	OVARIES	OTHER
LUNGS	3.306E 01	0.391E-03	0.104E-06	0.880E-08	0.792E-08	0.422E-08	0.438E-01	0.539E-07	0.251E-06	0.361E-07	0.426E-09	0.324E-08	0.465E-06
RES LYM	0.391E-03	0.204E 03	0.104E-06	0.880E-08	0.792E-08	0.422E-08	0.438E-01	0.539E-07	0.251E-06	0.361E-07	0.426E-09	0.324E-08	0.465E-06
S WALL	0.154E-06	0.154E-06	0.600E-01	0.254E-06	0.376E-06	0.644E-07	0.478E-01	0.332E-07	0.115E-06	0.121E-06	0.110E-08	0.310E-08	0.303E-07
SI WALL	0.870E-08	0.870E-08	0.135E-06	0.375E-01	0.425E-05	0.223E-05	0.438E-01	0.344E-07	0.839E-07	0.110E-06	0.191E-07	0.193E-05	0.169E-06
ULI WALL	0.891E-08	0.891E-08	0.223E-06	0.353E-04	0.682E-01	0.174E-05	0.438E-01	0.380E-07	0.114E-06	0.101E-06	0.161E-07	0.502E-05	0.356E-06
LLI WALL	0.324E-08	0.324E-08	0.447E-07	0.399E-05	0.398E-06	0.111E 00	0.478E-01	0.101E-06	0.929E-08	0.283E-07	0.294E-06	0.461E-05	0.161E-06
T BODY	0.438E-01	0.438E-01	0.135E-03	0.344E-03	0.206E-03	0.256E-03	0.563E-01	0.219E 00	0.438E-01	0.438E-01	0.438E-01	0.438E-01	0.438E-01
ADRN	0.230E-06	0.230E-06	0.962E-07	0.376E-07	0.323E-07	0.130E-07	0.478E-01	0.952E-07	0.464E-06	0.315E-05	0.156E-08	0.140E-07	0.859E-01
BL WALL	0.145E-08	0.145E-08	0.123E-07	0.900E-07	0.101E-06	0.249E-06	0.438E-01	0.173E-07	0.846E-08	0.129E-07	0.390E-07	0.256E-06	0.449E-01
KIDNEYS	0.321E-07	0.321E-07	0.122E-06	0.110E-06	0.948E-07	0.343E-07	0.438E-01	0.790E-07	0.243E-06	0.983E 01	0.376E-08	0.235E-07	0.313E-06
LIVER	0.189E-06	0.189E-06	0.550E-07	0.415E-07	0.932E-07	0.110E-07	0.478E-01	0.374E-07	0.170E 01	0.203E-06	0.231E-09	0.208E-07	0.154E-06
OVARIES	0.331E-08	0.331E-08	0.293E-07	0.193E-05	0.247E-05	0.527E-05	0.478E-01	0.205E-07	0.309E-07	0.389E-07	0.0	0.279E 03	0.611E-06
PANCREAS	0.788E-07	0.788E-07	0.163E-05	0.687E-07	0.635E-07	0.263E-07	0.438E-01	0.697E-07	0.319E-06	0.246E-06	0.225E-08	0.208E-07	0.859E-01
BONE	0.218E-06	0.218E-06	0.995E-07	0.190E-06	0.239E-06	0.291E-06	0.219E 00	0.706E 01	0.168E-06	0.213E-06	0.177E-08	0.161E-06	0.866E-06
R MAR	0.102E-06	0.102E-06	0.412E-07	0.209E-06	0.157E-06	0.528E-06	0.478E-01	0.505E 00	0.759E-07	0.892E-07	0.208E-07	0.145E-06	0.859E-01
Y MAR	0.105E-06	0.105E-06	0.354E-07	0.110E-05	0.594E-07	0.177E-06	0.438E-01	0.700E-05	0.101E-06	0.821E-07	0.102E-07	0.504E-07	0.859E-01
ENDOST	0.867E-07	0.867E-07	0.222E-07	0.694E-07	0.661E-07	0.119E-06	0.478E-01	0.589E 01	0.626E-07	0.741E-07	0.449E-07	0.249E-07	0.712E-08
SPLEEN	0.149E-06	0.149E-06	0.351E-06	0.543E-07	0.446E-07	0.320E-07	0.438E-01	0.961E-07	0.364E-07	0.195E-05	0.207E-08	0.190E-07	0.859E-01
TESTES	0.442E-09	0.442E-09	0.312E-08	0.178E-07	0.690E-07	0.202E-06	0.438E-01	0.443E-07	0.248E-08	0.383E-08	0.876E 00	0.0	0.134E-06
THYMUS	0.163E-06	0.163E-06	0.143E-07	0.293E-08	0.276E-08	0.292E-08	0.478E-01	0.671E-07	0.215E-07	0.761E-08	0.191E-09	0.112E-08	0.859E-01
THYROID	0.234E-07	0.234E-07	0.523E-08	0.704E-09	0.670E-09	0.307E-09	0.478E-01	0.464E-07	0.400E-08	0.186E-08	0.587E-10	0.303E-09	0.859E-01
UTERUS	0.308E-08	0.308E-08	0.274E-07	0.499E-06	0.143E-06	0.228E-06	0.438E-01	0.138E-07	0.182E-07	0.323E-07	0.0	0.940E-06	0.859E-01

α decay (18.11 Y 2)

Case 1 represents inhalation of oxides, hydroxides, and carbides; case 2 inhalation of nitrates; and case 3 ingestion of any compound.

CASE 1.. INHALATION

AMAD (MICRON).. 1.00 D3 =0.310 D4 =8.000E-02 D5 =0.249

	SOLUBILITY CLASS	G.I. UPTAKE FRACTIONS STOMACH	S INT	U L INT	L L INT
CM-244	Y	0.0	1.000E-03	0.0	0.0

DOSE EQUIVALENT (REM/MICROCURIE)

SOURCE	LUNGS	RES LYM	S CONT	SI CONT	ULI CONT	LLI CONT	EXCRET.	BONE	LIVER	KIDNEYS	TESTES
TARGET											
LUNGS	308.	2.732E-02	2.506E-09	8.473E-10	2.478E-09	2.438E-09	5.458E-05	7.509E-06	2.984E-05	9.538E-08	4.616E-11
RES LYM	3.933E-02	1.426E 04	2.506E-09	8.473E-10	2.478E-09	2.438E-09	5.458E-05	7.509E-06	2.984E-05	9.538E-08	4.616E-11
S WALL	1.549E-05	1.076E-05	1.446E-03	2.446E-08	1.177E-07	3.720E-08	5.458E-05	4.597E-06	1.367E-05	3.197E-07	3.424E-10
SI WALL	8.751E-07	6.079E-07	3.253E-09	3.611E-03	1.330E-06	1.288E-06	5.458E-05	4.792E-06	9.975E-06	2.906E-07	1.961E-09
ULI WALL	8.963E-07	6.226E-07	5.373E-09	3.399E-06	2.134E-02	1.005E-06	5.458E-05	5.294E-06	1.355E-05	2.669E-07	1.745E-09
LLI WALL	3.259E-07	2.264E-07	1.077E-09	3.842E-07	1.245E-07	6.411E-02	5.458E-05	1.407E-05	1.105E-06	7.504E-08	3.186E-08
T BODY	4.41	3.06	3.132E-06	3.312E-05	6.446E-05	1.473E-04	7.016E-05	30.5	5.21	0.116	4.746E-03
ADREN	2.314E-05	1.607E-05	2.390E-09	3.620E-09	1.011E-08	7.509E-09	5.458E-05	1.326E-05	5.517E-05	8.323E-06	1.690E-10
BL WALL	1.459E-07	1.013E-07	2.964E-10	8.665E-09	3.160E-08	1.439E-07	5.458E-05	2.410E-06	1.006E-06	3.408E-08	3.142E-09
KIDNEYS	3.229E-06	2.243E-06	2.940E-09	1.059E-08	2.653E-08	1.981E-08	5.458E-05	1.101E-05	2.889E-05	26.1	4.074E-10
LIVER	1.901E-05	1.321E-05	2.289E-09	8.810E-09	2.916E-08	6.354E-09	5.458E-05	5.210E-06	202.	5.284E-07	2.503E-10
OVARIES	3.330E-07	2.313E-07	7.060E-10	1.858E-07	7.729E-07	3.044E-06	5.458E-05	2.856E-06	2.485E-06	1.028E-07	0.0
PANCREAS	7.927E-06	5.506E-06	3.928E-08	6.615E-09	1.987E-08	1.519E-08	5.458E-05	9.710E-06	3.793E-05	6.500E-07	2.438E-10
BONE	2.193E-05	1.523E-05	2.397E-09	1.829E-08	7.479E-08	1.623E-07	2.729E-04	426.	1.997E-05	5.628E-07	1.875E-08
R MAR	1.026E-05	7.128E-06	9.927E-10	2.975E-08	4.913E-08	3.050E-07	5.458E-05	70.4	9.024E-06	2.357E-07	2.915E-09
Y MAR	1.056E-05	7.337E-06	9.494E-10	1.059E-08	1.859E-08	1.022E-07	5.458E-05	9.752E-04	1.201E-05	2.169E-07	1.105E-09
ENDOST	8.721E-06	6.058E-06	5.349E-10	6.682E-09	2.069E-08	6.874E-08	5.458E-05	821.	7.443E-06	1.958E-07	4.865E-09
SPLEEN	1.499E-05	1.041E-05	9.421E-09	5.228E-09	1.396E-08	1.848E-08	5.458E-05	1.339E-05	4.328E-06	2.774E-06	3.243E-10
TESTES	4.446E-08	3.089E-08	7.518E-11	1.714E-09	2.159E-08	1.167E-07	5.458E-05	6.172E-06	2.949E-07	1.012E-08	9.49
THYMUS	1.640E-05	1.139E-05	3.446E-10	2.792E-10	8.636E-10	1.687E-09	5.458E-05	7.955E-06	2.556E-06	2.011E-08	1.961E-11
THYROID	3.360E-06	2.334E-06	7.783E-11	6.778E-11	2.096E-10	1.773E-10	5.458E-05	6.464E-06	4.756E-07	4.914E-09	6.360E-12
UTERUS	3.098E-07	2.152E-07	6.602E-10	4.805E-08	4.475E-08	1.317E-07	5.458E-05	1.923E-06	2.164E-06	8.534E-08	0.0

DOSE EQUIVALENT (REM/MICROCURIE)

SOURCE	OVARIES	OTHER	TOTAL
TARGET			
LUNGS	1.103E-10	7.198E-06	308.
RES LYM	1.103E-10	7.198E-06	1.426E 04
S WALL	1.032E-09	2.291E-06	1.548E-03
SI WALL	6.573E-08	2.616E-06	3.687E-03
ULI WALL	1.710E-07	5.511E-06	2.143E-02
LLI WALL	2.088E-07	2.492E-06	6.419E-02
T BODY	1.492E-03	0.675	44.0
ADREN	4.768E-10	1.39	1.39
BL WALL	8.718E-09	0.695	0.695
KIDNEYS	1.311E-09	4.845E-06	26.1
LIVER	7.083E-10	2.384E-06	202.
OVARIES	9.50	9.458E-06	9.50
PANCREAS	7.083E-10	1.39	1.39
BONE	5.483E-09	1.341E-05	426.
R MAR	4.938E-09	1.39	71.7
Y MAR	1.716E-09	1.39	1.39
ENDOST	8.480E-10	1.102E-04	821.
SPLEEN	6.470E-10	1.39	1.39
TESTES	0.0	2.074E-06	9.49
THYMUS	3.814E-11	1.39	1.39
THYROID	1.022E-11	1.39	1.39
UTERUS	3.201E-08	1.39	1.39

CASE 2.. INHALATION

AMAD (MICRON).. 1.00 D3 =0.310 D4 =8.000E-02 D5 =0.249

	SOLUBILITY CLASS	G.I. UPTAKE FRACTIONS STOMACH	S INT	U L INT	L L INT
CM-244	W	0.0	1.000E-03	0.0	0.0

DOSE EQUIVALENT (REM/MICROCURIE)

SOURCE	LUNGS	RES LYM	S CONT	SI CONT	ULI CONT	LLI CONT	EXCRET.	BONE	LIVER	KIDNEYS	TESTES
TARGET											
LUNGS	33.9	3.461E-04	2.243E-09	7.582E-10	2.218E-09	2.181E-09	1.528E-04	2.120E-05	8.406E-05	2.687E-07	1.303E-10
RES LYM	4.331E-03	181.	2.243E-09	7.582E-10	2.218E-09	2.181E-09	1.528E-04	2.120E-05	8.406E-05	2.687E-07	1.303E-10
S WALL	1.706E-06	1.363E-07	1.294E-03	2.189E-08	1.053E-07	3.329E-08	1.528E-04	1.298E-05	3.852E-05	9.006E-07	9.668E-10
SI WALL	9.637E-08	7.701E-09	2.911E-09	3.231E-03	1.190E-06	1.153E-06	1.528E-04	1.353E-05	2.810E-05	8.187E-07	5.538E-09
ULI WALL	9.870E-08	7.887E-09	4.809E-09	3.042E-06	1.910E-02	8.994E-07	1.528E-04	1.495E-05	3.818E-05	7.517E-07	4.926E-09
LLI WALL	3.589E-08	2.868E-09	9.639E-10	3.438E-07	1.114E-07	5.738E-02	1.528E-04	3.973E-05	3.111E-06	2.114E-07	8.995E-08
T BODY	0.485	3.877E-02	2.803E-06	2.964E-05	5.768E-05	1.318E-04	1.963E-04	86.1	14.7	0.326	1.340E-02
ADREN	2.548E-06	2.036E-07	2.139E-09	3.240E-09	9.345E-09	6.720E-09	1.528E-04	3.745E-05	1.554E-04	2.344E-05	4.773E-10
BL WALL	1.606E-08	1.284E-09	2.652E-10	7.755E-09	2.828E-08	1.287E-07	1.528E-04	6.805E-06	2.833E-06	9.601E-08	8.877E-09
KIDNEYS	3.556E-07	2.841E-08	2.631E-09	9.478E-09	2.375E-08	1.773E-08	1.528E-04	3.108E-05	8.138E-05	73.5	1.150E-09
LIVER	2.094E-06	1.673E-07	2.048E-09	7.884E-09	2.610E-08	5.686E-09	1.528E-04	1.471E-05	569.	1.489E-06	7.068E-10
OVARIES	3.667E-08	2.930E-09	6.318E-10	1.663E-07	6.916E-07	2.724E-06	1.528E-04	8.064E-06	7.000E-06	2.895E-07	0.0
PANCREAS	8.729E-07	6.975E-08	3.515E-08	5.919E-09	1.778E-08	1.359E-08	1.528E-04	2.742E-05	1.068E-04	1.831E-06	6.884E-10
BONE	2.415E-06	1.930E-07	2.146E-09	1.637E-08	6.692E-08	1.452E-07	7.638E-04	1.204E 03	5.627E-05	1.535E-06	5.293E-08
R MAR	1.130E-06	9.029E-08	8.884E-10	2.662E-08	4.396E-08	2.729E-07	1.528E-04	199.	2.542E-05	6.639E-07	8.230E-09
Y MAR	1.163E-06	9.294E-08	8.496E-10	9.478E-09	1.663E-08	9.149E-08	1.528E-04	2.754E-03	3.383E-05	6.110E-07	3.121E-09
ENDOST	9.604E-07	7.674E-08	4.787E-10	5.980E-09	1.851E-08	6.151E-08	1.528E-04	2.317E 03	2.097E-05	5.515E-07	1.374E-08
SPLEEN	1.650E-06	1.319E-07	8.431E-09	4.679E-09	1.249E-08	1.654E-08	1.528E-04	3.780E-05	1.219E-05	7.815E-06	6.333E-10
TESTES	4.896E-09	3.912E-10	6.728E-11	1.534E-09	1.932E-08	1.044E-07	1.528E-04	1.743E-05	8.306E-07	2.851E-08	26.8
THYMUS	1.806E-06	1.443E-07	3.083E-10	2.499E-10	7.729E-10	1.509E-09	1.528E-04	2.246E-05	7.201E-06	5.664E-08	5.538E-11
THYROID	3.700E-07	2.956E-08	6.965E-11	6.066E-11	1.876E-10	1.587E-10	1.528E-04	1.825E-05	1.340E-06	1.384E-08	1.796E-11
UTERUS	3.412E-08	2.726E-09	5.908E-10	4.300E-08	4.004E-08	1.179E-07	1.528E-04	5.429E-06	6.095E-06	2.404E-07	0.0

DOSE EQUIVALENT (REM/MICROCURIE)

SOURCE	OVARIES	OTHER	TOTAL
TARGET			
LUNGS	3.115E-10	2.032E-05	33.9
RES LYM	3.115E-10	2.032E-05	181.
S WALL	2.914E-09	6.469E-06	1.507E-03
SI WALL	1.856E-07	7.387E-06	3.436E-03
ULI WALL	4.827E-07	1.556E-05	1.932E-02
LLI WALL	5.894E-07	7.037E-06	5.758E-02
T BODY	4.212E-03	1.91	104.
ADREN	1.346E-09	3.92	3.93
BL WALL	2.462E-08	1.96	1.96
KIDNEYS	3.702E-09	1.368E-05	73.5
LIVER	2.000E-09	6.731E-06	569.
OVARIES	26.8	2.671E-05	26.8
PANCREAS	2.000E-09	3.92	3.93
BONE	1.548E-08	3.785E-05	1.204E 03
R MAR	1.394E-08	3.92	203.
Y MAR	4.846E-09	3.92	3.93
ENDOST	2.394E-09	3.112E-04	2.317E 03
SPLEEN	1.827E-09	3.92	3.93
TESTES	0.0	5.857E-06	26.8
THYMUS	1.077E-10	3.92	3.93
THYROID	2.885E-11	3.92	3.93
UTERUS	9.039E-08	3.92	3.93

CASE 3.. INGESTION

INGESTION TRANSFER FRACTIONS (G. I. TRACT TO BLOOD)

	CM-244
STOMACH	0.0
S INT	1.000E-03
U L INT	0.0
L L INT	0.0

DOSE EQUIVALENT (REM/MICROCURIE)

SOURCE	S CONT	SI CONT	ULI CONT	LLI CONT	EXCRET.	BONE	LIVER	KIDNEYS	TESTES	OVARIES	OTHER
TARGET											
LUNGS	4.333E-09	1.465E-09	4.285E-09	4.215E-09	1.264E-06	1.754E-07	6.954E-07	2.223E-09	1.078E-12	2.577E-12	1.681E-07
RES LYM	4.333E-09	1.465E-09	4.285E-09	4.215E-09	1.264E-06	1.754E-07	6.954E-07	2.223E-09	1.078E-12	2.577E-12	1.681E-07
S WALL	2.500E-03	4.229E-08	2.034E-07	6.432E-08	1.264E-06	1.074E-07	3.196E-07	7.450E-09	7.998E-12	2.410E-11	5.331E-08
SI WALL	5.625E-09	6.244E-03	2.300E-06	2.227E-06	1.264E-06	1.119E-07	2.225E-07	6.773E-09	4.581E-11	1.535E-09	6.111E-08
ULI WALL	9.292E-09	5.877E-06	3.690E-02	1.738E-06	1.264E-06	1.237E-07	3.159E-07	6.219E-09	4.075E-11	3.993E-09	1.287E-07
LLI WALL	1.862E-09	6.643E-07	2.154E-07	0.111	1.264E-06	3.287E-07	2.574E-08	1.749E-09	7.441E-10	4.876E-09	5.821E-08
T BODY	5.417E-06	5.727E-05	1.115E-04	2.547E-04	1.624E-06	0.713	0.121	2.697E-03	1.109E-04	3.484E-05	1.576E-02
ADREN	4.133E-09	6.260E-09	1.748E-08	1.298E-08	1.264E-06	3.098E-07	1.286E-06	1.939E-07	3.948E-12	1.114E-11	3.247E-02
BL WALL	5.125E-10	1.498E-08	5.465E-08	2.487E-07	1.264E-06	5.630E-08	2.344E-08	7.943E-10	7.340E-11	2.036E-10	1.623E-02
KIDNEYS	5.083E-09	1.831E-08	4.588E-08	3.426E-03	1.264E-06	2.571E-07	6.733E-07	0.608	9.517E-12	3.063E-11	1.133E-07
LIVER	3.958E-09	1.523E-08	5.043E-08	1.099E-08	1.264E-06	1.217E-07	4.71	1.231E-08	5.847E-12	1.655E-11	5.568E-08
OVARIES	1.221E-09	3.213E-07	1.336E-06	5.264E-06	1.264E-06	6.671E-08	5.791E-08	2.395E-09	0.0	0.222	2.209E-07
PANCREAS	6.792E-08	1.144E-08	3.436E-08	2.627E-08	1.264E-06	2.268E-07	8.838E-07	1.515E-08	5.695E-12	1.655E-11	3.247E-02
BONE	4.146E-09	3.163E-08	1.293E-07	2.807E-07	6.318E-06	9.96	4.655E-07	1.311E-08	4.379E-10	1.281E-10	3.131E-07
R MAR	1.717E-09	5.145E-08	8.495E-08	5.274E-07	1.264E-06	1.64	2.103E-07	5.492E-09	6.809E-11	1.153E-10	3.247E-02
Y MAR	1.642E-09	1.831E-08	3.214E-08	1.768E-07	1.264E-06	2.278E-05	2.798E-07	5.055E-09	2.582E-11	4.009E-11	3.247E-02
ENDOST	9.250E-10	1.155E-08	3.577E-08	1.189E-07	1.264E-06	19.2	1.734E-07	4.562E-09	1.136E-10	1.981E-11	2.574E-06
SPLEEN	1.629E-08	9.041E-09	2.413E-08	3.196E-08	1.264E-06	3.127E-07	1.009E-07	6.465E-08	5.239E-12	1.511E-11	3.247E-02
TESTES	1.300E-10	2.964E-09	3.734E-08	2.018E-07	1.264E-06	1.442E-07	6.871E-09	2.358E-10	0.222	0.0	4.845E-08
THYMUS	5.958E-10	4.828E-10	1.493E-09	2.917E-09	1.264E-06	1.858E-07	5.957E-08	4.685E-10	4.581E-13	8.909E-13	3.247E-02
THYROID	1.346E-10	1.172E-10	3.625E-10	3.066E-10	1.264E-06	1.510E-07	1.108E-08	1.145E-10	1.486E-13	2.386E-13	3.247E-02
UTERUS	1.142E-09	9.309E-08	7.738E-08	2.277E-07	1.264E-06	4.491E-08	5.043E-08	1.989E-09	0.0	7.477E-10	3.247E-02

DOSE EQUIVALENT (REM/MICROCURIE)

SOURCE	TOTAL
TARGET	
LUNGS	2.319E-06
RES LYM	2.319E-06
S WALL	2.502E-03
SI WALL	6.250E-03
ULI WALL	3.691E-02
LLI WALL	0.111
T BODY	0.853
ADREN	3.247E-02
BL WALL	1.624E-02
KIDNEYS	0.608
LIVER	4.71
OVARIES	0.222
PANCREAS	3.247E-02
BONE	9.96
R MAR	1.68
Y MAR	3.249E-02
ENDOST	19.2
SPLEEN	3.247E-02
TESTES	0.222
THYMUS	3.247E-02
THYROID	3.247E-02
UTERUS	3.247E-02

RADIONUCLIDE: CM-245

PHYSICAL AND METABOLIC PARAMETERS FOR DOSIMETRICALLY SIGNIFICANT PROGENY:

NUCLIDE	RADIOACTIVE HALF-LIFE (DAYS)
CM-245	3.1000E 06
PU-241	5260.
AM-241	1.5800E 05

BRANCHING RATIOS:

FROM	TO	FRACTION
CM-245	PU-241	1.000
PU-241	AM-241	1.000

ORGAN ABSORBED	NUCLIDE	BLOOD TRANSFER FRACTION F2-PRIME	COMPARTMENT DEPOSITION FRACTION	COMPARTMENT BIOLOGICAL HALF-TIME (DAYS)
	CM-245	1.00	4.000E-02	0.500
			0.460	1.460E 04
			0.500	3.650E 04
	PU-241	1.00	0.460	1.460E 04
			0.540	3.650E 04
	AM-241	1.00	0.460	1.460E 04
			0.540	3.650E 04
EXCRET.	CM-245	4.000E-02	1.00	0.500
	PU-241	0.0	1.00	0.500
	AM-241	0.0	1.00	0.500
BONE	CM-245	0.450	1.00	3.650E 04
	PU-241	0.450	1.00	3.650E 04
	AM-241	0.450	1.00	3.650E 04
LIVER	CM-245	0.450	1.00	1.460E 04
	PU-241	0.450	1.00	1.460E 04
	AM-241	0.450	1.00	1.460E 04
KIDNEYS	CM-245	1.000E-02	1.00	1.460E 04
	PU-241	1.000E-02	1.00	1.460E 04
	AM-241	1.000E-02	1.00	1.460E 04
TESTES	CM-245	3.500E-04	1.00	3.650E 04
	PU-241	3.500E-04	1.00	3.650E 04
	AM-241	3.500E-04	1.00	3.650E 04
OVARIES	CM-245	1.100E-04	1.00	3.650E 04
	PU-241	1.100E-04	1.00	3.650E 04
	AM-241	1.100E-04	1.00	3.650E 04
OTHER	CM-245	5.000E-02	1.00	3.650E 04
	PU-241	9.000E-02	1.00	3.650E 04
	AM-241	9.000E-02	1.00	3.650E 04

S FACTORS (REM/MICROCURIE-DAY) FOR CM-245

TARGET ORGANS	SOURCE ORGANS											
	LUNGS	RES LYM	S CONT	SI CONT	ULI CONT	LLI CONT	EXCRET.	BONE	LIVER	KIDNEYS	TESTES	OVARIES	OTHER
LUNGS	0.284E 01	0.404E-02	0.244E-04	0.294E-05	0.359E-05	0.106E-05	0.406E-01	0.131E-04	0.763E-04	0.119E-04	0.674E-07	0.779E-06	0.188E-04
RES LYM	0.404E-02	0.199E 03	0.244E-04	0.294E-05	0.359E-05	0.106E-05	0.406E-01	0.131E-04	0.763E-04	0.119E-04	0.674E-07	0.779E-06	0.188E-04
S WALL	0.259E-04	0.259E-04	0.629E-01	0.520E-04	0.543E-04	0.247E-04	0.406E-01	0.768E-05	0.257E-04	0.510E-04	0.373E-06	0.114E-04	0.174E-04
SI WALL	0.257E-05	0.257E-05	0.381E-04	0.394E-01	0.230E-03	0.140E-03	0.406E-01	0.102E-04	0.227E-04	0.405E-04	0.478E-05	0.178E-03	0.212E-04
ULI WALL	0.303E-05	0.303E-05	0.500E-04	0.510E-03	0.713E-01	0.667E-04	0.406E-01	0.940E-05	0.756E-04	0.401E-04	0.404E-05	0.176E-03	0.224E-04
LLI WALL	0.813E-06	0.810E-06	0.162E-04	0.121E-03	0.469E-04	0.116E 00	0.406E-01	0.147E-04	0.314E-05	0.941E-05	0.378E-04	0.231E-03	0.230E-04
T BODY	0.406E-01	0.406E-01	0.164E-03	0.398E-03	0.244E-03	0.256E-03	0.831E-01	0.202E-00	0.406E-01	0.406E-01	0.406E-01	0.406E-01	0.403E-01
ADREN	0.787E-04	0.397E-04	0.395E-04	0.120E-04	0.128E-04	0.448E-05	0.406E-01	0.145E-04	0.611E-04	0.171E-03	0.378E-06	0.433E-05	0.832E-01
BL WALL	0.436E-06	0.436E-06	0.355E-05	0.362E-04	0.317E-04	0.980E-04	0.406E-01	0.734E-05	0.218E-05	0.381E-05	0.671E-04	0.102E-03	0.416E-01
KIDNEYS	0.117E-04	0.117E-04	0.486E-04	0.455E-04	0.401E-04	0.115E-04	0.406E-01	0.113E-04	0.562E-04	0.915E 01	0.494E-06	0.127E-04	0.202E-04
LIVER	0.348E-04	0.348E-04	0.285E-04	0.257E-04	0.358E-04	0.332E-06	0.406E-01	0.917E-05	0.168E 01	0.544E-04	0.398E-06	0.730E-05	0.146E-04
OVARIES	0.119E-05	0.119E-05	0.727E-05	0.158E-03	0.173E-03	0.259E-03	0.406E-01	0.992E-05	0.600E-05	0.151E-04	0.0	0.259E 03	0.294E-04
PANCREAS	0.365E-04	0.365E-04	0.287E-03	0.287E-04	0.323E-04	0.106E-04	0.406E-01	0.111E-04	0.619E-04	0.923E-04	0.671E-06	0.702E-05	0.832E-01
BONE	0.222E-04	0.222E-04	0.134E-04	0.190E-04	0.171E-04	0.247E-04	0.203E 00	0.283E 01	0.167E-04	0.216E-04	0.135E-04	0.231E-04	0.226E-04
R MAR	0.292E-04	0.282E-04	0.239E-04	0.651E-04	0.556E-04	0.789E-04	0.406E-01	0.468E 00	0.242E-04	0.569E-04	0.106E-04	0.829E-04	0.832E-01
Y MAR	0.223E-04	0.229E-04	0.189E-04	0.269E-04	0.246E-04	0.307E-04	0.406E-01	0.924E-04	0.249E-04	0.264E-04	0.488E-06	0.831E-04	0.832E-01
ENDOST	0.222E-04	0.222E-04	0.134E-04	0.190E-04	0.171E-04	0.247E-04	0.406E-01	0.519E 01	0.167E-04	0.216E-04	0.135E-04	0.231E-04	0.797E-04
SPLEEN	0.325E-04	0.325E-04	0.140E-03	0.212E-04	0.204E-04	0.113E-04	0.406E-01	0.814E-05	0.127E-04	0.122E-03	0.220E-06	0.656E-05	0.832E-01
TESTES	0.892E-07	0.892E-07	0.632E-06	0.410E-05	0.352E-05	0.234E-04	0.405E-01	0.907E-05	0.769E-06	0.110E-05	0.311E 02	0.0	0.153E-04
THYMUS	0.620E-04	0.620E-04	0.374E-05	0.101E-05	0.133E-05	0.320E-06	0.406E-01	0.770E-05	0.686E-05	0.282E-05	0.267E-07	0.308E-06	0.832E-01
THYROID	0.132E-04	0.132E-04	0.106E-05	0.171E-05	0.190E-06	0.596E-07	0.405E-01	0.104E-04	0.170E-05	0.581E-06	0.486E-08	0.534E-07	0.832E-01
UTERUS	0.107E-05	0.107E-05	0.105E-04	0.136E-03	0.777E-04	0.996E-04	0.406E-01	0.771E-05	0.538E-05	0.124E-04	0.0	0.298E-03	0.832E-01

α decay (8500 Y 100)

Case 1 represents inhalation of oxides, hydroxides, and carbides; case 2 inhalation of nitrates; and case 3 ingestion of any compound.

CASE 1.. INHALATION

AMAD (MICRON).. 1.00 D3 =0.310 D4 =8.000E-02 D5 =0.249

	SOLUBILITY CLASS	G.I. UPTAKE FRACTIONS STOMACH	S INT	U L INT	L L INT
CM-245	Y	0.0	1.000E-03	0.0	0.0
PU-241	Y	0.0	3.000E-05	0.0	0.0
AM-241	Y	0.0	1.000E-03	0.0	0.0

DOSE EQUIVALENT (REM/MICROCURIE)

SOURCE	LUNGS	RES LYM	S CONT	SI CONT	ULI CONT	LLI CONT	EXCRET.	BONE	LIVER	KIDNEYS	TESTES
TARGET											
LUNGS	307.	0.475	5.950E-07	2.865E-07	1.134E-06	6.198E-07	5.917E-05	4.473E-03	9.886E-03	7.184E-05	1.778E-08
RES LYM	0.438	2.193E 04	5.950E-07	2.865E-07	1.134E-06	6.198E-07	5.917E-05	4.473E-03	9.886E-03	7.184E-05	1.778E-08
S WALL	2.800E-03	3.001E-03	1.534E-03	5.067E-06	1.710E-05	1.444E-05	5.917E-05	2.617E-03	6.991E-03	3.081E-04	9.843E-08
SI WALL	2.778E-04	2.977E-04	9.291E-07	3.840E-03	7.918E-05	8.186E-05	5.917E-05	3.480E-03	6.167E-03	2.446E-04	1.244E-06
ULI WALL	3.276E-04	3.510E-04	1.219E-06	4.970E-05	2.259E-02	3.900E-05	5.917E-05	3.233E-03	9.682E-03	2.421E-04	1.069E-06
LLI WALL	8.757E-05	9.380E-05	3.951E-07	1.179E-05	1.485E-05	6.784E-02	5.917E-05	5.014E-03	8.505E-04	5.672E-05	1.004E-05
T BODY	4.39	4.71	4.000E-06	3.782E-05	7.729E-05	1.731E-04	7.593E-05	69.9	11.2	0.248	1.093E-02
ADREN	4.184E-03	4.484E-03	9.633E-07	1.169E-06	4.054E-06	2.619E-06	5.917E-05	4.958E-03	1.663E-02	1.035E-03	9.975E-08
BL WALL	4.714E-05	5.049E-05	9.633E-08	3.528E-06	9.913E-06	5.730E-05	5.917E-05	2.500E-03	5.903E-04	2.292E-05	1.783E-05
KIDNEYS	1.265E-03	1.355E-03	1.185E-06	4.434E-06	1.270E-05	6.724E-06	5.917E-05	3.855E-03	1.529E-02	56.0	1.279E-07
LIVER	3.762E-03	4.033E-03	6.950E-07	2.504E-06	1.134E-05	1.941E-06	5.917E-05	3.126E-03	435.	3.289E-04	1.020E-07
OVARIES	1.287E-04	1.378E-04	1.773E-07	1.540E-05	5.479E-05	1.514E-04	5.917E-05	3.386E-03	1.629E-03	9.110E-05	0.0
PANCREAS	3.946E-03	4.229E-03	6.267E-06	2.797E-06	1.023E-05	6.198E-06	5.917E-05	3.786E-03	1.684E-02	5.592E-04	1.771E-07
BONE	2.400E-03	2.573E-03	3.268E-07	1.852E-06	5.416E-06	1.444E-05	2.944E-04	980.	4.553E-03	1.309E-04	3.584E-06
R MAR	3.049E-03	3.269E-03	5.828E-07	6.344E-06	1.761E-05	4.561E-05	5.917E-05	162.	6.588E-03	3.442E-04	2.813E-06
Y MAR	2.476E-03	2.655E-03	4.609E-07	2.612E-06	7.791E-06	1.795E-05	5.917E-05	3.171E-02	6.792E-03	1.600E-04	1.294E-06
ENDOST	2.400E-03	2.573E-03	3.268E-07	1.852E-06	5.416E-06	1.444E-05	5.917E-05	2.141E 03	4.553E-03	1.309E-04	3.584E-06
SPLEEN	3.514E-03	3.766E-03	3.414E-06	2.066E-06	6.461E-06	6.607E-06	5.917E-05	2.780E-03	3.447E-03	7.389E-04	6.051E-08
TESTES	9.643E-06	1.033E-05	1.541E-08	3.995E-07	1.115E-06	1.368E-05	5.902E-05	3.088E-03	2.080E-04	6.613E-06	21.8
THYMUS	6.703E-03	7.184E-03	9.121E-08	9.842E-08	4.212E-07	1.871E-07	5.917E-05	2.625E-03	2.403E-03	1.698E-05	7.042E-09
THYRCID	1.427E-03	1.529E-03	2.585E-08	1.666E-08	6.018E-08	3.485E-08	5.902E-05	3.547E-03	4.599E-04	3.492E-06	1.281E-09
UTERUS	1.157E-04	1.239E-04	2.561E-07	1.325E-05	2.461E-05	5.783E-05	5.917E-05	2.626E-03	1.459E-03	7.469E-05	0.0

DOSE EQUIVALENT (REM/MICROCURIE)

SOURCE	OVARIES	OTHER	TOTAL
TARGET			
LUNGS	6.472E-08	7.153E-04	308.
RES LYM	6.472E-08	7.153E-04	2.193E 04
S WALL	9.490E-07	6.623E-04	1.801E-02
SI WALL	1.488E-05	8.056E-04	1.535E-02
ULI WALL	1.472E-05	8.513E-04	3.744E-02
LLI WALL	1.932E-05	8.741E-04	7.493E-02
T BODY	3.435E-03	1.56	92.0
ADREN	3.600E-07	3.21	3.24
BL WALL	8.522E-06	1.61	1.61
KIDNEYS	1.057E-06	7.679E-04	56.0
LIVER	6.074E-07	5.549E-04	435.
OVARIES	21.8	1.118E-03	21.8
PANCREAS	5.834E-07	3.21	3.24
BONE	1.934E-06	8.555E-04	980.
R MAR	6.939E-06	3.21	165.
Y MAR	2.630E-06	3.21	3.26
ENDOST	1.934E-06	3.184E-03	2.141E 03
SPLEEN	5.455E-07	3.21	3.23
TESTES	0.0	5.815E-04	21.8
THYMUS	2.554E-08	3.21	3.23
THYROID	4.427E-09	3.21	3.22
UTERUS	2.409E-05	3.21	3.22

PERCENT DOSE EQUIVALENT..

NUCLIDE	CM-245	PU-241	AM-241
TARGET			
LUNGS	100.0	0.0	0.0
RES LYM	99.8	0.0	0.2
S WALL	99.6	0.0	0.4
SI WALL	99.5	0.0	0.5
ULI WALL	99.7	0.0	0.3
LLI WALL	99.9	0.0	0.1
T BODY	98.1	0.0	1.9
ADREN	97.5	0.0	2.5
BL WALL	97.5	0.0	2.5
KIDNEYS	98.1	0.0	1.9
LIVER	98.1	0.0	1.9
OVARIES	97.9	0.0	2.1
PANCREAS	97.5	0.0	2.5
BONE	97.9	0.0	2.1
R MAR	97.9	0.0	2.1
Y MAR	97.5	0.0	2.5
ENDOST	97.9	0.0	2.1
SPLEEN	97.5	0.0	2.5
TESTES	97.9	0.0	2.1
THYMUS	97.5	0.0	2.5
THYRCID	97.5	0.0	2.5
UTERUS	97.5	0.0	2.5

CASE 2.. INHALATION

AMAD (MICRON).. 1.00 D3 =0.310 D4 =8.000E-02 D5 =0.249

	SOLUBILITY CLASS	G.I. UPTAKE FRACTIONS STOMACH	S INT	U L INT	L L INT
CM-245	W	0.0	1.000E-03	0.0	0.0
PU-241	W	0.0	3.000E-05	0.0	0.0
AM-241	W	0.0	1.000E-03	0.0	0.0

DOSE EQUIVALENT (REM/MICROCURIE)

SOURCE	LUNGS	RES LYM	S CONT	SI CONT	ULI CONT	LLI CONT	EXCRET.	BONE	LIVER	KIDNEYS	TESTES
TARGET											
LUNGS	31.7	3.634E-03	5.269E-07	2.537E-07	1.004E-06	5.488E-07	1.422E-04	1.108E-02	2.432E-02	1.768E-04	4.411E-08
RES LYM	4.510E-02	170.	5.269E-07	2.537E-07	1.004E-06	5.488E-07	1.422E-04	1.108E-02	2.432E-02	1.768E-04	4.411E-08
S WALL	2.890E-04	2.327E-05	1.358E-03	4.487E-06	1.515E-05	1.279E-05	1.422E-04	6.486E-03	1.720E-02	7.581E-04	2.440E-07
SI WALL	2.868E-05	2.309E-06	8.228E-07	3.400E-03	7.012E-05	7.249E-05	1.422E-04	8.625E-03	1.518E-02	6.020E-04	3.084E-06
ULI WALL	3.381E-05	2.723E-06	1.080E-06	4.401E-05	2.000E-02	3.454E-05	1.422E-04	8.012E-03	2.382E-02	5.959E-04	2.651E-06
LLI WALL	9.038E-06	7.278E-07	3.498E-07	1.044E-05	1.315E-05	6.006E-02	1.422E-04	1.243E-02	2.094E-03	1.396E-04	2.489E-05
T BODY	0.453	3.648E-02	3.542E-06	3.349E-05	6.843E-05	1.533E-04	1.824E-04	173.	27.4	0.610	2.702E-02
ADREN	4.318E-04	3.477E-05	8.530E-07	1.036E-06	3.590E-06	2.320E-06	1.422E-04	1.228E-02	4.091E-02	2.546E-03	2.475E-07
BL WALL	4.865E-06	3.918E-07	8.530E-08	3.124E-06	8.779E-06	5.074E-05	1.422E-04	6.196E-03	1.454E-03	5.645E-05	4.419E-05
KIDNEYS	1.305E-04	1.051E-05	1.050E-06	3.926E-06	1.125E-05	5.954E-06	1.422E-04	9.553E-03	3.762E-02	137.	3.171E-07
LIVER	3.883E-04	3.127E-05	6.155E-07	2.218E-06	1.004E-05	1.719E-06	1.422E-04	7.748E-03	1.068E 03	8.093E-04	2.529E-07
OVARIES	1.328E-05	1.069E-06	1.570E-07	1.363E-05	4.852E-05	1.341E-04	1.422E-04	8.391E-03	4.010E-03	2.242E-04	0.0
PANCREAS	4.073E-04	3.280E-05	5.550E-06	2.477E-06	9.059E-06	5.488E-06	1.422E-04	9.384E-03	4.144E-02	1.376E-03	4.393E-07
BONE	2.477E-04	1.995E-05	2.894E-07	1.640E-06	4.796E-06	1.279E-05	7.073E-04	2.422E 03	1.120E-02	3.219E-04	8.881E-06
R MAR	3.147E-04	2.534E-05	5.161E-07	5.618E-06	1.559E-05	4.039E-05	1.422E-04	400.	1.621E-02	8.465E-04	6.971E-06
Y MAR	2.555E-04	2.058E-05	4.082E-07	2.313E-06	6.899E-06	1.590E-05	1.422E-04	7.850E-02	1.670E-02	3.934E-04	3.208E-06
ENDOST	2.477E-04	1.995E-05	2.894E-07	1.640E-06	4.796E-06	1.279E-05	1.422E-04	5.293E 03	1.120E-02	3.219E-04	8.881E-06
SPLEEN	3.626E-04	2.920E-05	3.023E-06	1.829E-06	5.722E-06	5.851E-06	1.422E-04	6.889E-03	8.486E-03	1.817E-03	1.501E-07
TESTES	9.953E-07	8.015E-08	1.365E-08	3.538E-07	9.872E-07	1.212E-05	1.418E-04	7.655E-03	5.124E-04	1.529E-05	54.0
THYMUS	6.918E-04	5.571E-05	8.077E-08	8.716E-08	3.730E-07	1.657E-07	1.422E-04	6.505E-03	5.916E-03	4.181E-05	1.747E-08
THYROID	1.473E-04	1.186E-05	2.289E-08	1.476E-08	5.329E-08	3.086E-08	1.419E-04	8.790E-03	1.133E-03	8.602E-06	3.179E-09
UTERUS	1.194E-05	9.615E-07	2.268E-07	1.174E-05	2.179E-05	5.131E-05	1.422E-04	6.509E-03	3.592E-03	1.839E-04	0.0

DOSE EQUIVALENT (REM/MICROCURIE)

SOURCE	OVARIES	OTHER	TOTAL
TARGET			
LUNGS	1.605E-07	1.769E-03	31.7
RES LYM	1.605E-07	1.769E-03	170.
S WALL	2.353E-06	1.638E-03	2.793E-02
SI WALL	3.687E-05	1.993E-03	3.016E-02
ULI WALL	3.645E-05	2.106E-03	5.483E-02
LLI WALL	4.786E-05	2.163E-03	7.714E-02
T BODY	8.492E-03	3.83	205.
ADREN	8.927E-07	7.91	7.97
BL WALL	2.111E-05	3.96	3.96
KIDNEYS	2.621E-06	1.900E-03	137.
LIVER	1.506E-06	1.373E-03	1.068E 03
OVARIES	54.0	2.765E-03	54.0
PANCREAS	1.447E-06	7.91	7.96
BONE	4.790E-06	2.116E-03	2.422E 03
R MAR	1.718E-05	7.91	408.
Y MAR	6.512E-06	7.91	8.01
ENDOST	4.790E-06	7.806E-03	5.293E 03
SPLEEN	1.353E-06	7.91	7.93
TESTES	0.0	1.439E-03	54.0
THYMUS	6.337E-08	7.91	7.92
THYROID	1.098E-08	7.91	7.92
UTERUS	5.966E-05	7.91	7.92

PERCENT DOSE EQUIVALENT..

NUCLIDE	CM-245	PU-241	AM-241
TARGET			
LUNGS	100.0	0.0	0.0
RES LYM	100.0	0.0	0.0
S WALL	99.5	0.0	0.5
SI WALL	99.5	0.0	0.5
ULI WALL	99.6	0.0	0.4
LLI WALL	99.9	0.0	0.1
T BODY	98.3	0.0	1.7
ADREN	98.2	0.0	1.8
BL WALL	98.2	0.0	1.8
KIDNEYS	98.4	0.0	1.6
LIVER	98.4	0.0	1.5
OVARIES	98.2	0.0	1.8
PANCREAS	98.2	0.0	1.8
BONE	98.2	0.0	1.8
R MAR	98.2	0.0	1.8
Y MAR	98.2	0.0	1.8
ENDOST	98.3	0.0	1.7
SPLEEN	98.2	0.0	1.8
TESTES	99.2	0.0	1.8
THYMUS	98.2	0.0	1.8
THYROID	98.2	0.0	1.8
UTERUS	98.2	0.0	1.8

CASE 3.. INGESTION

INGESTION TRANSFER FRACTIONS (G. I. TRACT TO BLOOD)

	CM-245	PU-241	AM-241
STOMACH	0.0	0.0	0.0
S INT	1.000E-03	3.000E-05	1.000E-03
U L INT	0.0	0.0	0.0
L L INT	0.0	0.0	0.0

DOSE EQUIVALENT (REM/MICROCURIE)

SOURCE	S CONT	SI CONT	ULI CONT	LLI CONT	EXCRET.	BONE	LIVER	KIDNEYS	TESTES	OVARIES	OTHER
TARGET											
LUNGS	1.017E-06	4.895E-07	1.937E-06	1.059E-06	1.171E-06	9.134E-05	2.004E-04	1.457E-06	3.635E-10	1.323E-09	1.458E-05
RES LYM	1.017E-06	4.895E-07	1.937E-06	1.059E-06	1.171E-06	9.134E-05	2.004E-04	1.457E-06	3.635E-10	1.323E-09	1.458E-05
S WALL	2.621E-03	8.658E-06	2.922E-05	2.468E-05	1.171E-06	5.345E-05	1.417E-04	6.248E-06	2.011E-09	1.939E-08	1.350E-05
SI WALL	1.587E-06	6.560E-03	1.353E-04	1.399E-04	1.171E-06	7.108E-05	1.251E-04	4.961E-06	2.542E-08	3.038E-07	1.643E-05
ULI WALL	2.083E-06	8.491E-05	3.858E-02	6.663E-05	1.171E-06	6.603E-05	1.963E-04	4.911E-06	2.184E-08	3.004E-07	1.736E-05
LLI WALL	6.750E-07	2.015E-05	2.538E-05	0.116	1.171E-06	1.024E-04	1.726E-05	1.151E-06	2.050E-07	3.944E-07	1.782E-05
T BODY	6.833E-06	6.460E-05	1.320E-04	2.957E-04	1.503E-06	1.42	0.226	5.025E-03	2.227E-04	6.998E-05	3.157E-02
ADREN	1.646E-06	1.998E-06	6.926E-06	4.476E-06	1.171E-06	1.012E-04	3.371E-04	2.098E-05	2.039E-09	7.356E-09	6.518E-02
BL WALL	1.646E-07	6.027E-06	1.694E-05	9.790E-05	1.171E-06	5.107E-05	1.198E-05	4.652E-07	3.641E-07	1.740E-07	3.259E-02
KIDNEYS	2.025E-06	7.576E-06	2.170E-05	1.149E-05	1.171E-06	7.872E-05	3.100E-04	1.13	2.613E-09	2.160E-08	1.566E-05
LIVER	1.187E-06	4.279E-06	1.937E-05	3.317E-06	1.171E-06	6.385E-05	8.80	6.669E-06	2.084E-09	1.241E-08	1.131E-05
OVARIES	3.029E-07	2.631E-05	9.362E-05	2.587E-04	1.171E-06	6.915E-05	3.305E-05	1.848E-06	0.0	0.445	2.279E-05
PANCREAS	1.071E-05	4.779E-06	1.748E-05	1.059E-05	1.171E-06	7.733E-05	3.415E-04	1.134E-05	3.621E-09	1.192E-08	6.518E-02
BONE	5.583E-07	3.163E-06	9.253E-06	2.468E-05	5.828E-06	20.0	9.228E-05	2.653E-06	7.319E-08	3.947E-08	1.744E-05
R MAR	9.958E-07	1.084E-05	3.009E-05	7.792E-05	1.171E-06	3.30	1.336E-04	6.976E-06	5.745E-08	1.416E-07	6.518E-02
Y MAR	7.875E-07	4.462E-06	1.331E-05	3.067E-05	1.171E-06	6.469E-04	1.376E-04	3.242E-06	2.644E-08	5.367E-08	6.513E-02
ENDOST	5.583E-07	3.163E-06	9.253E-06	2.468E-05	1.171E-06	43.6	9.228E-05	2.653E-06	7.319E-08	3.947E-08	6.432E-05
SPLEEN	5.833E-06	3.530E-06	1.104E-05	1.129E-05	1.171E-06	5.677E-05	6.993E-05	1.498E-05	1.237E-09	1.115E-08	6.518E-02
TESTES	2.633E-08	6.826E-07	1.905E-06	2.338E-05	1.169E-06	6.309E-05	4.223E-06	1.342E-07	0.445	0.0	1.186E-05
THYMUS	1.558E-07	1.682E-07	7.197E-07	3.197E-07	1.171E-06	5.361E-05	4.876E-05	3.446E-07	1.440E-10	5.222E-10	6.518E-02
THYROID	4.417E-08	2.847E-08	1.028E-07	5.954E-08	1.169E-06	7.244E-05	9.336E-06	7.089E-08	2.620E-11	9.051E-11	6.518E-02
UTERUS	4.375E-07	2.264E-05	4.205E-05	9.880E-05	1.171E-06	5.364E-05	2.960E-05	1.516E-06	0.0	4.917E-07	6.518E-02

DOSE EQUIVALENT (REM/MICROCURIE)

SOURCE	TOTAL
TARGET	
LUNGS	3.135E-04
RES LYM	3.135E-04
S WALL	2.900E-03
SI WALL	7.056E-03
ULI WALL	3.902E-02
LLI WALL	0.116
T BODY	1.69
ADREN	6.566E-02
BL WALL	3.278E-02
KIDNEYS	1.13
LIVER	8.80
OVARIES	0.445
PANCREAS	6.566E-02
BONE	20.0
R MAR	3.37
Y MAR	6.602E-02
ENDOST	43.6
SPLEEN	6.536E-02
TESTES	0.445
THYMUS	6.529E-02
THYROID	6.527E-02
UTERUS	6.543E-02

PERCENT DOSE EQUIVALENT..

NUCLIDE	CM-245	PU-241	AM-241
TARGET			
LUNGS	99.3	0.0	0.7
RES LYM	99.3	0.0	0.7
S WALL	100.0	0.0	0.0
SI WALL	100.0	0.0	0.0
ULI WALL	100.0	0.0	0.0
LLI WALL	100.0	0.0	0.0
T BODY	98.3	0.0	1.7
ADREN	98.2	0.0	1.7
BL WALL	98.2	0.0	1.7
KIDNEYS	98.5	0.0	1.5
LIVER	98.5	0.0	1.5
OVARIES	98.2	0.0	1.8
PANCREAS	98.2	0.0	1.7
BONE	98.2	0.0	1.8
R MAR	98.2	0.0	1.8
Y MAR	98.3	0.0	1.7
ENDOST	98.3	0.0	1.7
SPLEEN	98.2	0.0	1.8
TESTES	98.2	0.0	1.8
THYMUS	98.2	0.0	1.8
THYROID	98.2	0.0	1.8
UTERUS	98.2	0.0	1.7

RADIONUCLIDE: CM-246

PHYSICAL AND METABOLIC PARAMETERS FOR DOSIMETRICALLY SIGNIFICANT PROGENY:

NUCLIDE	RADIOACTIVE HALF-LIFE (DAYS)
CM-246	1.7300E 06

ORGAN ABSORBED	NUCLIDE	BLOOD TRANSFER FRACTION F2-PRIME	COMPARTMENT DEPOSITION FRACTION	COMPARTMENT BIOLOGICAL HALF-TIME (DAYS)
		1.00	4.000E-02	0.500
			0.460	1.460E 04
			0.500	3.650E 04
EXCRET.	CM-246	4.000E-02	1.00	0.500
BONE	CM-246	0.450	1.00	3.650E 04
LIVER	CM-246	0.450	1.00	1.460E 04
KIDNEYS	CM-246	1.000E-02	1.00	1.460E 04
TESTES	CM-246	3.500E-04	1.00	3.650E 04
OVARIES	CM-246	1.100E-04	1.00	3.650E 04
OTHER	CM-246	5.000E-02	1.00	3.650E 04

S FACTORS (REM/MICROCURIE-DAY) FOR CM-246

TARGET ORGANS	SOURCE ORGANS									
	LUNGS	RES LYM	S CONT	SI CONT	ULI CONT	LLI CONT	EXCRET.	BONE	LIVER	KIDNEYS
LUNGS	0.289E 01	0.666E-03	0.163E-04	0.176E-05	0.157E-05	0.852E-06	0.413E-01	0.675E-05	0.661E-05	0.626E-05
RES LYM	0.666E-03	0.193E 03	0.163E-04	0.176E-05	0.157E-05	0.852E-06	0.413E-01	0.675E-05	0.661E-05	0.626E-05
S WALL	0.183E-04	0.183E-04	0.573E-01	0.245E-04	0.273E-04	0.120E-04	0.413E-01	0.332E-05	0.141E-04	0.232E-04
SI WALL	0.174E-05	0.174E-05	0.217E-04	0.358E-01	0.162E-03	0.698E-04	0.413E-01	0.334E-05	0.128E-04	0.209E-04
ULI WALL	0.178E-05	0.178E-05	0.253E-04	0.209E-03	0.648E-01	0.329E-04	0.413E-01	0.280E-05	0.178E-04	0.194E-04
LLI WALL	0.653E-06	0.653E-06	0.863E-05	0.620E-04	0.244E-04	0.106E 00	0.413E-01	0.570E-05	0.187E-05	0.561E-05
T BODY	0.413E-01	0.413E-01	0.139E-03	0.340E-03	0.211E-03	0.259E-03	0.531E-01	0.206E 00	0.413E-01	0.413E-01
ADREN	0.181E-04	0.181E-04	0.191E-04	0.744E-05	0.630E-05	0.259E-05	0.413E-01	0.982E-05	0.372E-04	0.955E-04
BL WALL	0.293E-06	0.293E-06	0.246E-05	0.173E-04	0.198E-04	0.439E-04	0.413E-01	0.340E-05	0.171E-05	0.261E-05
KIDNEYS	0.627E-05	0.627E-05	0.232E-04	0.211E-04	0.161E-04	0.675E-05	0.413E-01	0.902E-05	0.287E-04	0.932E 01
LIVER	0.649E-05	0.649E-05	0.138E-04	0.130E-04	0.143E-04	0.220E-05	0.413E-01	0.462E-05	0.161E 01	0.287E-04
OVARIES	0.660E-06	0.660E-06	0.579E-05	0.792E-04	0.490E-04	0.147E-03	0.413E-01	0.333E-05	0.413E-05	0.762E-05
PANCREAS	0.145E-04	0.145E-04	0.134E-03	0.133E-04	0.122E-04	0.520E-05	0.413E-01	0.521E-05	0.299E-04	0.461E-04
BONE	0.332E-04	0.332E-04	0.187E-04	0.277E-04	0.439E-04	0.372E-04	0.206E 00	0.289E 01	0.260E-04	0.370E-04
R MAR	0.898E-05	0.898E-05	0.671E-05	0.180E-04	0.139E-04	0.252E-04	0.413E-01	0.469E 00	0.735E-05	0.209E-05
Y MAR	0.727E-05	0.727E-05	0.607E-05	0.742E-05	0.589E-05	0.854E-05	0.413E-01	0.244E-04	0.873E-05	0.938E-05
ENDOST	0.678E-05	0.678E-05	0.313E-05	0.337E-05	0.903E-05	0.458E-05	0.413E-01	0.618E 01	0.463E-05	0.901E-05
SPLEEN	0.144E-04	0.144E-04	0.763E-04	0.105E-04	0.855E-05	0.624E-05	0.413E-01	0.481E-05	0.715E-05	0.699E-04
TESTES	0.911E-07	0.911E-07	0.635E-06	0.359E-05	0.139E-04	0.400E-04	0.413E-01	0.883E-05	0.507E-06	0.779E-06
THYMUS	0.259E-04	0.259E-04	0.279E-05	0.591E-06	0.563E-06	0.594E-06	0.413E-01	0.512E-05	0.426E-05	0.152E-05
THYROID	0.659E-05	0.659E-05	0.657E-06	0.145E-06	0.138E-06	0.636E-07	0.413E-01	0.620E-05	0.812E-06	0.380E-06
UTERUS	0.617E-06	0.617E-06	0.546E-05	0.646E-04	0.264E-04	0.425E-04	0.413E-01	0.265E-05	0.362E-05	0.641E-05

S FACTORS (REM/MICROCURIE-DAY) FOR CM-246

TARGET ORGANS	SOURCE ORGANS		
	TESTES	OVARIES	OTHER
LUNGS	0.877E-07	0.656E-06	0.117E-04
RES LYM	0.877E-07	0.656E-06	0.117E-04
S WALL	0.640E-06	0.597E-05	0.141E-04
SI WALL	0.361E-05	0.803E-04	0.866E-05
ULI WALL	0.323E-05	0.909E-04	0.957E-05
LLI WALL	0.582E-04	0.126E-03	0.147E-04
T BODY	0.413E-01	0.413E-01	0.411E-01
ADREN	0.319E-06	0.280E-05	0.847E-01
BL WALL	0.342E-05	0.476E-04	0.424E-01
KIDNEYS	0.765E-06	0.760E-05	0.989E-05
LIVER	0.470E-06	0.413E-05	0.813E-05
OVARIES	0.0	0.263E 03	0.138E-04
PANCREAS	0.460E-06	0.417E-05	0.847E-01
BONE	0.345E-04	0.308E-04	0.489E-04
R MAR	0.512E-05	0.224E-04	0.847E-01
Y MAR	0.194E-05	0.776E-05	0.847E-01
ENDOST	0.874E-05	0.331E-05	0.165E-04
SPLEEN	0.421E-06	0.380E-05	0.847E-01
TESTES	0.826E 02	0.0	0.126E-04
THYMUS	0.378E-07	0.231E-06	0.847E-01
THYROID	0.124E-07	0.624E-07	0.847E-01
UTERUS	0.0	0.135E-03	0.847E-01

Cm-246

α decay (4730 Y 100)

Case 1 represents inhalation of oxides, hydroxides, and carbides; case 2 inhalation of nitrates; and case 3 ingestion of any compound.

CASE 1.. INHALATION

AMAD (MICRON).. 1.00 D3 =0.310 D4 =8.000E-02 D5 =0.249

	SOLUBILITY CLASS	G.I. UPTAKE FRACTIONS STOMACH	S INT	U L INT	L L INT
CM-246	Y	0.0	1.000E-03	0.0	0.0

DOSE EQUIVALENT (REM/MICROCURIE)

SOURCE	LUNGS	RES LYM	S CONT	SI CONT	ULI CONT	LLI CONT	EXCRET.	BONE	LIVER	KIDNEYS	TESTES
TARGET											
LUNGS	312.	7.702E-02	3.975E-07	1.715E-07	4.972E-07	4.981E-07	6.017E-05	2.283E-03	1.782E-03	3.760E-05	2.307E-08
RES LYM	7.199E-02	2.232E 04	3.975E-07	1.715E-07	4.972E-07	4.981E-07	6.017E-05	2.283E-03	1.782E-03	3.760E-05	2.307E-08
S WALL	1.978E-03	2.116E-03	1.397E-03	2.387E-06	8.646E-06	7.016E-06	6.017E-05	1.123E-03	3.801E-03	1.390E-04	1.683E-07
SI WALL	1.881E-04	2.012E-04	5.292E-07	3.489E-03	5.131E-05	4.081E-05	6.017E-05	1.129E-03	3.451E-03	1.252E-04	9.495E-07
ULI WALL	1.924E-04	2.059E-04	6.170E-07	2.037E-05	2.052E-02	1.924E-05	6.017E-05	9.468E-04	4.799E-03	1.162E-04	8.495E-07
LLI WALL	7.059E-05	7.552E-05	2.109E-07	6.042E-06	7.728E-06	6.198E-02	6.017E-05	1.927E-03	5.042E-04	3.361E-05	1.531E-05
T BODY	4.46	4.78	3.365E-06	3.313E-05	6.682E-05	1.514E-04	7.736E-05	69.7	11.1	0.247	1.086E-02
ADREN	1.957E-03	2.093E-03	4.658E-07	7.250E-07	1.995E-06	1.514E-06	6.017E-05	3.321E-03	1.003E-02	5.722E-04	8.390E-08
BL WALL	3.167E-05	3.389E-05	5.999E-08	1.686E-06	6.271E-06	2.567E-05	6.017E-05	1.150E-03	4.610E-04	1.564E-05	8.995E-07
KIDNEYS	6.778E-04	7.251E-04	5.656E-07	2.056E-06	5.099E-06	3.947E-06	6.017E-05	3.050E-03	7.738E-03	55.8	2.012E-07
LIVER	7.015E-04	7.506E-04	3.365E-07	1.267E-06	4.529E-06	1.286E-06	6.017E-05	1.562E-03	434.	1.719E-04	1.236E-07
OVARIES	7.134E-05	7.633E-05	1.412E-07	7.718E-06	1.552E-05	8.595E-05	6.017E-05	1.126E-03	1.113E-03	4.565E-05	0.0
PANCREAS	1.567E-03	1.677E-03	3.268E-06	1.296E-06	3.864E-06	3.040E-06	6.017E-05	1.762E-03	8.061E-03	2.762E-04	1.210E-07
BONE	3.589E-03	3.840E-03	4.560E-07	2.699E-06	1.390E-05	2.175E-05	3.001E-04	977.	7.010E-03	2.217E-04	9.074E-06
R MAR	9.707E-04	1.039E-03	1.636E-07	1.754E-06	4.402E-06	1.473E-05	6.017E-05	159.	1.982E-03	1.252E-05	1.347E-06
Y MAR	7.859E-04	8.408E-04	1.480E-07	7.231E-07	1.865E-06	4.993E-06	6.017E-05	8.251E-03	2.354E-03	5.620E-05	5.102E-07
ENDOST	7.329E-04	7.841E-04	7.633E-08	3.284E-07	2.860E-06	2.678E-06	6.017E-05	2.030E 03	1.248E-03	5.398E-05	2.299E-06
SPLEEN	1.557E-03	1.665E-03	1.714E-06	1.023E-06	2.709E-06	3.648E-06	6.017E-05	1.627E-03	1.928E-03	4.188E-04	1.107E-07
TESTES	9.848E-06	1.054E-05	1.549E-08	3.498E-07	4.402E-06	2.339E-05	6.017E-05	2.986E-03	1.367E-04	4.667E-06	21.7
THYMUS	2.800E-03	2.995E-03	6.804E-08	5.759E-08	1.783E-07	3.473E-07	6.017E-05	1.731E-03	1.148E-03	9.106E-06	9.942E-09
THYROID	7.124E-04	7.621E-04	1.602E-08	1.413E-08	4.371E-08	3.719E-08	6.017E-05	2.097E-03	2.189E-04	2.277E-06	3.261E-09
UTERUS	6.670E-05	7.136E-05	1.331E-07	6.295E-06	8.361E-06	2.485E-05	6.017E-05	8.961E-04	9.760E-04	3.840E-05	0.0

DOSE EQUIVALENT (REM/MICROCURIE)

SOURCE	OVARIES	OTHER	TOTAL
TARGET			
LUNGS	5.423E-08	4.396E-04	312.
RES LYM	5.423E-08	4.396E-04	2.232E 04
S WALL	4.935E-07	5.298E-04	1.116E-02
SI WALL	6.638E-06	3.028E-04	9.047E-03
ULI WALL	7.514E-06	3.746E-04	2.727E-02
LLI WALL	1.042E-05	5.523E-04	6.524E-02
T BODY	3.414E-03	1.54	91.8
ADREN	2.314E-07	3.18	3.20
BL WALL	3.935E-06	1.59	1.59
KIDNEYS	6.282E-07	3.716E-04	55.8
LIVER	3.414E-07	3.055E-04	434.
OVARIES	21.7	5.185E-04	21.7
PANCREAS	3.447E-07	3.18	3.20
BONE	2.546E-06	1.837E-03	977.
R MAR	1.852E-06	3.18	162.
Y MAR	6.414E-07	3.18	3.19
ENDOST	2.736E-07	6.951E-04	2.090E 03
SPLEEN	3.141E-07	3.18	3.19
TESTES	0.0	4.734E-04	21.7
THYMUS	1.909E-08	3.18	3.19
THYROID	5.158E-09	3.18	3.19
UTERUS	1.116E-05	3.18	3.18

CASE 2.. INHALATION

AMAD (MICRON).. 1.00 D3 =0.310 D4 =8.000E-02 D5 =0.249

	SOLUBILITY CLASS	G.I. UPTAKE FRACTIONS			
		STOMACH	S INT	U L INT	L L INT
CM-246	W	0.0	1.000E-03	0.0	0.0

DOSE EQUIVALENT (REM/MICROCURIE)

SOURCE	LUNGS	RES LYM	S CONT	SI CONT	ULI CONT	LLI CONT	EXCRET.	BONE	LIVER	KIDNEYS	TESTES
TARGET											
LUNGS	32.2	5.984E-04	3.520E-07	1.519E-07	4.403E-07	4.411E-07	1.446E-04	5.665E-03	4.392E-03	9.244E-05	5.725E-08
RES LYM	7.431E-03	173.	3.520E-07	1.519E-07	4.403E-07	4.411E-07	1.446E-04	5.665E-03	4.392E-03	9.244E-05	5.725E-08
S WALL	2.042E-04	1.644E-05	1.237E-03	2.114E-06	7.657E-06	6.213E-06	1.446E-04	2.786E-03	9.369E-03	3.426E-04	4.178E-07
SI WALL	1.941E-05	1.564E-06	4.686E-07	3.089E-03	4.544E-05	3.614E-05	1.446E-04	2.803E-03	8.505E-03	3.086E-04	2.356E-06
ULI WALL	1.986E-05	1.599E-06	5.464E-07	1.804E-05	1.817E-02	1.703E-05	1.446E-04	2.350E-03	1.183E-02	2.865E-04	2.108E-06
LLI WALL	7.286E-06	5.868E-07	1.864E-07	5.350E-06	6.843E-06	5.488E-02	1.446E-04	4.784E-03	1.243E-03	8.284E-05	3.799E-05
T BODY	0.461	3.711E-02	2.980E-06	2.934E-05	5.918E-05	1.341E-04	1.859E-04	173.	27.4	0.610	2.696E-02
ADREN	2.020E-04	1.626E-05	4.125E-07	6.420E-07	1.767E-06	1.341E-06	1.446E-04	8.242E-03	2.472E-02	1.410E-03	2.082E-07
BL WALL	3.269E-06	2.633E-07	5.313E-08	1.493E-06	5.553E-06	2.273E-05	1.446E-04	2.854E-03	1.136E-03	3.854E-05	2.232E-06
KIDNEYS	6.996E-05	5.634E-06	5.010E-07	1.821E-06	4.515E-06	3.495E-06	1.446E-04	7.570E-03	1.907E-02	138.	4.994E-07
LIVER	7.242E-05	5.832E-06	2.980E-07	1.122E-06	4.011E-06	1.139E-06	1.446E-04	3.877E-03	1.070E 03	4.238E-04	3.068E-07
OVARIES	7.364E-06	5.931E-07	1.250E-07	6.835E-06	1.374E-05	7.611E-05	1.446E-04	2.795E-03	2.744E-03	1.125E-04	0.0
PANCREAS	1.618E-04	1.303E-05	2.894E-06	1.148E-06	3.422E-06	2.692E-06	1.446E-04	4.373E-03	1.987E-02	6.807E-04	3.003E-07
BONE	3.704E-04	2.983E-05	4.038E-07	2.390E-06	1.231E-05	1.926E-05	7.213E-04	2.426E 03	1.728E-02	5.464E-04	2.252E-05
R MAR	1.002E-04	8.069E-06	1.449E-07	1.553E-06	3.898E-06	1.305E-05	1.446E-04	394.	4.884E-03	3.086E-05	3.342E-06
Y MAR	8.112E-05	6.533E-06	1.311E-07	6.403E-07	1.652E-06	4.422E-06	1.446E-04	2.048E-02	5.801E-03	1.385E-04	1.266E-06
ENDOST	7.565E-05	6.092E-06	6.759E-08	2.908E-07	2.533E-06	2.371E-06	1.446E-04	5.187E 03	3.077E-03	1.330E-04	5.705E-06
SPLEEN	1.607E-04	1.294E-05	1.518E-06	9.061E-07	2.398E-06	3.231E-06	1.446E-04	4.037E-03	4.751E-03	1.032E-03	2.748E-07
TESTES	1.016E-06	8.186E-08	1.371E-08	3.098E-07	3.898E-06	2.071E-05	1.446E-04	7.411E-03	3.369E-04	1.150E-05	53.9
THYMUS	2.890E-04	2.327E-05	6.025E-08	5.100E-08	1.579E-07	3.076E-07	1.446E-04	4.297E-03	2.831E-03	2.244E-05	2.467E-08
THYROID	7.353E-05	5.922E-06	1.419E-08	1.251E-08	3.870E-08	3.293E-08	1.446E-04	5.203E-03	5.396E-04	5.611E-06	8.094E-09
UTERUS	6.884E-06	5.544E-07	1.179E-07	5.575E-06	7.404E-06	2.201E-05	1.446E-04	2.224E-03	2.405E-03	9.465E-05	0.0

DOSE EQUIVALENT (REM/MICROCURIE)

SOURCE	OVARIES	OTHER	TOTAL
TARGET			
LUNGS	1.346E-07	1.091E-03	32.3
RES LYM	1.346E-07	1.091E-03	173.
S WALL	1.225E-06	1.315E-03	1.543E-02
SI WALL	1.647E-05	7.516E-04	1.572E-02
ULI WALL	1.865E-05	9.297E-04	3.379E-02
LLI WALL	2.585E-05	1.371E-03	6.259E-02
T BODY	8.473E-03	3.83	205.
ADREN	5.744E-07	7.90	7.93
BL WALL	9.765E-06	3.95	3.96
KIDNEYS	1.559E-06	9.223E-04	138.
LIVER	8.473E-07	7.581E-04	1.070E 03
OVARIES	54.0	1.287E-03	54.0
PANCREAS	8.555E-07	7.90	7.92
BONE	6.319E-06	4.560E-03	2.426E 03
R MAR	4.595E-06	7.90	402.
Y MAR	1.592E-06	7.90	7.93
ENDOST	6.791E-07	1.725E-03	5.187E 03
SPLEEN	7.796E-07	7.90	7.91
TESTES	0.0	1.175E-03	53.9
THYMUS	4.739E-08	7.90	7.91
THYROID	1.280E-08	7.90	7.90
UTERUS	2.770E-05	7.90	7.90

CASE 3.. INGESTION

INGESTION TRANSFER FRACTIONS (G. I. TRACT TO BLOOD)

	CM-246
STOMACH	0.0
S INT	1.000E-03
U L INT	0.0
L L INT	0.0

DOSE EQUIVALENT (REM/MICROCURIE)

SOURCE	S CONT	SI CONT	ULI CONT	LLI CONT	EXCRET.	BONE	LIVER	KIDNEYS	TESTES	OVARIES	OTHER
TARGET											
LUNGS	6.792E-07	2.930E-07	8.496E-07	8.511E-07	1.192E-06	4.669E-05	3.620E-05	7.618E-07	4.718E-10	1.109E-09	8.992E-06
RES LYM	6.792E-07	2.930E-07	8.496E-07	8.511E-07	1.192E-06	4.669E-05	3.620E-05	7.618E-07	4.718E-10	1.109E-09	8.992E-06
S WALL	2.387E-03	4.079E-06	1.477E-05	1.199E-05	1.192E-06	2.296E-05	7.721E-05	2.823E-06	3.443E-09	1.009E-08	1.084E-05
SI WALL	9.042E-07	5.961E-03	8.766E-05	6.973E-05	1.192E-06	2.310E-05	7.009E-05	2.543E-06	1.942E-08	1.358E-07	6.194E-06
ULI WALL	1.054E-06	3.480E-05	3.507E-02	3.287E-05	1.192E-06	1.937E-05	9.747E-05	2.361E-06	1.738E-08	1.537E-07	7.662E-06
LLI WALL	3.596E-07	1.032E-05	1.320E-05	0.106	1.192E-06	3.942E-05	1.024E-05	6.827E-07	3.131E-07	2.130E-07	1.130E-05
T BODY	5.750E-06	5.661E-05	1.142E-04	2.587E-04	1.532E-06	1.42	0.226	5.026E-03	2.222E-04	6.983E-05	3.159E-02
ADREN	7.958E-07	1.239E-06	3.409E-06	2.587E-06	1.192E-06	6.792E-05	2.037E-04	1.162E-05	1.716E-09	4.734E-09	6.509E-02
BL WALL	1.025E-07	2.880E-06	1.071E-05	4.386E-05	1.192E-06	2.352E-05	9.364E-06	3.176E-07	1.840E-08	8.048E-08	3.258E-02
KIDNEYS	9.667E-07	3.513E-06	8.712E-06	6.743E-06	1.192E-06	6.239E-05	1.572E-04	1.13	4.115E-09	1.285E-08	7.601E-06
LIVER	5.750E-07	2.164E-06	7.738E-06	2.198E-06	1.192E-06	3.195E-05	8.82	3.493E-06	2.528E-09	6.983E-09	6.249E-06
OVARIES	2.412E-07	1.319E-05	2.652E-05	1.469E-04	1.192E-06	2.303E-05	2.262E-05	9.273E-07	0.0	0.445	1.061E-05
PANCREAS	5.583E-06	2.214E-06	6.602E-06	5.195E-06	1.192E-06	3.604E-05	1.637E-04	5.610E-06	2.475E-09	7.050E-09	6.509E-02
BONE	7.792E-07	4.612E-06	2.376E-05	3.716E-05	5.944E-06	20.0	1.424E-04	4.503E-06	1.856E-07	5.207E-08	3.759E-05
R MAR	2.796E-07	2.997E-06	7.522E-06	2.517E-05	1.192E-06	3.24	4.025E-05	2.543E-07	2.754E-08	3.787E-09	6.509E-02
Y MAR	2.529E-07	1.235E-06	3.187E-06	8.531E-06	1.192E-06	1.688E-04	4.781E-05	1.141E-06	1.044E-08	1.312E-08	6.509E-02
ENDOST	1.304E-07	5.611E-07	4.886E-06	4.575E-06	1.192E-06	42.7	2.535E-05	1.096E-06	4.702E-08	5.596E-09	1.422E-05
SPLEEN	2.929E-06	1.743E-06	4.627E-06	6.234E-06	1.192E-06	3.327E-05	3.915E-05	8.506E-06	2.265E-09	6.425E-09	6.509E-02
TESTES	2.646E-08	5.977E-07	7.522E-06	3.996E-05	1.192E-06	6.107E-05	2.776E-06	9.480E-08	0.444	0.0	9.683E-06
THYMUS	1.162E-07	9.840E-08	3.047E-07	5.934E-07	1.192E-06	3.541E-05	2.333E-05	1.850E-07	2.033E-10	3.906E-10	6.509E-02
THYROID	2.737E-08	2.414E-08	7.468E-08	6.354E-08	1.192E-06	4.288E-05	4.447E-06	4.624E-08	6.671E-11	1.055E-10	6.509E-02
UTERUS	2.275E-07	1.076E-05	1.429E-05	4.246E-05	1.192E-06	1.833E-05	1.982E-05	7.800E-07	0.0	2.282E-07	6.509E-02

DOSE EQUIVALENT (REM/MICROCURIE)

SOURCE	TOTAL
TARGET	
LUNGS	9.650E-05
RES LYM	9.650E-05
S WALL	2.533E-03
SI WALL	6.222E-03
ULI WALL	3.526E-02
LLI WALL	0.106
T BODY	1.69
ADREN	6.539E-02
BL WALL	3.268E-02
KIDNEYS	1.13
LIVER	8.82
OVARIES	0.445
PANCREAS	6.532E-02
BONE	20.0
R MAR	3.31
Y MAR	6.532E-02
ENDOST	42.7
SPLEEN	6.519E-02
TESTES	0.444
THYMUS	6.515E-02
THYROID	6.514E-02
UTERUS	6.520E-02

RADIONUCLIDE: CM-247

PHYSICAL AND METABOLIC PARAMETERS FOR DOSIMETRICALLY SIGNIFICANT PROGENY:

NUCLIDE	RADIOACTIVE HALF-LIFE (DAYS)
CM-247	5.6900E 09
PU-243	3.207D
AM-243	2.6900E 06

BRANCHING RATIOS:

FROM	TO	FRACTION
CM-247	PU-243	1.000
PU-243	AM-243	1.000

ORGAN ABSORBED	NUCLIDE	BLOOD TRANSFER FRACTION F2-PRIME	COMPARTMENT DEPOSITION FRACTION	COMPARTMENT BIOLOGICAL HALF-TIME (DAYS)
	CM-247	1.00	4.000E-02	0.500
			0.460	1.460E 04
			0.500	3.650E 04
	PU-243	1.00	0.460	1.460E 04
			0.540	3.650E 04
	AM-243	1.00	0.460	1.460E 04
			0.540	3.650E 04
EXCRET.	CM-247	4.000E-02	1.00	0.500
	PU-243	0.0	1.00	0.500
	AM-243	0.0	1.00	0.500
BONE	CM-247	0.450	1.00	3.650E 04
	PU-243	0.450	1.00	3.650E 04
	AM-243	0.450	1.00	3.650E 04
LIVER	CM-247	0.450	1.00	1.460E 04
	PU-243	0.450	1.00	1.460E 04
	AM-243	0.450	1.00	1.460E 04
KIDNEYS	CM-247	1.000E-02	1.00	1.460E 04
	PU-243	1.000E-02	1.00	1.460E 04
	AM-243	1.000E-02	1.00	1.460E 04
TESTES	CM-247	3.500E-04	1.00	3.650E 04
	PU-243	3.500E-04	1.00	3.650E 04
	AM-243	3.500E-04	1.00	3.650E 04
OVARIES	CM-247	1.100E-04	1.00	3.650E 04
	PU-243	1.100E-04	1.00	3.650E 04
	AM-243	1.100E-04	1.00	3.650E 04
OTHER	CM-247	5.000E-02	1.00	3.650E 04
	PU-243	9.000E-02	1.00	3.650E 04
	AM-243	9.000E-02	1.00	3.650E 04

S FACTORS (REM/MICROCURIE-DAY) FOR CM-247

TARGET ORGANS	SOURCE ORGANS													
	LUNGS	RES LYM	S CONT	SI CONT	ULI CONT	LLI CONT	EXCRET.	BONE	LIVER	KIDNEYS	TESTES	OVARIES	OTHER
LUNGS	0.262E 01	0.210E-02	0.103E-03	0.183E-04	0.130E-04	0.579E-05	0.374E-01	0.590E-04	0.146E-03	0.549E-04	0.809E-06	0.535E-05	0.768E-04
RES LYM	0.210E-02	0.174E 03	0.108E-03	0.193E-04	0.190E-04	0.579E-05	0.374E-01	0.590E-04	0.146E-03	0.549E-04	0.809E-06	0.595E-05	0.768E-04
S WALL	0.111E-03	0.111E-03	0.561E-01	0.210E-03	0.220E-03	0.108E-03	0.375E-01	0.352E-04	0.115E-03	0.203E-03	0.552E-05	0.496E-04	0.829E-04
SI WALL	0.150E-04	0.150E-04	0.158E-03	0.353E-01	0.989E-03	0.547E-03	0.375E-01	0.475E-04	0.974E-04	0.163E-03	0.397E-04	0.712E-03	0.906E-04
ULI WALL	0.199E-04	0.199E-04	0.204E-03	0.141E-02	0.629E-01	0.355E-03	0.375E-01	0.431E-04	0.152E-03	0.173E-03	0.203E-04	0.674E-03	0.924E-04
LLI WALL	0.542E-05	0.542E-05	0.769E-04	0.416E-03	0.190E-03	0.101E 00	0.375E-01	0.596E-04	0.177E-04	0.522E-04	0.170E-03	0.660E-03	0.953E-04
T BODY	0.374E-01	0.374E-01	0.221E-03	0.422E-03	0.296E-03	0.340E-03	0.481E-01	0.187E 00	0.375E-01	0.375E-01	0.374E-01	0.375E-01	0.375E-01
ADREN	0.148E-03	0.148E-03	0.134E-03	0.820E-04	0.594E-04	0.290E-04	0.375E-01	0.921E-04	0.297E-03	0.691E-03	0.371E-05	0.315E-04	0.768E-01
BL WALL	0.392E-05	0.392E-05	0.224E-04	0.188E-03	0.120E-03	0.360E-03	0.375E-01	0.357E-04	0.168E-04	0.215E-04	0.299E-03	0.406E-03	0.384E-01
KIDNEYS	0.593E-04	0.593E-04	0.203E-03	0.188E-03	0.164E-03	0.527E-04	0.375E-01	0.548E-04	0.228E-03	0.844E 01	0.612E-05	0.643E-04	0.369E-04
LIVER	0.145E-03	0.145E-03	0.121E-03	0.110E-03	0.151E-03	0.194E-04	0.375E-01	0.417E-04	0.145E 01	0.237E-03	0.296E-05	0.363E-04	0.641E-04
OVARIES	0.952E-05	0.852E-05	0.284E-04	0.566E-03	0.742E-03	0.104E-02	0.375E-01	0.567E-04	0.183E-04	0.711E-04	0.0	0.238E 03	0.114E-03
PANCREAS	0.162E-03	0.162E-03	0.106E-02	0.125E-03	0.122E-03	0.440E-04	0.375E-01	0.583E-04	0.268E-03	0.791E-02	0.110E-05	0.320E-04	0.768E-01
BONE	0.641E-04	0.641E-04	0.364E-04	0.523E-04	0.477E-04	0.583E-04	0.197E 00	0.261E 01	0.481E-04	0.632E-04	0.425E-04	0.617E-04	0.736E-04
R MAR	0.811E-04	0.811E-04	0.653E-04	0.169E-03	0.146E-03	0.206E-03	0.375E-01	0.432E 00	0.705E-04	0.162E-03	0.342E-04	0.209E-03	0.767E-01
Y MAR	0.670E-04	0.670E-04	0.549E-04	0.727E-04	0.679E-04	0.343E-04	0.374E-01	0.190E-03	0.707E-04	0.787E-04	0.175E-04	0.825E-04	0.767E-01
ENDOST	0.641E-04	0.641E-04	0.364E-04	0.523E-04	0.477E-04	0.683E-04	0.375E-01	0.636E 01	0.481E-04	0.632E-04	0.425E-04	0.617E-04	0.938E-04
SPLEEN	0.132E-03	0.132E-03	0.582E-03	0.942E-04	0.777E-04	0.529E-04	0.375E-01	0.464E-04	0.587E-04	0.508E-03	0.347E-05	0.397E-04	0.768E-01
TESTES	0.121E-05	0.121E-05	0.237E-05	0.216E-04	0.266E-04	0.124E-03	0.375E-01	0.357E-04	0.618E-05	0.930E-05	0.747E 02	0.0	0.695E-04
THYMUS	0.228E-03	0.228E-03	0.142E-04	0.768E-05	0.848E-05	0.306E-05	0.375E-01	0.395E-04	0.653E-04	0.199E-04	0.510E-06	0.317E-05	0.769E-01
THYROID	0.644E-04	0.644E-04	0.845E-05	0.202E-05	0.218E-05	0.392E-06	0.374E-01	0.630E-04	0.120E-04	0.509E-05	0.150E-06	0.867E-06	0.768E-01
UTERUS	0.590E-05	0.590E-05	0.523E-04	0.537E-03	0.275E-03	0.364E-03	0.375E-01	0.356E-04	0.855E-04	0.457E-04	0.0	0.115E-02	0.769E-01

α decay (1.56E7 Y 5)

Case 1 represents inhalation of oxides, hyrdoxides, and carbides; case 2 inhalation of nitrates; and case 3 ingestion of any compound.

CASE 1.. INHALATION

AMAD (MICRON).. 1.00 D3 =0.310 D4 =8.000E-02 D5 =0.249

	SOLUBILITY CLASS	G.I. UPTAKE FRACTIONS			
		STOMACH	S INT	U L INT	L L INT
CM-247	Y	0.0	1.000E-03	0.0	0.0
PU-243	Y	0.0	3.000E-05	0.0	0.0
AM-243	Y	0.0	1.000E-03	0.0	0.0

DOSE EQUIVALENT (REM/MICROCURIE)

SOURCE	LUNGS	RES LYM	S CONT	SI CONT	ULI CONT	LLI CONT	EXCRET.	BONE	LIVER	KIDNEYS	TESTES
TARGET											
LUNGS	284.	1.12	6.522E-06	2.764E-06	7.633E-06	3.701E-06	5.466E-05	2.158E-02	4.313E-02	3.532E-04	2.175E-07
RES LYM	1.14	2.024E 04	6.522E-06	2.764E-06	7.633E-06	3.701E-06	5.466E-05	2.158E-02	4.313E-02	3.532E-04	2.175E-07
S WALL	1.296E-02	1.378E-02	9.006E-03	4.103E-05	9.340E-05	7.243E-05	5.481E-05	1.276E-02	3.355E-02	1.325E-03	1.490E-06
SI WALL	1.699E-03	1.812E-03	9.463E-06	1.609E-02	4.547E-04	3.755E-04	5.481E-05	1.729E-02	2.837E-02	1.092E-03	8.211E-06
ULI WALL	2.247E-03	2.398E-03	1.274E-05	3.179E-04	5.037E-02	1.740E-04	5.481E-05	1.567E-02	4.450E-02	1.121E-03	5.663E-06
LLI WALL	6.067E-04	6.481E-04	4.181E-06	8.830E-05	8.155E-05	9.472E-02	5.481E-05	2.186E-02	5.026E-03	3.307E-04	4.842E-05
T BODY	4.06	4.35	2.584E-05	1.680E-04	2.009E-04	2.917E-04	7.026E-05	63.7	10.2	0.227	9.937E-03
ADREN	1.733E-02	1.843E-02	9.007E-06	1.198E-05	2.473E-05	1.835E-05	5.481E-05	3.313E-02	8.619E-02	4.541E-03	1.005E-06
BL WALL	4.365E-04	4.666E-04	1.055E-06	3.215E-05	5.287E-05	2.478E-04	5.481E-05	1.290E-02	4.717E-03	1.354E-04	8.538E-05
KIDNEYS	6.803E-03	7.248E-03	1.220E-05	3.546E-05	7.267E-05	3.465E-05	5.481E-05	1.987E-02	6.706E-02	51.1	1.388E-06
LIVER	1.697E-02	1.804E-02	7.029E-06	2.049E-05	6.657E-05	1.237E-05	5.481E-05	1.516E-02	395.	1.542E-03	7.817E-07
OVARIES	9.583E-04	1.023E-03	1.780E-06	1.215E-04	3.254E-04	7.111E-04	5.481E-05	2.045E-02	5.444E-03	4.561E-04	0.0
PANCREAS	1.886E-02	2.006E-02	6.801E-05	2.290E-05	5.403E-05	2.910E-05	5.481E-05	2.101E-02	7.853E-02	2.548E-03	8.583E-07
BONE	7.891E-03	8.350E-03	3.118E-06	1.334E-05	2.495E-05	5.113E-05	2.728E-04	889.	1.479E-02	4.317E-04	1.245E-05
R MAR	9.964E-03	1.055E-02	5.336E-06	4.549E-05	7.946E-05	1.579E-04	5.481E-05	147.	2.147E-02	1.111E-03	9.974E-06
Y MAR	8.256E-03	8.736E-03	4.413E-06	1.874E-05	3.577E-05	6.356E-05	5.467E-05	7.544E-02	2.183E-02	5.338E-04	5.046E-06
ENDOST	7.891E-03	8.350E-03	3.118E-06	1.334E-05	2.495E-05	5.113E-05	5.481E-05	2.165E 03	1.479E-02	4.317E-04	1.245E-05
SPLEEN	1.545E-02	1.643E-02	3.698E-05	1.680E-05	3.491E-05	3.506E-05	5.481E-05	1.673E-02	1.696E-02	3.334E-03	1.468E-06
TESTES	1.334E-04	1.427E-04	1.230E-07	3.373E-06	1.001E-05	8.161E-05	5.481E-05	1.304E-02	1.725E-03	5.159E-05	19.8
THYMUS	2.689E-02	2.857E-02	9.461E-07	1.040E-06	3.195E-06	1.878E-06	5.481E-05	1.427E-02	1.844E-02	1.247E-04	1.391E-07
THYROID	7.378E-03	7.862E-03	3.221E-07	2.472E-07	7.648E-07	5.333E-07	5.466E-05	2.256E-02	3.355E-03	3.143E-05	4.005E-08
UTERUS	6.590E-04	7.029E-04	2.548E-06	1.105E-04	1.293E-04	2.536E-04	5.481E-05	1.288E-02	7.327E-03	3.556E-04	0.0

DOSE EQUIVALENT (REM/MICROCURIE)

SOURCE	OVARIES	OTHER	TOTAL
TARGET			
LUNGS	5.038E-07	3.107E-03	285.
RES LYM	5.038E-07	3.107E-03	2.024E 04
S WALL	4.407E-06	3.372E-03	8.703E-02
SI WALL	6.459E-05	3.695E-03	7.103E-02
ULI WALL	6.109E-05	3.773E-03	0.121
LLI WALL	7.830E-05	4.051E-03	0.128
T BODY	3.132E-03	1.41	84.0
ADREN	2.721E-06	2.92	3.08
BL WALL	3.680E-05	1.46	1.48
KIDNEYS	5.701E-06	3.542E-03	51.2
LIVER	3.192E-06	2.610E-03	395.
OVARIES	19.9	4.679E-03	19.9
PANCREAS	2.818E-06	2.92	3.06
BONE	5.893E-06	3.574E-03	889.
R MAR	2.023E-05	2.91	150.
Y MAR	7.916E-06	2.91	3.03
ENDOST	5.893E-06	8.823E-03	2.165E 03
SPLEEN	3.370E-06	2.92	2.99
TESTES	0.0	2.824E-03	19.9
THYMUS	2.696E-07	2.92	3.01
THYROID	7.316E-08	2.92	2.96
UTERUS	1.045E-04	2.92	2.94

PERCENT DOSE EQUIVALENT..

NUCLIDE	CM-247	PU-243	AM-243
TARGET			
LUNGS	99.4	0.6	0.0
RES LYM	99.6	0.3	0.1
S WALL	84.9	15.1	0.0
SI WALL	76.6	23.3	0.0
ULI WALL	70.5	29.5	0.0
LLI WALL	70.2	29.7	0.0
T BODY	99.6	0.1	0.2
ADREN	99.0	0.7	0.3
BL WALL	99.3	0.4	0.3
KIDNEYS	99.4	0.4	0.3
LIVER	99.4	0.3	0.3
OVARIES	99.4	0.3	0.3
PANCREAS	99.0	0.7	0.3
BONE	99.7	0.1	0.3
R MAR	99.6	0.1	0.3
Y MAR	98.9	0.8	0.3
ENDOST	99.7	0.0	0.3
SPLEEN	99.2	0.5	0.3
TESTES	99.4	0.3	0.3
THYMUS	99.2	0.5	0.3
THYROID	99.3	0.4	0.3
UTERUS	99.3	0.4	0.3

CASE 2.. INHALATION

AMAD (MICRON).. 1.00 D3 =0.310 D4 =8.000E-02 D5 =0.249

	SOLUBILITY CLASS	G.I. UPTAKE FRACTIONS STOMACH	S INT	U L INT	L L INT
CM-247	W	0.0	1.000E-03	0.0	0.0
PU-243	W	0.0	3.000E-05	0.0	0.0
AM-243	W	0.0	1.000E-03	0.0	0.0

DOSE EQUIVALENT (REM/MICROCURIE)

SOURCE	LUNGS	RES LYM	S CONT	SI CONT	ULI CONT	LLI CONT	EXCRET.	BONE	LIVER	KIDNEYS	TESTES
TARGET											
LUNGS	29.3	9.800E-03	2.877E-06	1.739E-06	5.748E-06	3.161E-06	1.313E-04	5.354E-02	0.106	8.699E-04	5.396E-07
RES LYM	0.117	157.	2.877E-06	1.739E-06	5.748E-06	3.161E-06	1.313E-04	5.354E-02	0.106	8.699E-04	5.396E-07
S WALL	1.337E-03	1.080E-04	2.282E-03	2.147E-05	6.942E-05	6.071E-05	1.316E-04	3.165E-02	8.265E-02	3.264E-03	3.697E-06
SI WALL	1.753E-04	1.414E-05	4.198E-06	5.087E-03	3.141E-04	3.120E-04	1.316E-04	4.290E-02	6.989E-02	2.691E-03	2.037E-05
ULI WALL	2.319E-04	1.870E-05	5.494E-06	1.511E-04	2.553E-02	1.449E-04	1.316E-04	3.888E-02	0.110	2.761E-03	1.405E-05
LLI WALL	6.260E-05	5.049E-06	1.982E-06	4.368E-05	5.686E-05	7.072E-02	1.316E-04	5.421E-02	1.238E-02	8.147E-04	1.201E-04
T BODY	0.419	3.373E-02	7.639E-06	5.708E-05	1.108E-04	2.240E-04	1.687E-04	158.	25.1	0.559	2.464E-02
ADREN	1.788E-03	1.445E-04	3.696E-06	7.726E-06	1.800E-05	1.574E-05	1.316E-04	8.219E-02	0.212	1.119E-02	2.493E-06
BL WALL	4.504E-05	3.632E-06	5.551E-07	1.848E-05	3.752E-05	2.057E-04	1.316E-04	3.199E-02	1.162E-02	3.335E-04	2.118E-04
KIDNEYS	7.017E-04	5.666E-05	5.400E-06	1.902E-05	5.138E-05	2.927E-05	1.316E-04	4.928E-02	0.165	126.	3.442E-06
LIVER	1.750E-03	1.414E-04	3.185E-06	1.108E-05	4.722E-05	1.058E-05	1.316E-04	3.762E-02	972.	3.798E-03	1.939E-06
OVARIES	9.887E-05	7.976E-06	7.657E-07	5.966E-05	2.316E-04	5.917E-04	1.316E-04	5.073E-02	1.341E-02	1.123E-03	0.0
PANCREAS	1.945E-03	1.571E-04	2.880E-05	1.253E-05	3.821E-05	2.452E-05	1.316E-04	5.212E-02	0.193	6.276E-03	3.129E-06
BONE	8.137E-04	6.589E-05	1.153E-06	5.855E-06	1.594E-05	4.115E-05	6.551E-04	2.205E 03	3.644E-02	1.063E-03	3.089E-05
R MAR	1.027E-03	8.319E-05	2.008E-06	1.931E-05	4.958E-05	1.260E-04	1.316E-04	365.	5.288E-02	2.736E-03	2.474E-05
Y MAR	8.514E-04	6.895E-05	1.615E-06	8.173E-06	2.275E-05	5.102E-05	1.313E-04	0.187	5.378E-02	1.315E-03	1.252E-05
ENDOST	8.137E-04	6.589E-05	1.153E-06	5.855E-06	1.594E-05	4.115E-05	1.316E-04	5.369E 03	3.644E-02	1.063E-03	3.089E-05
SPLEEN	1.593E-03	1.288E-04	1.576E-05	9.371E-06	2.447E-05	2.952E-05	1.316E-04	4.149E-02	4.179E-02	8.213E-03	3.642E-06
TESTES	1.376E-05	1.109E-06	6.031E-08	2.071E-06	7.872E-06	6.891E-05	1.316E-04	3.235E-02	4.250E-03	1.271E-04	49.2
THYMUS	2.773E-03	2.242E-04	3.907E-07	7.102E-07	2.511E-06	1.630E-06	1.316E-04	3.539E-02	4.541E-02	3.072E-04	3.450E-07
THYROID	7.611E-04	6.145E-05	1.988E-07	1.825E-07	6.307E-07	4.657E-07	1.313E-04	5.507E-02	8.264E-03	7.742E-05	9.936E-08
UTERUS	6.799E-05	5.487E-06	1.308E-06	5.582E-05	8.809E-05	2.104E-04	1.316E-04	3.195E-02	1.805E-02	8.759E-04	0.0

DOSE EQUIVALENT (REM/MICROCURIE)

SOURCE	OVARIES	OTHER	TOTAL
TARGET			
LUNGS	1.250E-06	7.707E-03	29.5
RES LYM	1.250E-06	7.707E-03	157.
S WALL	1.093E-05	8.363E-03	0.130
SI WALL	1.602E-04	9.166E-03	0.131
ULI WALL	1.515E-04	9.358E-03	0.187
LLI WALL	1.942E-04	1.005E-02	0.149
T BODY	7.766E-03	3.50	188.
ADREN	6.749E-06	7.23	7.54
BL WALL	9.128E-05	3.61	3.66
KIDNEYS	1.414E-05	8.786E-03	126.
LIVER	7.918E-06	6.473E-03	972.
OVARIES	49.3	1.160E-02	49.4
PANCREAS	6.991E-06	7.23	7.48
BONE	1.462E-05	8.865E-03	2.205E 03
R MAR	5.017E-05	7.21	372.
Y MAR	1.963E-05	7.22	7.46
ENDOST	1.462E-05	2.188E-02	5.369E 03
SPLEEN	8.360E-06	7.23	7.32
TESTES	0.0	7.006E-03	49.3
THYMUS	6.687E-07	7.24	7.32
THYROID	1.815E-07	7.23	7.29
UTERUS	2.593E-04	7.24	7.29

PERCENT DOSE EQUIVALENT..

NUCLIDE	CM-247	PU-243	AM-243
TARGET			
LUNGS	99.6	0.4	0.0
RES LYM	99.6	0.4	0.0
S WALL	92.3	7.7	0.0
SI WALL	91.7	8.3	0.0
ULI WALL	89.4	10.5	0.0
LLI WALL	84.0	16.0	0.0
T BODY	99.7	0.1	0.2
ADREN	99.2	0.6	0.2
BL WALL	99.3	0.4	0.2
KIDNEYS	99.4	0.3	0.2
LIVER	99.4	0.3	0.2
OVARIES	99.4	0.3	0.2
PANCREAS	99.2	0.6	0.2
BONE	99.7	0.1	0.2
R MAR	99.7	0.1	0.2
Y MAR	99.0	0.8	0.2
ENDOST	99.8	0.0	0.2
SPLEEN	99.3	0.4	0.2
TESTES	99.4	0.3	0.2
THYMUS	99.4	0.4	0.2
THYROID	99.4	0.4	0.2
UTERUS	99.4	0.4	0.2

CASE 3.. INGESTION

INGESTION TRANSFER FRACTIONS (G. I. TRACT TO BLOOD)

	CM-247	PU-243	AM-243
STOMACH	0.0	0.0	0.0
S INT	1.000E-03	3.000E-05	1.000E-03
U L INT	0.0	0.0	0.0
L L INT	0.0	0.0	0.0

DOSE EQUIVALENT (REM/MICROCURIE)

SOURCE	S CONT	SI CONT	ULI CONT	LLI CONT	EXCRET.	BONE	LIVER	KIDNEYS	TESTES	OVARIES	OTHER
TARGET											
LUNGS	4.546E-06	3.109E-06	1.074E-05	6.059E-06	1.082E-06	4.412E-04	8.754E-04	7.169E-06	4.447E-09	1.030E-08	6.352E-05
RES LYM	4.546E-06	3.109E-06	1.074E-05	6.059E-06	1.082E-06	4.412E-04	8.754E-04	7.169E-06	4.447E-09	1.030E-08	6.352E-05
S WALL	2.428E-03	3.627E-05	1.275E-04	1.160E-04	1.085E-06	2.608E-04	6.811E-04	2.690E-05	3.046E-08	9.010E-08	6.892E-05
SI WALL	6.650E-06	6.635E-03	5.753E-04	5.948E-04	1.085E-06	3.538E-04	5.759E-04	2.218E-05	1.679E-07	1.320E-06	7.553E-05
ULI WALL	8.592E-06	2.463E-04	4.264E-02	2.764E-04	1.085E-06	3.204E-04	9.034E-04	2.275E-05	1.158E-07	1.249E-06	7.712E-05
LLI WALL	3.227E-06	7.230E-05	1.044E-04	0.132	1.085E-06	4.468E-04	1.020E-04	6.714E-06	9.899E-08	1.601E-06	8.281E-05
T BODY	9.450E-06	7.834E-05	1.906E-04	4.204E-04	1.391E-06	1.30	0.207	4.604E-03	2.031E-04	6.400E-05	2.886E-02
ADREN	5.651E-06	1.391E-05	3.337E-05	3.018E-05	1.085E-06	6.773E-04	1.750E-03	9.218E-05	2.054E-08	5.562E-08	5.957E-02
BL WALL	9.394E-07	3.218E-05	6.916E-05	3.920E-04	1.085E-06	2.637E-04	9.576E-05	2.748E-06	1.745E-06	7.523E-07	2.979E-02
KIDNEYS	8.544E-06	3.239E-05	9.463E-05	5.598E-05	1.085E-06	4.061E-04	1.361E-03	1.04	2.837E-08	1.165E-07	7.241E-05
LIVER	5.090E-06	1.894E-05	8.703E-05	2.028E-05	1.085E-06	3.100E-04	8.01	3.130E-05	1.598E-08	6.525E-08	5.335E-05
OVARIES	1.196E-06	9.846E-05	4.272E-04	1.128E-03	1.085E-06	4.181E-04	1.105E-04	9.258E-06	0.0	0.406	9.563E-05
PANCREAS	4.467E-05	2.149E-05	7.039E-05	4.688E-05	1.085E-06	4.295E-04	1.594E-07	5.172E-05	1.755E-08	5.761E-08	5.957E-02
BONE	1.667E-06	9.232E-06	2.861E-05	7.795E-05	5.399E-06	18.2	3.003E-04	8.763E-06	2.545E-07	1.205E-07	7.306E-05
R MAR	2.931E-06	2.999E-05	8.844E-05	2.383E-04	1.085E-06	3.01	4.358E-04	2.255E-05	2.039E-07	4.135E-07	5.946E-02
Y MAR	2.320E-06	1.285E-05	4.079E-05	9.660E-05	1.082E-06	1.542E-03	4.432E-04	1.083E-05	1.031E-07	1.618E-07	5.949E-02
ENDOST	1.667E-06	9.232E-06	2.861E-05	7.795E-05	1.085E-06	44.2	3.003E-04	8.763E-06	2.545E-07	1.205E-07	1.803E-04
SPLEEN	2.452E-05	1.617E-05	4.497E-05	5.643E-05	1.085E-06	3.419E-04	3.444E-04	6.768E-05	3.001E-08	6.889E-08	5.957E-02
TESTES	9.952E-08	3.677E-06	1.484E-05	1.318E-04	1.085E-06	2.666E-04	3.502E-05	1.047E-06	0.406	0.0	5.774E-05
THYMUS	5.988E-07	1.297E-06	4.733E-06	3.134E-06	1.085E-06	2.917E-04	3.743E-04	2.532E-06	2.843E-09	5.511E-09	5.965E-02
THYROID	3.535E-07	3.395E-07	1.201E-06	8.964E-07	1.082E-06	4.612E-04	6.811E-05	6.380E-07	8.188E-10	1.496E-09	5.957E-02
UTERUS	2.194E-06	9.311E-05	1.608E-04	4.010E-04	1.085E-06	2.633E-04	1.487E-04	7.219E-06	0.0	2.137E-06	5.966E-02

DOSE EQUIVALENT (REM/MICROCURIE)

SOURCE	TOTAL
TARGET	
LUNGS	1.413E-03
RES LYM	1.413E-03
S WALL	3.747E-03
SI WALL	8.841E-03
ULI WALL	4.450E-02
LLI WALL	0.133
T BODY	1.54
ADREN	6.217E-02
BL WALL	3.065E-02
KIDNEYS	1.04
LIVER	8.01
OVARIES	0.409
PANCREAS	6.183E-02
BONE	18.2
R MAR	3.07
Y MAR	6.164E-02
ENDOST	44.2
SPLEEN	6.047E-02
TESTES	0.406
THYMUS	6.033E-02
THYROID	6.010E-02
UTERUS	6.074E-02

PERCENT DOSE EQUIVALENT..

NUCLIDE	CM-247	PU-243	AM-243
TARGET			
LUNGS	92.1	7.9	0.0
RES LYM	92.1	7.9	0.0
S WALL	95.2	4.8	0.0
SI WALL	89.1	10.9	0.0
ULI WALL	80.3	19.7	0.0
LLI WALL	76.6	23.4	0.0
T BODY	99.6	0.1	0.2
ADREN	99.2	0.6	0.2
BL WALL	99.2	0.5	0.2
KIDNEYS	99.4	0.4	0.2
LIVER	99.4	0.3	0.2
OVARIES	99.4	0.4	0.2
PANCREAS	99.2	0.6	0.2
BONE	99.7	0.1	0.2
R MAR	99.7	0.1	0.2
Y MAR	99.0	0.8	0.2
ENDOST	99.8	0.0	0.2
SPLEEN	99.3	0.4	0.2
TESTES	99.4	0.3	0.2
THYMUS	99.4	0.4	0.2
THYROID	99.4	0.4	0.2
UTERUS	99.3	0.5	0.2

RADIONUCLIDE: CM-243

PHYSICAL AND METABOLIC PARAMETERS FOR DOSIMETRICALLY SIGNIFICANT PROGENY:

NUCLIDE	RADIOACTIVE HALF-LIFE (DAYS)
CM-243	1.2400E 08

ORGAN ABSORBED	NUCLIDE	BLOOD TRANSFER FRACTION F2-PRIME	COMPARTMENT DEPOSITION FRACTION	COMPARTMENT BIOLOGICAL HALF-TIME (DAYS)
	CM-248	1.00	4.000E-02	0.500
			0.460	1.460E 04
			0.500	3.650E 04
EXCRET.	CM-248	4.000E-02	1.00	0.500
BONE	CM-248	0.450	1.00	3.550E 04
LIVER	CM-248	0.450	1.00	1.460E 04
KIDNEYS	CM-248	1.000E-02	1.00	1.460E 04
TESTES	CM-248	3.500E-04	1.00	3.650E 04
OVARIES	CM-248	1.100E-04	1.00	3.650E 04
OTHER	CM-248	5.000E-02	1.00	3.650E 04

S FACTORS (REM/MICROCURIE-DAY) FOR CM-248

TARGET ORGANS	SOURCE ORGANS													
	LUNGS	RES LYM	S CONT	SI CONT	ULI CONT	LLI CONT	EXCRET.	BONE	LIVER	KIDNEYS	TESTES	OVARIES	OTHER
LUNGS	0.180E 02	0.112E 00	0.577E-02	0.624E-03	0.558E-03	0.303E-03	0.262E 00	0.239E-02	0.228E-02	0.222E-02	0.312E-04	0.233E-03	0.402E-02
RES LYM	0.112E 00	0.120E 04	0.577E-02	0.624E-03	0.558E-03	0.303E-03	0.262E 00	0.239E-02	0.228E-02	0.222E-02	0.312E-04	0.233E-03	0.402E-02
S WALL	0.644E-02	0.646E-02	0.553E 00	0.367E-02	0.963E-02	0.426E-02	0.262E 00	0.117E-02	0.459E-02	0.822E-02	0.227E-03	0.213E-02	0.496E-02
SI WALL	0.620E-03	0.620E-03	0.770E-02	0.356E 00	0.564E-01	0.242E-01	0.262E 00	0.118E-02	0.456E-02	0.743E-02	0.129E-02	0.290E-01	0.352E-02
ULI WALL	0.633E-03	0.633E-03	0.855E-02	0.633E-01	0.582E 00	0.112E-01	0.262E 00	0.980E-03	0.430E-02	0.687E-02	0.115E-02	0.208E-01	0.344E-02
LLI WALL	0.232E-03	0.232E-03	0.306E-02	0.209E-01	0.856E-02	0.957E 00	0.262E 00	0.200E-02	0.663E-03	0.199E-02	0.207E-01	0.431E-01	0.519E-02
T BODY	0.262E 00	0.262E 00	0.633E-02	0.778E-02	0.724E-02	0.793E-02	0.335E 00	0.129E 01	0.262E 00	0.262E 00	0.262E 00	0.262E 00	0.260E 00
ADREN	0.639E-02	0.639E-02	0.678E-02	0.264E-02	0.224E-02	0.919E-03	0.261E 00	0.347E-02	0.131E-01	0.331E-01	0.114E-03	0.995E-03	0.531E 00
BL WALL	0.104E-03	0.104E-03	0.873E-03	0.614E-02	0.702E-02	0.156E-01	0.261E 00	0.121E-02	0.606E-03	0.928E-03	0.122E-02	0.169E-01	0.270E 00
KIDNEYS	0.223E-02	0.223E-02	0.823E-02	0.747E-02	0.671E-02	0.240E-02	0.261E 00	0.319E-02	0.102E-01	0.583E 02	0.272E-03	0.270E-02	0.343E-02
LIVER	0.226E-02	0.226E-02	0.349E-02	0.460E-02	0.506E-02	0.783E-03	0.262E 00	0.163E-02	0.101E 02	0.102E-01	0.167E-03	0.147E-02	0.385E-02
OVARIES	0.235E-03	0.235E-03	0.205E-02	0.276E-01	0.167E-01	0.506E-01	0.262E 00	0.118E-02	0.147E-02	0.270E-02	0.0	0.164E 04	0.474E-02
PANCREAS	0.516E-02	0.516E-02	0.472E-01	0.471E-02	0.434E-02	0.185E-02	0.262E 00	0.184E-02	0.106E-01	0.163E-01	0.163E-03	0.149E-02	0.533E 00
BONE	0.118E-01	0.118E-01	0.664E-02	0.982E-02	0.156E-01	0.132E-01	0.170E 01	0.180E 02	0.921E-02	0.131E-01	0.123E-01	0.109E-01	0.171E-01
R MAR	0.317E-02	0.317E-02	0.238E-02	0.633E-02	0.492E-02	0.883E-02	0.265E 00	0.410E 00	0.260E-02	0.720E-03	0.191E-02	0.792E-02	0.531E 00
Y MAR	0.256E-02	0.256E-02	0.215E-02	0.261E-02	0.208E-02	0.299E-02	0.260E 00	0.648E-02	0.308E-02	0.332E-02	0.699E-03	0.275E-02	0.533E 00
ENDOST	0.239E-02	0.239E-02	0.111E-02	0.119E-02	0.320E-02	0.160E-02	0.261E 00	0.643E 01	0.163E-02	0.719E-02	0.310E-02	0.117E-02	0.430E-02
SPLEEN	0.507E-02	0.507E-02	0.249E-01	0.374E-02	0.334E-02	0.222E-02	0.261E 00	0.168E-02	0.254E-02	0.246E-01	0.160E-02	0.135E-02	0.532E 00
TESTES	0.324E-04	0.324E-04	0.225E-03	0.128E-02	0.493E-02	0.142E-01	0.261E 00	0.313E-02	0.180E-03	0.277E-07	0.314E 03	0.0	0.446E-02
THYMUS	0.919E-02	0.919E-02	0.951E-03	0.210E-03	0.200E-02	0.211E-02	0.263E 00	0.181E-02	0.151E-02	0.540E-03	0.135E-04	0.821E-04	0.537E 00
THYROID	0.234E-02	0.234E-02	0.234E-03	0.516E-04	0.492E-04	0.226E-04	0.260E 00	0.219E-02	0.288E-03	0.135E-03	0.444E-05	0.222E-04	0.531E 00
UTERUS	0.219E-03	0.219E-03	0.154E-02	0.229E-01	0.936E-02	0.151E-01	0.262E 00	0.941E-03	0.129E-02	0.228E-02	0.0	0.479E-01	0.533E 00

α decay (3.39E5 Y 3)

Case 1 represents inhalation of oxides, hydroxides, and carbides; case 2 inhalation of nitrates; and case 3 ingestion of any compound.

CASE 1.. INHALATION

AMAD (MICRON).. 1.00 D3 =0.310 D4 =8.000E-02 D5 =0.249

	SOLUBILITY CLASS	G.I. UPTAKE FRACTIONS STOMACH	S INT	U L INT	L L INT
CM-248	Y	0.0	1.000E-03	0.0	0.0

DOSE EQUIVALENT (REM/MICROCURIE)

SOURCE	LUNGS	RES LYM	S CONT	SI CONT	ULI CONT	LLI CONT	EXCRET.	BONE	LIVER	KIDNEYS	TESTES
TARGET											
LUNGS	1.946E 03	13.0	1.407E-04	6.081E-05	1.767E-04	1.772E-04	3.820E-04	0.811	0.617	1.335E-02	8.233E-06
RES LYM	12.1	1.391E 05	1.407E-04	6.081E-05	1.767E-04	1.772E-04	3.820E-04	0.811	0.617	1.335E-02	8.233E-06
S WALL	0.698	0.749	1.446E-02	8.449E-04	3.050E-03	2.491E-03	3.820E-04	0.397	1.35	4.942E-02	5.994E-05
SI WALL	6.704E-02	7.188E-02	1.878E-04	3.469E-02	1.786E-02	1.415E-02	3.820E-04	0.401	1.23	4.467E-02	3.380E-04
ULI WALL	6.844E-02	7.338E-02	2.183E-04	6.169E-03	0.184	6.549E-03	3.820E-04	0.336	1.70	4.171E-02	3.036E-04
LLI WALL	2.509E-02	2.690E-02	7.463E-05	2.027E-03	2.711E-03	0.560	3.820E-04	0.679	0.179	1.197E-02	5.466E-03
T BODY	28.3	30.4	1.544E-04	7.582E-04	2.293E-03	4.637E-03	4.884E-04	438.	70.9	1.58	6.918E-02
ADREN	0.691	0.741	1.653E-04	2.573E-04	7.095E-04	5.373E-04	3.805E-04	1.18	3.54	0.199	3.010E-05
BL WALL	1.125E-02	1.206E-02	2.129E-05	5.984E-04	2.223E-03	9.121E-03	3.805E-04	0.411	0.164	5.580E-03	3.221E-04
KIDNEYS	0.241	0.259	2.007E-04	7.280E-04	1.808E-03	1.403E-03	3.805E-04	1.08	2.76	350.	7.182E-05
LIVER	0.244	0.262	1.193E-04	4.483E-04	1.603E-03	4.578E-04	3.820E-04	0.553	2.733E 03	6.133E-02	4.409E-05
OVARIES	2.541E-02	2.724E-02	4.999E-05	2.690E-03	5.289E-03	2.959E-02	3.820E-04	0.401	0.398	1.623E-02	0.0
PANCREAS	0.558	0.598	1.151E-03	4.590E-04	1.375E-03	1.082E-03	3.820E-04	0.625	2.87	9.801E-02	4.304E-05
BONE	1.28	1.37	1.619E-04	9.570E-04	4.941E-03	7.718E-03	1.895E-03	6.111E 03	2.49	7.877E-02	3.248E-03
R MAR	0.343	0.367	5.804E-05	6.169E-04	1.558E-03	5.163E-03	3.791E-04	139.	0.703	4.329E-03	4.779E-04
Y MAR	0.277	0.297	5.243E-05	2.543E-04	6.588E-04	1.748E-03	3.791E-04	2.20	0.833	1.996E-02	1.819E-04
ENDOST	0.258	0.277	2.707E-05	1.150E-04	1.014E-03	9.355E-04	3.805E-04	2.183E 03	0.441	1.918E-02	8.185E-04
SPLEEN	0.548	0.588	6.072E-04	3.645E-04	9.628E-04	1.298E-03	3.805E-04	0.570	0.687	0.148	3.961E-05
TESTES	3.503E-03	3.756E-03	5.487E-06	1.247E-04	1.561E-03	8.303E-03	3.805E-04	1.06	4.870E-02	1.666E-03	136.
THYMUS	0.994	1.07	2.417E-05	2.046E-05	6.334E-05	1.234E-04	3.820E-04	0.614	0.409	3.247E-03	3.564E-06
THYROID	0.253	0.271	5.707E-06	5.029E-06	1.558E-05	1.321E-05	3.791E-04	0.743	7.793E-02	8.117E-04	1.172E-06
UTERUS	2.368E-02	2.539E-02	4.731E-05	2.232E-03	2.965E-03	8.829E-03	3.820E-04	0.319	0.349	1.371E-02	0.0

DOSE EQUIVALENT (REM/MICROCURIE)

SOURCE	OVARIES	OTHER	TOTAL
TARGET			
LUNGS	1.933E-05	0.152	1.961E 03
RES LYM	1.933E-05	0.152	1.391E 05
S WALL	1.759E-04	0.187	3.45
SI WALL	2.324E-03	0.106	1.99
ULI WALL	2.556E-03	0.130	2.55
LLI WALL	3.577E-03	0.196	1.69
T BODY	2.174E-02	9.81	579.
ADREN	8.257E-05	20.0	26.4
BL WALL	1.402E-03	10.2	10.8
KIDNEYS	2.241E-04	0.129	354.
LIVER	1.220E-04	0.108	2.734E 03
OVARIES	136.	0.179	137.
PANCREAS	1.228E-04	20.1	24.9
BONE	9.045E-04	0.645	6.116E 03
R MAR	6.572E-04	20.0	161.
Y MAR	2.282E-04	20.0	23.6
ENDOST	9.709E-05	0.162	2.184E 03
SPLEEN	1.120E-04	20.1	22.6
TESTES	0.0	0.168	137.
THYMUS	6.813E-06	20.3	23.3
THYROID	1.842E-06	20.0	21.4
UTERUS	3.975E-03	20.3	21.0

CASE 2.. INHALATION

AMAD (MICRON).. 1.00 D3 =0.310 D4 =8.000E-02 D5 =0.249

	SOLUBILITY CLASS	G.I. UPTAKE FRACTIONS STOMACH	S INT	U L INT	L L INT
CM-248	W	0.0	1.000E-03	0.0	0.0

DOSE EQUIVALENT (REM/MICROCURIE)

SOURCE	LUNGS	RES LYM	S CONT	SI CONT	ULI CONT	LLI CONT	EXCRET.	BONE	LIVER	KIDNEYS	TESTES
TARGET											
LUNGS	201.	0.101	1.246E-04	5.385E-05	1.565E-04	1.569E-04	9.173E-04	2.01	1.52	3.288E-02	2.044E-05
RES LYM	1.25	1.078E 03	1.246E-04	5.385E-05	1.565E-04	1.569E-04	9.173E-04	2.01	1.52	3.288E-02	2.044E-05
S WALL	7.208E-02	5.805E-03	1.281E-02	7.482E-04	2.701E-03	2.206E-03	9.173E-04	0.985	3.33	0.122	1.487E-04
SI WALL	6.918E-03	5.571E-04	1.663E-04	3.072E-02	1.582E-02	1.253E-02	9.173E-04	0.994	3.04	0.110	8.384E-04
ULI WALL	7.063E-03	5.688E-04	1.933E-04	5.463E-03	0.163	5.799E-03	9.173E-04	0.833	4.20	0.102	7.532E-04
LLI WALL	2.589E-03	2.085E-04	6.608E-05	1.795E-03	2.401E-03	0.496	9.173E-04	1.68	0.442	2.948E-02	1.356E-02
T BODY	2.92	0.235	1.367E-04	6.714E-04	2.031E-03	4.106E-03	1.173E-03	1.086E 03	175.	3.38	0.172
ADREN	7.130E-02	5.742E-03	1.464E-04	2.278E-04	6.282E-04	4.758E-04	9.138E-04	2.92	8.73	0.490	7.467E-05
BL WALL	1.160E-03	9.346E-05	1.885E-05	5.299E-04	1.969E-03	8.077E-03	9.138E-04	1.02	0.404	1.375E-02	7.991E-04
KIDNEYS	2.488E-02	2.004E-03	1.777E-04	6.446E-04	1.601E-03	1.243E-03	9.138E-04	2.69	6.80	862.	1.782E-04
LIVER	2.522E-02	2.031E-03	1.056E-04	3.970E-04	1.419E-03	4.054E-04	9.173E-04	1.37	6.732E 03	0.151	1.094E-04
OVARIES	2.622E-03	2.112E-04	4.427E-05	2.382E-03	4.684E-03	2.620E-02	9.173E-04	0.994	0.980	3.999E-02	0.0
PANCREAS	5.758E-02	4.637E-03	1.019E-03	4.065E-04	1.217E-03	9.579E-04	9.173E-04	1.55	7.07	0.241	1.068E-04
BONE	0.132	1.060E-02	1.434E-04	8.474E-04	4.375E-03	6.835E-03	4.552E-03	1.516E 04	6.14	0.194	8.056E-03
R MAR	3.537E-02	2.849E-03	5.140E-05	5.463E-04	1.380E-03	4.572E-03	9.103E-04	345.	1.73	1.066E-02	1.186E-03
Y MAR	2.857E-02	2.300E-03	4.643E-05	2.252E-04	5.834E-04	1.548E-03	9.103E-04	5.46	2.05	4.918E-02	4.513E-04
ENDOST	2.667E-02	2.148E-03	2.397E-05	1.018E-04	8.975E-04	8.284E-04	9.138E-04	5.415E 03	1.09	4.725E-02	2.030E-03
SPLEEN	5.657E-02	4.556E-03	5.377E-04	3.227E-04	8.526E-04	1.149E-03	9.138E-04	1.41	1.69	0.364	9.825E-05
TESTES	3.615E-04	2.912E-05	4.859E-06	1.105E-04	1.383E-03	7.352E-03	9.138E-04	2.64	0.120	4.103E-03	337.
THYMUS	0.103	8.258E-03	2.140E-05	1.812E-05	5.609E-05	1.093E-04	9.173E-04	1.52	1.01	7.999E-03	8.842E-06
THYROID	2.611E-02	2.103E-03	5.053E-06	4.453E-06	1.380E-05	1.170E-05	9.103E-04	1.84	0.192	2.000E-03	2.908E-06
UTERUS	2.444E-03	1.968E-04	4.190E-05	1.976E-03	2.625E-03	7.818E-03	9.173E-04	0.792	0.860	3.377E-02	0.0

DOSE EQUIVALENT (REM/MICROCURIE)

SOURCE	OVARIES	OTHER	TOTAL
TARGET			
LUNGS	4.796E-05	0.376	205.
RES LYM	4.796E-05	0.376	1.084E 03
S WALL	4.364E-04	0.464	5.00
SI WALL	5.764E-03	0.264	4.48
ULI WALL	6.340E-03	0.322	5.65
LLI WALL	8.872E-03	0.486	3.17
T BODY	5.393E-02	24.3	1.293E 03
ADREN	2.048E-04	49.7	61.9
BL WALL	3.479E-03	25.3	26.7
KIDNEYS	5.558E-04	0.321	872.
LIVER	3.026E-04	0.267	6.734E 03
OVARIES	338.	0.444	340.
PANCREAS	3.047E-04	49.9	58.8
BONE	2.244E-03	1.60	1.517E 04
R MAR	1.630E-03	49.7	397.
Y MAR	5.661E-04	49.6	57.2
ENDOST	2.409E-04	0.402	5.417E 03
SPLEEN	2.779E-04	49.8	53.3
TESTES	0.0	0.417	340.
THYMUS	1.690E-05	50.2	52.9
THYROID	4.570E-06	49.7	51.8
UTERUS	9.861E-03	50.3	52.1

CASE 3.. INGESTION

INGESTION TRANSFER FRACTIONS (G. I. TRACT TO BLOOD)

	CM-248
STOMACH	0.0
S INT	1.000E-03
U L INT	0.0
L L INT	0.0

DOSE EQUIVALENT (REM/MICROCURIE)

SOURCE	S CONT	SI CONT	ULI CONT	LLI CONT	EXCRET.	BONE	LIVER	KIDNEYS	TESTES	OVARIES	OTHER
TARGET											
LUNGS	2.404E-04	1.039E-04	3.020E-04	3.027E-04	7.560E-06	1.639E-02	1.252E-02	2.710E-04	1.684E-07	3.953E-07	3.100E-03
RES LYM	2.404E-04	1.039E-04	3.020E-04	3.027E-04	7.560E-06	1.659E-02	1.252E-02	2.710E-04	1.684E-07	3.953E-07	3.103E-03
S WALL	2.471E-02	1.444E-03	5.211E-03	4.256E-03	7.560E-06	8.120E-03	2.741E-02	1.003E-02	1.225E-06	3.597E-06	3.825E-03
SI WALL	3.238E-04	5.927E-02	3.052E-02	2.418E-02	7.560E-06	8.189E-03	2.505E-02	9.070E-04	6.909E-06	4.750E-05	2.175E-03
ULI WALL	3.729E-04	1.054E-02	0.315	1.119E-02	7.560E-06	6.864E-03	3.461E-02	9.386E-04	6.208E-06	5.225E-05	2.653E-03
LLI WALL	1.275E-04	3.463E-03	4.632E-03	0.956	7.560E-06	1.388E-02	3.642E-03	2.429E-04	1.117E-04	7.312E-05	4.002E-03
T BODY	2.637E-04	1.295E-03	3.918E-03	7.922E-03	9.666E-06	8.95	1.44	3.198E-02	1.414E-03	4.445E-04	0.200
ADREN	2.825E-04	4.396E-04	1.212E-03	9.181E-04	7.531E-06	2.408E-02	7.196E-02	4.040E-03	6.154E-07	1.688E-06	0.409
BL WALL	3.637E-05	1.022E-03	3.799E-03	1.558E-02	7.531E-06	8.398E-03	3.329E-03	1.133E-04	6.585E-06	2.867E-05	0.208
KIDNEYS	3.429E-04	1.244E-03	3.090E-03	2.398E-03	7.531E-06	2.214E-02	5.603E-02	7.10	1.468E-06	4.580E-06	2.645E-03
LIVER	2.037E-04	7.659E-04	2.738E-03	7.822E-04	7.560E-06	1.131E-02	55.5	1.245E-03	9.014E-07	2.494E-06	2.198E-03
OVARIES	8.542E-05	4.595E-03	9.037E-03	5.055E-02	7.560E-06	8.199E-05	8.075E-03	3.296E-04	0.0	2.78	3.655E-03
PANCREAS	1.967E-03	7.842E-04	2.349E-03	1.848E-03	7.560E-06	1.277E-02	5.823E-02	1.990E-03	8.799E-07	2.511E-06	0.411
BONE	2.767E-04	1.635E-03	8.442E-03	1.319E-02	3.751E-05	125.	5.059E-02	1.599E-03	6.639E-05	1.849E-05	1.319E-02
R MAR	9.917E-05	1.054E-03	2.662E-03	8.821E-03	7.502E-06	2.85	1.428E-02	8.789E-05	9.770E-06	1.344E-05	0.409
Y MAR	8.958E-05	4.346E-04	1.126E-03	2.987E-03	7.502E-06	4.497E-02	1.692E-02	4.053E-04	3.719E-06	4.665E-06	0.409
ENDOST	4.625E-05	1.965E-04	1.732E-03	1.598E-03	7.531E-06	44.6	8.954E-03	3.894E-04	1.673E-05	1.985E-06	3.316E-03
SPLEEN	1.037E-03	6.227E-04	1.645E-03	2.218E-03	7.531E-06	1.166E-02	1.395E-02	3.003E-03	8.097E-07	2.290E-06	0.410
TESTES	9.375E-06	2.131E-04	2.668E-03	1.419E-02	7.531E-06	2.172E-02	9.887E-04	3.381E-05	2.77	0.0	3.439E-03
THYMUS	4.129E-05	3.496E-05	1.082E-04	2.108E-04	7.560E-06	1.256E-02	8.294E-03	6.592E-05	7.287E-08	1.393E-07	0.414
THYROID	9.750E-06	8.591E-06	2.662E-05	2.258E-05	7.502E-06	1.520E-02	1.582E-03	1.648E-05	2.397E-08	3.766E-08	0.409
UTERUS	8.083E-05	3.813E-03	5.065E-03	1.508E-02	7.560E-06	6.531E-03	7.086E-03	2.783E-04	0.0	8.126E-05	0.415

DOSE EQUIVALENT (REM/MICROCURIE)

SOURCE	TOTAL
TARGET	
LUNGS	3.344E-02
RES LYM	3.344E-02
S WALL	7.599E-02
SI WALL	0.151
ULI WALL	0.382
LLI WALL	0.986
T BODY	10.6
ADREN	0.512
BL WALL	0.241
KIDNEYS	7.19
LIVER	55.5
OVARIES	2.87
PANCREAS	0.491
BONE	125.
R MAR	3.28
Y MAR	0.476
ENDOST	44.6
SPLEEN	0.444
TESTES	2.82
THYMUS	0.435
THYROID	0.426
UTERUS	0.453

RADIONUCLIDE: CF-252

PHYSICAL AND METABOLIC PARAMETERS FOR DOSIMETRICALLY SIGNIFICANT PROGENY:

NUCLIDE	RADIOACTIVE HALF-LIFE (DAYS)
CF-252	963.0

ORGAN ABSORBED	NUCLIDE	BLOOD TRANSFER FRACTION F2-PRIME	COMPARTMENT DEPOSITION FRACTION	COMPARTMENT BIOLOGICAL HALF-TIME (DAYS)
	CF-252	1.00	4.000E-02	0.500
			0.460	1.460E 04
			0.500	3.650E 04
EXCRET.	CF-252	4.000E-02	1.00	0.500
BONE	CF-252	0.450	1.00	3.650E 04
LIVER	CF-252	0.450	1.00	1.460E 04
KIDNEYS	CF-252	1.000E-02	1.00	1.460E 04
TESTES	CF-252	3.500E-04	1.00	3.650E 04
OVARIES	CF-252	1.100E-04	1.00	3.650E 04
OTHER	CF-252	5.000E-02	1.00	3.650E 04

S FACTORS (REM/MICROCURIE-DAY) FOR CF-252

TARGET ORGANS	SOURCE ORGANS												
	LUNGS	RES LYM	S CONT	SI CONT	ULI CONT	LLI CONT	EXCRET.	BONE	LIVER	KIDNEYS	TESTES	OVARIES	OTHER
LUNGS	3.921E 01	0.463E-01	0.364E-02	0.281E-03	0.249E-03	0.136E-03	0.133E 00	0.108E-02	0.999E-03	0.101E-02	0.135E-04	0.104E-03	0.183E-02
RES LYM	0.463E-01	0.612E 03	0.264E-02	0.281E-03	0.240E-03	0.136E-03	0.133E 00	0.108E-02	0.999E-03	0.101E-02	0.136E-04	0.104E-03	0.183E-02
S WALL	0.295E-02	0.295E-02	0.279E 00	0.394E-02	0.438E-02	0.194E-02	0.133E 00	0.630E-03	0.226E-02	0.774E-02	0.102E-03	0.961E-03	0.287E-02
SI WALL	0.279E-03	0.279E-03	0.351E-02	0.169E 00	0.259E-01	0.119E-01	0.133E 00	0.529E-03	0.207E-02	0.329E-02	0.581E-03	0.127E-01	0.127E-02
ULI WALL	0.282E-03	0.282E-03	0.448E-02	0.288E-01	0.275E 00	0.502E-02	0.133E 00	0.440E-03	0.287E-02	0.312E-02	0.520E-03	0.140E-01	0.156E-02
LLI WALL	0.105E-03	0.105E-03	0.139E-02	0.950E-02	0.390E-02	0.452E 00	0.133E 00	0.905E-03	0.299E-03	0.901E-03	0.952E-02	0.197E-01	0.233E-03
T BODY	0.134E 00	0.134E 00	0.291E-02	0.359E-02	0.333E-02	0.366E-02	0.171E 00	0.658E 00	0.134E 00	0.133E 00	0.134E 00	0.134E 00	0.133E 00
ADREN	0.292E-02	0.292E-02	0.309E-02	0.119E-02	0.101E-02	0.414E-03	0.133E 00	0.137E-02	0.596E-02	0.151E-01	0.502E-04	0.448E-03	0.771E 00
BL WALL	0.459E-04	0.459E-04	0.394E-03	0.274E-02	0.221E-02	0.709E-02	0.133E 00	0.545E-03	0.274E-03	0.419E-03	0.446E-03	0.763E-02	0.137E 00
KIDNEYS	0.101E-02	0.101E-02	0.374E-02	0.343E-02	0.258E-02	0.109E-02	0.133E 00	0.146E-02	0.463E-02	0.297E 02	0.122E-03	0.123E-02	0.156E-02
LIVER	0.999E-03	0.999E-03	0.222E-02	0.209E-02	0.229E-02	0.353E-03	0.133E 00	0.739E-03	0.513E 01	0.463E-02	0.747E-04	0.663E-03	0.130E-02
OVARIES	0.104E-03	0.104E-03	0.969E-03	0.126E-01	0.753E-02	0.231E-01	0.133E 00	0.524E-03	0.664E-03	0.123E-02	0.0	0.835E 03	0.215E-02
PANCREAS	0.233E-02	0.233E-02	0.215E-01	0.214E-02	0.176E-02	0.940E-03	0.134E 00	0.828E-03	0.480E-02	0.743E-02	0.726E-04	0.670E-03	0.272E 00
BONE	0.944E-02	0.944E-02	0.307E-02	0.454E-02	0.729E-02	0.609E-02	0.664E 00	0.919E 01	0.426E-02	0.606E-02	0.567E-02	0.504E-02	0.791E-02
R MAR	0.144E-02	0.144E-02	0.108E-02	0.289E-02	0.223E-02	0.402E-02	0.133E 00	0.520E 00	0.118E-02	0.274E-03	0.429E-03	0.363E-02	0.271E 00
Y MAR	0.116E-02	0.116E-02	0.978E-03	0.118E-02	0.942E-03	0.136E-02	0.133E 00	0.293E-02	0.140E-02	0.151E-02	0.312E-03	0.125E-02	0.270E 00
ENDOST	0.103E-02	0.103E-02	0.499E-03	0.524E-03	0.147E-02	0.715E-03	0.133E 00	0.577E 01	0.739E-03	0.146E-02	0.142E-03	0.532E-03	0.193E-02
SPLEEN	0.230E-02	0.230E-02	0.114E-01	0.170E-02	0.178E-02	0.103E-02	0.133E 00	0.764E-03	0.115E-02	0.112E-01	0.667E-04	0.603E-03	0.271E 00
TESTES	0.140E-04	0.140E-04	0.101E-03	0.579E-03	0.228E-02	0.655E-02	0.133E 00	0.143E-02	0.794E-04	0.124E-03	0.763E 03	0.0	0.204E-02
THYMUS	0.417E-02	0.417E-02	0.445E-03	0.932E-04	0.893E-04	0.958E-04	0.133E 00	0.821E-03	0.676E-03	0.244E-02	0.364E-05	0.739E-04	0.273E 00
THYROID	0.105E-02	0.105E-02	0.104E-03	0.224E-04	0.212E-04	0.966E-05	0.133E 00	0.100E-02	0.128E-03	0.595E-04	0.179E-05	0.944E-05	0.271E 00
UTERUS	0.969E-04	0.969E-04	0.974E-03	0.104E-01	0.423E-02	0.687E-02	0.134E 00	0.420E-03	0.584E-03	0.103E-02	0.0	0.218E-01	0.274E 00

α decay (2.638 Y 10)

Case 1 represents inhalation of oxides, hydroxides, and carbides; case 2 inhalation of nitrates; and case 3 ingestion of any compound.

CASE 1.. INHALATION

AMAD (MICRON).. 1.00 D3 =0.310 D4 =8.000E-02 D5 =0.249

	SOLUBILITY CLASS	G.I. UPTAKE FRACTIONS STOMACH	S INT	U L INT	L L INT
CF-252	Y	0.0	1.000E-03	0.0	0.0

DOSE EQUIVALENT (REM/MICROCURIE)

SOURCE	LUNGS	RES LYM	S CONT	SI CONT	ULI CONT	LLI CONT	EXCRET.	BONE	LIVER	KIDNEYS	TESTES
TARGET											
LUNGS	657.	0.904	6.061E-05	2.578E-05	7.420E-05	7.477E-05	9.011E-05	1.545E-02	1.377E-02	3.093E-04	1.514E-07
RES LYM	3.30	1.195E 04	6.061E-05	2.578E-05	7.420E-05	7.477E-05	9.011E-05	1.545E-02	1.377E-02	3.093E-04	1.514E-07
S WALL	0.210	5.762E-02	6.405E-03	3.614E-04	1.305E-03	1.067E-03	9.011E-05	7.584E-03	3.114E-02	1.145E-03	1.135E-06
SI WALL	1.989E-02	5.449E-03	8.058E-05	1.541E-02	7.688E-03	6.047E-03	9.011E-05	7.570E-03	2.852E-02	1.035E-03	6.467E-06
ULI WALL	2.011E-02	5.508E-03	9.367E-05	2.642E-03	8.195E-02	2.798E-03	9.011E-05	6.296E-03	3.955E-02	9.553E-04	5.788E-06
LLI WALL	7.487E-03	2.051E-03	3.191E-05	8.714E-04	1.162E-03	0.248	9.011E-05	1.295E-02	4.120E-03	2.759E-04	1.060E-04
T BODY	9.56	2.62	6.681E-05	3.293E-04	9.923E-04	2.012E-03	1.159E-04	9.42	1.86	4.072E-02	1.491E-03
ADREN	0.208	5.703E-02	7.094E-05	1.092E-04	3.010E-04	2.276E-04	9.011E-05	2.247E-02	8.212E-02	4.624E-03	5.587E-07
BL WALL	3.273E-03	8.965E-04	9.045E-06	2.550E-04	9.566E-04	3.898E-03	9.011E-05	7.799E-03	3.775E-03	1.283E-04	4.964E-06
KIDNEYS	7.202E-02	1.973E-02	8.586E-05	3.119E-04	7.688E-04	5.992E-04	9.011E-05	2.089E-02	6.380E-02	9.09	1.358E-06
LIVER	7.059E-02	1.934E-02	5.097E-05	1.917E-04	6.324E-04	1.941E-04	9.011E-05	1.058E-02	70.7	1.418E-03	8.314E-07
OVARIES	7.416E-03	2.031E-03	2.133E-05	1.156E-03	2.241E-03	1.270E-02	9.011E-05	7.499E-03	9.149E-03	3.766E-04	0.0
PANCREAS	0.166	4.551E-02	4.936E-04	1.963E-04	5.841E-04	4.618E-04	9.079E-05	1.185E-02	6.614E-02	2.275E-03	8.080E-07
BONE	0.388	0.106	7.048E-05	4.164E-04	2.145E-03	3.348E-03	4.499E-04	132.	5.870E-02	1.856E-03	6.311E-05
R MAR	0.103	2.813E-02	2.479E-05	2.642E-04	6.645E-04	2.210E-03	9.011E-05	7.44	1.626E-02	8.390E-05	9.227E-06
Y MAR	8.272E-02	2.266E-02	2.245E-05	1.082E-04	2.807E-04	7.477E-04	9.011E-05	4.193E-02	1.929E-02	4.624E-04	3.473E-06
ENDOST	7.701E-02	2.109E-02	1.146E-05	4.843E-05	4.381E-04	3.931E-04	9.011E-05	82.6	1.017E-02	4.470E-04	1.580E-05
SPLEEN	0.164	4.492E-02	2.617E-04	1.559E-04	4.112E-04	5.498E-04	9.011E-05	1.093E-02	1.586E-02	3.429E-03	7.424E-07
TESTES	9.983E-04	2.734E-04	2.319E-06	5.311E-05	6.794E-04	3.601E-03	9.011E-05	2.046E-02	1.094E-03	3.797E-05	2.93
THYMUS	0.297	8.145E-02	1.022E-05	8.549E-06	2.631E-05	5.267E-05	9.011E-05	1.175E-02	9.315E-03	7.471E-05	6.277E-08
THYROID	7.558E-02	2.070E-02	2.388E-06	2.055E-06	6.318E-06	5.311E-06	9.011E-05	1.431E-02	1.764E-03	1.822E-05	1.992E-08
UTERUS	6.910E-03	1.893E-03	2.006E-05	9.540E-04	1.261E-03	3.777E-03	9.079E-05	6.010E-03	8.047E-03	3.154E-04	0.0

DOSE EQUIVALENT (REM/MICROCURIE)

SOURCE	OVARIES	OTHER	TOTAL
TARGET			
LUNGS	3.638E-07	2.910E-03	658.
RES LYM	3.638E-07	2.910E-03	1.196E 04
S WALL	3.362E-06	3.609E-03	0.321
SI WALL	4.443E-05	2.019E-03	9.386E-02
ULI WALL	4.897E-05	2.480E-03	0.163
LLI WALL	6.891E-05	3.768E-03	0.281
T BODY	4.637E-04	0.211	23.7
ADREN	1.567E-06	0.431	0.806
BL WALL	2.686E-05	0.218	0.239
KIDNEYS	4.303E-06	2.480E-03	9.27
LIVER	2.319E-06	2.067E-03	70.8
OVARIES	2.92	3.419E-03	2.97
PANCREAS	2.344E-06	0.432	0.726
BONE	1.763E-05	1.258E-02	132.
R MAR	1.259E-05	0.431	8.02
Y MAR	4.373E-06	0.429	0.599
ENDOST	1.026E-06	2.989E-03	82.7
SPLEEN	2.127E-06	0.431	0.672
TESTES	0.0	3.244E-03	2.96
THYMUS	1.256E-07	0.434	0.834
THYROID	3.302E-08	0.431	0.543
UTERUS	7.626E-05	0.436	0.465

CASE 2.. INHALATION

AMAD (MICRON).. 1.00 D3 =0.310 D4 =8.000E-02 D5 =0.249

	SOLUBILITY CLASS	G.I. UPTAKE FRACTIONS STOMACH	S INT	U L INT	L L INT
CF-252	W	0.0	1.000E-03	0.0	0.0

DOSE EQUIVALENT (REM/MICROCURIE)

SOURCE	LUNGS	RES LYM	S CONT	SI CONT	ULI CONT	LLI CONT	EXCRET.	BONE	LIVER	KIDNEYS	TESTES
TARGET											
LUNGS	97.9	3.760E-02	5.644E-05	2.400E-05	6.910E-05	6.963E-05	4.537E-04	7.782E-02	6.931E-02	1.557E-03	7.622E-07
RES LYM	0.492	497.	5.644E-05	2.400E-05	6.910E-05	6.963E-05	4.537E-04	7.782E-02	6.931E-02	1.557E-03	7.622E-07
S WALL	3.134E-02	2.396E-03	5.965E-03	3.366E-04	1.215E-03	9.932E-04	4.537E-04	3.819E-02	0.157	5.766E-03	5.716E-06
SI WALL	2.964E-03	2.266E-04	7.504E-05	1.435E-02	7.160E-03	5.631E-03	4.537E-04	3.812E-02	0.144	5.211E-03	3.256E-05
ULI WALL	2.996E-03	2.290E-04	8.723E-05	2.460E-03	7.632E-02	2.606E-03	4.537E-04	3.170E-02	0.199	4.810E-03	2.914E-05
LLI WALL	1.116E-03	8.527E-05	2.972E-05	8.115E-04	1.082E-03	0.231	4.537E-04	6.521E-02	2.074E-02	1.389E-03	5.335E-04
T BODY	1.42	0.109	6.221E-05	3.067E-04	9.241E-04	1.874E-03	5.834E-04	47.4	9.30	0.205	7.510E-03
ADREN	3.102E-02	2.371E-03	6.606E-05	1.017E-04	2.803E-04	2.119E-04	4.537E-04	0.113	0.414	2.328E-02	2.813E-06
BL WALL	4.877E-04	3.728E-05	8.423E-06	2.375E-04	8.908E-04	3.630E-03	4.537E-04	3.927E-02	1.901E-02	6.460E-04	2.500E-05
KIDNEYS	1.073E-02	8.202E-04	7.996E-05	2.904E-04	7.160E-04	5.580E-04	4.537E-04	0.105	0.321	45.8	6.837E-06
LIVER	1.052E-02	8.040E-04	4.746E-05	1.785E-04	6.355E-04	1.807E-04	4.537E-04	5.325E-02	356.	7.139E-03	4.186E-06
OVARIES	1.105E-03	8.446E-05	1.986E-05	1.076E-03	2.087E-03	1.183E-02	4.537E-04	3.776E-02	4.607E-02	1.896E-03	0.0
PANCREAS	2.475E-02	1.892E-03	4.596E-04	1.828E-04	5.439E-04	4.300E-04	4.571E-04	5.966E-02	0.333	1.146E-02	4.069E-06
BONE	5.780E-02	4.418E-03	6.563E-05	3.878E-04	1.999E-03	3.119E-03	2.265E-03	662.	0.296	9.343E-03	3.178E-04
R MAR	1.530E-02	1.169E-03	2.309E-05	2.460E-04	6.188E-04	2.058E-03	4.537E-04	37.5	8.187E-02	4.225E-04	4.646E-05
Y MAR	1.232E-02	9.420E-04	2.091E-05	1.008E-04	2.614E-04	6.963E-04	4.537E-04	0.211	9.713E-02	2.328E-03	1.749E-05
ENDOST	1.147E-02	8.771E-04	1.067E-05	4.510E-05	4.079E-04	3.660E-04	4.537E-04	416.	5.120E-02	2.251E-03	7.958E-05
SPLEEN	2.444E-02	1.868E-03	2.437E-04	1.452E-04	3.830E-04	5.120E-04	4.537E-04	5.505E-02	7.979E-02	1.727E-02	3.738E-06
TESTES	1.487E-04	1.137E-05	2.159E-06	4.946E-05	6.327E-04	3.353E-03	4.537E-04	0.103	5.509E-03	1.912E-04	14.7
THYMUS	4.430E-02	3.386E-03	9.514E-06	7.961E-06	2.450E-05	4.905E-05	4.537E-04	5.916E-02	4.690E-02	3.762E-04	3.161E-07
THYROID	1.126E-02	8.608E-04	2.223E-06	1.913E-06	5.883E-06	4.945E-06	4.537E-04	7.206E-02	8.881E-03	9.174E-05	1.003E-07
UTERUS	1.029E-03	7.869E-05	1.869E-05	8.884E-04	1.174E-03	3.517E-03	4.571E-04	3.026E-02	4.052E-02	1.598E-03	0.0

DOSE EQUIVALENT (REM/MICROCURIE)

SOURCE	OVARIES	OTHER	TOTAL
TARGET			
LUNGS	1.832E-06	1.465E-02	98.1
RES LYM	1.832E-06	1.465E-02	498.
S WALL	1.693E-05	1.817E-02	0.262
SI WALL	2.237E-04	1.017E-02	0.228
ULI WALL	2.466E-04	1.249E-02	0.334
LLI WALL	3.470E-04	1.897E-02	0.342
T BODY	2.360E-03	1.06	59.9
ADREN	7.891E-06	2.17	2.75
BL WALL	1.353E-04	1.10	1.16
KIDNEYS	2.166E-05	1.249E-02	46.2
LIVER	1.168E-05	1.041E-02	356.
OVARIES	14.7	1.721E-02	14.8
PANCREAS	1.180E-05	2.18	2.61
BONE	8.877E-05	6.333E-02	663.
R MAR	6.341E-05	2.17	39.7
Y MAR	2.202E-05	2.16	2.49
ENDOST	9.194E-06	1.505E-02	416.
SPLEEN	1.071E-05	2.17	2.38
TESTES	0.0	1.633E-02	14.9
THYMUS	6.323E-07	2.19	2.34
THYROID	1.663E-07	2.17	2.26
UTERUS	3.840E-04	2.19	2.27

CASE 3.. INGESTION

INGESTION TRANSFER FRACTIONS (G. I. TRACT TO BLOOD)

	CF-252
STOMACH	0.0
S INT	1.000E-03
U L INT	0.0
L L INT	0.0

DOSE EQUIVALENT (REM/MICROCURIE)

SOURCE	S CONT	SI CONT	ULI CONT	LLI CONT	EXCRET.	BONE	LIVER	KIDNEYS	TESTES	OVARIES	OTHER
TARGET											
LUNGS	1.100E-04	4.678E-05	1.347E-04	1.357E-04	3.835E-06	6.577E-04	5.858E-04	1.316E-05	6.442E-09	1.548E-08	1.238E-04
RES LYM	1.100E-04	4.678E-05	1.347E-04	1.357E-04	3.835E-06	6.577E-04	5.858E-04	1.316E-05	6.442E-09	1.548E-08	1.238E-04
S WALL	1.162E-02	6.559E-04	2.369E-03	1.936E-03	3.335E-06	3.228E-04	1.325E-03	4.874E-05	4.832E-08	1.431E-07	1.536E-04
SI WALL	1.462E-04	2.797E-02	1.395E-02	1.098E-02	3.835E-06	3.222E-04	1.214E-03	4.405E-05	2.752E-07	1.891E-06	8.594E-05
ULI WALL	1.700E-04	4.794E-03	0.149	5.079E-03	3.835E-06	2.680E-04	1.683E-03	4.066E-05	2.463E-07	2.034E-06	1.056E-04
LLI WALL	5.791E-05	1.582E-03	2.109E-03	0.451	3.835E-06	5.512E-04	1.753E-04	1.174E-05	4.510E-06	2.933E-06	1.604E-04
T BODY	1.212E-04	5.976E-04	1.801E-03	3.652E-03	4.931E-06	0.401	7.858E-02	1.733E-03	6.347E-05	1.995E-05	9.000E-03
ADREN	1.287E-04	1.981E-04	5.462E-04	4.131E-04	3.835E-06	9.562E-04	3.495E-03	1.968E-04	2.378E-08	6.670E-08	1.834E-02
BL WALL	1.642E-05	4.628E-04	1.736E-03	7.074E-03	3.835E-06	3.319E-04	1.607E-04	5.460E-06	2.113E-07	1.143E-06	9.271E-03
KIDNEYS	1.558E-04	5.660E-04	1.395E-03	1.088E-03	3.835E-06	8.892E-04	2.715E-03	0.387	5.779E-08	1.831E-07	1.056E-04
LIVER	9.250E-05	3.479E-04	1.239E-03	3.522E-04	3.835E-06	4.501E-04	3.01	6.034E-05	3.538E-08	9.870E-08	8.797E-05
OVARIES	3.871E-05	2.098E-03	4.067E-03	2.305E-02	3.835E-06	3.191E-04	3.894E-04	1.603E-05	0.0	0.124	1.455E-04
PANCREAS	8.958E-04	3.563E-04	1.060E-03	8.381E-04	3.864E-06	5.043E-04	2.815E-03	9.682E-05	3.439E-08	9.975E-08	1.841E-02
BONE	1.279E-04	7.558E-04	3.894E-03	6.076E-03	1.915E-05	5.60	2.498E-03	7.897E-05	2.686E-06	7.503E-07	5.353E-04
R MAR	4.500E-05	4.794E-04	1.206E-03	4.011E-03	3.835E-06	0.317	6.920E-04	2.571E-06	3.927E-07	5.359E-07	1.834E-02
Y MAR	4.075E-05	1.964E-04	5.095E-04	1.357E-03	3.835E-06	1.784E-03	8.210E-04	1.968E-05	1.478E-07	1.861E-07	1.827E-02
ENDOST	2.079E-05	8.790E-05	7.950E-04	7.134E-04	3.835E-06	3.51	4.328E-04	1.903E-05	6.726E-07	7.771E-08	1.272E-04
SPLEEN	4.750E-04	2.830E-04	7.464E-04	9.977E-04	3.835E-06	4.653E-04	6.744E-04	1.460E-04	3.159E-08	9.052E-08	1.834E-02
TESTES	4.208E-06	9.639E-05	1.233E-03	6.535E-03	3.935E-06	8.709E-04	4.656E-05	1.616E-06	0.125	0.0	1.380E-04
THYMUS	1.854E-05	1.552E-05	4.776E-05	9.558E-05	3.835E-06	5.000E-04	3.964E-04	3.180E-06	2.672E-09	5.345E-09	1.847E-02
THYROID	4.333E-06	3.729E-06	1.147E-05	9.638E-06	3.835E-06	6.090E-04	7.506E-05	7.754E-07	8.479E-10	1.405E-09	1.834E-02
UTERUS	3.642E-05	1.731E-03	2.288E-03	6.854E-03	3.864E-06	2.558E-04	3.425E-04	1.342E-05	0.0	3.245E-06	1.854E-02

DOSE EQUIVALENT (REM/MICROCURIE)

SOURCE	TOTAL
TARGET	
LUNGS	1.812E-03
RES LYM	1.812E-03
S WALL	1.844E-02
SI WALL	5.471E-02
ULI WALL	0.161
LLI WALL	0.456
T BODY	0.496
ADREN	2.428E-02
BL WALL	1.906E-02
KIDNEYS	0.394
LIVER	3.01
OVARIES	0.154
PANCREAS	2.498E-02
BONE	5.61
R MAR	0.341
Y MAR	2.300E-02
ENDOST	3.52
SPLEEN	2.213E-02
TESTES	0.134
THYMUS	1.955E-02
THYROID	1.906E-02
UTERUS	3.007E-02

APPENDIX B

Summary Tables using $Q_{\alpha} = 10$

TOTAL INHALATION DOSES
ALPHA Q = 10
(REM/MICROCURIE)

NUCLIDE	SOL	F1	AMAD	LUNGS	RES LYM	S WALL	SI WALL	ULI WALL	LLI WALL	T BODY	ADREN	BL WALL	KIDNEYS	LIVER
TL-207	W	0.95	0.3	7.06E-05	7.06E-05	2.85E-07	1.32E-08	1.13E-09	1.41E-10	1.03E-06	3.76E-08	1.77E-08	1.79E-07	3.69E-08
TL-208	W	0.95	0.3	6.77E-05	6.77E-05	1.99E-06	3.77E-07	4.80E-07	1.02E-07	2.12E-06	1.60E-06	1.35E-07	1.00E-06	2.16E-06
TL-209	W	0.95	0.3	6.37E-05	6.37E-05	1.35E-06	6.00E-07	9.14E-07	3.95E-07	1.50E-06	9.42E-07	6.05E-08	7.50E-07	1.14E-06
PB-209	W	8.00E-02	0.3	1.02E-03	1.03E-03	3.16E-05	4.09E-05	6.52E-05	3.25E-05	1.57E-05	6.04E-08	3.02E-08	1.70E-06	5.03E-07
PB-210	W	8.00E-02	0.3	5.6	98.	1.83E-03	4.18E-03	2.34E-02	6.66E-02	9.4	0.58	0.29	2.3	1.8
PB-211	W	8.00E-02	0.3	7.07E-02	1.07E-03	3.29E-05	1.31E-05	5.58E-06	6.34E-07	1.08E-03	1.11E-05	5.12E-06	6.77E-04	9.63E-06
PB-212	W	8.00E-02	0.3	1.1	4.93E-02	8.70E-04	1.54E-03	4.84E-03	5.57E-03	2.01E-02	6.31E-04	2.93E-04	3.69E-02	3.04E-03
PB-214	W	8.00E-02	0.3	5.96E-02	1.09E-03	3.73E-05	1.53E-05	7.56E-06	1.49E-06	9.72E-04	6.48E-05	2.84E-05	2.77E-03	5.27E-05
BI-210	W	5.00E-02	0.3	0.92	4.2	4.54E-04	1.06E-03	5.83E-03	1.56E-02	2.19E-02	6.23E-03	3.12E-03	0.36	1.82E-02
BI-211	W	5.00E-02	0.3	4.45E-03	3.22E-05	2.77E-07	1.45E-08	4.16E-09	1.18E-09	6.45E-05	7.32E-07	3.52E-07	6.09E-05	7.24E-07
BI-212	W	5.00E-02	0.3	0.14	1.55E-03	7.70E-05	4.32E-05	3.01E-05	6.01E-06	2.14E-03	1.26E-04	5.69E-05	1.29E-02	1.28E-04
BI-213	W	5.00E-02	0.3	5.68E-03	1.58E-03	5.54E-05	2.18E-05	1.59E-05	3.41E-06	9.95E-05	2.71E-05	4.21E-06	5.13E-04	2.79E-05
BI-214	W	5.00E-02	0.3	4.64E-02	6.10E-04	1.71E-05	4.25E-06	2.35E-06	6.13E-07	7.20E-04	3.81E-05	1.64E-05	3.01E-03	4.01E-05
PO-210	W	1.00E-01	0.3	40.	1.58E 02	9.43E-04	2.12E-03	1.25E-02	3.72E-02	1.0	0.40	0.20	7.1	1.2
	D	1.00E-01	0.3	0.89	12.	1.08E-04	2.43E-04	1.43E-03	4.27E-03	1.6	1.5	0.74	27.	4.6
PO-211	W	1.00E-01	0.3	2.22E-05	1.15E-10	1.62E-11	2.32E-12	3.06E-12	6.74E-13	3.17E-07	3.91E-11	1.11E-11	3.86E-10	8.29E-11
	D	1.00E-01	0.3	2.22E-05	2.87E-09	3.47E-11	2.32E-12	3.07E-12	6.75E-13	3.17E-07	7.25E-11	2.79E-11	9.90E-10	1.87E-10
PO-212	W	1.00E-01	0.3	1.43E-11	2.42E-24	6.42E-25	4.91E-35	2.72E-45	4.19E-56	2.04E-13	7.38E-24	3.68E-24	1.32E-22	2.27E-23
	D	1.00E-01	0.3	1.43E-11	9.67E-22	7.12E-24	5.44E-34	3.02E-44	4.64E-55	2.04E-13	1.92E-23	9.56E-24	3.44E-22	5.90E-23
PO-213	W	1.00E-01	0.3	1.88E-10	3.63E-13	1.11E-14	1.44E-14	2.30E-14	1.15E-14	2.68E-12	5.57E-17	2.76E-17	5.44E-15	1.95E-15
	D	1.00E-01	0.3	1.88E-10	3.63E-13	1.11E-14	1.44E-14	2.30E-14	1.15E-14	2.68E-12	5.57E-17	2.76E-17	5.44E-15	1.95E-15
PO-214	W	1.00E-01	0.3	6.68E-09	2.26E-11	4.91E-16	9.77E-16	5.43E-15	1.55E-14	9.73E-11	8.98E-14	4.48E-14	5.32E-13	4.08E-13
	D	1.00E-01	0.3	6.68E-09	1.16E-12	4.62E-16	9.30E-16	5.15E-15	1.46E-14	9.73E-11	1.19E-13	5.96E-14	1.06E-12	4.99E-13
PO-215	W	1.00E-01	0.3	1.28E-07	8.82E-10	2.70E-11	1.08E-11	4.59E-12	5.29E-13	1.99E-09	1.32E-11	6.25E-12	1.14E-09	2.23E-10
	D	1.00E-01	0.3	1.28E-07	8.82E-10	2.70E-11	1.08E-11	4.59E-12	5.29E-13	1.99E-09	1.32E-11	6.25E-12	1.14E-09	2.23E-10
PO-216	W	1.00E-01	0.3	9.93E-06	1.94E-07	3.43E-09	6.06E-09	1.90E-08	2.19E-08	1.69E-07	3.01E-09	1.41E-09	2.10E-07	3.55E-08
	D	1.00E-01	0.3	9.93E-06	1.94E-07	3.43E-09	6.06E-09	1.90E-08	2.19E-08	1.69E-07	3.02E-09	1.41E-09	2.10E-07	3.55E-08
PO-218	W	1.00E-01	0.3	1.25E-02	1.24E-04	4.46E-06	1.84E-06	9.14E-07	1.87E-07	2.05E-04	8.75E-06	3.90E-06	4.13E-04	3.77E-05
	D	1.00E-01	0.3	1.21E-02	6.38E-04	6.95E-06	2.90E-06	1.38E-06	2.56E-07	2.04E-04	1.41E-05	6.59E-06	4.80E-04	5.28E-05
AT-217	D	0.95	0.3	1.28E-06	1.86E-08	6.55E-10	2.58E-10	1.89E-10	4.18E-11	1.85E-08	3.36E-10	5.87E-11	6.03E-09	3.46E-10
RN-219	*	0.0	***	4.66E-04	2.30E-06	1.93E-08	7.21E-09	3.27E-09	4.30E-10	6.76E-06	1.07E-08	4.01E-09	7.25E-07	1.46E-07
RN-220	*	0.0	***	1.11E-03	1.72E-05	1.74E-07	2.61E-07	7.93E-07	9.03E-07	1.64E-05	9.21E-08	3.34E-08	4.22E-06	8.24E-07
RN-222	*	0.0	***	1.19E-03	9.21E-06	1.27E-07	3.98E-08	2.64E-08	6.37E-09	1.76E-05	2.05E-07	7.16E-08	7.07E-06	7.33E-07
FR-221	D	0.95	0.3	1.96E-02	1.50E-03	1.45E-05	3.92E-06	2.52E-06	5.69E-07	3.07E-04	3.08E-05	1.45E-05	6.92E-05	3.09E-05

TOTAL INHALATION DOSES
ALPHA Q = 10
(REM/MICROCURIE)

NUCLIDE	SOL	F1	AMAD	OVARIES	PANCREAS	BONE	R MAR	Y MAR	ENDOST	SPLEEN	TESTES	THYMUS	THYROID	UTERUS
TL-207	W	0.95	0.3	3.47E-08	3.76E-08	3.57E-08	3.63E-08	3.63E-08	4.50E-08	3.68E-08	3.46E-08	3.93E-08	3.66E-08	3.54E-08
TL-208	W	0.95	0.3	2.25E-07	2.16E-06	9.54E-07	1.20E-06	1.00E-06	9.60E-07	2.04E-06	8.52E-08	3.58E-06	1.04E-06	2.56E-07
TL-209	W	0.95	0.3	1.06E-07	1.16E-06	5.81E-07	6.32E-07	4.91E-07	5.65E-07	8.86E-07	4.14E-08	1.93E-06	4.61E-07	1.37E-07
PB-209	W	8.00E-02	0.3	6.06E-08	6.04E-08	3.84E-06	1.06E-06	6.04E-08	3.07E-06	6.06E-08	6.08E-08	6.04E-08	6.05E-08	6.04E-08
PB-210	W	8.00E-02	0.3	0.58	0.58	1.12E 02	1.0	0.58	11.	2.0	0.58	0.58	0.53	0.58
PB-211	W	8.00E-02	0.3	1.02E-05	1.12E-05	8.58E-04	1.53E-04	1.06E-05	1.35E-03	1.09E-05	1.02E-05	1.16E-05	1.06E-05	1.03E-05
PB-212	W	8.00E-02	0.3	6.45E-04	6.81E-04	4.31E-02	7.71E-03	5.77E-04	5.64E-02	6.53E-04	4.98E-04	7.46E-04	5.56E-04	5.72E-04
PB-214	W	8.00E-02	0.3	5.68E-05	6.67E-05	1.04E-03	1.94E-04	6.01E-05	9.81E-04	6.82E-05	5.57E-05	7.27E-05	6.01E-05	5.69E-05
BI-210	W	5.00E-02	0.3	6.23E-03	6.23E-03	3.12E-02	6.31E-03	6.23E-03	2.91E-03	0.18	6.23E-03	6.23E-03	6.23E-03	6.23E-03
BI-211	W	5.00E-02	0.3	6.98E-07	7.34E-07	3.43E-06	1.28E-06	7.18E-07	5.41E-06	7.22E-07	7.00E-07	7.46E-07	7.16E-07	7.06E-07
BI-212	W	5.00E-02	0.3	1.13E-04	1.30E-04	5.54E-04	2.11E-04	1.19E-04	7.23E-04	1.28E-04	1.11E-04	1.39E-04	1.19E-04	1.14E-04
BI-213	W	5.00E-02	0.3	7.98E-06	3.14E-05	2.76E-05	2.03E-05	1.50E-05	2.22E-05	2.55E-05	5.52E-06	4.36E-05	1.40E-05	8.73E-06
BI-214	W	5.00E-02	0.3	3.27E-05	3.91E-05	3.31E-04	6.14E-05	3.49E-05	2.01E-04	4.06E-05	3.22E-05	4.34E-05	3.51E-05	3.28E-05
PO-210	W	1.00E-01	0.3	0.40	0.40	2.0	0.40	0.40	0.18	12.	0.40	0.40	0.40	0.40
	D	1.00E-01	0.3	1.5	1.5	7.4	1.5	1.5	0.69	46.	1.5	1.5	1.5	1.5
PO-211	W	1.00E-01	0.3	2.22E-11	3.96E-11	1.12E-10	4.76E-11	2.89E-11	1.41E-10	6.66E-10	2.13E-11	5.07E-11	3.09E-11	2.17E-11
	D	1.00E-01	0.3	5.58E-11	7.31E-11	2.80E-10	1.09E-10	6.22E-11	3.54E-10	1.70E-09	5.49E-11	8.41E-11	6.43E-11	5.51E-11
PO-212	W	1.00E-01	0.3	7.36E-24	7.38E-24	3.69E-23	1.35E-23	7.38E-24	3.18E-23	2.27E-22	7.35E-24	7.38E-24	7.38E-24	7.38E-24
	D	1.00E-01	0.3	1.91E-23	1.92E-23	9.59E-23	3.50E-23	1.92E-23	8.27E-23	5.90E-22	1.91E-23	1.92E-23	1.92E-23	1.92E-23
PO-213	W	1.00E-01	0.3	5.52E-17	5.57E-17	3.51E-15	9.65E-16	5.54E-17	2.81E-15	5.57E-17	5.53E-17	5.61E-17	5.54E-17	5.52E-17
	D	1.00E-01	0.3	5.52E-17	5.57E-17	3.51E-15	9.65E-16	5.54E-17	2.81E-15	5.58E-17	5.53E-17	5.61E-17	5.54E-17	5.52E-17
PO-214	W	1.00E-01	0.3	8.97E-14	8.98E-14	2.60E-11	1.97E-13	9.07E-14	2.51E-12	4.16E-13	8.97E-14	8.98E-14	8.97E-14	8.97E-14
	D	1.00E-01	0.3	1.19E-13	1.19E-13	2.61E-11	2.27E-13	1.20E-13	2.52E-12	1.33E-12	1.19E-13	1.19E-13	1.19E-13	1.19E-13
PO-215	W	1.00E-01	0.3	1.24E-11	1.33E-11	2.08E-09	3.57E-10	1.28E-11	3.28E-09	1.31E-11	1.24E-11	1.36E-11	1.28E-11	1.25E-11
	D	1.00E-01	0.3	1.24E-11	1.33E-11	2.08E-09	3.57E-10	1.28E-11	3.28E-09	1.31E-11	1.24E-11	1.36E-11	1.28E-11	1.25E-11
PO-216	W	1.00E-01	0.3	3.04E-09	3.19E-09	3.35E-07	5.81E-08	2.79E-09	4.38E-07	3.16E-09	2.45E-09	3.44E-09	2.68E-09	2.75E-09
	D	1.00E-01	0.3	3.04E-09	3.20E-09	3.35E-07	5.81E-08	2.80E-09	4.38E-07	3.31E-09	2.46E-09	3.44E-09	2.69E-09	2.75E-09
PO-218	W	1.00E-01	0.3	7.79E-06	8.95E-06	2.71E-04	4.84E-05	8.19E-06	2.96E-04	1.14E-04	7.67E-06	9.59E-06	8.17E-06	7.80E-06
	D	1.00E-01	0.3	1.32E-05	1.43E-05	2.78E-04	5.48E-05	1.35E-05	3.11E-04	2.91E-04	1.30E-05	1.49E-05	1.35E-05	1.32E-05
AT-217	D	0.95	0.3	1.11E-10	3.87E-10	3.85E-10	2.65E-10	1.93E-10	3.05E-10	3.18E-10	8.13E-11	5.33E-10	1.86E-10	1.21E-10
RN-219	*	0.0	***	8.00E-09	1.09E-08	1.34E-06	2.32E-07	9.20E-09	2.12E-06	1.04E-08	7.86E-09	1.23E-08	9.12E-09	8.01E-09
RN-220	*	0.0	***	7.66E-08	1.06E-07	7.43E-06	1.31E-06	7.52E-08	9.72E-06	1.01E-07	5.09E-08	1.33E-07	7.15E-08	6.43E-08
RN-222	*	0.0	***	1.43E-07	2.18E-07	5.99E-06	8.79E-07	1.71E-07	5.27E-06	2.07E-06	1.37E-07	2.71E-07	1.72E-07	1.43E-07
FR-221	D	0.95	0.3	2.89E-05	3.13E-05	1.41E-04	5.29E-05	2.96E-05	2.09E-04	3.06E-05	2.86E-05	3.25E-05	2.95E-05	2.91E-05

TOTAL INHALATION DOSES
ALPHA Q = 10
(REM/MICROCURIE)

NUCLIDE	SOL	F1	AMAD	LUNGS	RES LYM	S WALL	SI WALL	ULI WALL	LLI WALL	T BODY	ADREN	BL WALL	KIDNEYS	LIVER
RA-223	W	0.20	0.3	39.	50.	5.13E-03	9.44E-03	5.44E-02	0.15	0.74	8.60E-02	4.28E-02	9.16E-02	8.69E-02
RA-224	W	0.20	0.3	6.9	5.9	2.73E-03	6.06E-03	3.49E-02	9.77E-02	0.15	2.24E-02	1.14E-02	2.98E-02	2.42E-02
RA-225	W	0.20	0.3	26.	70.	4.68E-03	5.39E-03	3.18E-02	9.57E-02	0.61	9.53E-02	4.71E-02	0.14	0.47
RA-226	W	0.20	0.3	49.	2.64E 02	2.71E-03	4.86E-03	2.37E-02	9.47E-02	9.9	0.35	0.17	0.34	0.34
RA-228	W	0.20	0.3	4.5	1.48E 02	1.41E-02	1.61E-02	4.07E-02	7.17E-02	6.3	0.52	0.26	1.1	5.3
AC-225	Y	1.00E-03	0.3	41.	15.	8.95E-03	1.04E-02	6.24E-02	0.17	0.62	1.30E-02	5.83E-03	2.58E-02	0.10
	W	1.00E-03	0.3	36.	32.	8.73E-03	1.03E-02	5.90E-02	0.16	0.88	2.52E-02	1.19E-02	0.30	2.3
AC-227	Y	1.00E-03	0.3	9.10E 02	1.11E 05	8.99E-02	0.12	0.60	1.7	2.12E 02	5.5	2.7	77.	5.85E 02
	W	1.00E-03	0.3	74.	1.33E 03	4.00E-02	4.52E-02	0.10	0.21	3.31E 02	7.9	3.9	1.44E 02	1.11E 03
AC-228	Y	1.00E-03	0.3	0.22	7.7	2.90E-04	4.37E-04	1.14E-03	1.54E-03	8.15E-03	3.27E-04	1.44E-04	1.70E-03	1.11E-02
	W	1.00E-03	0.3	3.87E-02	0.45	2.16E-04	3.00E-04	6.72E-04	6.48E-04	1.57E-02	5.91E-04	2.71E-04	6.98E-03	5.37E-02
TH-227	Y	1.00E-03	0.3	60.	1.09E 02	4.73E-03	8.55E-03	5.04E-02	0.15	0.98	3.85E-02	1.90E-02	4.99E-02	0.13
	W	1.00E-03	0.3	46.	1.49E 02	4.01E-03	7.28E-03	4.24E-02	0.13	1.3	4.30E-02	2.13E-02	0.32	2.3
TH-228	Y	1.00E-03	0.3	6.32E 02	2.29E 04	9.37E-02	0.18	1.0	2.8	22.	0.60	0.30	4.8	32.
	W	1.00E-03	0.3	1.03E 02	1.33E 03	2.03E-02	3.83E-02	0.20	0.57	36.	0.91	0.45	18.	1.40E 02
TH-229	Y	1.00E-03	0.3	1.09E 03	1.25E 05	0.31	0.22	0.65	1.6	3.23E 02	9.5	4.6	1.23E 02	9.37E 02
	W	1.00E-03	0.3	1.02E 02	1.10E 03	0.20	0.21	0.31	0.40	4.74E 02	12.	6.0	2.05E 02	1.58E 03
TH-230	Y	1.00E-03	0.3	4.63E 02	3.32E 04	1.32E-03	2.82E-03	1.57E-02	4.66E-02	1.29E 02	4.4	2.2	78.	6.01E 02
	W	1.00E-03	0.3	47.	2.57E 02	1.29E-03	2.70E-03	1.44E-02	4.25E-02	1.97E 02	7.6	3.8	1.32E 02	1.02E 03
TH-231	Y	1.00E-03	0.3	5.40E-03	9.94E-03	1.51E-04	3.45E-04	1.43E-03	2.55E-03	1.23E-04	7.50E-06	3.38E-06	1.51E-05	1.04E-04
	W	1.00E-03	0.3	5.20E-03	5.59E-03	1.26E-04	2.85E-04	1.18E-03	2.11E-03	1.44E-04	9.89E-06	3.89E-06	4.61E-05	3.43E-04
TH-232	Y	1.00E-03	0.3	4.01E 02	3.09E 04	1.11E-02	1.28E-02	2.91E-02	6.46E-02	1.31E 02	4.0	2.0	68.	5.26E 02
	W	1.00E-03	0.3	41.	2.24E 02	1.03E-02	1.45E-02	2.47E-02	5.09E-02	2.01E 02	6.6	3.3	1.14E 02	8.90E 02
TH-234	Y	1.00E-03	0.3	0.41	0.71	1.35E-03	3.19E-03	1.84E-02	5.36E-02	6.19E-03	1.03E-04	1.63E-05	1.94E-04	1.30E-03
	W	1.00E-03	0.3	0.30	0.79	1.34E-03	3.21E-03	1.84E-02	5.38E-02	6.10E-03	2.69E-04	1.01E-04	3.73E-03	2.86E-02
PA-231	Y	1.00E-03	0.3	5.25E 02	6.31E 04	3.77E-02	3.45E-02	6.86E-02	0.12	3.44E 02	10.	5.1	1.62E 02	1.25E 03
	W	1.00E-03	0.3	50.	2.83E 02	4.27E-02	4.52E-02	6.85E-02	7.84E-02	5.07E 02	15.	7.6	2.55E 02	1.97E 03
PA-233	Y	1.00E-03	0.3	0.10	0.19	1.00E-03	1.04E-03	4.45E-03	1.23E-02	2.06E-03	9.16E-04	1.15E-04	4.07E-04	1.25E-03
	W	1.00E-03	0.3	7.42E-02	0.20	9.33E-04	1.15E-03	4.63E-03	1.25E-02	2.02E-03	9.85E-04	1.74E-04	1.48E-03	9.16E-03
PA-234M	Y	1.00E-03	0.3	2.96E-05	2.96E-05	5.20E-08	3.45E-09	5.04E-09	3.57E-09	4.26E-07	3.90E-09	2.89E-10	1.92E-09	5.48E-09
	W	1.00E-03	0.3	2.95E-05	2.95E-05	3.50E-08	2.75E-09	4.06E-09	2.81E-09	4.26E-07	4.31E-09	4.99E-10	7.77E-09	5.00E-08
PA-234	Y	1.00E-03	0.3	5.74E-03	5.76E-03	4.19E-04	5.74E-04	1.18E-03	9.04E-04	1.98E-04	1.74E-04	4.19E-05	1.02E-04	1.90E-04
	W	1.00E-03	0.3	5.52E-03	5.59E-03	3.49E-04	4.45E-04	9.33E-04	6.88E-04	2.00E-04	1.84E-04	3.64E-05	1.24E-04	3.61E-04
U-232	Y	2.00E-03	0.3	7.85E 02	1.30E 05	7.18E-02	7.71E-02	0.37	0.99	70.	3.5	1.7	14.	74.
	W	5.00E-02	0.3	58.	4.46E 02	6.60E-03	9.24E-03	2.84E-02	7.47E-02	22.	4.6	2.3	8.1	9.8
	D	5.00E-02	0.3	0.98	17.	1.63E-02	1.79E-02	1.92E-02	2.39E-02	69.	16.	8.0	26.	16.

TOTAL INHALATION DOSES
ALPHA Q = 10
(REM/MICROCURIE)

NUCLIDE	SOL	F1	AMAD	OVARIES	PANCREAS	BONE	R MAR	Y MAR	ENDOST	SPLEEN	TESTES	THYMUS	THYROID	UTERUS
RA-223	W	0.20	0.3	8.54E-02	8.62E-02	0.37	0.39	8.58E-02	2.9	8.57E-02	8.52E-02	8.64E-02	8.59E-02	8.59E-02
RA-224	W	0.20	0.3	2.22E-02	2.25E-02	0.11	0.11	2.24E-02	0.89	2.27E-02	2.15E-02	2.25E-02	2.23E-02	2.26E-02
RA-225	W	0.20	0.3	0.10	9.58E-02	0.49	0.50	9.44E-02	4.0	9.51E-02	0.10	9.72E-02	9.42E-02	9.40E-02
RA-226	W	0.20	0.3	0.35	0.35	25.	12.	0.35	1.15E 02	0.35	0.35	0.35	0.35	0.35
RA-228	W	0.20	0.3	0.65	0.52	16.	14.	0.52	1.49E 02	0.52	0.65	0.52	0.51	0.51
AC-225	Y	1.00E-03	0.3	1.54E-02	1.38E-02	0.21	4.65E-02	1.15E-02	0.33	1.32E-02	1.31E-02	1.59E-02	1.16E-02	1.11E-02
	W	1.00E-03	0.3	0.10	2.58E-02	4.1	0.70	2.36E-02	6.7	3.51E-02	9.91E-02	2.71E-02	3.37E-02	2.29E-02
AC-227	Y	1.00E-03	0.3	29.	5.5	2.20E 03	3.68E 02	5.5	3.67E 03	5.5	29.	5.5	5.5	5.5
	W	1.00E-03	0.3	53.	7.9	4.15E 03	6.92E 02	7.9	6.94E 03	7.8	53.	7.8	7.8	7.8
AC-228	Y	1.00E-03	0.3	6.32E-04	3.41E-04	4.13E-02	7.11E-03	2.89E-04	7.47E-02	3.29E-04	5.74E-04	3.76E-04	2.87E-04	2.86E-04
	W	1.00E-03	0.3	2.23E-03	5.98E-04	0.19	3.14E-02	5.54E-04	0.34	5.85E-04	2.19E-03	6.28E-04	5.47E-04	5.40E-04
TH-227	Y	1.00E-03	0.3	4.11E-02	3.86E-02	1.1	0.22	3.81E-02	1.7	3.83E-02	4.07E-02	3.90E-02	3.80E-02	3.79E-02
	W	1.00E-03	0.3	0.12	4.31E-02	7.6	1.3	4.28E-02	13.	4.28E-02	0.12	4.33E-02	4.26E-02	4.26E-02
TH-228	Y	1.00E-03	0.3	1.7	0.61	1.02E 02	17.	0.60	1.89E 02	0.61	1.6	0.61	0.59	0.60
	W	1.00E-03	0.3	5.7	0.91	4.19E 02	70.	0.91	7.90E 02	0.91	5.7	0.91	0.90	0.90
TH-229	Y	1.00E-03	0.3	49.	9.4	3.51E 03	5.90E 02	9.4	6.92E 03	9.3	49.	9.4	9.2	9.1
	W	1.00E-03	0.3	80.	12.	5.94E 03	9.93E 02	12.	1.17E 04	12.	80.	12.	12.	12.
TH-230	Y	1.00E-03	0.3	30.	4.4	1.36E 03	2.29E 02	4.4	3.54E 03	4.4	30.	4.4	4.4	4.4
	W	1.00E-03	0.3	52.	7.6	2.33E 03	3.92E 02	7.6	6.06E 03	7.6	52.	7.6	7.6	7.6
TH-231	Y	1.00E-03	0.3	2.19E-05	8.26E-06	2.94E-04	5.89E-05	8.24E-06	5.65E-04	7.98E-06	5.40E-06	1.09E-05	2.73E-06	5.92E-06
	W	1.00E-03	0.3	2.95E-05	1.02E-05	5.74E-04	1.04E-04	1.27E-05	1.05E-03	9.56E-06	1.58E-05	1.25E-05	4.48E-06	6.96E-06
TH-232	Y	1.00E-03	0.3	26.	4.0	1.45E 03	2.43E 02	4.0	4.01E 03	4.0	26.	4.0	4.0	4.0
	W	1.00E-03	0.3	45.	6.6	2.44E 03	4.09E 02	6.6	6.79E 03	6.6	45.	6.6	6.6	6.6
TH-234	Y	1.00E-03	0.3	8.87E-05	1.03E-04	4.56E-04	2.26E-04	6.86E-05	3.53E-04	9.41E-05	5.18E-05	1.66E-04	4.87E-05	2.60E-05
	W	1.00E-03	0.3	1.19E-03	2.65E-04	9.49E-03	3.58E-03	2.47E-04	7.05E-03	2.42E-04	1.15E-03	2.92E-04	2.03E-04	1.93E-04
PA-231	Y	1.00E-03	0.3	65.	10.	3.99E 03	6.69E 02	10.	7.79E 03	10.	65.	10.	10.	10.
	W	1.00E-03	0.3	1.03E 02	15.	6.27E 03	1.05E 03	15.	1.24E 04	15.	1.03E 02	15.	15.	15.
PA-233	Y	1.00E-03	0.3	3.68E-04	9.69E-04	5.75E-04	6.51E-04	4.94E-04	5.35E-04	8.23E-04	5.18E-05	1.41E-03	3.50E-04	1.66E-04
	W	1.00E-03	0.3	7.10E-04	9.86E-04	3.02E-03	1.20E-03	6.53E-04	2.28E-03	7.23E-04	3.77E-04	1.12E-03	3.49E-04	2.64E-04
PA-234M	Y	1.00E-03	0.3	8.36E-10	3.86E-09	2.18E-09	2.37E-09	1.78E-09	2.06E-09	3.64E-09	1.57E-10	6.65E-09	2.20E-09	4.85E-10
	W	1.00E-03	0.3	2.60E-09	4.21E-09	1.69E-08	8.17E-09	2.17E-09	1.31E-08	3.96E-09	2.03E-09	6.97E-09	2.56E-09	8.02E-10
PA-234	Y	1.00E-03	0.3	1.42E-04	2.04E-04	8.14E-05	1.19E-04	8.71E-05	8.10E-05	1.73E-04	1.18E-05	2.75E-04	8.57E-05	8.18E-05
	W	1.00E-03	0.3	1.20E-04	2.04E-04	1.26E-04	1.29E-04	9.44E-05	1.16E-04	1.67E-04	1.78E-05	2.70E-04	8.63E-05	6.95E-05
U-232	Y	2.00E-03	0.3	5.5	3.5	3.79E 02	61.	3.5	6.36E 02	3.5	5.5	3.5	3.5	3.4
	W	5.00E-02	0.3	4.8	4.6	2.61E 02	38.	4.6	3.70E 02	4.6	4.8	4.6	4.6	4.6
	D	5.00E-02	0.3	16.	16.	8.49E 02	1.21E 02	16.	1.18E 03	16.	16.	16.	16.	16.

TOTAL INHALATION DOSES
ALPHA Q = 10
(REM/MICROCURIE)

NUCLIDE	SOL	F1	AMAD	LUNGS	RES LYM	S WALL	SI WALL	ULI WALL	LLI WALL	T BODY	ADREN	BL WALL	KIDNEYS	LIVER
U-233	Y	2.00E-03	0.3	4.78E 02	3.42E 04	2.49E-03	4.02E-03	1.70E-02	4.84E-02	17.	0.96	0.48	1.4	0.96
	W	5.00E-02	0.3	49.	2.65E 02	3.60E-03	4.92E-03	1.62E-02	4.33E-02	6.3	1.9	0.93	2.7	1.9
	D	5.00E-02	0.3	0.81	11.	9.30E-03	9.44E-03	1.06E-02	1.34E-02	19.	6.5	3.3	9.5	6.5
U-234	Y	2.00E-03	0.3	4.72E 02	3.38E 04	2.46E-03	4.01E-03	1.71E-02	4.86E-02	17.	0.95	0.48	1.4	0.95
	W	5.00E-02	0.3	48.	2.62E 02	3.57E-03	4.90E-03	1.62E-02	4.34E-02	6.2	1.8	0.93	2.7	1.8
	D	5.00E-02	0.3	0.80	11.	9.20E-03	9.34E-03	1.05E-02	1.33E-02	19.	6.5	3.2	9.4	6.5
U-235	Y	2.00E-03	0.3	4.29E 02	3.05E 04	3.95E-02	3.99E-02	0.16	0.30	15.	0.90	0.43	1.3	0.95
	W	5.00E-02	0.3	44.	2.37E 02	7.83E-03	1.08E-02	3.55E-02	8.10E-02	5.6	1.7	0.84	2.4	1.7
	D	5.00E-02	0.3	0.73	9.5	1.41E-02	1.52E-02	1.69E-02	2.12E-02	17.	5.9	2.9	8.5	5.8
U-236	Y	2.00E-03	0.3	4.46E 02	3.20E 04	2.31E-03	3.78E-03	1.61E-02	4.57E-02	16.	0.58	0.29	1.3	0.58
	W	5.00E-02	0.3	46.	2.48E 02	3.37E-03	4.62E-03	1.52E-02	4.09E-02	5.9	1.1	0.56	2.5	1.1
	D	5.00E-02	0.3	0.76	9.9	8.69E-03	8.82E-03	9.93E-03	1.26E-02	18.	3.9	2.0	8.9	3.9
U-237	Y	2.00E-03	0.3	2.71E-02	3.20E-02	4.23E-04	7.77E-04	3.44E-03	9.01E-03	5.57E-04	2.10E-04	6.36E-05	1.31E-04	2.10E-04
	W	5.00E-02	0.3	2.46E-02	3.75E-02	3.93E-04	6.85E-04	2.99E-03	7.82E-03	5.37E-04	2.16E-04	6.52E-05	1.33E-03	2.07E-04
	D	5.00E-02	0.3	3.41E-03	3.50E-02	1.46E-04	2.00E-04	5.91E-04	1.41E-03	3.33E-04	2.23E-04	8.50E-05	9.24E-03	1.51E-04
U-238	Y	2.00E-03	0.3	4.29E 02	3.03E 04	1.19E-02	2.25E-02	0.12	0.36	15.	0.86	0.43	1.3	0.90
	W	5.00E-02	0.3	43.	2.35E 02	4.50E-03	7.27E-03	3.04E-02	8.70E-02	5.5	1.7	0.83	2.4	1.7
	D	5.00E-02	0.3	0.72	9.4	8.85E-03	9.13E-03	1.04E-02	1.38E-02	17.	5.8	2.9	8.5	5.8
U-240	Y	2.00E-03	0.3	1.53E-02	2.30E-02	5.80E-04	1.16E-03	3.96E-03	5.37E-03	3.21E-04	5.87E-05	2.29E-05	9.32E-05	1.99E-04
	W	5.00E-02	0.3	1.47E-02	1.53E-02	4.70E-04	8.97E-04	3.03E-03	4.11E-03	3.34E-04	7.16E-05	2.85E-05	8.95E-04	2.62E-04
	D	5.00E-02	0.3	7.82E-03	5.55E-02	2.23E-04	3.87E-04	1.17E-03	1.56E-03	3.40E-04	1.26E-04	7.12E-05	5.21E-03	2.35E-04
NP-237	Y	1.00E-03	0.3	5.02E 02	3.59E 04	7.52E-02	6.05E-02	0.11	0.15	1.39E 02	4.9	2.4	94.	6.52E 02
	W	1.00E-03	0.3	51.	2.79E 02	8.75E-02	8.85E-02	0.13	0.11	2.13E 02	8.4	4.1	1.43E 02	1.11E 03
NP-238	Y	1.00E-03	0.3	4.10E-02	1.7	5.80E-04	1.07E-03	3.87E-03	9.14E-03	6.59E-03	6.21E-04	2.91E-04	3.83E-03	2.87E-02
	W	1.00E-03	0.3	1.73E-02	3.18E-02	5.34E-04	9.36E-04	3.34E-03	6.97E-03	1.15E-02	9.01E-04	4.06E-04	7.71E-03	5.87E-02
NP-239	Y	1.00E-03	0.3	1.48E-02	2.26E-02	3.74E-04	7.93E-04	3.40E-03	7.66E-03	3.41E-04	1.05E-04	4.82E-05	7.11E-05	2.54E-04
	W	1.00E-03	0.3	1.42E-02	1.68E-02	3.35E-04	6.81E-04	2.93E-03	6.59E-03	3.83E-04	1.19E-04	4.63E-05	1.67E-04	9.53E-04
NP-240M	Y	1.00E-03	0.3	1.51E-04	2.29E-04	1.43E-06	2.25E-07	1.23E-07	3.48E-08	2.78E-06	6.18E-07	3.16E-08	4.55E-07	2.06E-06
	W	1.00E-03	0.3	1.46E-04	1.47E-04	1.35E-06	1.81E-07	1.26E-07	3.04E-08	2.97E-06	6.46E-07	4.66E-08	7.44E-07	4.27E-06
NP-240	Y	1.00E-03	0.3	1.08E-03	1.75E-03	5.52E-05	3.08E-05	2.39E-05	5.08E-06	2.94E-05	2.08E-05	1.39E-06	1.11E-05	3.37E-05
	W	1.00E-03	0.3	1.01E-03	1.02E-03	4.24E-05	2.23E-05	1.80E-05	4.10E-06	3.14E-05	2.16E-05	1.59E-06	1.56E-05	6.66E-05
PU-236	Y	3.00E-05	0.3	3.92E 02	9.95E 03	2.51E-03	3.77E-03	1.94E-02	5.62E-02	16.	1.4	0.69	5.3	55.
	W	3.00E-05	0.3	56.	2.89E 02	1.93E-03	3.57E-03	1.77E-02	5.11E-02	26.	1.3	0.63	18.	1.87E 02
PU-238	Y	3.00E-05	0.3	5.35E 02	3.44E 04	1.36E-03	3.15E-03	1.80E-02	5.41E-02	1.24E 02	4.2	2.1	75.	5.78E 02
	W	3.00E-05	0.3	55.	3.02E 02	1.32E-03	2.97E-03	1.65E-02	4.95E-02	1.93E 02	7.4	3.7	1.31E 02	1.01E 03

TOTAL INHALATION DOSES
ALPHA Q = 10
(REM/MICROCURIE)

NUCLIDE	SOL	F1	AMAD	OVARIES	PANCREAS	BONE	R MAR	Y MAR	ENDOST	SPLEEN	TESTES	THYMUS	THYROID	UTERUS
U-233	Y	2.00E-03	0.3	0.96	0.96	33.	1.0	0.96	2.9	0.96	0.96	0.96	0.96	0.96
	W	5.00E-02	0.3	1.9	1.9	64.	2.0	1.9	5.7	1.9	1.9	1.9	1.9	1.9
	D	5.00E-02	0.3	6.5	6.5	2.24E 02	7.0	6.5	20.	6.5	6.5	6.5	6.5	6.5
U-234	Y	2.00E-03	0.3	0.95	0.95	33.	1.0	0.95	2.9	0.95	0.95	0.95	0.95	0.95
	W	5.00E-02	0.3	1.8	1.8	63.	2.0	1.8	5.6	1.8	1.8	1.8	1.8	1.8
	D	5.00E-02	0.3	6.5	6.5	2.21E 02	6.9	6.5	20.	6.5	6.5	6.5	6.5	6.5
U-235	Y	2.00E-03	0.3	0.87	0.90	30.	0.97	0.89	2.8	0.89	0.87	0.92	0.88	0.87
	W	5.00E-02	0.3	1.7	1.7	57.	1.8	1.7	4.8	1.7	1.7	1.7	1.7	1.7
	D	5.00E-02	0.3	5.8	5.9	2.00E 02	6.3	5.9	17.	5.8	5.9	5.9	5.9	5.9
U-236	Y	2.00E-03	0.3	0.58	0.58	31.	0.64	0.58	2.6	0.58	0.58	0.90	0.58	0.90
	W	5.00E-02	0.3	1.1	1.1	60.	1.2	1.1	5.1	1.1	1.1	1.8	1.1	1.8
	D	5.00E-02	0.3	3.9	3.9	2.09E 02	4.3	3.9	18.	3.9	3.9	6.1	3.9	6.1
U-23*	Y	2.00E-03	0.3	2.11E-04	2.25E-04	1.52E-04	2.22E-04	1.57E-04	1.49E-04	1.96E-04	1.52E-05	3.33E-04	6.54E-05	9.29E-05
	W	5.00E-02	0.3	1.97E-04	2.23E-04	3.61E-04	2.57E-04	1.71E-04	2.92E-04	1.99E-04	2.47E-05	3.15E-04	7.14E-05	9.49E-05
	D	5.00E-02	0.3	1.37E-04	1.83E-04	1.73E-03	4.72E-04	2.48E-04	1.22E-03	1.90E-04	8.99E-05	1.41E-04	1.00E-04	1.21E-04
U-238	Y	2.00E-03	0.3	0.86	0.86	29.	0.95	0.86	2.4	0.86	0.86	0.86	0.86	0.86
	W	5.00E-02	0.3	1.7	1.7	56.	1.8	1.7	4.7	1.7	1.7	1.7	1.7	1.7
	D	5.00E-02	0.3	5.8	5.8	1.96E 02	6.4	5.8	16.	5.8	5.8	5.8	5.8	5.8
U-240	Y	2.00E-03	0.3	8.22E-05	7.17E-05	3.42E-04	9.65E-05	3.13E-05	7.49E-04	5.74E-05	1.35E-05	8.52E-05	2.81E-05	3.79E-05
	W	5.00E-02	0.3	7.90E-05	7.98E-05	6.25E-04	1.62E-04	4.22E-05	1.27E-03	6.71E-05	2.54E-05	9.33E-05	3.84E-05	4.19E-05
	D	5.00E-02	0.3	9.97E-05	1.14E-04	1.57E-03	4.12E-04	9.44E-05	2.81E-03	1.11E-04	7.66E-05	1.12E-04	8.25E-05	8.33E-05
NP-237	Y	1.00E-03	0.3	33.	4.9	1.47E 03	2.47E 02	5.0	3.49E 03	4.9	33.	4.9	4.8	4.8
	W	1.00E-03	0.3	56.	8.4	2.51E 03	4.22E 02	8.5	5.97E 03	8.3	56.	8.3	8.3	8.3
NP-238	Y	1.00E-03	0.3	1.77E-03	6.34E-04	6.33E-02	1.10E-02	4.97E-04	0.13	6.20E-04	1.44E-03	7.74E-04	5.02E-04	5.32E-04
	W	1.00E-03	0.3	3.23E-03	9.00E-04	0.13	2.22E-02	7.64E-04	0.27	8.69E-04	2.93E-03	1.02E-03	7.50E-04	7.69E-04
NP-239	Y	1.00E-03	0.3	1.62E-04	1.17E-04	3.60E-04	1.57E-04	7.20E-05	7.37E-04	9.93E-05	1.86E-05	1.55E-04	3.60E-05	7.14E-05
	W	1.00E-03	0.3	1.72E-04	1.28E-04	8.37E-04	2.46E-04	8.72E-05	1.54E-03	1.03E-04	4.73E-05	1.57E-04	4.18E-05	6.99E-05
NP-240M	Y	1.00E-03	0.3	1.17E-07	6.88E-07	3.48E-06	8.71E-07	2.83E-07	7.67E-06	5.59E-07	8.07E-08	9.93E-07	3.24E-07	5.38E-08
	W	1.00E-03	0.3	2.21E-07	7.05E-07	6.45E-06	1.45E-06	3.12E-07	1.40E-05	5.71E-07	1.85E-07	9.97E-07	3.43E-07	7.91E-08
NP-240	Y	1.00E-03	0.3	4.30E-06	2.33E-05	3.70E-05	1.63E-05	9.50E-06	7.35E-05	1.98E-05	1.03E-06	3.34E-05	1.08E-05	2.88E-06
	W	1.00E-03	0.3	5.25E-06	2.30E-05	6.93E-05	2.25E-05	1.03E-05	1.39E-04	1.92E-05	2.57E-06	3.24E-05	1.08E-05	2.98E-06
PU-236	Y	3.00E-05	0.3	3.3	1.4	84.	15.	1.4	1.60E 02	1.4	3.3	1.4	1.4	1.4
	W	3.00E-05	0.3	7.9	1.3	2.76E 02	46.	1.3	5.29E 02	1.3	7.9	1.3	1.3	1.3
PU-238	Y	3.00E-05	0.3	29.	4.2	1.29E 03	2.17E 02	4.2	2.72E 03	4.2	29.	4.2	4.2	4.2
	W	3.00E-05	0.3	51.	7.4	2.27E 03	3.83E 02	7.4	4.79E 03	7.4	51.	7.4	7.4	7.4

TOTAL INHALATION DOSES
ALPHA Q = 10
(REM/MICROCURIE)

NUCLIDE	SOL	F1	AMAD	LUNGS	RES LYM	S WALL	SI WALL	ULI WALL	LLI WALL	T BODY	ADREN	BL WALL	KIDNEYS	LIVER
PU-239	Y	3.00E-05	0.3	5.10E 02	3.66E 04	1.27E-03	2.96E-03	1.69E-02	5.06E-02	1.41E 02	4.8	2.4	85.	6.58E 02
	W	3.00E-05	0.3	52.	2.84E 02	1.23E-03	2.77E-03	1.54E-02	4.60E-02	2.16E 02	8.3	4.2	1.45E 02	1.12E 03
PU-240	Y	3.00E-05	0.3	5.12E 02	3.66E 04	1.30E-03	2.98E-03	1.71E-02	5.10E-02	1.41E 02	4.8	2.4	85.	6.61E 02
	W	3.00E-05	0.3	52.	2.84E 02	1.26E-03	2.80E-03	1.56E-02	4.64E-02	2.17E 02	8.3	4.2	1.45E 02	1.13E 03
PU-241	Y	3.00E-05	0.3	1.0	3.05E 02	1.59E-04	1.53E-04	3.54E-04	6.30E-04	2.9	0.13	6.69E-02	1.9	14.
	W	3.00E-05	0.3	1.63E-02	0.18	2.00E-04	2.07E-04	4.07E-04	5.80E-04	4.4	0.17	8.65E-02	2.8	22.
PU-242	Y	3.00E-05	0.3	4.85E 02	3.48E 04	1.48E-03	2.97E-03	1.63E-02	4.83E-02	1.34E 02	4.6	2.3	81.	6.28E 02
	W	3.00E-05	0.3	50.	2.70E 02	1.44E-03	2.88E-03	1.50E-02	4.40E-02	2.06E 02	7.9	3.9	1.38E 02	1.07E 03
PU-243	Y	3.00E-05	0.3	1.39E-03	4.05E-03	5.68E-05	8.98E-05	1.86E-04	1.28E-04	3.32E-05	2.75E-06	6.73E-07	7.42E-06	5.28E-05
	W	3.00E-05	0.3	1.30E-03	1.33E-03	4.23E-05	6.64E-05	1.37E-04	9.43E-05	4.11E-05	3.46E-06	9.64E-07	1.71E-05	1.28E-04
PU-244	Y	3.00E-05	0.3	5.11E 02	3.59E 04	0.25	0.28	0.72	0.93	1.39E 02	5.1	2.4	84.	6.53E 02
	W	3.00E-05	0.3	52.	2.80E 02	0.19	0.20	0.31	0.30	2.13E 02	8.7	4.2	1.44E 02	1.11E 03
AM-241	Y	1.00E-03	0.3	5.42E 02	3.78E 04	1.11E-02	8.93E-03	2.64E-02	5.86E-02	1.45E 02	5.0	2.5	88.	6.79E 02
	W	1.00E-03	0.3	56.	3.01E 02	1.15E-02	1.24E-02	3.01E-02	5.60E-02	2.23E 02	8.6	4.3	1.50E 02	1.16E 03
AM-242M	Y	1.00E-03	0.3	1.97E 02	2.76E 04	2.15E-02	3.98E-02	0.15	0.24	1.39E 02	5.2	2.6	88.	6.84E 02
	W	1.00E-03	0.3	6.5	93.	7.43E-03	1.01E-02	2.79E-02	4.72E-02	2.18E 02	8.5	4.2	1.46E 02	1.13E 03
AM-242	Y	1.00E-03	0.3	0.43	2.4	1.29E-04	2.74E-04	1.04E-03	1.61E-03	8.77E-03	1.36E-04	6.75E-05	1.51E-03	1.17E-02
	W	1.00E-03	0.3	0.14	0.57	1.05E-04	2.22E-04	8.47E-04	1.33E-03	1.62E-02	7.65E-04	3.82E-04	1.10E-02	8.52E-02
AM-243	Y	1.00E-03	0.3	5.25E 02	3.75E 04	9.61E-02	9.69E-02	0.26	0.48	1.45E 02	5.2	2.5	88.	6.83E 02
	W	1.00E-03	0.3	54.	2.92E 02	9.42E-02	9.72E-02	0.15	0.16	2.23E 02	8.8	4.3	1.49E 02	1.16E 03
CM-242	Y	1.00E-03	0.3	1.51E 02	8.23E 02	1.02E-03	2.52E-03	1.48E-02	4.42E-02	3.0	3.60E-02	1.80E-02	0.50	3.9
	W	1.00E-03	0.3	48.	1.97E 02	1.27E-03	2.94E-03	1.66E-02	4.92E-02	4.9	0.16	8.13E-02	3.3	26.
CM-243	Y	1.00E-03	0.3	5.54E 02	2.95E 04	3.24E-02	2.23E-02	4.62E-02	7.95E-02	93.	3.1	1.5	56.	4.32E 02
	W	1.00E-03	0.3	59.	3.18E 02	3.35E-02	3.49E-02	6.12E-02	8.24E-02	1.48E 02	5.7	2.8	1.03E 02	8.03E 02
CM-244	Y	1.00E-03	0.3	5.34E 02	2.47E 04	1.42E-03	3.24E-03	1.86E-02	5.55E-02	72.	2.2	1.1	42.	3.24E 02
	W	1.00E-03	0.3	58.	3.13E 02	1.40E-03	3.12E-03	1.74E-02	5.16E-02	1.16E 02	4.4	2.2	82.	6.35E 02
CM-245	Y	1.00E-03	0.3	5.33E 02	3.81E 04	2.87E-02	2.20E-02	4.39E-02	7.08E-02	1.50E 02	5.3	2.6	91.	7.06E 02
	W	1.00E-03	0.3	54.	2.95E 02	3.11E-02	3.30E-02	5.69E-02	7.30E-02	2.30E 02	8.9	4.4	1.54E 02	1.19E 03
CM-246	Y	1.00E-03	0.3	5.42E 02	3.87E 04	1.75E-02	1.20E-02	2.89E-02	5.95E-02	1.50E 02	5.2	2.6	91.	7.04E 02
	W	1.00E-03	0.3	55.	3.01E 02	1.71E-02	1.69E-02	3.38E-02	5.79E-02	2.30E 02	8.9	4.4	1.54E 02	1.20E 03
CM-247	Y	1.00E-03	0.3	4.95E 02	3.51E 04	0.14	0.11	0.18	0.15	1.37E 02	5.0	2.4	83.	6.40E 02
	W	1.00E-03	0.3	51.	2.73E 02	0.15	0.15	0.21	0.15	2.10E 02	8.4	4.1	1.41E 02	1.09E 03
CM-248	Y	1.00E-03	0.3	3.40E 03	2.41E 05	5.8	3.2	4.0	2.3	9.45E 02	43.	19.	5.75E 02	4.44E 03
	W	1.00E-03	0.3	3.49E 02	1.88E 03	5.6	5.0	6.3	3.4	1.45E 03	69.	30.	9.75E 02	7.53E 03
CF-252	Y	1.00E-03	0.3	1.14E 03	2.08E 04	0.54	0.13	0.19	0.25	38.	1.3	0.35	14.	1.06E 02
	W	1.00E-03	0.3	1.68E 02	8.64E 02	0.31	0.25	0.35	0.33	67.	3.1	1.3	51.	3.93E 02

TOTAL INHALATION DOSES
ALPHA Q = 10
(REM/MICROCURIE)

NUCLIDE	SOL	F1	AMAD	OVARIES	PANCREAS	BONE	R MAR	Y MAR	ENDOST	SPLEEN	TESTES	THYMUS	THYROID	UTERUS
PU-239	Y	3.00E-05	0.3	33.	4.8	1.49E 03	2.51E 02	4.8	3.44E 03	4.8	33.	4.8	4.8	4.8
	W	3.00E-05	0.3	57.	8.3	2.55E 03	4.31E 02	8.3	5.90E 03	8.3	57.	8.3	8.3	8.3
PU-240	Y	3.00E-05	0.3	33.	4.8	1.49E 03	2.50E 02	4.8	3.43E 03	4.8	33.	4.8	4.8	4.8
	W	3.00E-05	0.3	57.	8.3	2.56E 03	4.30E 02	8.3	5.89E 03	8.3	57.	8.3	8.3	8.3
PU-241	Y	3.00E-05	0.3	0.75	0.13	34.	5.7	0.13	71.	0.13	0.75	0.13	0.13	0.13
	W	3.00E-05	0.3	1.2	0.17	53.	8.8	0.17	1.11E 02	0.17	1.2	0.17	0.17	0.17
PU-242	Y	3.00E-05	0.3	31.	4.6	1.42E 03	2.38E 02	4.6	3.49E 03	4.6	31.	4.6	4.6	4.6
	W	3.00E-05	0.3	54.	7.9	2.43E 03	4.09E 02	7.9	5.99E 03	7.9	54.	7.9	7.9	7.9
PU-243	Y	3.00E-05	0.3	3.97E-06	3.13E-06	1.13E-04	2.14E-05	2.41E-06	2.51E-04	2.69E-06	2.58E-06	3.97E-06	1.27E-06	1.51E-06
	W	3.00E-05	0.3	7.16E-06	3.74E-06	2.25E-04	4.10E-05	3.21E-06	4.87E-04	3.24E-06	6.10E-06	4.51E-06	1.92E-06	1.99E-06
PU-244	Y	3.00E-05	0.3	33.	5.1	1.45E 03	2.25E 02	5.0	3.52E 03	4.9	33.	5.0	4.9	4.9
	W	3.00E-05	0.3	56.	8.6	2.49E 03	3.86E 02	8.6	6.05E 03	8.4	56.	8.4	8.3	8.3
AM-241	Y	1.00E-03	0.3	34.	5.0	1.53E 03	2.57E 02	5.0	3.23E 03	5.0	34.	5.0	5.0	5.0
	W	1.00E-03	0.3	59.	8.6	2.63E 03	4.42E 02	8.6	5.55E 03	8.6	58.	8.6	8.6	8.6
AM-242M	Y	1.00E-03	0.3	34.	5.2	1.54E 03	2.60E 02	5.2	2.78E 03	5.2	34.	5.2	5.2	5.2
	W	1.00E-03	0.3	58.	8.5	2.59E 03	4.35E 02	8.5	4.65E 03	8.5	58.	8.5	8.5	8.5
AM-242	Y	1.00E-03	0.3	5.33E-04	1.36E-04	2.38E-02	4.05E-03	1.35E-04	4.66E-02	1.36E-04	5.29E-04	1.38E-04	1.34E-04	1.35E-04
	W	1.00E-03	0.3	3.59E-03	7.66E-04	0.16	2.73E-02	7.65E-04	0.30	7.65E-04	3.59E-03	7.67E-04	7.63E-04	7.64E-04
AM-243	Y	1.00E-03	0.3	34.	5.1	1.53E 03	2.58E 02	5.2	3.43E 03	5.1	34.	5.1	5.0	5.0
	W	1.00E-03	0.3	59.	8.8	2.62E 03	4.41E 02	8.8	5.97E 03	8.6	59.	8.6	8.6	8.6
CM-242	Y	1.00E-03	0.3	0.18	3.60E-02	7.9	1.3	3.60E-02	16.	3.60E-02	0.18	3.60E-02	3.60E-02	3.60E-02
	W	1.00E-03	0.3	1.1	0.16	49.	8.2	0.16	89.	0.16	1.1	0.16	0.16	0.16
CM-243	Y	1.00E-03	0.3	21.	3.1	9.29E 02	1.56E 02	3.1	1.76E 03	3.1	21.	3.1	3.0	3.0
	W	1.00E-03	0.3	39.	5.7	1.74E 03	2.92E 02	5.7	3.29E 03	5.7	39.	5.7	5.7	5.7
CM-244	Y	1.00E-03	0.3	15.	2.2	6.84E 02	1.15E 02	2.2	1.32E 03	2.2	15.	2.2	2.2	2.2
	W	1.00E-03	0.3	30.	4.4	1.34E 03	2.26E 02	4.4	2.59E 03	4.4	30.	4.4	4.4	4.4
CM-245	Y	1.00E-03	0.3	35.	5.3	1.59E 03	2.68E 02	5.3	3.47E 03	5.2	35.	5.2	5.2	5.2
	W	1.00E-03	0.3	60.	8.9	2.71E 03	4.57E 02	9.0	5.92E 03	8.9	60.	8.9	8.9	8.9
CM-246	Y	1.00E-03	0.3	35.	5.2	1.58E 03	2.62E 02	5.2	3.39E 03	5.2	35.	5.2	5.2	5.2
	W	1.00E-03	0.3	60.	8.9	2.71E 03	4.49E 02	8.9	5.80E 03	8.8	60.	8.8	8.8	8.8
CM-247	Y	1.00E-03	0.3	32.	5.0	1.44E 03	2.43E 02	4.9	3.51E 03	4.8	32.	4.9	4.8	4.8
	W	1.00E-03	0.3	55.	8.4	2.47E 03	4.16E 02	8.3	6.01E 03	8.2	55.	8.2	8.2	8.1
CM-248	Y	1.00E-03	0.3	2.22E 02	40.	9.92E 03	2.61E 02	38.	3.54E 03	37.	2.22E 02	38.	35.	34.
	W	1.00E-03	0.3	3.80E 02	66.	1.70E 04	4.44E 02	64.	6.06E 03	60.	3.80E 02	59.	58.	58.
CF-252	Y	1.00E-03	0.3	4.4	1.1	1.98E 02	12.	0.92	1.24E 02	1.0	4.4	1.3	0.84	0.69
	W	1.00E-03	0.3	16.	2.9	7.31E 02	44.	2.8	4.59E 02	2.6	16.	2.6	2.5	2.5

TOTAL INHALATION DOSES
ALPHA Q = 10
(REM/MICROCURIE)

NUCLIDE	SOL	F1	AMAD	LUNGS	RES LYM	S WALL	SI WALL	ULI WALL	LLI WALL	T BODY	ADREN	BL WALL	KIDNEYS	LIVER
TL-207	W	0.95	1.0	7.44E-05	7.44E-05	6.40E-07	2.94E-08	2.01E-09	1.78E-10	1.10E-06	5.39E-08	2.58E-08	2.61E-07	5.29E-08
TL-208	W	0.95	1.0	7.16E-05	7.16E-05	2.35E-06	4.18E-07	5.22E-07	1.18E-07	2.26E-06	1.72E-06	1.57E-07	1.12E-06	2.30E-06
TL-209	W	0.95	1.0	6.61E-05	6.61E-05	1.91E-06	1.09E-06	1.69E-06	7.79E-07	1.59E-06	1.01E-06	7.12E-08	9.06E-07	1.25E-06
PB-209	W	8.00E-02	1.0	9.65E-04	9.69E-04	6.47E-05	8.39E-05	1.34E-04	6.67E-05	1.57E-05	8.90E-08	4.45E-08	2.51E-06	7.41E-07
PB-210	W	8.00E-02	1.0	3.2	56.	1.15E-03	2.63E-03	1.49E-02	4.44E-02	7.9	0.53	0.26	1.7	1.6
PB-211	W	8.00E-02	1.0	7.17E-02	1.04E-03	7.26E-05	2.90E-05	1.22E-05	1.36E-06	1.13E-03	1.71E-05	8.12E-06	1.10E-03	1.50E-05
PB-212	W	8.00E-02	1.0	0.92	3.14E-02	1.44E-03	2.79E-03	8.84E-03	1.02E-02	1.88E-02	1.01E-03	5.22E-04	6.75E-02	4.58E-03
PB-214	W	8.00E-02	1.0	5.95E-02	9.55E-04	7.41E-05	3.26E-05	1.44E-05	2.47E-06	1.02E-03	9.50E-05	4.35E-05	4.42E-03	7.51E-05
BI-210	W	5.00E-02	1.0	0.53	2.4	6.46E-04	1.50E-03	8.30E-03	2.21E-02	1.45E-02	4.43E-03	2.21E-03	0.43	1.22E-02
BI-211	W	5.00E-02	1.0	4.72E-03	3.36E-05	6.04E-07	2.97E-08	5.27E-09	1.34E-09	6.87E-05	1.06E-06	5.12E-07	8.86E-05	1.04E-06
BI-212	W	5.00E-02	1.0	0.14	1.42E-03	1.52E-04	9.03E-05	6.10E-05	1.20E-05	2.22E-03	1.79E-04	8.28E-05	1.89E-02	1.79E-04
BI-213	W	5.00E-02	1.0	5.76E-03	1.59E-03	1.00E-04	4.36E-05	2.95E-05	6.14E-06	1.05E-04	3.16E-05	6.05E-06	7.44E-04	3.15E-05
BI-214	W	5.00E-02	1.0	4.80E-02	5.41E-04	3.14E-05	8.16E-06	3.53E-06	7.97E-07	7.61E-04	5.29E-05	2.36E-05	4.38E-03	5.42E-05
PO-210	W	1.00E-01	1.0	23.	91.	1.11E-03	2.49E-03	1.47E-02	4.37E-02	0.79	0.41	0.20	7.3	1.3
	D	1.00E-01	1.0	0.52	6.7	3.60E-04	8.08E-04	4.76E-03	1.42E-02	1.4	1.3	0.66	24.	4.1
PO-211	W	1.00E-01	1.0	2.36E-05	1.19E-10	1.94E-11	2.47E-12	3.26E-12	7.18E-13	3.38E-07	4.98E-11	1.59E-11	5.58E-10	1.14E-10
	D	1.00E-01	1.0	2.36E-05	1.71E-09	8.69E-11	2.48E-12	3.27E-12	7.21E-13	3.38E-07	1.20E-10	5.12E-11	1.83E-09	3.32E-10
PO-212	W	1.00E-01	1.0	1.52E-11	1.39E-24	1.45E-24	1.11E-34	6.15E-45	9.46E-56	2.17E-13	1.07E-23	5.36E-24	1.93E-22	3.31E-23
	D	1.00E-01	1.0	1.52E-11	5.57E-22	2.51E-23	1.92E-33	1.06E-43	1.64E-54	2.17E-13	3.56E-23	1.77E-23	6.38E-22	1.09E-22
PO-213	W	1.00E-01	1.0	2.00E-10	3.41E-13	2.28E-14	2.95E-14	4.71E-14	2.35E-14	2.86E-12	8.19E-17	4.07E-17	8.01E-15	2.88E-15
	D	1.00E-01	1.0	2.00E-10	3.41E-13	2.28E-14	2.95E-14	4.71E-14	2.35E-14	2.86E-12	8.19E-17	4.07E-17	8.01E-15	2.88E-15
PO-214	W	1.00E-01	1.0	7.11E-09	1.30E-11	3.27E-16	6.18E-16	3.47E-15	1.03E-14	1.03E-10	8.03E-14	4.01E-14	4.00E-13	3.72E-13
	D	1.00E-01	1.0	7.11E-09	6.67E-13	3.21E-16	5.91E-16	3.31E-15	9.82E-15	1.03E-10	9.72E-14	4.86E-14	7.04E-13	4.24E-13
PO-215	W	1.00E-01	1.0	1.33E-07	8.58E-10	5.96E-11	2.38E-11	1.00E-11	1.13E-12	2.15E-09	2.00E-11	9.64E-12	1.76E-09	3.26E-10
	D	1.00E-01	1.0	1.33E-07	8.58E-10	5.96E-11	2.38E-11	1.00E-11	1.13E-12	2.15E-09	2.00E-11	9.64E-12	1.76E-09	3.26E-10
PO-216	W	1.00E-01	1.0	9.38E-06	1.23E-07	5.68E-09	1.10E-08	3.48E-08	4.02E-08	1.75E-07	4.77E-09	2.43E-09	3.62E-07	5.32E-08
	D	1.00E-01	1.0	9.38E-06	1.24E-07	5.69E-09	1.10E-08	3.48E-08	4.02E-08	1.75E-07	4.78E-09	2.43E-09	3.62E-07	5.32E-08
PO-218	W	1.00E-01	1.0	1.27E-02	1.08E-04	9.00E-06	3.96E-06	1.77E-06	3.13E-07	2.21E-04	1.29E-05	5.97E-06	6.55E-04	5.54E-05
	D	1.00E-01	1.0	1.17E-02	3.99E-04	1.85E-05	8.02E-06	3.54E-06	5.61E-07	2.15E-04	2.40E-05	1.16E-05	7.97E-04	8.72E-05
AT-217	D	0.95	1.0	1.36E-06	1.88E-08	1.18E-09	5.16E-10	3.50E-10	7.46E-11	1.97E-08	3.97E-10	8.47E-11	8.74E-09	3.96E-10
RN-219	*	0.0	***	4.66E-04	2.30E-06	1.93E-08	7.21E-09	3.27E-09	4.30E-10	6.76E-06	1.07E-08	4.01E-09	7.25E-07	1.46E-07
RN-220	*	0.0	***	1.11E-03	1.72E-05	1.74E-07	2.61E-07	7.93E-07	9.03E-07	1.64E-05	9.21E-08	3.34E-08	4.22E-06	8.24E-07
RN-222	*	0.0	***	1.19E-03	9.21E-06	1.27E-07	3.98E-08	2.64E-08	6.37E-09	1.76E-05	2.05E-07	7.16E-08	7.07E-06	7.33E-07
FR-221	D	0.95	1.0	1.90E-02	9.16E-04	4.20E-05	1.08E-05	6.31E-06	1.31E-06	3.20E-04	5.50E-05	2.67E-05	1.12E-04	5.50E-05

TOTAL INHALATION DOSES
ALPHA Q = 10
(REM/MICROCURIE)

NUCLIDE	SOL	F1	AMAD	OVARIES	PANCREAS	BONE	R MAR	Y MAR	ENDOST	SPLEEN	TESTES	THYMUS	THYROID	UTERUS
TL-207	W	0.95	1.0	5.05E-08	5.39E-08	5.16E-08	5.24E-08	5.25E-08	6.53E-08	5.27E-08	5.04E-08	5.57E-08	5.28E-08	5.15E-08
TL-208	W	0.95	1.0	2.57E-07	2.32E-06	1.03E-06	1.28E-06	1.08E-06	1.03E-06	2.18E-06	1.06E-07	3.81E-06	1.11E-06	3.00E-07
TL-209	W	0.95	1.0	1.24E-07	1.25E-06	6.70E-07	6.93E-07	5.30E-07	6.45E-07	9.55E-07	5.34E-08	2.06E-06	4.98E-07	1.58E-07
PB-209	W	8.00E-02	1.0	8.93E-08	8.90E-08	5.66E-06	1.56E-06	8.90E-08	4.53E-06	8.93E-08	8.95E-08	8.90E-08	8.92E-08	8.90E-08
PB-210	W	8.00E-02	1.0	0.53	0.53	1.05E 02	0.96	0.53	10.	1.3	0.52	0.52	0.52	0.52
PB-211	W	8.00E-02	1.0	1.62E-05	1.73E-05	1.26E-03	2.24E-04	1.66E-05	1.98E-03	1.69E-05	1.61E-05	1.76E-05	1.66E-05	1.63E-05
PB-212	W	8.00E-02	1.0	1.15E-03	1.07E-03	6.50E-02	1.17E-02	9.65E-04	8.50E-02	1.03E-03	8.92E-04	1.09E-03	9.28E-04	1.02E-03
PB-214	W	8.00E-02	1.0	8.68E-05	9.75E-05	1.41E-03	2.88E-04	8.98E-05	1.44E-03	9.73E-05	8.53E-05	1.02E-04	8.97E-05	8.70E-05
BI-210	W	5.00E-02	1.0	4.43E-03	4.43E-03	2.21E-02	4.49E-03	4.43E-03	2.08E-03	0.11	4.43E-03	4.43E-03	4.43E-03	4.43E-03
BI-211	W	5.00E-02	1.0	1.02E-06	1.06E-06	4.99E-06	1.86E-06	1.04E-06	7.86E-06	1.04E-06	1.02E-06	1.07E-06	1.04E-06	1.03E-06
BI-212	W	5.00E-02	1.0	1.64E-04	1.83E-04	8.04E-04	3.03E-04	1.70E-04	1.05E-03	1.80E-04	1.61E-04	1.90E-04	1.70E-04	1.66E-04
BI-213	W	5.00E-02	1.0	1.16E-05	3.71E-05	3.63E-05	2.48E-05	1.79E-05	2.85E-05	3.03E-05	8.03E-06	4.68E-05	1.65E-05	1.25E-05
BI-214	W	5.00E-02	1.0	4.71E-05	5.41E-05	3.88E-04	8.72E-05	4.93E-05	2.82E-04	5.44E-05	4.64E-05	5.81E-05	4.95E-05	4.73E-05
PO-210	W	1.00E-01	1.0	0.41	0.41	2.0	0.41	0.41	0.19	13.	0.41	0.41	0.41	0.41
	D	1.00E-01	1.0	1.3	1.3	6.6	1.3	1.3	0.61	41.	1.3	1.3	1.3	1.3
PO-211	W	1.00E-01	1.0	3.19E-11	5.04E-11	1.61E-10	6.56E-11	3.88E-11	2.02E-10	9.63E-10	3.09E-11	6.22E-11	4.11E-11	3.13E-11
	D	1.00E-01	1.0	1.02E-10	1.21E-10	5.14E-10	1.94E-10	1.09E-10	6.49E-10	3.15E-09	1.02E-10	1.32E-10	1.11E-10	1.02E-10
PO-212	W	1.00E-01	1.0	1.07E-23	1.07E-23	5.37E-23	1.96E-23	1.07E-23	4.63E-23	3.31E-22	1.07E-23	1.07E-23	1.07E-23	1.07E-23
	D	1.00E-01	1.0	3.55E-23	3.56E-23	1.78E-22	6.48E-23	3.56E-23	1.53E-22	1.09E-21	3.54E-23	3.56E-23	3.56E-23	3.56E-23
PO-213	W	1.00E-01	1.0	8.14E-17	8.19E-17	5.17E-15	1.42E-15	8.16E-17	4.14E-15	8.19E-17	8.14E-17	8.23E-17	8.16E-17	8.14E-17
	D	1.00E-01	1.0	8.14E-17	8.19E-17	5.17E-15	1.42E-15	8.16E-17	4.14E-15	8.21E-17	8.14E-17	8.23E-17	8.16E-17	8.14E-17
PO-214	W	1.00E-01	1.0	8.02E-14	8.03E-14	2.45E-11	1.81E-13	8.11E-14	2.36E-12	2.69E-13	8.02E-14	8.03E-14	8.02E-14	8.02E-14
	D	1.00E-01	1.0	9.72E-14	9.73E-14	2.46E-11	1.99E-13	9.81E-14	2.37E-12	7.94E-13	9.71E-14	9.73E-14	9.72E-14	9.72E-14
PO-215	W	1.00E-01	1.0	1.92E-11	2.02E-11	3.03E-09	5.22E-10	1.96E-11	4.78E-09	1.98E-11	1.92E-11	2.04E-11	1.96E-11	1.93E-11
	D	1.00E-01	1.0	1.92E-11	2.02E-11	3.03E-09	5.22E-10	1.96E-11	4.78E-09	1.99E-11	1.92E-11	2.04E-11	1.96E-11	1.93E-11
PO-216	W	1.00E-01	1.0	5.28E-09	4.98E-09	5.02E-07	8.75E-08	4.58E-09	6.56E-07	4.95E-09	4.25E-09	5.02E-09	4.39E-09	4.75E-09
	D	1.00E-01	1.0	5.29E-09	4.99E-09	5.02E-07	8.76E-08	4.59E-09	6.56E-07	5.26E-09	4.26E-09	5.03E-09	4.40E-09	4.76E-09
PO-218	W	1.00E-01	1.0	1.19E-05	1.32E-05	3.90E-04	7.22E-05	1.23E-05	4.39E-04	1.66E-04	1.17E-05	1.37E-05	1.22E-05	1.19E-05
	D	1.00E-01	1.0	2.31E-05	2.44E-05	4.09E-04	8.65E-05	2.33E-05	4.79E-04	5.31E-04	2.28E-05	2.46E-05	2.32E-05	2.31E-05
AT-217	D	0.95	1.0	1.62E-10	4.62E-10	5.16E-10	3.29E-10	2.35E-10	3.98E-10	3.82E-10	1.18E-10	5.79E-10	2.27E-10	1.74E-10
RN-219	*	0.0	***	8.00E-09	1.09E-08	1.34E-06	2.32E-07	9.20E-09	2.12E-06	1.04E-08	7.86E-09	1.23E-08	9.12E-09	8.01E-09
RN-220	*	0.0	***	7.66E-08	1.06E-07	7.43E-06	1.31E-06	7.52E-08	9.72E-06	1.01E-07	5.09E-08	1.33E-07	7.15E-08	6.43E-08
RN-222	*	0.0	***	1.43E-07	2.18E-07	5.99E-06	8.79E-07	1.71E-07	5.27E-06	2.07E-06	1.37E-07	2.71E-07	1.72E-07	1.43E-07
FR-221	D	0.95	1.0	5.33E-05	5.60E-05	2.60E-04	9.66E-05	5.37E-05	3.85E-04	5.50E-05	5.27E-05	5.65E-05	5.36E-05	5.36E-05

TOTAL INHALATION DOSES
ALPHA Q = 10
(REM/MICROCURIE)

NUCLIDE	SOL	F1	AMAD	LUNGS	RES LYM	S WALL	SI WALL	ULI WALL	LLI WALL	T BODY	ADREN	BL WALL	KIDNEYS	LIVER
RA-223	W	0.20	1.0	24.	29.	6.44E-03	1.28E-02	7.47E-02	0.21	0.58	0.11	5.67E-02	0.13	0.11
RA-224	W	0.20	1.0	4.5	3.4	3.58E-03	8.21E-03	4.94E-02	0.14	0.14	3.20E-02	1.63E-02	4.26E-02	3.42E-02
RA-225	W	0.20	1.0	15.	40.	3.20E-03	3.93E-03	2.33E-02	7.57E-02	0.48	0.12	5.81E-02	0.15	0.37
RA-226	W	0.20	1.0	28.	1.52E 02	2.60E-03	4.88E-03	2.49E-02	0.10	9.4	0.34	0.17	0.34	0.34
RA-228	W	0.20	1.0	2.6	85.	9.42E-03	1.17E-02	3.05E-02	6.06E-02	5.6	0.49	0.24	0.81	3.3
AC-225	Y	1.00E-03	1.0	25.	8.8	1.21E-02	1.49E-02	9.04E-02	0.25	0.40	1.52E-02	7.81E-03	4.08E-02	0.19
	W	1.00E-03	1.0	22.	19.	1.17E-02	1.41E-02	8.14E-02	0.22	0.78	3.09E-02	1.54E-02	0.39	2.9
AC-227	Y	1.00E-03	1.0	5.24E 02	6.39E 04	5.26E-02	6.99E-02	0.35	1.0	1.30E 02	3.4	1.7	48.	3.64E 02
	W	1.00E-03	1.0	43.	7.64E 02	3.40E-02	3.74E-02	7.41E-02	0.13	2.95E 02	7.0	3.5	1.29E 02	9.97E 02
AC-228	Y	1.00E-03	1.0	0.13	4.4	4.33E-04	7.00E-04	1.62E-03	1.64E-03	5.29E-03	2.35E-04	1.09E-04	1.26E-03	8.35E-03
	W	1.00E-03	1.0	2.37E-02	0.26	3.54E-04	5.56E-04	1.21E-03	1.02E-03	1.57E-02	5.56E-04	2.63E-04	7.12E-03	5.48E-02
TH-227	Y	1.00E-03	1.0	35.	63.	3.67E-03	7.32E-03	4.42E-02	0.14	0.60	2.52E-02	1.25E-02	4.50E-02	0.18
	W	1.00E-03	1.0	27.	86.	3.22E-03	6.36E-03	3.77E-02	0.12	1.1	3.53E-02	1.76E-02	0.36	2.7
TH-228	Y	1.00E-03	1.0	3.65E 02	1.32E 04	5.51E-02	0.11	0.60	1.7	14.	0.37	0.19	3.2	22.
	W	1.00E-03	1.0	60.	7.64E 02	1.41E-02	2.59E-02	0.13	0.40	32.	0.81	0.40	16.	1.27E 02
TH-229	Y	1.00E-03	1.0	6.30E 02	7.22E 04	0.18	0.13	0.39	0.94	1.97E 02	5.8	2.8	76.	5.77E 02
	W	1.00E-03	1.0	59.	6.36E 02	0.17	0.19	0.26	0.31	4.23E 02	11.	5.4	1.83E 02	1.42E 03
TH-230	Y	1.00E-03	1.0	2.67E 02	1.91E 04	1.37E-03	3.12E-03	1.78E-02	5.32E-02	79.	2.7	1.4	48.	3.71E 02
	W	1.00E-03	1.0	28.	1.48E 02	1.37E-03	2.94E-03	1.60E-02	4.73E-02	1.76E 02	6.8	3.4	1.18E 02	9.13E 02
TH-231	Y	1.00E-03	1.0	4.14E-03	6.76E-03	2.42E-04	5.61E-04	2.33E-03	4.15E-03	1.06E-04	6.07E-06	4.86E-06	1.23E-05	7.82E-05
	W	1.00E-03	1.0	3.91E-03	4.13E-03	2.05E-04	4.74E-04	1.96E-03	3.50E-03	1.37E-04	9.34E-06	5.56E-06	5.61E-05	4.15E-04
TH-232	Y	1.00E-03	1.0	2.31E 02	1.78E 04	7.10E-03	8.94E-03	2.46E-02	6.01E-02	81.	2.5	1.2	42.	3.24E 02
	W	1.00E-03	1.0	24.	1.29E 02	9.34E-03	1.33E-02	2.46E-02	5.32E-02	1.80E 02	5.9	2.9	1.02E 02	7.96E 02
TH-234	Y	1.00E-03	1.0	0.24	0.42	1.86E-03	4.53E-03	2.62E-02	7.64E-02	3.92E-03	7.11E-05	2.18E-05	2.80E-04	2.02E-03
	W	1.00E-03	1.0	0.18	0.46	1.71E-03	4.18E-03	2.41E-02	7.02E-02	4.70E-03	2.76E-04	1.18E-04	4.36E-03	3.35E-02
PA-231	Y	1.00E-03	1.0	3.03E 02	3.63E 04	2.34E-02	2.26E-02	5.05E-02	9.86E-02	2.10E 02	6.3	3.1	100.	7.70E 02
	W	1.00E-03	1.0	29.	1.63E 02	3.83E-02	4.09E-02	6.45E-02	8.02E-02	4.53E 02	14.	6.8	2.28E 02	1.76E 03
PA-233	Y	1.00E-03	1.0	6.21E-02	0.11	8.88E-04	1.42E-03	6.25E-03	1.75E-02	1.32E-03	5.68E-04	1.46E-04	3.22E-04	1.12E-03
	W	1.00E-03	1.0	4.43E-02	0.11	8.73E-04	1.43E-03	5.93E-03	1.62E-02	1.57E-03	7.89E-04	2.05E-04	1.59E-03	1.02E-02
PA-234M	Y	1.00E-03	1.0	3.15E-05	3.15E-05	9.58E-08	5.87E-09	8.49E-09	6.24E-09	4.53E-07	4.12E-09	4.14E-10	2.36E-09	7.81E-09
	W	1.00E-03	1.0	3.13E-05	3.13E-05	7.49E-08	4.98E-09	7.20E-09	5.25E-09	4.53E-07	4.70E-09	7.16E-10	1.07E-08	7.12E-08
PA-234	Y	1.00E-03	1.0	5.23E-03	5.25E-03	6.33E-04	1.00E-03	2.07E-03	1.61E-03	2.10E-04	1.72E-04	6.98E-05	1.23E-04	2.03E-04
	W	1.00E-03	1.0	4.89E-03	4.93E-03	5.41E-04	8.33E-04	1.71E-03	1.32E-03	2.11E-04	1.87E-04	6.27E-05	1.55E-04	4.46E-04
U-232	Y	2.00E-03	1.0	4.53E 02	7.47E 04	4.21E-02	4.62E-02	0.22	0.60	41.	2.1	1.0	8.3	43.
	W	5.00E-02	1.0	34.	2.57E 02	6.00E-03	8.47E-03	2.63E-02	6.98E-02	20.	4.3	2.1	7.2	7.2
	D	5.00E-02	1.0	0.58	9.5	1.46E-02	1.64E-02	2.06E-02	3.25E-02	61.	14.	7.0	23.	14.

TOTAL INHALATION DOSES
ALPHA Q = 10
(REM/MICROCURIE)

NUCLIDE	SOL	F1	AMAD	OVARIES	PANCREAS	BONE	R MAR	Y MAR	ENDOST	SPLEEN	TESTES	THYMUS	THYROID	UTERUS
RA-223	W	0.20	1.0	0.11	0.11	0.49	0.51	0.11	3.8	0.11	0.11	0.11	0.11	0.11
RA-224	W	0.20	1.0	3.17E-02	3.21E-02	0.15	0.16	3.20E-02	1.3	3.25E-02	3.08E-02	3.20E-02	3.19E-02	3.23E-02
RA-225	W	0.20	1.0	0.12	0.12	0.55	0.57	0.12	4.4	0.12	0.12	0.12	0.12	0.12
RA-226	W	0.20	1.0	0.34	0.34	25.	12.	0.34	1.16E 02	0.34	0.34	0.34	0.34	0.34
RA-228	W	0.20	1.0	0.56	0.49	15.	13.	0.49	1.34E 02	0.49	0.56	0.49	0.48	0.48
AC-225	Y	1.00E-03	1.0	2.25E-02	1.58E-02	0.37	7.57E-02	1.43E-02	0.59	1.59E-02	1.92E-02	1.68E-02	1.47E-02	1.47E-02
	W	1.00E-03	1.0	0.13	3.12E-02	5.3	0.90	2.97E-02	8.6	4.38E-02	0.13	3.14E-02	4.27E-02	2.96E-02
AC-227	Y	1.00E-03	1.0	18.	3.4	1.37E 03	2.28E 02	3.4	2.28E 03	3.4	18.	3.4	3.3	3.3
	W	1.00E-03	1.0	47.	7.0	3.71E 03	6.19E 02	7.1	6.21E 03	7.0	47.	7.0	7.0	7.0
AC-228	Y	1.00E-03	1.0	5.05E-04	2.57E-04	3.05E-02	5.24E-03	2.00E-04	5.53E-02	2.41E-04	4.14E-04	2.74E-04	1.94E-04	2.17E-04
	W	1.00E-03	1.0	2.31E-03	5.70E-04	0.19	3.20E-02	5.21E-04	0.35	5.51E-04	2.24E-03	5.81E-04	5.07E-04	5.24E-04
TH-227	Y	1.00E-03	1.0	3.04E-02	2.53E-02	1.0	0.19	2.51E-02	1.6	2.51E-02	3.01E-02	2.55E-02	2.50E-02	2.50E-02
	W	1.00E-03	1.0	0.13	3.54E-02	8.8	1.5	3.52E-02	15.	3.51E-02	0.13	3.54E-02	3.50E-02	3.50E-02
TH-228	Y	1.00E-03	1.0	1.1	0.37	69.	12.	0.37	1.29E 02	0.38	1.1	0.38	0.37	0.37
	W	1.00E-03	1.0	5.2	0.31	3.82E 02	64.	0.81	7.20E 02	0.81	5.2	0.81	0.80	0.81
TH-229	Y	1.00E-03	1.0	30.	5.7	2.16E 03	3.63E 02	5.7	4.26E 03	5.6	30.	5.7	5.6	5.5
	W	1.00E-03	1.0	72.	11.	5.31E 03	8.88E 02	11.	1.05E 04	11.	72.	11.	11.	11.
TH-230	Y	1.00E-03	1.0	19.	2.7	8.38E 02	1.41E 02	2.7	2.18E 03	2.7	19.	2.7	2.7	2.7
	W	1.00E-03	1.0	46.	6.8	2.08E 03	3.50E 02	6.8	5.41E 03	6.8	46.	6.8	6.8	6.8
TH-231	Y	1.00E-03	1.0	3.10E-05	7.59E-06	1.92E-04	4.31E-05	7.88E-06	3.62E-04	6.83E-06	4.34E-06	8.31E-06	1.98E-06	8.33E-06
	W	1.00E-03	1.0	4.17E-05	1.04E-05	5.91E-04	1.08E-04	1.41E-05	1.05E-03	9.08E-06	1.89E-05	1.06E-05	4.46E-06	9.78E-06
TH-232	Y	1.00E-03	1.0	16.	2.5	8.94E 02	1.50E 02	2.5	2.47E 03	2.5	16.	2.5	2.5	2.5
	W	1.00E-03	1.0	40.	5.9	2.18E 03	3.65E 02	5.9	6.07E 03	5.9	40.	5.9	5.9	5.9
TH-234	Y	1.00E-03	1.0	1.31E-04	7.27E-05	6.85E-04	2.96E-04	5.28E-05	5.18E-04	6.61E-05	8.27E-05	1.06E-04	3.65E-05	3.48E-05
	W	1.00E-03	1.0	1.39E-03	2.73E-04	1.11E-02	4.17E-03	2.67E-04	8.23E-03	2.50E-04	1.34E-03	2.76E-04	2.21E-04	2.26E-04
PA-231	Y	1.00E-03	1.0	40.	6.3	2.45E 03	4.10E 02	6.3	4.78E 03	6.3	40.	6.3	6.3	6.3
	W	1.00E-03	1.0	92.	14.	5.60E 03	9.36E 02	14.	1.11E 04	14.	92.	14.	14.	14.
PA-233	Y	1.00E-03	1.0	4.84E-04	6.14E-04	4.74E-04	4.76E-04	3.30E-04	4.19E-04	5.14E-04	6.57E-05	8.38E-04	2.11E-04	2.05E-04
	W	1.00E-03	1.0	8.43E-04	7.79E-04	3.32E-03	1.18E-03	5.80E-04	2.47E-03	5.25E-04	4.34E-04	7.40E-04	2.64E-04	3.05E-04
PA-234M	Y	1.00E-03	1.0	1.33E-09	4.16E-09	2.97E-09	2.82E-09	1.91E-09	2.68E-09	3.89E-09	2.76E-10	6.95E-09	2.31E-09	7.29E-10
	W	1.00E-03	1.0	3.85E-09	4.67E-09	2.39E-08	1.11E-08	2.47E-09	1.85E-08	4.36E-09	2.94E-09	7.39E-09	2.81E-09	1.19E-09
PA-234	Y	1.00E-03	1.0	2.44E-04	2.23E-04	8.59E-05	1.36E-04	9.26E-05	8.51E-05	1.82E-04	1.93E-05	2.53E-04	7.89E-05	1.38E-04
	W	1.00E-03	1.0	2.15E-04	2.24E-04	1.49E-04	1.51E-04	1.03E-04	1.34E-04	1.75E-04	2.81E-05	2.45E-04	7.93E-05	1.22E-04
U-232	Y	2.00E-03	1.0	3.3	2.1	2.23E 02	36.	2.1	3.74E 02	2.1	3.3	2.1	2.1	2.1
	W	5.00E-02	1.0	4.3	4.3	2.35E 02	34.	4.3	3.31E 02	4.3	4.3	4.3	4.3	4.3
	D	5.00E-02	1.0	14.	14.	7.47E 02	1.07E 02	14.	1.04E 03	14.	14.	14.	14.	14.

TOTAL INHALATION DOSES
ALPHA Q = 10
(REM/MICROCURIE)

NUCLIDE	SOL	F1	AMAD	LUNGS	RES LYM	S WALL	SI WALL	ULI WALL	LLI WALL	T BODY	ADREN	EL WALL	KIDNEYS	LIVER
U-233	Y	2.00E-03	1.0	2.76E 02	1.97E 04	2.09E-03	3.88E-03	1.87E-02	5.46E-02	9.9	0.59	0.30	0.88	0.60
	W	5.00E-02	1.0	29.	1.53E 02	3.51E-03	4.99E-03	1.75E-02	4.78E-02	5.6	1.7	0.87	2.5	1.7
	D	5.00E-02	1.0	0.48	6.1	8.43E-03	8.89E-03	1.27E-02	2.20E-02	17.	5.7	2.9	8.4	5.8
U-234	Y	2.00E-03	1.0	2.73E 02	1.95E 04	2.08E-03	3.88E-03	1.88E-02	5.48E-02	9.8	0.59	0.30	0.87	0.59
	W	5.00E-02	1.0	28.	1.51E 02	3.49E-03	4.97E-03	1.75E-02	4.79E-02	5.5	1.7	0.86	2.5	1.7
	D	5.00E-02	1.0	0.48	6.0	8.34E-03	8.80E-03	1.27E-02	2.20E-02	17.	5.7	2.8	8.3	5.7
U-235	Y	2.00E-03	1.0	2.47E 02	1.76E 04	2.35E-02	2.49E-02	0.10	0.20	8.9	0.55	0.27	0.80	0.58
	W	5.00E-02	1.0	25.	1.36E 02	6.49E-03	9.23E-03	3.04E-02	7.47E-02	5.0	1.6	0.78	2.3	1.5
	D	5.00E-02	1.0	0.44	5.5	1.26E-02	1.40E-02	1.86E-02	3.05E-02	15.	5.2	2.6	7.5	5.1
U-236	Y	2.00E-03	1.0	2.57E 02	1.84E 04	1.95E-03	3.66E-03	1.77E-02	5.16E-02	9.3	0.36	0.18	0.82	0.36
	W	5.00E-02	1.0	27.	1.43E 02	3.29E-03	4.69E-03	1.65E-02	4.51E-02	5.2	1.0	0.52	2.4	1.0
	D	5.00E-02	1.0	0.45	5.7	7.87E-03	8.30E-03	1.19E-02	2.07E-02	16.	3.4	1.7	7.8	3.4
U-237	Y	2.00E-03	1.0	1.71E-02	1.99E-02	5.07E-04	1.13E-03	5.04E-03	1.33E-02	4.05E-04	1.40E-04	9.15E-05	1.61E-04	1.46E-04
	W	5.00E-02	1.0	1.55E-02	2.29E-02	4.61E-04	9.65E-04	4.24E-03	1.11E-02	4.06E-04	1.61E-04	9.01E-05	1.75E-03	1.53E-04
	D	5.00E-02	1.0	2.03E-03	2.02E-02	2.31E-04	4.53E-04	1.76E-03	4.49E-03	3.04E-04	1.96E-04	9.81E-05	8.32E-03	1.34E-04
U-238	Y	2.00E-03	1.0	2.47E 02	1.75E 04	7.47E-03	1.44E-02	7.90E-02	0.23	8.8	0.53	0.27	0.79	0.56
	W	5.00E-02	1.0	25.	1.35E 02	3.94E-03	6.21E-03	2.53E-02	7.28E-02	4.9	1.5	0.77	2.3	1.5
	D	5.00E-02	1.0	0.43	5.4	7.99E-03	8.54E-03	1.22E-02	2.18E-02	15.	5.1	2.6	7.5	5.1
U-240	Y	2.00E-03	1.0	1.27E-02	1.71E-02	9.49E-04	1.96E-03	6.71E-03	9.12E-03	3.01E-04	5.42E-05	3.65E-05	1.19E-04	1.45E-04
	W	5.00E-02	1.0	1.18E-02	1.21E-02	7.95E-04	1.59E-03	5.38E-03	7.30E-03	3.22E-04	7.29E-05	4.48E-05	1.29E-03	2.42E-04
	D	5.00E-02	1.0	4.71E-03	3.22E-02	5.45E-04	1.15E-03	3.78E-03	5.11E-03	3.23E-04	1.25E-04	8.82E-05	5.57E-03	1.85E-04
NP-237	Y	1.00E-03	1.0	2.90E 02	2.07E 04	4.61E-02	3.87E-02	7.57E-02	0.12	85.	3.0	1.5	52.	4.02E 02
	W	1.00E-03	1.0	30.	1.61E 02	7.81E-02	7.95E-02	0.12	0.11	1.90E 02	7.5	3.7	1.28E 02	9.91E 02
NP-238	Y	1.00E-03	1.0	2.56E-02	0.97	7.40E-04	1.63E-03	5.96E-03	1.26E-02	4.27E-03	4.29E-04	2.73E-04	2.51E-03	1.84E-02
	W	1.00E-03	1.0	1.17E-02	2.01E-02	6.71E-04	1.43E-03	5.14E-03	1.08E-02	1.13E-02	7.93E-04	4.17E-04	7.64E-03	5.80E-02
NP-239	Y	1.00E-03	1.0	1.03E-02	1.47E-02	5.19E-04	1.20E-03	5.22E-03	1.18E-02	2.83E-04	8.01E-05	7.23E-05	7.01E-05	2.15E-04
	W	1.00E-03	1.0	9.72E-03	1.12E-02	4.59E-04	1.04E-03	4.50E-03	1.01E-02	3.44E-04	1.02E-04	6.86E-05	2.01E-04	1.19E-03
NP-240M	Y	1.00E-03	1.0	1.60E-04	2.04E-04	3.07E-06	3.64E-07	1.50E-07	2.97E-08	2.81E-06	6.50E-07	3.07E-08	4.12E-07	1.62E-06
	W	1.00E-03	1.0	1.54E-04	1.54E-04	2.48E-06	3.12E-07	1.55E-07	3.78E-08	3.10E-06	6.89E-07	5.16E-08	8.13E-07	4.66E-06
NP-240	Y	1.00E-03	1.0	1.10E-03	1.49E-03	9.03E-05	5.57E-05	4.21E-05	8.92E-06	3.00E-05	2.18E-05	1.95E-06	1.19E-05	3.14E-05
	W	1.00E-03	1.0	1.02E-03	1.02E-03	7.41E-05	4.51E-05	3.48E-05	7.76E-06	3.31E-05	2.30E-05	2.25E-06	1.82E-05	7.79E-05
PU-236	Y	3.00E-05	1.0	2.26E 02	5.73E 03	2.19E-03	4.00E-03	2.19E-02	6.46E-02	9.7	0.83	0.41	3.4	36.
	W	3.00E-05	1.0	33.	1.67E 02	1.99E-03	3.85E-03	1.97E-02	5.74E-02	23.	1.1	0.55	16.	1.70E 02
PU-238	Y	3.00E-05	1.0	3.09E 02	1.98E 04	1.48E-03	3.55E-03	2.06E-02	6.20E-02	76.	2.6	1.3	46.	3.55E 02
	W	3.00E-05	1.0	32.	1.74E 02	1.43E-03	3.27E-03	1.84E-02	5.51E-02	1.73E 02	6.6	3.3	1.17E 02	9.07E 02

TOTAL INHALATION DOSES
ALPHA Q = 10
(REM/MICROCURIE)

NUCLIDE	SOL	F1	AMAD	OVARIES	PANCREAS	BONE	R MAR	Y MAR	ENDOST	SPLEEN	TESTES	THYMUS	THYROID	UTERUS
U-233	Y	2.00E-03	1.0	0.60	0.59	20.	0.64	0.59	1.8	0.59	0.60	0.59	0.59	0.59
	W	5.00E-02	1.0	1.7	1.7	59.	1.9	1.7	5.3	1.7	1.7	1.7	1.7	1.7
	D	5.00E-02	1.0	5.8	5.7	1.97E 02	6.2	5.7	18.	5.7	5.8	5.7	5.7	5.7
U-234	Y	2.00E-03	1.0	0.59	0.59	20.	0.63	0.59	1.8	0.59	0.59	0.59	0.59	0.59
	W	5.00E-02	1.0	1.7	1.7	59.	1.8	1.7	5.2	1.7	1.7	1.7	1.7	1.7
	D	5.00E-02	1.0	5.7	5.7	1.95E 02	6.1	5.7	17.	5.7	5.7	5.7	5.7	5.7
U-235	Y	2.00E-03	1.0	0.54	0.55	18.	0.60	0.55	1.7	0.55	0.54	0.57	0.54	0.54
	W	5.00E-02	1.0	1.5	1.6	53.	1.7	1.6	4.4	1.5	1.5	1.6	1.6	1.6
	D	5.00E-02	1.0	5.1	5.2	1.76E 02	5.5	5.2	15.	5.1	5.2	5.2	5.2	5.2
U-236	Y	2.00E-03	1.0	0.36	0.36	19.	0.40	0.36	1.6	0.36	0.36	0.56	0.36	0.56
	W	5.00E-02	1.0	1.0	1.0	55.	1.1	1.0	4.7	1.0	1.0	1.6	1.0	1.6
	D	5.00E-02	1.0	3.4	3.4	1.84E 02	3.8	3.4	16.	3.4	3.4	5.4	3.4	5.4
U-237	Y	2.00E-03	1.0	3.05E-04	1.62E-04	1.23E-04	1.96E-04	1.22E-04	1.18E-04	1.39E-04	2.20E-05	2.10E-04	4.19E-05	1.32E-04
	W	5.00E-02	1.0	2.74E-04	1.72E-04	4.07E-04	2.48E-04	1.47E-04	3.15E-04	1.53E-04	3.39E-05	2.08E-04	5.40E-05	1.30E-04
	D	5.00E-02	1.0	1.96E-04	1.65E-04	1.56E-03	4.42E-04	2.27E-04	1.10E-03	1.70E-04	8.60E-05	1.14E-04	8.77E-05	1.40E-04
U-238	Y	2.00E-03	1.0	0.53	0.53	18.	0.59	0.53	1.5	0.53	0.53	0.53	0.53	0.53
	W	5.00E-02	1.0	1.5	1.5	52.	1.7	1.5	4.3	1.5	1.5	1.5	1.5	1.5
	D	5.00E-02	1.0	5.1	5.1	1.72E 02	5.6	5.1	14.	5.1	5.1	5.1	5.1	5.1
U-240	Y	2.00E-03	1.0	1.29E-04	7.24E-05	2.28E-04	8.39E-05	3.20E-05	4.80E-04	5.69E-05	1.52E-05	7.15E-05	2.37E-05	6.03E-05
	W	5.00E-02	1.0	1.25E-04	8.43E-05	6.33E-04	1.79E-04	4.79E-05	1.22E-03	7.09E-05	3.26E-05	8.31E-05	3.86E-05	6.62E-05
	D	5.00E-02	1.0	1.49E-04	1.17E-04	1.54E-03	4.20E-04	9.92E-05	2.68E-03	1.13E-04	8.24E-05	1.00E-04	8.16E-05	1.09E-04
NP-237	Y	1.00E-03	1.0	20.	3.0	9.04E 02	1.52E 02	3.1	2.15E 03	3.0	20.	3.0	3.0	3.0
	W	1.00E-03	1.0	50.	7.5	2.24E 03	3.77E 02	7.6	5.34E 03	7.4	50.	7.4	7.4	7.4
NP-238	Y	1.00E-03	1.0	1.45E-03	4.61E-04	4.05E-02	7.10E-03	3.46E-04	8.54E-02	4.42E-04	9.48E-04	5.17E-04	3.22E-04	4.73E-04
	W	1.00E-03	1.0	3.35E-03	8.06E-04	0.13	2.18E-02	6.90E-04	0.27	7.62E-04	2.91E-03	8.34E-04	6.41E-04	7.72E-04
NP-239	Y	1.00E-03	1.0	2.41E-04	9.95E-05	2.56E-04	1.45E-04	6.59E-05	4.94E-04	8.15E-05	2.32E-05	1.08E-04	2.53E-05	1.06E-04
	W	1.00E-03	1.0	2.52E-04	1.16E-04	9.00E-04	2.65E-04	8.73E-05	1.57E-03	8.78E-05	6.21E-05	1.14E-04	3.38E-05	1.02E-04
NP-240M	Y	1.00E-03	1.0	9.75E-08	7.38E-07	2.31E-06	6.92E-07	2.93E-07	4.92E-06	5.94E-07	5.68E-08	1.04E-06	3.36E-07	5.18E-08
	W	1.00E-03	1.0	2.41E-07	7.62E-07	6.31E-06	1.47E-06	3.34E-07	1.34E-05	6.10E-07	2.00E-07	1.05E-06	3.61E-07	8.66E-08
NP-240	Y	1.00E-03	1.0	6.19E-06	2.63E-05	2.77E-05	1.56E-05	1.01E-05	5.10E-05	2.17E-05	9.70E-07	3.43E-05	1.11E-05	4.42E-06
	W	1.00E-03	1.0	7.65E-06	2.60E-05	7.28E-05	2.43E-05	1.13E-05	1.42E-04	2.09E-05	3.16E-06	3.28E-05	1.10E-05	4.64E-06
PU-236	Y	3.00E-05	1.0	2.1	0.83	55.	9.6	0.83	1.04E 02	0.83	2.1	0.83	0.83	0.83
	W	3.00E-05	1.0	7.1	1.1	2.49E 02	42.	1.1	4.79E 02	1.1	7.1	1.1	1.1	1.1
PU-238	Y	3.00E-05	1.0	18.	2.6	7.91E 02	1.33E 02	2.6	1.67E 03	2.6	18.	2.6	2.6	2.6
	W	3.00E-05	1.0	45.	6.6	2.03E 03	3.42E 02	6.6	4.28E 03	6.6	45.	6.6	6.6	6.6

TOTAL INHALATION DOSES
ALPHA Q = 10
(REM/MICROCURIE)

NUCLIDE	SOL	F1	AMAD	LUNGS	RES LYM	S WALL	SI WALL	ULI WALL	LLI WALL	T BODY	ADREN	BL WALL	KIDNEYS	LIVER
PU-239	Y	3.00E-05	1.0	2.94E 02	2.11E 04	1.38E-03	3.32E-03	1.93E-02	5.78E-02	86.	3.0	1.5	52.	4.04E 02
	W	3.00E-05	1.0	30.	1.64E 02	1.32E-03	3.05E-03	1.72E-02	5.13E-02	1.93E 02	7.4	3.7	1.30E 02	1.00E 03
PU-240	Y	3.00E-05	1.0	2.95E 02	2.11E 04	1.41E-03	3.35E-03	1.94E-02	5.82E-02	86.	3.0	1.5	52.	4.05E 02
	W	3.00E-05	1.0	31.	1.64E 02	1.36E-03	3.08E-03	1.73E-02	5.17E-02	1.94E 02	7.4	3.7	1.30E 02	1.01E 03
PU-241	Y	3.00E-05	1.0	0.58	1.76E 02	1.02E-04	1.08E-04	3.05E-04	6.54E-04	1.8	8.10E-02	4.04E-02	1.1	8.8
	W	3.00E-05	1.0	9.55E-03	0.11	1.81E-04	1.91E-04	3.97E-04	6.18E-04	3.9	0.15	7.70E-02	2.5	20.
PU-242	Y	3.00E-05	1.0	2.80E 02	2.01E 04	1.48E-03	3.26E-03	1.85E-02	5.51E-02	82.	2.8	1.4	50.	3.85E 02
	W	3.00E-05	1.0	29.	1.55E 02	1.50E-03	3.12E-03	1.66E-02	4.90E-02	1.84E 02	7.1	3.5	1.23E 02	9.56E 02
PU-243	Y	3.00E-05	1.0	1.29E-03	2.82E-03	1.01E-04	1.62E-04	3.36E-04	2.31E-04	2.97E-05	2.49E-06	8.19E-07	5.53E-06	3.64E-05
	W	3.00E-05	1.0	1.18E-03	1.20E-03	8.25E-05	1.31E-04	2.72E-04	1.87E-04	4.17E-05	3.48E-06	1.23E-06	1.92E-05	1.42E-04
PU-244	Y	3.00E-05	1.0	2.95E 02	2.07E 04	0.15	0.17	0.44	0.60	84.	3.2	1.5	52.	4.01E 02
	W	3.00E-05	1.0	30.	1.61E 02	0.17	0.17	0.27	0.26	1.90E 02	7.8	3.8	1.28E 02	9.94E 02
AM-241	Y	1.00E-03	1.0	3.13E 02	2.18E 04	7.37E-03	7.17E-03	2.60E-02	6.52E-02	89.	3.1	1.5	54.	4.19E 02
	W	1.00E-03	1.0	32.	1.73E 02	1.04E-02	1.18E-02	3.06E-02	6.12E-02	1.99E 02	7.7	3.8	1.34E 02	1.04E 03
AM-242M	Y	1.00E-03	1.0	1.14E 02	1.59E 04	1.26E-02	2.35E-02	8.84E-02	0.15	85.	3.2	1.6	54.	4.21E 02
	W	1.00E-03	1.0	3.8	53.	6.05E-03	7.80E-03	2.08E-02	3.74E-02	1.95E 02	7.6	3.8	1.31E 02	1.01E 03
AM-242	Y	1.00E-03	1.0	0.25	1.4	2.13E-04	4.57E-04	1.73E-03	2.64E-03	5.61E-03	1.04E-04	5.24E-05	1.29E-03	9.97E-03
	W	1.00E-03	1.0	8.06E-02	0.33	1.79E-04	3.83E-04	1.45E-03	2.23E-03	1.61E-02	7.34E-04	3.67E-04	1.16E-02	8.98E-02
AM-243	Y	1.00E-03	1.0	3.03E 02	2.16E 04	5.82E-02	5.99E-02	0.16	0.31	89.	3.2	1.6	54.	4.21E 02
	W	1.00E-03	1.0	31.	1.68E 02	8.35E-02	8.61E-02	0.14	0.14	1.99E 02	7.8	3.9	1.34E 02	1.04E 03
CM-242	Y	1.00E-03	1.0	88.	4.74E 02	1.36E-03	3.37E-03	1.98E-02	5.91E-02	1.9	2.52E-02	1.26E-02	0.38	3.0
	W	1.00E-03	1.0	28.	1.13E 02	1.45E-03	3.40E-03	1.93E-02	5.74E-02	4.4	0.15	7.67E-02	3.2	25.
CM-243	Y	1.00E-03	1.0	3.20E 02	1.70E 04	2.03E-02	1.59E-02	4.08E-02	8.57E-02	57.	1.9	0.94	35.	2.68E 02
	W	1.00E-03	1.0	34.	1.83E 02	3.01E-02	3.21E-02	5.94E-02	8.77E-02	1.33E 02	5.1	2.5	93.	7.19E 02
CM-244	Y	1.00E-03	1.0	3.08E 02	1.43E 04	1.55E-03	3.69E-03	2.14E-02	6.42E-02	44.	1.4	0.69	26.	2.02E 02
	W	1.00E-03	1.0	34.	1.81E 02	1.51E-03	3.44E-03	1.93E-02	5.76E-02	1.04E 02	3.9	2.0	74.	5.69E 02
CM-245	Y	1.00E-03	1.0	3.08E 02	2.19E 04	1.80E-02	1.54E-02	3.74E-02	7.49E-02	92.	3.2	1.6	56.	4.35E 02
	W	1.00E-03	1.0	32.	1.70E 02	2.79E-02	3.02E-02	5.48E-02	7.71E-02	2.05E 02	8.0	4.0	1.37E 02	1.07E 03
CM-246	Y	1.00E-03	1.0	3.12E 02	2.23E 04	1.12E-02	9.05E-03	2.73E-02	6.52E-02	92.	3.2	1.6	56.	4.34E 02
	W	1.00E-03	1.0	32.	1.73E 02	1.54E-02	1.57E-02	3.38E-02	6.26E-02	2.05E 02	7.9	4.0	1.38E 02	1.07E 03
CM-247	Y	1.00E-03	1.0	2.85E 02	2.02E 04	8.70E-02	7.10E-02	0.12	0.13	84.	3.1	1.5	51.	3.95E 02
	W	1.00E-03	1.0	30.	1.57E 02	0.13	0.13	0.19	0.15	1.88E 02	7.5	3.7	1.26E 02	9.72E 02
CM-248	Y	1.00E-03	1.0	1.96E 03	1.39E 05	3.4	2.0	2.5	1.7	5.79E 02	26.	11.	3.54E 02	2.73E 03
	W	1.00E-03	1.0	2.05E 02	1.08E 03	5.0	4.5	5.6	3.2	1.29E 03	62.	27.	8.72E 02	6.73E 03
CF-252	Y	1.00E-03	1.0	6.58E 02	1.20E 04	0.32	9.39E-02	0.16	0.28	24.	0.81	0.24	9.3	71.
	W	1.00E-03	1.0	98.	4.98E 02	0.26	0.23	0.33	0.34	60.	2.8	1.2	46.	3.56E 02

TOTAL INHALATION DOSES
ALPHA Q = 10
(REM/MICROCURIE)

NUCLIDE	SOL	F1	AMAD	OVARIES	PANCREAS	BONE	R MAR	Y MAR	ENDOST	SPLEEN	TESTES	THYMUS	THYROID	UTERUS
PU-239	Y	3.00E-05	1.0	20.	3.0	9.12E 02	1.54E 02	3.0	2.11E 03	3.0	20.	3.0	3.0	3.0
	W	3.00E-05	1.0	51.	7.4	2.28E 03	3.85E 02	7.4	5.27E 03	7.4	51.	7.4	7.4	7.4
PU-240	Y	3.00E-05	1.0	20.	3.0	9.13E 02	1.54E 02	3.0	2.10E 03	3.0	20.	3.0	3.0	3.0
	W	3.00E-05	1.0	51.	7.4	2.28E 03	3.84E 02	7.4	5.26E 03	7.4	51.	7.4	7.4	7.4
PU-241	Y	3.00E-05	1.0	0.46	8.10E-02	21.	3.5	8.13E-02	44.	8.09E-02	0.46	8.09E-02	8.09E-02	8.08E-02
	W	3.00E-05	1.0	1.0	0.15	47.	7.9	0.15	99.	0.15	1.0	0.15	0.15	0.15
PU-242	Y	3.00E-05	1.0	19.	2.8	8.69E 02	1.46E 02	2.8	2.14E 03	2.8	19.	2.8	2.8	2.8
	W	3.00E-05	1.0	48.	7.1	2.17E 03	3.65E 02	7.1	5.35E 03	7.1	48.	7.1	7.1	7.1
PU-243	Y	3.00E-05	1.0	4.25E-06	3.17E-06	7.37E-05	1.51E-05	2.29E-06	1.62E-04	2.59E-06	1.79E-06	3.54E-06	1.00E-06	1.93E-06
	W	3.00E-05	1.0	8.76E-06	4.03E-06	2.30E-04	4.25E-05	3.40E-06	4.92E-04	3.36E-06	6.73E-06	4.29E-06	1.91E-06	2.62E-06
PU-244	Y	3.00E-05	1.0	20.	3.1	8.91E 02	1.38E 02	3.1	2.16E 03	3.0	20.	3.1	3.0	3.0
	W	3.00E-05	1.0	50.	7.7	2.23E 03	3.45E 02	7.7	5.40E 03	7.5	50.	7.5	7.4	7.4
AM-241	Y	1.00E-03	1.0	21.	3.1	9.43E 02	1.59E 02	3.1	1.99E 03	3.1	21.	3.1	3.1	3.1
	W	1.00E-03	1.0	52.	7.7	2.35E 03	3.95E 02	7.7	4.96E 03	7.7	52.	7.7	7.7	7.7
AM-242M	Y	1.00E-03	1.0	21.	3.2	9.51E 02	1.60E 02	3.2	1.71E 03	3.2	21.	3.2	3.2	3.2
	W	1.00E-03	1.0	51.	7.6	2.31E 03	3.89E 02	7.6	4.15E 03	7.6	52.	7.6	7.6	7.6
AM-242	Y	1.00E-03	1.0	4.47E-04	1.04E-04	1.98E-02	3.36E-03	1.03E-04	3.79E-02	1.04E-04	4.40E-04	1.05E-04	1.01E-04	1.04E-04
	W	1.00E-03	1.0	3.78E-03	7.35E-04	0.17	2.86E-02	7.35E-04	0.31	7.34E-04	3.78E-03	7.35E-04	7.32E-04	7.34E-04
AM-243	Y	1.00E-03	1.0	21.	3.2	9.43E 02	1.59E 02	3.2	2.12E 03	3.1	21.	3.1	3.1	3.1
	W	1.00E-03	1.0	52.	7.8	2.34E 03	3.94E 02	7.9	5.25E 03	7.7	52.	7.7	7.7	7.7
CM-242	Y	1.00E-03	1.0	0.13	2.52E-02	5.9	1.0	2.52E-02	12.	2.52E-02	0.13	2.52E-02	2.52E-02	2.52E-02
	W	1.00E-03	1.0	1.0	0.15	46.	7.8	0.15	85.	0.15	1.0	0.15	0.15	0.15
CM-243	Y	1.00E-03	1.0	13.	1.9	5.77E 02	97.	1.9	1.09E 03	1.9	13.	1.9	1.9	1.9
	W	1.00E-03	1.0	35.	5.1	1.55E 03	2.61E 02	5.1	2.95E 03	5.1	35.	5.1	5.1	5.1
CM-244	Y	1.00E-03	1.0	9.5	1.4	4.26E 02	72.	1.4	8.21E 02	1.4	9.5	1.4	1.4	1.4
	W	1.00E-03	1.0	27.	3.9	1.20E 03	2.03E 02	3.9	2.32E 03	3.9	27.	3.9	3.9	3.9
CM-245	Y	1.00E-03	1.0	22.	3.2	9.80E 02	1.65E 02	3.3	2.14E 03	3.2	22.	3.2	3.2	3.2
	W	1.00E-03	1.0	54.	8.0	2.42E 03	4.08E 02	8.0	5.29E 03	7.9	54.	7.9	7.9	7.9
CM-246	Y	1.00E-03	1.0	22.	3.2	9.77E 02	1.62E 02	3.2	2.09E 03	3.2	22.	3.2	3.2	3.2
	W	1.00E-03	1.0	54.	7.9	2.43E 03	4.02E 02	7.9	5.19E 03	7.9	54.	7.9	7.9	7.9
CM-247	Y	1.00E-03	1.0	20.	3.1	8.89E 02	1.50E 02	3.0	2.17E 03	3.0	20.	3.0	3.0	2.9
	W	1.00E-03	1.0	49.	7.5	2.20E 03	3.72E 02	7.5	5.37E 03	7.3	49.	7.3	7.3	7.3
CM-248	Y	1.00E-03	1.0	1.37E 02	25.	6.12E 03	1.61E 02	24.	2.18E 03	23.	1.37E 02	23.	21.	21.
	W	1.00E-03	1.0	3.40E 02	59.	1.52E 04	3.97E 02	57.	5.42E 03	53.	3.40E 02	53.	52.	52.
CF-252	Y	1.00E-03	1.0	3.0	0.73	1.32E 02	8.0	0.60	83.	0.67	3.0	0.83	0.54	0.46
	W	1.00E-03	1.0	15.	2.6	6.63E 02	40.	2.5	4.16E 02	2.3	15.	2.3	2.3	2.3

TOTAL INHALATION DOSES
ALPHA Q = 10
(REM/MICROCURIE)

NUCLIDE	SOL	F1	AMAD	LUNGS	RES LYM	S WALL	SI WALL	ULI WALL	LLI WALL	T BODY	ADREN	BL WALL	KIDNEYS	LIVER
TL-207	W	0.95	5.0	1.06E-04	1.06E-04	1.33E-06	6.10E-08	3.88E-09	2.81E-10	1.57E-06	8.65E-08	4.16E-08	4.20E-07	8.49E-08
TL-208	W	0.95	5.0	1.02E-04	1.02E-04	3.66E-06	6.15E-07	7.55E-07	1.76E-07	3.22E-06	2.46E-06	2.33E-07	1.65E-06	3.29E-06
TL-209	W	0.95	5.0	9.24E-05	9.24E-05	3.33E-06	2.14E-06	3.33E-06	1.57E-06	2.26E-06	1.45E-06	1.06E-07	1.37E-06	1.81E-06
PB-209	W	8.00E-02	5.0	1.24E-03	1.24E-03	1.32E-04	1.71E-04	2.73E-04	1.36E-04	2.15E-05	1.45E-07	7.26E-08	4.09E-06	1.21E-06
PB-210	W	8.00E-02	5.0	1.1	20.	6.32E-04	1.45E-03	8.69E-03	3.00E-02	9.4	0.61	0.30	1.5	1.8
PB-211	W	8.00E-02	5.0	9.90E-02	1.38E-03	1.51E-04	6.01E-05	2.52E-05	2.80E-06	1.58E-03	2.92E-05	1.40E-05	1.92E-03	2.57E-05
PB-212	W	8.00E-02	5.0	0.94	1.84E-02	2.75E-03	5.49E-03	1.75E-02	2.02E-02	2.31E-02	1.82E-03	9.82E-04	0.13	7.73E-03
PB-214	W	8.00E-02	5.0	8.09E-02	1.12E-03	1.50E-04	6.70E-05	2.86E-05	4.59E-06	1.43E-03	1.57E-04	7.31E-05	7.66E-03	1.23E-04
BI-210	W	5.00E-02	5.0	0.20	0.86	1.14E-03	2.66E-03	1.47E-02	3.91E-02	9.19E-03	3.45E-03	1.73E-03	0.62	8.24E-03
BI-211	W	5.00E-02	5.0	6.71E-03	4.74E-05	1.25E-06	6.02E-08	8.51E-09	1.98E-09	9.79E-05	1.70E-06	8.25E-07	1.43E-04	1.68E-06
BI-212	W	5.00E-02	5.0	0.19	1.77E-03	3.04E-04	1.85E-04	1.23E-04	2.40E-05	3.09E-03	2.85E-04	1.34E-04	3.04E-02	2.85E-04
BI-213	W	5.00E-02	5.0	7.93E-03	2.18E-03	1.95E-04	8.77E-05	5.77E-05	1.18E-05	1.47E-04	4.70E-05	9.97E-06	1.20E-03	4.62E-05
BI-214	W	5.00E-02	5.0	6.72E-02	6.38E-04	6.14E-05	1.62E-05	6.28E-06	1.28E-06	1.08E-03	8.39E-05	3.79E-05	7.05E-03	8.49E-05
PO-210	W	1.00E-01	5.0	9.2	32.	1.74E-03	3.90E-03	2.30E-02	6.85E-02	0.72	0.54	0.27	9.7	1.7
	D	1.00E-01	5.0	0.21	2.4	8.50E-04	1.91E-03	1.13E-02	3.35E-02	1.6	1.5	0.76	27.	4.7
PO-211	W	1.00E-01	5.0	3.37E-05	1.65E-10	3.05E-11	3.52E-12	4.66E-12	1.02E-12	4.82E-07	7.66E-11	2.56E-11	8.98E-10	1.80E-10
	D	1.00E-01	5.0	3.36E-05	7.26E-10	1.93E-10	3.56E-12	4.67E-12	1.03E-12	4.82E-07	2.20E-10	9.75E-11	3.49E-09	6.26E-10
PO-212	W	1.00E-01	5.0	2.17E-11	4.92E-25	3.03E-24	2.31E-34	1.28E-44	1.98E-55	3.10E-13	1.73E-23	8.63E-24	3.10E-22	5.33E-23
	D	1.00E-01	5.0	2.17E-11	1.97E-22	6.01E-23	4.59E-33	2.55E-43	3.92E-54	3.10E-13	6.80E-23	3.39E-23	1.22E-21	2.09E-22
PO-213	W	1.00E-01	5.0	2.85E-10	4.36E-13	4.65E-14	6.03E-14	9.62E-14	4.80E-14	4.07E-12	1.33E-16	6.63E-17	1.31E-14	4.69E-15
	D	1.00E-01	5.0	2.85E-10	4.36E-13	4.65E-14	6.03E-14	9.62E-14	4.80E-14	4.07E-12	1.33E-16	6.64E-17	1.31E-14	4.69E-15
PO-214	W	1.00E-01	5.0	1.01E-08	4.61E-12	2.33E-16	3.48E-16	2.03E-15	6.97E-15	1.47E-10	9.06E-14	4.52E-14	3.44E-13	4.29E-13
	D	1.00E-01	5.0	1.01E-08	2.36E-13	2.43E-16	3.38E-16	1.97E-15	6.80E-15	1.47E-10	9.66E-14	4.82E-14	4.52E-13	4.48E-13
PO-215	W	1.00E-01	5.0	1.87E-07	1.13E-09	1.24E-10	4.94E-11	2.07E-11	2.32E-12	3.07E-09	3.36E-11	1.63E-11	2.95E-09	5.26E-10
	D	1.00E-01	5.0	1.87E-07	1.13E-09	1.24E-10	4.94E-11	2.07E-11	2.32E-12	3.07E-09	3.36E-11	1.63E-11	2.95E-09	5.26E-10
PO-216	W	1.00E-01	5.0	1.19E-05	7.21E-08	1.08E-08	2.16E-08	6.86E-08	7.94E-08	2.40E-07	8.46E-09	4.48E-09	6.63E-07	8.87E-08
	D	1.00E-01	5.0	1.19E-05	7.22E-08	1.08E-08	2.16E-08	6.86E-08	7.94E-08	2.40E-07	8.48E-09	4.49E-09	6.63E-07	8.88E-08
PO-218	W	1.00E-01	5.0	1.76E-02	1.25E-04	1.83E-05	8.18E-06	3.53E-06	5.82E-07	3.16E-04	2.14E-05	1.00E-05	1.13E-03	9.05E-05
	D	1.00E-01	5.0	1.53E-02	2.15E-04	4.14E-05	1.81E-05	7.84E-06	1.18E-06	3.01E-04	4.39E-05	2.14E-05	1.42E-03	1.56E-04
AT-217	D	0.95	5.0	1.94E-06	2.57E-08	2.30E-09	1.04E-09	6.84E-10	1.42E-10	2.81E-08	5.93E-10	1.39E-10	1.41E-08	5.85E-10
RN-219	*	0.0	***	4.66E-04	2.30E-06	1.93E-08	7.21E-09	3.27E-09	4.39E-10	6.76E-06	1.07E-08	4.01E-09	7.25E-07	1.46E-07
RN-220	*	0.0	***	1.11E-03	1.72E-05	1.74E-07	2.61E-07	7.93E-07	9.03E-07	1.64E-05	9.21E-08	3.34E-08	4.22E-06	8.24E-07
RN-222	*	0.0	***	1.19E-03	9.21E-06	1.27E-07	3.98E-08	2.64E-08	6.37E-09	1.76E-05	2.05E-07	7.16E-08	7.07E-06	7.33E-07
FR-221	D	0.95	5.0	2.48E-02	4.53E-04	9.66E-05	2.43E-05	1.39E-05	2.80E-06	4.45E-04	1.04E-04	5.11E-05	1.96E-04	1.04E-04

TOTAL INHALATION DOSES
ALPHA Q = 10
(REM/MICROCURIE)

NUCLIDE	SOL	F1	AMAD	OVARIES	PANCREAS	BONE	R MAR	Y MAR	ENDOST	SPLEEN	TESTES	THYMUS	THYROID	UTERUS
TL-207	W	0.95	5.0	8.15E-08	8.65E-08	9.31E-08	8.44E-08	8.44E-08	1.05E-07	8.47E-08	8.14E-08	8.90E-08	8.49E-08	8.31E-08
TL-208	W	0.95	5.0	3.81E-07	3.34E-06	1.47E-06	1.84E-06	1.54E-06	1.48E-06	3.13E-06	1.62E-07	5.44E-06	1.59E-06	4.48E-07
TL-209	W	0.95	5.0	1.84E-07	1.80E-06	9.95E-07	1.00E-06	7.62E-07	9.54E-07	1.37E-06	8.26E-08	2.94E-06	7.15E-07	2.35E-07
PB-209	W	8.00E-02	5.0	1.46E-07	1.45E-07	9.23E-06	2.54E-06	1.45E-07	7.38E-06	1.46E-07	1.46E-07	1.45E-07	1.45E-07	1.45E-07
PB-210	W	8.00E-02	5.0	0.61	0.61	1.26E 02	1.1	0.61	12.	0.90	0.60	0.61	0.60	0.61
PB-211	W	8.00E-02	5.0	2.79E-05	2.95E-05	2.03E-03	3.65E-04	2.85E-05	3.20E-03	2.89E-05	2.78E-05	2.98E-05	2.85E-05	2.81E-05
PB-212	W	8.00E-02	5.0	2.18E-03	1.91E-03	0.11	1.98E-02	1.76E-03	0.14	1.84E-03	1.67E-03	1.86E-03	1.69E-03	1.91E-03
PB-214	W	8.00E-02	5.0	1.46E-04	1.62E-04	2.22E-03	4.74E-04	1.50E-04	2.35E-03	1.59E-04	1.43E-04	1.67E-04	1.49E-04	1.46E-04
BI-210	W	5.00E-02	5.0	3.45E-03	3.45E-03	1.71E-02	3.49E-03	3.45E-03	1.63E-03	7.18E-02	3.45E-03	3.45E-03	3.45E-03	3.45E-03
BI-211	W	5.00E-02	5.0	1.64E-06	1.70E-06	8.03E-06	2.99E-06	1.67E-06	1.27E-05	1.67E-06	1.64E-06	1.72E-06	1.67E-06	1.66E-06
BI-212	W	5.00E-02	5.0	2.66E-04	2.93E-04	1.30E-03	4.87E-04	2.73E-04	1.69E-03	2.88E-04	2.60E-04	2.99E-04	2.72E-04	2.69E-04
BI-213	W	5.00E-02	5.0	1.94E-05	5.63E-05	5.66E-05	3.76E-05	2.68E-05	4.40E-05	4.59E-05	1.30E-05	6.66E-05	2.46E-05	2.07E-05
BI-214	W	5.00E-02	5.0	7.56E-05	8.59E-05	5.57E-04	1.39E-04	7.86E-05	4.48E-04	8.46E-05	7.45E-05	9.08E-05	7.88E-05	7.59E-05
PO-210	W	1.00E-01	5.0	0.54	0.54	2.7	0.55	0.54	0.25	17.	0.54	0.54	0.54	0.54
	D	1.00E-01	5.0	1.5	1.5	7.6	1.5	1.5	0.71	47.	1.5	1.5	1.5	1.5
PO-211	W	1.00E-01	5.0	5.11E-11	7.75E-11	2.58E-10	1.04E-10	6.10E-11	3.24E-10	1.55E-09	4.97E-11	9.43E-11	6.43E-11	5.03E-11
	D	1.00E-01	5.0	1.95E-10	2.21E-10	9.78E-10	3.66E-10	2.04E-10	1.24E-09	6.01E-09	1.94E-10	2.38E-10	2.08E-10	1.94E-10
PO-212	W	1.00E-01	5.0	1.73E-23	1.73E-23	8.64E-23	3.16E-23	1.73E-23	7.46E-23	5.33E-22	1.72E-23	1.73E-23	1.73E-23	1.73E-23
	D	1.00E-01	5.0	6.78E-23	6.80E-23	3.39E-22	1.24E-22	6.80E-23	2.93E-22	2.09E-21	6.77E-23	6.80E-23	6.80E-23	6.80E-23
PO-213	W	1.00E-01	5.0	1.33E-16	1.33E-16	8.44E-15	2.32E-15	1.33E-16	6.75E-15	1.34E-16	1.33E-16	1.34E-16	1.33E-16	1.33E-16
	D	1.00E-01	5.0	1.33E-16	1.33E-16	8.44E-15	2.32E-15	1.33E-16	6.75E-15	1.34E-16	1.33E-16	1.34E-16	1.33E-16	1.33E-16
PO-214	W	1.00E-01	5.0	9.04E-14	9.06E-14	2.93E-11	2.12E-13	9.15E-14	2.83E-12	1.58E-13	9.04E-14	9.06E-14	9.05E-14	9.04E-14
	D	1.00E-01	5.0	9.65E-14	9.66E-14	2.94E-11	2.18E-13	9.76E-14	2.84E-12	3.45E-13	9.64E-14	9.66E-14	9.65E-14	9.65E-14
PO-215	W	1.00E-01	5.0	3.24E-11	3.38E-11	4.89E-09	8.44E-10	3.31E-11	7.72E-09	3.33E-11	3.23E-11	3.41E-11	3.30E-11	3.27E-11
	D	1.00E-01	5.0	3.24E-11	3.38E-11	4.89E-09	8.44E-10	3.31E-11	7.72E-09	3.34E-11	3.23E-11	3.41E-11	3.30E-11	3.27E-11
PO-216	W	1.00E-01	5.0	9.81E-09	8.79E-09	8.36E-07	1.46E-07	8.22E-09	1.09E-06	8.71E-09	7.80E-09	8.57E-09	7.88E-09	8.76E-09
	D	1.00E-01	5.0	9.83E-09	8.81E-09	8.36E-07	1.46E-07	8.24E-09	1.09E-06	9.35E-09	7.82E-09	8.59E-09	7.90E-09	8.78E-09
PO-218	W	1.00E-01	5.0	2.01E-05	2.19E-05	6.31E-04	1.19E-04	2.05E-05	7.21E-04	2.67E-04	1.97E-05	2.23E-05	2.04E-05	2.01E-05
	D	1.00E-01	5.0	4.29E-05	4.47E-05	6.77E-04	1.49E-04	4.30E-05	8.09E-04	1.01E-03	4.23E-05	4.46E-05	4.28E-05	4.29E-05
AT-217	D	0.95	5.0	2.68E-10	7.04E-10	8.09E-10	5.03E-10	3.55E-10	6.20E-10	5.81E-10	1.92E-10	8.29E-10	3.46E-10	2.86E-10
RN-219	*	0.0	***	8.00E-09	1.09E-08	1.34E-06	2.32E-07	9.20E-09	2.12E-06	1.04E-08	7.86E-09	1.23E-08	9.12E-09	8.01E-09
RN-220	*	0.0	***	7.66E-08	1.06E-07	7.43E-06	1.31E-06	7.52E-08	9.72E-06	1.01E-07	5.09E-08	1.33E-07	7.15E-08	6.43E-08
RN-222	*	0.0	***	1.43E-07	2.18E-07	5.99E-06	8.79E-07	1.71E-07	5.27E-06	2.07E-06	1.37E-07	2.71E-07	1.72E-07	1.43E-07
FR-221	D	0.95	5.0	1.02E-04	1.06E-04	4.97E-04	1.84E-04	1.02E-04	7.37E-04	1.04E-04	1.01E-04	1.06E-04	1.02E-04	1.02E-04

TOTAL INHALATION DOSES
ALPHA Q = 10
(REM/MICROCURIE)

NUCLIDE	SOL	F1	AMAD	LUNGS	RES LYM	S WALL	SI WALL	ULI WALL	LLI WALL	T BODY	ADREN	BL WALL	KIDNEYS	LIVER
RA-223	W	0.20	5.0	12.	10.	1.06E-02	2.21E-02	0.13	0.37	0.54	0.18	9.18E-02	0.21	0.19
RA-224	W	0.20	5.0	2.8	1.2	6.04E-03	1.41E-02	8.72E-02	0.25	0.16	5.40E-02	2.75E-02	7.27E-02	5.74E-02
RA-225	W	0.20	5.0	5.3	14.	2.32E-03	3.33E-03	2.01E-02	7.58E-02	0.46	0.18	9.00E-02	0.20	0.36
RA-226	W	0.20	5.0	11.	54.	3.34E-03	6.59E-03	3.55E-02	0.15	12.	0.44	0.22	0.43	0.44
RA-228	W	0.20	5.0	0.92	30.	6.27E-03	9.80E-03	2.74E-02	6.71E-02	6.4	0.59	0.30	0.70	1.6
AC-225	Y	1.00E-03	5.0	12.	3.1	2.11E-02	2.63E-02	0.16	0.44	0.25	2.34E-02	1.32E-02	7.47E-02	0.36
	W	1.00E-03	5.0	10.	6.6	2.00E-02	2.44E-02	0.14	0.39	0.86	4.68E-02	2.44E-02	0.60	4.4
AC-227	Y	1.00E-03	5.0	1.85E 02	2.26E 04	2.06E-02	2.69E-02	0.13	0.37	64.	1.6	0.81	25.	1.91E 02
	W	1.00E-03	5.0	15.	2.70E 02	3.48E-02	3.68E-02	5.71E-02	7.45E-02	3.23E 02	7.7	3.8	1.41E 02	1.09E 03
AC-228	Y	1.00E-03	5.0	4.85E-02	1.6	7.66E-04	1.28E-03	2.80E-03	2.33E-03	3.26E-03	1.92E-04	9.87E-05	1.09E-03	7.54E-03
	W	1.00E-03	5.0	1.18E-02	9.54E-02	6.66E-04	1.10E-03	2.36E-03	1.88E-03	1.98E-02	6.66E-04	3.26E-04	9.13E-03	7.03E-02
TH-227	Y	1.00E-03	5.0	14.	22.	3.50E-03	8.19E-03	5.13E-02	0.18	0.30	1.61E-02	8.11E-03	5.38E-02	0.31
	W	1.00E-03	5.0	11.	30.	3.28E-03	7.39E-03	4.50E-02	0.16	1.2	3.49E-02	1.75E-02	0.51	3.9
TH-228	Y	1.00E-03	5.0	1.30E 02	4.66E 03	2.20E-02	4.48E-02	0.26	0.79	6.9	0.19	9.33E-02	2.2	16.
	W	1.00E-03	5.0	22.	2.70E 02	1.02E-02	1.79E-02	9.01E-02	0.31	35.	0.89	0.44	18.	1.42E 02
TH-229	Y	1.00E-03	5.0	2.24E 02	2.55E 04	7.63E-02	6.33E-02	0.18	0.42	96.	2.7	1.3	38.	2.92E 02
	W	1.00E-03	5.0	22.	2.25E 02	0.19	0.20	0.27	0.29	4.62E 02	12.	5.9	2.00E 02	1.55E 03
TH-230	Y	1.00E-03	5.0	95.	6.75E 03	1.89E-03	4.59E-03	2.68E-02	8.04E-02	39.	1.4	0.69	24.	1.88E 02
	W	1.00E-03	5.0	11.	52.	1.93E-03	4.31E-03	2.39E-02	7.10E-02	1.92E 02	7.4	3.7	1.29E 02	9.99E 02
TH-231	Y	1.00E-03	5.0	3.92E-03	4.84E-03	4.45E-04	1.04E-03	4.31E-03	7.69E-03	1.19E-04	6.16E-06	8.48E-06	1.28E-05	7.03E-05
	W	1.00E-03	5.0	3.58E-03	3.66E-03	3.88E-04	9.03E-04	3.74E-03	6.68E-03	1.70E-04	1.13E-05	9.61E-06	8.20E-05	6.02E-04
TH-232	Y	1.00E-03	5.0	83.	6.29E 03	4.21E-03	6.81E-03	2.69E-02	7.48E-02	40.	1.2	0.62	21.	1.64E 02
	W	1.00E-03	5.0	9.1	46.	1.05E-02	1.54E-02	3.21E-02	7.44E-02	1.96E 02	6.4	3.2	1.12E 02	8.70E 02
TH-234	Y	1.00E-03	5.0	0.10	0.16	3.19E-03	7.91E-03	4.57E-02	0.13	2.21E-03	5.26E-05	3.66E-05	4.93E-04	3.69E-03
	W	1.00E-03	5.0	7.79E-02	0.18	2.84E-03	7.03E-03	4.05E-02	0.12	4.21E-03	3.51E-04	1.69E-04	6.14E-03	4.72E-02
PA-231	Y	1.00E-03	5.0	1.08E 02	1.28E 04	1.21E-02	1.43E-02	4.36E-02	0.10	1.02E 02	3.1	1.5	49.	3.81E 02
	W	1.00E-03	5.0	11.	58.	4.22E-02	4.59E-02	7.76E-02	0.11	4.94E 02	15.	7.4	2.49E 02	1.93E 03
PA-233	Y	1.00E-03	5.0	2.58E-02	4.42E-02	1.04E-03	2.42E-03	1.08E-02	3.04E-02	7.62E-04	2.96E-04	2.37E-04	3.17E-04	1.34E-03
	W	1.00E-03	5.0	1.93E-02	4.41E-02	1.09E-03	2.33E-03	9.84E-03	2.71E-02	1.44E-03	7.46E-04	3.09E-04	2.10E-03	1.40E-02
PA-234M	Y	1.00E-03	5.0	4.49E-05	4.49E-05	1.83E-07	1.10E-08	1.59E-08	1.18E-08	6.46E-07	5.84E-09	7.19E-10	3.77E-09	1.36E-08
	W	1.00E-03	5.0	4.45E-05	4.45E-05	1.54E-07	9.70E-09	1.40E-08	1.04E-08	6.46E-07	6.76E-09	1.20E-09	1.70E-08	1.14E-07
PA-234	Y	1.00E-03	5.0	6.41E-03	6.41E-03	1.13E-03	1.90E-03	3.94E-03	3.06E-03	2.97E-04	2.30E-04	1.30E-04	1.93E-04	2.90E-04
	W	1.00E-03	5.0	5.82E-03	5.83E-03	9.93E-04	1.65E-03	3.41E-03	2.64E-03	3.00E-04	2.52E-04	1.20E-04	2.44E-04	6.73E-04
U-232	Y	2.00E-03	5.0	1.61E 02	2.64E 04	1.67E-02	2.05E-02	0.10	0.28	15.	0.98	0.49	3.3	15.
	W	5.00E-02	5.0	13.	91.	6.98E-03	1.01E-02	3.26E-02	8.79E-02	22.	4.9	2.5	8.1	6.0
	D	5.00E-02	5.0	0.25	3.4	1.70E-02	1.97E-02	2.98E-02	5.62E-02	69.	16.	8.0	26.	16.

TOTAL INHALATION DOSES
ALPHA Q = 10
(REM/MICROCURIE)

NUCLIDE	SOL	F1	AMAD	OVARIES	PANCREAS	BONE	R MAR	Y MAR	ENDOST	SPLEEN	TESTES	THYMUS	THYROID	UTERUS
RA-223	W	0.20	5.0	0.18	0.18	0.79	0.83	0.18	6.2	0.18	0.18	0.18	0.18	0.18
RA-224	W	0.20	5.0	5.35E-02	5.40E-02	0.26	0.27	5.40E-02	2.1	5.47E-02	5.20E-02	5.39E-02	5.38E-02	5.46E-02
RA-225	W	0.20	5.0	0.18	0.18	0.79	0.83	0.18	6.4	0.18	0.18	0.18	0.18	0.18
RA-226	W	0.20	5.0	0.44	0.44	32.	15.	0.44	1.48E 02	0.44	0.44	0.44	0.44	0.44
RA-228	W	0.20	5.0	0.62	0.59	17.	15.	0.60	1.56E 02	0.60	0.61	0.59	0.59	0.59
AC-225	Y	1.00E-03	5.0	3.97E-02	2.40E-02	0.71	0.14	2.30E-02	1.1	2.51E-02	3.41E-02	2.38E-02	2.40E-02	2.48E-02
	W	1.00E-03	5.0	0.20	4.70E-02	8.0	1.4	4.58E-02	13.	6.63E-02	0.19	4.58E-02	6.54E-02	4.67E-02
AC-227	Y	1.00E-03	5.0	9.3	1.6	7.13E 02	1.19E 02	1.6	1.19E 03	1.6	9.3	1.6	1.6	1.6
	W	1.00E-03	5.0	52.	7.7	4.07E 03	6.79E 02	7.7	6.81E 03	7.6	52.	7.6	7.6	7.6
AC-228	Y	1.00E-03	5.0	5.07E-04	2.33E-04	2.65E-02	4.55E-03	1.49E-04	4.82E-02	2.05E-04	3.41E-04	2.33E-04	1.36E-04	1.99E-04
	W	1.00E-03	5.0	3.00E-03	6.95E-04	0.24	4.09E-02	6.21E-04	0.45	6.63E-04	2.86E-03	6.86E-04	5.96E-04	6.51E-04
TH-227	Y	1.00E-03	5.0	2.66E-02	1.62E-02	1.3	0.22	1.60E-02	2.0	1.60E-02	2.61E-02	1.62E-02	1.60E-02	1.61E-02
	W	1.00E-03	5.0	0.17	3.50E-02	12.	2.1	3.49E-02	21.	3.48E-02	0.17	3.49E-02	3.47E-02	3.48E-02
TH-228	Y	1.00E-03	5.0	0.73	0.19	49.	8.3	0.19	92.	0.19	0.72	0.19	0.18	0.18
	W	1.00E-03	5.0	5.8	0.88	4.27E 02	71.	0.89	8.05E 02	0.88	5.8	0.88	0.88	0.88
TH-229	Y	1.00E-03	5.0	15.	2.7	1.09E 03	1.83E 02	2.7	2.16E 03	2.6	15.	2.7	2.6	2.6
	W	1.00E-03	5.0	78.	12.	5.81E 03	9.71E 02	12.	1.15E 04	12.	78.	12.	12.	12.
TH-230	Y	1.00E-03	5.0	9.5	1.4	4.25E 02	72.	1.4	1.11E 03	1.4	9.4	1.4	1.4	1.4
	W	1.00E-03	5.0	51.	7.4	2.28E 03	3.83E 02	7.4	5.92E 03	7.4	51.	7.4	7.4	7.4
TH-231	Y	1.00E-03	5.0	5.38E-05	9.32E-06	1.20E-04	3.65E-05	1.01E-05	2.14E-04	7.66E-06	4.39E-06	7.71E-06	1.67E-06	1.44E-05
	W	1.00E-03	5.0	7.06E-05	1.38E-05	7.58E-04	1.40E-04	2.00E-05	1.31E-03	1.12E-05	2.74E-05	1.13E-05	5.60E-06	1.67E-05
TH-232	Y	1.00E-03	5.0	8.2	1.2	4.51E 02	76.	1.3	1.25E 03	1.3	8.2	1.2	1.2	1.2
	W	1.00E-03	5.0	44.	6.4	2.39E 03	4.00E 02	6.5	6.64E 03	6.5	44.	6.4	6.4	6.4
TH-234	Y	1.00E-03	5.0	2.33E-04	5.71E-05	1.23E-03	4.92E-04	4.99E-05	9.19E-04	5.13E-05	1.53E-04	6.25E-05	3.26E-05	5.87E-05
	W	1.00E-03	5.0	1.98E-03	3.48E-04	1.56E-02	5.86E-03	3.54E-04	1.16E-02	3.18E-04	1.89E-03	3.22E-04	2.94E-04	3.22E-04
PA-231	Y	1.00E-03	5.0	20.	3.1	1.21E 03	2.03E 02	3.1	2.37E 03	3.1	20.	3.1	3.1	3.1
	W	1.00E-03	5.0	1.01E 02	15.	6.12E 03	1.02E 03	15.	1.21E 04	15.	1.01E 02	15.	15.	15.
PA-233	Y	1.00E-03	5.0	8.07E-04	3.49E-04	5.00E-04	4.04E-04	2.23E-04	4.06E-04	2.75E-04	1.07E-04	3.63E-04	9.82E-05	3.27E-04
	W	1.00E-03	5.0	1.27E-03	7.25E-04	4.47E-03	1.45E-03	6.37E-04	3.28E-03	4.21E-04	6.09E-04	4.65E-04	2.28E-04	4.55E-04
PA-234M	Y	1.00E-03	5.0	2.42E-09	6.00E-09	5.06E-09	4.40E-09	2.74E-09	4.43E-09	5.57E-09	5.30E-10	9.74E-09	3.26E-09	1.30E-09
	W	1.00E-03	5.0	6.44E-09	6.80E-09	3.81E-08	1.75E-08	3.63E-09	2.94E-08	6.30E-09	4.75E-09	1.04E-08	4.05E-09	2.03E-09
PA-234	Y	1.00E-03	5.0	4.59E-04	3.26E-04	1.22E-04	2.06E-04	1.32E-04	1.20E-04	2.57E-04	3.56E-05	3.13E-04	9.77E-05	2.59E-04
	W	1.00E-03	5.0	4.18E-04	3.27E-04	2.22E-04	2.30E-04	1.48E-04	1.98E-04	2.46E-04	4.98E-05	2.98E-04	9.77E-05	2.36E-04
U-232	Y	2.00E-03	5.0	1.4	0.98	92.	15.	0.98	1.50E 02	0.98	1.4	0.99	0.98	0.97
	W	5.00E-02	5.0	4.9	4.9	2.65E 02	38.	4.9	3.70E 02	4.9	4.9	4.9	4.9	4.9
	D	5.00E-02	5.0	16.	16.	8.48E 02	1.21E 02	16.	1.18E 03	16.	16.	16.	16.	16.

TOTAL INHALATION DOSES
ALPHA Q = 10
(REM/MICROCURIE)

NUCLIDE	SOL	F1	AMAD	LUNGS	RES LYM	S WALL	SI WALL	ULI WALL	LLI WALL	T BODY	ADREN	BL WALL	KIDNEYS	LIVER
U-233	Y	2.00E-03	5.0	98.	6.96E 03	2.28E-03	5.02E-03	2.75E-02	8.19E-02	3.8	0.31	0.15	0.45	0.31
	W	5.00E-02	5.0	11.	54.	4.46E-03	6.68E-03	2.55E-02	7.11E-02	6.1	2.0	1.0	2.9	2.0
	D	5.00E-02	5.0	0.20	2.2	9.98E-03	1.11E-02	2.01E-02	4.21E-02	19.	6.5	3.3	9.5	6.5
U-234	Y	2.00E-03	5.0	97.	6.88E 03	2.28E-03	5.03E-03	2.76E-02	8.21E-02	3.8	0.30	0.15	0.45	0.30
	W	5.00E-02	5.0	11.	53.	4.43E-03	6.66E-03	2.56E-02	7.13E-02	6.1	2.0	1.0	2.9	2.0
	D	5.00E-02	5.0	0.20	2.1	9.88E-03	1.10E-02	2.01E-02	4.21E-02	19.	6.5	3.2	9.4	6.5
U-235	Y	2.00E-03	5.0	88.	6.20E 03	1.01E-02	1.33E-02	5.98E-02	0.15	3.4	0.28	0.14	0.41	0.29
	W	5.00E-02	5.0	9.8	48.	6.69E-03	1.00E-02	3.40E-02	9.27E-02	5.5	1.8	0.91	2.6	1.8
	D	5.00E-02	5.0	0.19	1.9	1.47E-02	1.70E-02	2.72E-02	5.45E-02	17.	5.9	2.9	8.5	5.8
U-236	Y	2.00E-03	5.0	92.	6.51E 03	2.13E-03	4.74E-03	2.60E-02	7.73E-02	3.5	0.18	9.22E-02	0.42	0.18
	W	5.00E-02	5.0	10.	51.	4.13E-03	6.28E-03	2.41E-02	6.71E-02	5.7	1.2	0.60	2.7	1.2
	D	5.00E-02	5.0	0.19	2.0	9.33E-03	1.03E-02	1.89E-02	3.97E-02	18.	3.9	2.0	8.9	3.9
U-237	Y	2.00E-03	5.0	9.45E-03	1.04E-02	7.89E-04	2.00E-03	8.93E-03	2.35E-02	3.40E-04	9.54E-05	1.60E-04	2.57E-04	1.10E-04
	W	5.00E-02	5.0	8.54E-03	1.12E-02	7.14E-04	1.70E-03	7.50E-03	1.97E-02	3.68E-04	1.38E-04	1.55E-04	2.74E-03	1.31E-04
	D	5.00E-02	5.0	8.74E-04	7.30E-03	4.36E-04	9.78E-04	4.07E-03	1.06E-02	3.65E-04	2.23E-04	1.50E-04	9.74E-03	1.56E-04
U-238	Y	2.00E-03	5.0	88.	6.16E 03	4.05E-03	8.45E-03	4.77E-02	0.14	3.4	0.27	0.14	0.40	0.28
	W	5.00E-02	5.0	9.6	48.	4.39E-03	6.80E-03	2.73E-02	7.97E-02	5.4	1.8	0.90	2.6	1.8
	D	5.00E-02	5.0	0.18	1.9	9.43E-03	1.05E-02	1.90E-02	4.11E-02	17.	5.8	2.9	8.5	5.8
U-240	Y	2.00E-03	5.0	1.36E-02	1.52E-02	1.76E-03	3.69E-03	1.26E-02	1.72E-02	3.79E-04	6.72E-05	6.70E-05	2.07E-04	1.22E-04
	W	5.00E-02	5.0	1.21E-02	1.23E-02	1.52E-03	3.09E-03	1.05E-02	1.43E-02	4.14E-04	9.75E-05	8.06E-05	2.11E-03	2.95E-04
	D	5.00E-02	5.0	2.13E-03	1.18E-02	1.20E-03	2.66E-03	8.90E-03	1.21E-02	4.08E-04	1.65E-04	1.41E-04	7.81E-03	1.78E-04
NP-237	Y	1.00E-03	5.0	1.03E 02	7.31E 03	2.27E-02	2.26E-02	5.75E-02	0.12	42.	1.5	0.76	26.	2.04E 02
	W	1.00E-03	5.0	12.	57.	3.55E-02	8.79E-02	0.14	0.14	2.08E 02	8.2	4.0	1.40E 02	1.08E 03
NP-238	Y	1.00E-03	5.0	1.37E-02	0.35	1.21E-03	2.94E-03	1.08E-02	2.29E-02	2.61E-03	3.20E-04	3.43E-04	1.60E-03	1.10E-02
	W	1.00E-03	5.0	8.35E-03	1.13E-02	1.10E-03	2.61E-03	9.48E-03	2.00E-02	1.38E-02	8.71E-04	5.56E-04	9.43E-03	7.14E-02
NP-239	Y	1.00E-03	5.0	7.78E-03	9.35E-03	8.92E-04	2.17E-03	9.46E-03	2.14E-02	3.03E-04	7.49E-05	1.29E-04	9.28E-05	2.37E-04
	W	1.00E-03	5.0	7.16E-03	7.69E-03	7.95E-04	1.91E-03	8.28E-03	1.97E-02	4.02E-04	1.09E-04	1.23E-04	2.96E-04	1.74E-03
NP-240M	Y	1.00E-03	5.0	2.26E-04	2.42E-04	5.65E-06	6.61E-07	2.35E-07	4.60E-08	3.83E-06	9.17E-07	4.00E-08	4.97E-07	1.57E-06
	W	1.00E-03	5.0	2.17E-04	2.17E-04	4.85E-06	5.92E-07	2.46E-07	5.93E-08	4.30E-06	9.77E-07	7.27E-08	1.12E-06	6.33E-06
NP-240	Y	1.00E-03	5.0	1.52E-03	1.66E-03	1.65E-04	1.06E-04	7.92E-05	1.68E-05	4.13E-05	3.08E-05	3.31E-06	1.70E-05	3.92E-05
	W	1.00E-03	5.0	1.39E-03	1.39E-03	1.42E-04	9.13E-05	6.93E-05	1.53E-05	4.64E-05	3.26E-05	3.83E-06	2.71E-05	1.13E-04
PU-236	Y	3.00E-05	5.0	81.	2.03E 03	2.50E-03	5.68E-03	3.28E-02	9.81E-02	4.8	0.35	0.18	2.2	23.
	W	3.00E-05	5.0	13.	59.	2.72E-03	5.56E-03	2.95E-02	8.67E-02	25.	1.2	0.59	18.	1.88E 02
PU-238	Y	3.00E-05	5.0	1.10E 02	7.00E 03	2.15E-03	5.31E-03	3.11E-02	9.39E-02	37.	1.3	0.64	23.	1.77E 02
	W	3.00E-05	5.0	12.	61.	2.06E-03	4.84E-03	2.76E-02	8.29E-02	1.88E 02	7.2	3.6	1.29E 02	9.91E 02

TOTAL INHALATION DOSES
ALPHA Q = 10
(REM/MICROCURIE)

NUCLIDE	SOL	FI	AMAD	OVARIES	PANCREAS	BONE	R MAR	Y MAR	ENDOST	SPLEEN	TESTES	THYMUS	THYROID	UTERUS
U-233	Y	2.00E-03	5.0	0.31	0.31	11.	0.33	0.31	0.94	0.31	0.31	0.31	0.31	0.31
	W	5.00E-02	5.0	2.0	2.0	69.	2.2	2.0	6.2	2.0	2.0	2.0	2.0	2.0
	D	5.00E-02	5.0	6.5	6.5	2.24E 02	7.0	6.5	20.	6.5	6.5	6.5	6.5	6.5
U-234	Y	2.00E-03	5.0	0.30	0.30	10.	0.33	0.30	0.92	0.30	0.30	0.30	0.30	0.30
	W	5.00E-02	5.0	2.0	2.0	68.	2.1	2.0	6.1	2.0	2.0	2.0	2.0	2.0
	D	5.00E-02	5.0	6.5	6.5	2.21E 02	6.9	6.5	20.	6.5	6.5	6.5	6.5	6.5
U-235	Y	2.00E-03	5.0	0.28	0.28	9.4	0.30	0.28	0.86	0.28	0.28	0.29	0.28	0.28
	W	5.00E-02	5.0	1.8	1.8	62.	1.9	1.8	5.2	1.8	1.8	1.8	1.8	1.8
	D	5.00E-02	5.0	5.8	5.9	2.00E 02	6.3	5.9	17.	5.8	5.9	5.9	5.9	5.9
U-236	Y	2.00E-03	5.0	0.18	0.18	9.8	0.20	0.18	0.83	0.18	0.18	0.29	0.18	0.29
	W	5.00E-02	5.0	1.2	1.2	64.	1.3	1.2	5.5	1.2	1.2	1.9	1.2	1.9
	D	5.00E-02	5.0	3.9	3.9	2.09E 02	4.3	3.9	18.	3.9	3.9	6.1	3.9	6.1
U-237	Y	2.00E-03	5.0	5.36E-04	1.34E-04	1.26E-04	2.28E-04	1.17E-04	1.17E-04	1.10E-04	3.88E-05	1.19E-04	2.47E-05	2.30E-04
	W	5.00E-02	5.0	4.77E-04	1.60E-04	5.76E-04	3.16E-04	1.63E-04	4.29E-04	1.41E-04	5.65E-05	1.35E-04	4.74E-05	2.22E-04
	D	5.00E-02	5.0	3.48E-04	1.96E-04	1.82E-03	5.45E-04	2.74E-04	1.29E-03	1.99E-04	1.09E-04	1.16E-04	9.90E-05	2.14E-04
U-238	Y	2.00E-03	5.0	0.27	0.27	9.2	0.30	0.27	0.77	0.27	0.27	0.27	0.27	0.27
	W	5.00E-02	5.0	1.8	1.8	60.	2.0	1.8	5.0	1.8	1.8	1.8	1.8	1.8
	D	5.00E-02	5.0	5.8	5.8	1.96E 02	6.4	5.8	16.	5.8	5.8	5.8	5.8	5.8
U-240	Y	2.00E-03	5.0	2.35E-04	9.85E-05	1.53E-04	9.57E-05	4.41E-05	2.82E-04	7.60E-05	2.24E-05	7.85E-05	2.62E-05	1.10E-04
	W	5.00E-02	5.0	2.30E-04	1.18E-04	8.16E-04	2.51E-04	7.01E-05	1.49E-03	9.87E-05	5.13E-05	9.70E-05	5.03E-05	1.20E-04
	D	5.00E-02	5.0	2.69E-04	1.60E-04	1.99E-03	5.66E-04	1.38E-04	3.36E-03	1.54E-04	1.17E-04	1.16E-04	1.06E-04	1.81E-04
NP-237	Y	1.00E-03	5.0	10.	1.5	4.58E 02	77.	1.5	1.09E 03	1.5	10.	1.5	1.5	1.5
	W	1.00E-03	5.0	55.	8.2	2.45E 03	4.13E 02	8.3	5.84E 03	8.1	55.	8.1	8.1	8.1
NP-238	Y	1.00E-03	5.0	1.52E-03	3.88E-04	2.33E-02	4.30E-03	2.61E-04	5.00E-02	3.54E-04	6.14E-04	3.50E-04	1.93E-04	5.56E-04
	W	1.00E-03	5.0	4.41E-03	9.10E-04	0.16	2.67E-02	7.80E-04	0.33	8.38E-04	3.61E-03	8.32E-04	6.74E-04	1.00E-03
NP-239	Y	1.00E-03	5.0	4.30E-04	1.11E-04	2.05E-04	1.78E-04	8.06E-05	3.36E-04	8.60E-05	3.72E-05	8.39E-05	1.99E-05	1.89E-04
	W	1.00E-03	5.0	4.43E-04	1.37E-04	1.20E-03	3.64E-04	1.14E-04	1.99E-03	9.67E-05	9.72E-05	9.51E-05	3.35E-05	1.82E-04
NP-240M	Y	1.00E-03	5.0	1.05E-07	1.06E-06	1.52E-06	6.88E-07	4.09E-07	2.91E-06	8.44E-07	4.40E-08	1.47E-06	4.67E-07	6.66E-08
	W	1.00E-03	5.0	3.29E-07	1.10E-06	7.70E-06	1.90E-06	4.71E-07	1.60E-05	8.70E-07	2.67E-07	1.48E-06	5.06E-07	1.21E-07
NP-240	Y	1.00E-03	5.0	1.07E-05	3.92E-05	2.47E-05	2.00E-05	1.43E-05	3.82E-05	3.17E-05	1.21E-06	4.76E-05	1.53E-05	7.85E-06
	W	1.00E-03	5.0	1.32E-05	3.89E-05	9.63E-05	3.38E-05	1.62E-05	1.82E-04	3.04E-05	4.69E-06	4.51E-05	1.52E-05	8.34E-06
PU-236	Y	3.00E-05	5.0	1.1	0.35	34.	5.8	0.35	65.	0.35	1.1	0.35	0.35	0.35
	W	3.00E-05	5.0	7.9	1.2	2.77E 02	46.	1.2	5.31E 02	1.2	7.9	1.2	1.2	1.2
PU-238	Y	3.00E-05	5.0	8.8	1.3	3.95E 02	67.	1.3	8.33E 02	1.3	8.8	1.3	1.3	1.3
	W	3.00E-05	5.0	49.	7.2	2.22E 03	3.74E 02	7.2	4.68E 03	7.2	49.	7.2	7.2	7.2

TOTAL INHALATION DOSES
ALPHA Q = 10
(REM/MICRCCURIE)

NUCLIDE	SOL	FI	AMAD	LUNGS	RES LYM	S WALL	SI WALL	ULI WALL	LLI WALL	T BODY	ADREN	BL WALL	KIDNEYS	LIVER
PU-239	Y	3.00E-05	5.0	1.05E 02	7.45E 03	2.00E-03	4.95E-03	2.91E-02	8.74E-02	41.	1.5	0.74	26.	2.00E 02
	W	3.00E-05	5.0	12.	58.	1.92E-03	4.51E-03	2.58E-02	7.71E-02	2.11E 02	8.1	4.1	1.42E 02	1.09E 03
PU-240	Y	3.00E-05	5.0	1.05E 02	7.44E 03	2.03E-03	4.99E-03	2.93E-02	8.80E-02	41.	1.5	0.74	26.	2.01E 02
	W	3.00E-05	5.0	12.	58.	1.96E-03	4.56E-03	2.60E-02	7.77E-02	2.11E 02	8.1	4.1	1.41E 02	1.10E 03
PU-241	Y	3.00E-05	5.0	0.21	62.	6.09E-05	8.51E-05	3.44E-04	9.10E-04	0.86	3.74E-02	1.86E-02	0.54	4.2
	W	3.00E-05	5.0	3.68E-03	3.77E-02	2.02E-04	2.20E-04	5.03E-04	8.85E-04	4.3	0.17	8.39E-02	2.7	21.
PU-242	Y	3.00E-05	5.0	100.	7.08E 03	1.98E-03	4.78E-03	2.78E-02	8.33E-02	39.	1.4	0.70	25.	1.90E 02
	W	3.00E-05	5.0	11.	55.	2.09E-03	4.54E-03	2.49E-02	7.36E-02	2.01E 02	7.7	3.9	1.35E 02	1.04E 03
PU-243	Y	3.00E-05	5.0	1.61E-03	2.15E-03	1.94E-04	3.11E-04	6.44E-04	4.42E-04	3.53E-05	3.01E-06	1.28E-06	4.89E-06	2.71E-05
	W	3.00E-05	5.0	1.45E-03	1.46E-03	1.66E-04	2.66E-04	5.51E-04	3.78E-04	5.51E-05	4.59E-06	1.95E-06	2.67E-05	1.95E-04
PU-244	Y	3.00E-05	5.0	1.05E 02	7.30E 03	6.38E-02	7.53E-02	0.21	0.38	41.	1.6	0.74	26.	1.98E 02
	W	3.00E-05	5.0	12.	57.	0.18	0.18	0.28	0.30	2.07E 02	8.5	4.1	1.40E 02	1.09E 03
AM-241	Y	1.00E-03	5.0	1.12E 02	7.70E 03	4.84E-03	7.28E-03	3.43E-02	9.67E-02	44.	1.6	0.78	27.	2.12E 02
	W	1.00E-03	5.0	12.	61.	1.19E-02	1.42E-02	4.11E-02	8.99E-02	2.18E 02	8.4	4.2	1.46E 02	1.13E 03
AM-242M	Y	1.00E-03	5.0	40.	5.61E 03	5.08E-03	9.54E-03	3.85E-02	7.85E-02	42.	1.6	0.80	27.	2.11E 02
	W	1.00E-03	5.0	1.3	19.	5.86E-03	7.03E-03	1.79E-02	3.71E-02	2.13E 02	8.3	4.1	1.43E 02	1.11E 03
AM-242	Y	1.00E-03	5.0	9.23E-02	0.48	3.97E-04	8.54E-04	3.22E-03	4.91E-03	3.31E-03	9.60E-05	5.02E-05	1.43E-03	1.11E-02
	W	1.00E-03	5.0	3.16E-02	0.12	3.44E-04	7.40E-04	2.79E-03	4.25E-03	1.99E-02	8.88E-04	4.46E-04	1.53E-02	0.12
AM-243	Y	1.00E-03	5.0	1.08E 02	7.63E 03	2.73E-02	3.08E-02	9.12E-02	0.20	44.	1.6	0.79	28.	2.13E 02
	W	1.00E-03	5.0	12.	59.	9.06E-02	9.37E-02	0.15	0.16	2.17E 02	8.6	4.2	1.46E 02	1.13E 03
CM-242	Y	1.00E-03	5.0	32.	1.67E 02	2.28E-03	5.67E-03	3.33E-02	9.95E-02	0.95	1.93E-02	9.67E-03	0.35	2.7
	W	1.00E-03	5.0	11.	40.	2.20E-03	5.24E-03	3.00E-02	8.95E-02	4.9	0.18	8.94E-02	3.7	29.
CM-243	Y	1.00E-03	5.0	1.14E 02	5.99E 03	1.11E-02	1.29E-02	4.75E-02	0.12	28.	0.99	0.49	18.	1.39E 02
	W	1.00E-03	5.0	13.	65.	3.32E-02	3.68E-02	7.47E-02	0.13	1.45E 02	5.6	2.8	1.02E 02	7.88E 02
CM-244	Y	1.00E-03	5.0	1.10E 02	5.03E 03	2.26E-03	5.56E-03	3.26E-02	9.80E-02	22.	0.74	0.37	14.	1.07E 02
	W	1.00E-03	5.0	13.	64.	2.18E-03	5.09E-03	2.90E-02	8.66E-02	1.13E 02	4.3	2.1	81.	6.25E 02
CM-245	Y	1.00E-03	5.0	1.10E 02	7.74E 03	9.82E-03	1.17E-02	4.17E-02	0.11	45.	1.6	0.81	28.	2.20E 02
	W	1.00E-03	5.0	12.	60.	3.09E-02	3.44E-02	6.82E-02	0.11	2.24E 02	8.7	4.3	1.50E 02	1.17E 03
CM-246	Y	1.00E-03	5.0	1.11E 02	7.88E 03	6.46E-03	8.13E-03	3.45E-02	9.55E-02	45.	1.6	0.81	28.	2.20E 02
	W	1.00E-03	5.0	12.	61.	1.72E-02	1.85E-02	4.44E-02	9.10E-02	2.24E 02	8.7	4.3	1.51E 02	1.17E 03
CM-247	Y	1.00E-03	5.0	1.02E 02	7.15E 03	4.07E-02	3.86E-02	8.29E-02	0.14	41.	1.5	0.75	26.	2.00E 02
	W	1.00E-03	5.0	11.	56.	0.14	0.14	0.21	0.19	2.05E 02	8.2	4.0	1.38E 02	1.06E 03
CM-248	Y	1.00E-03	5.0	6.99E 02	4.91E 04	1.5	1.1	1.5	1.4	2.85E 02	13.	5.5	1.79E 02	1.38E 03
	W	1.00E-03	5.0	81.	3.86E 02	5.4	4.9	6.2	3.7	1.41E 03	68.	29.	9.54E 02	7.37E 03
CF-252	Y	1.00E-03	5.0	2.36E 02	4.22E 03	0.14	8.19E-02	0.18	0.41	12.	0.46	0.16	6.2	48.
	W	1.00E-03	5.0	38.	1.76E 02	0.27	0.26	0.40	0.47	65.	3.0	1.3	52.	3.96E 02

TOTAL INHALATION DOSES
ALPHA Q = 10
(REM/MICROCURIE)

NUCLIDE	SOL	F1	AMAD	OVARIES	PANCREAS	BONE	R MAR	Y MAR	ENDOST	SPLEEN	TESTES	THYMUS	THYROID	UTERUS
PU-239	Y	3.00E-05	5.0	10.	1.5	4.52E 02	76.	1.5	1.04E 03	1.5	10.	1.5	1.5	1.5
	W	3.00E-05	5.0	56.	8.1	2.49E 03	4.20E 02	8.1	5.76E 03	8.1	55.	8.1	8.1	8.1
PU-240	Y	3.00E-05	5.0	10.	1.5	4.53E 02	76.	1.5	1.04E 03	1.5	10.	1.5	1.5	1.5
	W	3.00E-05	5.0	55.	8.1	2.49E 03	4.19E 02	8.1	5.75E 03	8.1	55.	8.1	8.1	8.1
PU-241	Y	3.00E-05	5.0	0.22	3.74E-02	10.	1.7	3.75E-02	21.	3.73E-02	0.22	3.73E-02	3.73E-02	3.73E-02
	W	3.00E-05	5.0	1.1	0.17	51.	8.6	0.17	1.08E 02	0.17	1.1	0.17	0.17	0.17
PU-242	Y	3.00E-05	5.0	9.5	1.4	4.31E 02	72.	1.4	1.06E 03	1.4	9.6	1.4	1.4	1.4
	W	3.00E-05	5.0	53.	7.7	2.37E 03	3.99E 02	7.7	5.84E 03	7.7	53.	7.7	7.7	7.7
PU-243	Y	3.00E-05	5.0	6.03E-06	4.31E-06	4.62E-05	1.17E-05	2.91E-06	9.82E-05	3.34E-06	1.34E-06	4.21E-06	9.95E-07	3.12E-06
	W	3.00E-05	5.0	1.33E-05	5.68E-06	2.96E-04	5.54E-05	4.68E-06	6.24E-04	4.57E-06	9.20E-06	5.38E-06	2.43E-06	4.24E-06
PU-244	Y	3.00E-05	5.0	10.	1.5	4.41E 02	68.	1.5	1.07E 03	1.5	10.	1.5	1.5	1.5
	W	3.00E-05	5.0	55.	8.4	2.43E 03	3.77E 02	8.4	5.90E 03	8.2	55.	8.2	8.1	8.1
AM-241	Y	1.00E-03	5.0	11.	1.6	4.79E 02	81.	1.6	1.01E 03	1.6	11.	1.6	1.6	1.6
	W	1.00E-03	5.0	57.	8.4	2.57E 03	4.33E 02	8.4	5.43E 03	8.4	57.	8.4	8.4	8.4
AM-242M	Y	1.00E-03	5.0	11.	1.6	4.79E 02	81.	1.6	8.63E 02	1.6	11.	1.6	1.6	1.6
	W	1.00E-03	5.0	56.	8.3	2.53E 03	4.25E 02	8.3	4.54E 03	8.3	56.	8.3	8.3	8.3
AM-242	Y	1.00E-03	5.0	4.86E-04	9.77E-05	2.13E-02	3.59E-03	9.63E-05	3.94E-02	9.65E-05	4.73E-04	9.69E-05	9.35E-05	9.93E-05
	W	1.00E-03	5.0	4.97E-03	8.89E-04	0.22	3.75E-02	8.89E-04	0.41	8.87E-04	4.96E-03	8.88E-04	8.85E-04	8.90E-04
AM-243	Y	1.00E-03	5.0	11.	1.6	4.78E 02	81.	1.6	1.07E 03	1.6	11.	1.6	1.6	1.6
	W	1.00E-03	5.0	57.	8.6	2.56E 03	4.31E 02	8.6	5.74E 03	8.4	57.	8.4	8.4	8.4
CM-242	Y	1.00E-03	5.0	0.12	1.93E-02	5.3	0.89	1.93E-02	9.9	1.93E-02	0.12	1.93E-02	1.93E-02	1.93E-02
	W	1.00E-03	5.0	1.2	0.18	55.	9.1	0.18	100.	0.18	1.2	0.18	0.18	0.18
CM-243	Y	1.00E-03	5.0	6.7	0.99	3.00E 02	51.	1.0	5.70E 02	0.99	6.7	0.99	0.98	0.98
	W	1.00E-03	5.0	38.	5.6	1.70E 03	2.87E 02	5.6	3.23E 03	5.6	38.	5.6	5.6	5.6
CM-244	Y	1.00E-03	5.0	5.0	0.74	2.26E 02	38.	0.74	4.34E 02	0.74	5.0	0.74	0.74	0.74
	W	1.00E-03	5.0	29.	4.3	1.32E 03	2.22E 02	4.3	2.54E 03	4.3	29.	4.3	4.3	4.3
CM-245	Y	1.00E-03	5.0	11.	1.6	4.96E 02	84.	1.6	1.08E 03	1.6	11.	1.6	1.6	1.6
	W	1.00E-03	5.0	59.	8.7	2.65E 03	4.47E 02	8.8	5.79E 03	8.7	59.	8.7	8.7	8.7
CM-246	Y	1.00E-03	5.0	11.	1.6	4.96E 02	82.	1.6	1.06E 03	1.6	11.	1.6	1.6	1.6
	W	1.00E-03	5.0	59.	8.7	2.65E 03	4.39E 02	8.7	5.67E 03	8.6	59.	8.6	8.6	8.6
CM-247	Y	1.00E-03	5.0	10.	1.5	4.51E 02	76.	1.5	1.10E 03	1.5	10.	1.5	1.5	1.5
	W	1.00E-03	5.0	54.	8.2	2.41E 03	4.07E 02	8.2	5.87E 03	8.0	54.	8.0	8.0	8.0
CM-248	Y	1.00E-03	5.0	70.	12.	3.10E 03	81.	12.	1.11E 03	11.	70.	12.	11.	11.
	W	1.00E-03	5.0	3.72E 02	64.	1.66E 04	4.34E 02	63.	5.93E 03	58.	3.72E 02	58.	57.	57.
CF-252	Y	1.00E-03	5.0	2.0	0.42	89.	5.4	0.37	56.	0.39	2.0	0.44	0.34	0.32
	W	1.00E-03	5.0	17.	2.9	7.38E 02	44.	2.8	4.63E 02	2.6	17.	2.6	2.5	2.5

TOTAL INGESTION DOSES
ALPHA Q = 10
(REM/MICROCURIE)

NUCLIDE	F1	LUNGS	RES LYM	S WALL	SI WALL	ULI WALL	LLI WALL	T BODY	ADREN	BL WALL	KIDNEYS	LIVER
TL-207	0.95	2.89E-09	2.89E-09	2.16E-04	9.84E-06	5.16E-07	1.03E-08	6.21E-07	1.06E-07	5.25E-08	5.25E-07	1.04E-07
TL-208	0.95	2.57E-06	2.57E-06	2.45E-04	1.20E-05	6.36E-06	2.45E-06	3.16E-06	3.70E-06	9.01E-07	5.03E-06	3.22E-06
TL-209	0.95	1.32E-06	1.32E-06	1.90E-04	1.66E-05	1.93E-05	9.17E-06	1.89E-06	2.41E-06	4.48E-07	2.70E-06	1.60E-06
PB-209	8.00E-02	0.0	0.0	6.96E-04	9.03E-04	1.44E-03	7.17E-04	1.60E-05	4.77E-08	2.38E-08	1.34E-06	3.97E-07
PB-210	8.00E-02	7.70E-05	7.70E-05	2.00E-04	5.25E-04	4.26E-03	2.02E-02	3.8	0.24	0.12	0.49	0.75
PB-211	8.00E-02	6.75E-07	6.75E-07	3.01E-03	1.34E-03	5.68E-04	6.21E-05	3.64E-05	5.49E-06	3.13E-06	6.64E-05	5.26E-06
PB-212	8.00E-02	5.33E-05	5.33E-05	3.60E-03	1.21E-02	4.37E-02	5.19E-02	4.14E-03	3.98E-04	5.23E-04	1.77E-02	3.10E-03
PB-214	8.00E-02	7.60E-06	7.60E-06	2.27E-03	1.43E-03	6.24E-04	8.06E-05	5.47E-05	2.30E-05	1.76E-05	4.49E-04	2.26E-05
BI-210	5.00E-02	5.20E-11	5.20E-11	1.65E-03	3.84E-03	2.12E-02	5.64E-02	1.68E-03	6.43E-04	3.22E-04	0.19	1.19E-03
BI-211	5.00E-02	3.08E-08	3.08E-08	2.31E-04	1.07E-05	5.78E-07	3.50E-08	6.68E-07	1.09E-07	4.27E-08	7.04E-07	1.03E-07
BI-212	5.00E-02	1.29E-05	1.29E-05	3.92E-03	2.52E-03	1.64E-03	3.05E-04	9.00E-05	4.84E-05	3.43E-05	2.73E-03	5.06E-05
BI-213	5.00E-02	1.79E-05	1.79E-05	2.89E-03	1.46E-03	8.79E-04	1.52E-04	5.15E-05	3.99E-05	3.06E-05	1.47E-04	3.70E-05
BI-214	5.00E-02	6.36E-06	6.36E-06	2.12E-03	5.69E-04	1.56E-04	2.11E-05	2.68E-05	1.32E-05	7.00E-06	2.08E-04	1.28E-05
PO-210	1.00E-01	1.13E-08	1.13E-08	2.26E-03	5.08E-03	3.00E-02	8.92E-02	0.29	0.26	0.13	4.8	0.82
PO-211	1.00E-01	2.28E-11	2.28E-11	7.12E-07	1.32E-10	3.93E-11	1.68E-11	1.54E-09	2.69E-11	6.12E-12	4.12E-11	2.52E-11
PO-212	1.00E-01	0.0	0.0	4.58E-13	3.50E-23	1.94E-33	2.99E-44	9.83E-16	1.78E-34	8.87E-35	3.19E-33	5.47E-34
PO-213	1.00E-01	6.56E-19	6.56E-19	6.25E-12	3.18E-13	5.07E-13	2.53E-13	1.87E-14	4.43E-17	2.20E-17	4.29E-15	1.54E-15
PO-214	1.00E-01	1.08E-16	1.08E-16	2.14E-10	2.60E-16	1.15E-15	4.76E-15	1.34E-12	3.63E-14	1.81E-14	1.15E-13	1.74E-13
PO-215	1.00E-01	5.57E-13	5.57E-13	4.71E-09	1.10E-09	4.66E-10	5.09E-11	5.66E-11	5.34E-12	2.99E-12	1.74E-10	4.81E-11
PO-216	1.00E-01	2.29E-10	2.29E-10	1.88E-07	4.74E-08	1.72E-07	2.04E-07	3.10E-08	2.15E-09	2.33E-09	1.42E-07	3.83E-08
PO-218	1.00E-01	8.31E-07	8.31E-07	4.16E-04	1.79E-04	7.68E-05	9.88E-06	8.72E-06	2.40E-06	1.97E-06	6.45E-05	6.53E-06
AT-217	0.95	2.11E-10	2.11E-10	7.31E-08	1.72E-08	1.04E-08	1.80E-09	6.93E-10	4.74E-10	3.62E-10	1.73E-09	4.39E-10
RN-219	0.0	2.40E-09	2.40E-09	1.51E-05	2.47E-06	1.04E-06	1.14E-07	1.37E-07	1.34E-08	6.87E-09	3.90E-07	1.08E-07
RN-220	0.0	8.47E-08	8.47E-08	1.27E-04	1.92E-05	6.36E-05	7.56E-05	1.16E-05	7.95E-07	8.64E-07	5.24E-05	1.42E-05
RN-222	0.0	1.15E-04	1.15E-04	8.91E-03	3.24E-02	0.16	0.42	2.96E-03	4.41E-04	1.70E-03	7.57E-03	1.23E-03
FR-221	0.95	1.87E-06	1.87E-06	8.69E-04	1.83E-04	9.67E-05	1.65E-05	3.37E-05	3.49E-05	1.87E-05	4.64E-05	3.47E-05
RA-223	0.20	5.16E-05	5.16E-05	1.25E-02	2.96E-02	0.18	0.51	0.29	0.14	6.98E-02	0.14	0.14
RA-224	0.20	9.21E-05	9.21E-05	8.50E-03	2.01E-02	0.13	0.38	9.65E-02	4.27E-02	2.21E-02	5.23E-02	4.55E-02
RA-225	0.20	3.37E-04	3.37E-04	8.85E-04	1.96E-03	1.35E-02	6.60E-02	0.26	0.13	6.67E-02	0.13	0.13
RA-226	0.20	1.76E-03	1.76E-03	3.29E-03	7.10E-03	4.37E-02	0.19	8.0	0.30	0.15	0.30	0.30
RA-228	0.20	2.41E-03	2.41E-03	2.40E-03	5.82E-03	2.19E-02	7.13E-02	4.3	0.40	0.20	0.39	0.39

TOTAL INGESTION DOSES
ALPHA Q = 10
(REM/MICROCURIE)

NUCLIDE	F1	OVARIES	PANCREAS	BONE	R MAR	Y MAR	ENDOST	SPLEEN	TESTES	THYMUS	THYROID	UTERUS
TL-207	0.95	1.04E-07	1.29E-07	1.02E-07	1.04E-07	1.04E-07	1.30E-07	1.16E-07	1.01E-07	1.04E-07	1.03E-07	1.05E-07
TL-208	0.95	2.10E-06	2.25E-05	1.02E-06	1.72E-06	1.39E-06	1.03E-06	1.26E-05	3.72E-07	8.83E-07	3.67E-07	2.25E-06
TL-209	0.95	8.92E-07	1.22E-05	5.93E-07	8.79E-07	7.02E-07	5.82E-07	6.76E-06	1.58E-07	4.70E-07	1.65E-07	1.01E-06
PB-209	8.00E-02	4.78E-08	4.77E-08	3.03E-06	8.33E-07	4.77E-08	2.42E-06	4.78E-08	4.80E-08	4.77E-08	4.78E-08	4.77E-08
PB-210	8.00E-02	0.24	0.24	52.	0.46	0.25	5.0	0.25	0.24	0.24	0.24	0.24
PB-211	8.00E-02	7.47E-06	1.06E-05	1.73E-04	3.35E-05	5.04E-06	2.71E-04	7.90E-06	4.48E-06	4.56E-06	4.46E-06	7.05E-06
PB-212	8.00E-02	1.63E-03	5.40E-04	4.64E-02	8.21E-03	4.10E-04	6.06E-02	4.55E-04	3.86E-04	3.00E-04	2.79E-04	9.11E-04
PB-214	8.00E-02	4.93E-05	7.34E-05	2.32E-04	4.24E-05	1.61E-05	1.57E-04	4.69E-05	1.14E-05	1.12E-05	9.42E-06	4.40E-05
BI-210	5.00E-02	6.43E-04	6.43E-04	3.17E-03	6.51E-04	6.43E-04	3.07E-04	8.46E-03	6.43E-04	6.43E-04	6.43E-04	6.43E-04
BI-211	5.00E-02	8.48E-08	3.74E-07	9.42E-08	9.45E-08	8.61E-08	1.22E-07	2.36E-07	6.85E-08	7.32E-08	7.09E-08	9.15E-08
BI-212	5.00E-02	9.33E-05	1.18E-04	1.25E-04	6.58E-05	3.78E-05	1.61E-04	8.03E-05	3.14E-05	3.27E-05	2.79E-05	8.01E-05
BI-213	5.00E-02	7.63E-05	1.47E-04	1.87E-05	3.33E-05	2.09E-05	1.88E-05	8.84E-05	1.09E-05	1.37E-05	7.48E-06	7.17E-05
BI-214	5.00E-02	1.90E-05	5.82E-05	9.80E-05	1.10E-05	6.61E-06	2.29E-05	3.44E-05	3.67E-06	4.61E-06	2.96E-06	1.75E-05
PO-210	1.00E-01	0.26	0.26	1.3	0.27	0.26	0.12	8.2	0.26	0.26	0.26	0.26
PO-211	1.00E-01	1.33E-11	2.11E-10	7.47E-12	1.27E-11	1.04E-11	7.48E-12	1.19E-10	1.30E-12	7.15E-12	2.09E-12	1.19E-11
PO-212	1.00E-01	1.77E-34	1.78E-34	8.88E-34	3.24E-34	1.78E-34	7.67E-34	5.47E-33	1.77E-34	1.78E-34	1.78E-34	1.78E-34
PO-213	1.00E-01	4.40E-17	4.96E-17	2.77E-15	7.62E-16	4.39E-17	2.22E-15	4.70E-17	4.36E-17	4.38E-17	4.36E-17	4.39E-17
PO-214	1.00E-01	3.63E-14	3.71E-14	1.21E-11	8.62E-14	3.67E-14	1.17E-12	3.69E-14	3.62E-14	3.62E-14	3.62E-14	3.63E-14
PO-215	1.00E-01	6.96E-12	9.56E-12	4.21E-10	7.46E-11	4.97E-12	6.63E-10	7.31E-12	4.50E-12	4.57E-12	4.49E-12	6.62E-12
PO-216	1.00E-01	6.96E-09	2.69E-09	3.65E-07	6.30E-08	2.19E-09	4.78E-07	2.35E-09	2.07E-09	1.73E-09	1.64E-09	4.13E-09
PO-218	1.00E-01	5.65E-06	7.80E-06	5.31E-05	9.02E-06	1.66E-06	4.92E-05	6.63E-06	1.13E-06	1.08E-06	8.88E-07	5.00E-06
AT-217	0.95	9.03E-10	1.74E-09	2.30E-10	3.97E-10	2.50E-10	2.28E-10	1.05E-09	1.31E-10	1.65E-10	9.07E-11	8.48E-10
RN-219	0.0	1.58E-08	3.31E-08	9.39E-07	1.67E-07	1.17E-08	1.48E-06	2.28E-08	1.00E-08	1.03E-08	1.01E-08	1.53E-08
RN-220	0.0	2.58E-06	9.96E-07	1.35E-04	2.34E-05	8.10E-07	1.77E-04	8.68E-07	7.65E-07	6.42E-07	6.08E-07	1.53E-06
RN-222	0.0	5.32E-03	7.23E-04	6.50E-03	2.06E-03	5.83E-04	6.84E-03	1.94E-03	5.96E-04	1.66E-04	1.33E-04	2.33E-03
FR-221	0.95	3.90E-05	4.55E-05	1.54E-04	5.95E-05	3.31E-05	2.29E-04	3.97E-05	3.20E-05	3.24E-05	3.17E-05	3.86E-05
RA-223	0.20	0.14	0.14	0.60	0.63	0.14	4.7	0.14	0.14	0.14	0.14	0.14
RA-224	0.20	4.35E-02	4.28E-02	0.20	0.21	4.28E-02	1.7	4.33E-02	4.12E-02	4.26E-02	4.25E-02	4.35E-02
RA-225	0.20	0.13	0.13	0.55	0.58	0.13	4.4	0.13	0.13	0.13	0.13	0.13
RA-226	0.20	0.30	0.30	22.	10.	0.31	1.03E 02	0.30	0.30	0.30	0.30	0.30
RA-228	0.20	0.40	0.40	11.	9.8	0.41	1.04E 02	0.41	0.40	0.40	0.40	0.40

TOTAL INGESTION COSES
ALPHA Q = 10
(REM/MICRCCURIE)

NUCLIDE	F1	LUNGS	RES LYM	S WALL	SI WALL	ULI WALL	LLI WALL	T BODY	ADREN	BL WALL	KIDNEYS	LIVER
AC-225	1.00E-03	1.97E-04	1.97E-04	1.13E-02	2.85E-02	0.19	0.54	1.79E-02	1.12E-02	7.88E-03	1.67E-02	4.81E-02
AC-227	1.00E-03	3.54E-04	3.54E-04	3.45E-04	5.42E-04	2.86E-03	1.44E-02	2.4	5.80E-02	2.88E-02	1.1	8.2
AC-228	1.00E-03	2.59E-05	2.59E-05	2.08E-03	3.74E-03	8.06E-03	6.23E-03	2.75E-04	6.67E-05	1.46E-04	1.89E-04	4.95E-04
TH-227	1.00E-03	1.05E-05	1.05E-05	2.85E-03	7.52E-03	4.84E-02	0.18	1.25E-02	1.97E-03	1.15E-03	5.99E-03	3.40E-02
TH-228	1.00E-03	6.28E-05	6.28E-05	2.59E-03	7.18E-03	5.55E-02	0.25	0.27	8.33E-03	4.38E-03	0.14	1.1
TH-229	1.00E-03	2.00E-03	2.00E-03	4.04E-03	8.34E-03	4.02E-02	0.12	3.5	9.12E-02	4.49E-02	1.5	12.
TH-230	1.00E-03	3.64E-06	3.64E-06	2.05E-03	5.12E-03	3.01E-02	9.07E-02	1.4	5.58E-02	2.79E-02	0.97	7.5
TH-231	1.00E-03	6.41E-07	6.41E-07	7.16E-04	1.68E-03	6.99E-03	1.25E-02	8.04E-05	1.85E-06	1.32E-05	6.43E-06	8.75E-06
TH-232	1.00E-03	1.13E-04	1.13E-04	1.82E-03	4.47E-03	2.59E-02	7.79E-02	1.5	4.86E-02	2.43E-02	0.84	6.6
TH-234	1.00E-03	1.80E-06	1.80E-06	3.68E-03	9.42E-03	5.45E-02	0.16	6.56E-04	7.37E-06	3.03E-05	6.24E-05	3.99E-04
PA-231	1.00E-03	4.35E-04	4.35E-04	2.61E-03	6.15E-03	3.41E-02	0.10	3.7	0.11	5.57E-02	1.9	15.
PA-233	1.00E-03	1.45E-05	1.45E-05	1.04E-03	2.85E-03	1.28E-02	3.62E-02	2.61E-04	4.72E-05	2.67E-04	1.19E-04	1.84E-04
PA-234M	1.00E-03	4.11E-09	4.11E-09	9.61E-05	1.70E-06	7.15E-08	3.63E-08	2.27E-07	5.38E-09	2.54E-09	8.52E-09	5.26E-09
PA-234	1.00E-03	5.82E-05	5.82E-05	2.78E-03	5.32E-03	1.11E-02	8.65E-03	3.12E-04	1.43E-04	3.48E-04	3.18E-04	2.28E-04
U-232	2.00E-03	6.69E-05	6.69E-05	2.39E-03	5.87E-03	3.44E-02	0.10	0.25	5.77E-02	2.89E-02	9.34E-02	5.69E-02
	5.00E-02	1.67E-03	1.67E-03	3.78E-03	7.12E-03	3.43E-02	0.10	6.2	1.4	0.72	2.3	1.4
	0.20	6.68E-03	6.68E-03	8.15E-03	1.10E-02	3.39E-02	9.03E-02	25.	5.8	2.9	9.3	5.7
U-233	2.00E-03	3.33E-05	3.33E-05	2.11E-03	5.21E-03	3.06E-02	9.19E-02	7.02E-02	2.35E-02	1.18E-02	3.44E-02	2.36E-02
	5.00E-02	8.31E-04	8.31E-04	2.90E-03	5.76E-03	2.99E-02	8.83E-02	1.8	0.59	0.29	0.86	0.59
	0.20	3.32E-03	3.32E-03	5.39E-03	7.47E-03	2.78E-02	7.70E-02	7.0	2.3	1.2	3.4	2.4
U-234	2.00E-03	3.29E-05	3.29E-05	2.11E-03	5.23E-03	3.07E-02	9.22E-02	6.94E-02	2.33E-02	1.17E-02	3.40E-02	2.33E-02
	5.00E-02	8.23E-04	8.23E-04	2.90E-03	5.76E-03	3.00E-02	8.86E-02	1.7	0.58	0.29	0.85	0.58
	0.20	3.29E-03	3.29E-03	5.36E-03	7.44E-03	2.79E-02	7.72E-02	6.9	2.3	1.2	3.4	2.3
U-235	2.00E-03	6.41E-05	6.41E-05	2.22E-03	5.90E-03	3.36E-02	0.11	6.29E-02	2.12E-02	1.09E-02	3.09E-02	2.11E-02
	5.00E-02	1.37E-03	1.37E-03	3.41E-03	6.90E-03	3.33E-02	0.10	1.6	0.53	0.27	0.77	0.53
	0.20	5.45E-03	5.45E-03	7.16E-03	1.01E-02	3.24E-02	9.20E-02	6.2	2.1	1.1	3.1	2.1
U-236	2.00E-03	3.11E-05	3.11E-05	1.99E-03	4.92E-03	2.89E-02	8.69E-02	6.56E-02	1.41E-02	7.07E-03	3.21E-02	1.41E-02
	5.00E-02	7.77E-04	7.77E-04	2.73E-03	5.43E-03	2.83E-02	8.34E-02	1.6	0.35	0.18	0.80	0.35
	0.20	3.11E-03	3.11E-03	5.06E-03	7.02E-03	2.63E-02	7.27E-02	6.5	1.4	0.71	3.2	1.4
U-237	2.00E-03	8.12E-06	8.12E-06	9.19E-04	2.48E-03	1.11E-02	2.93E-02	2.05E-04	2.79E-05	1.97E-04	1.09E-04	5.09E-05
	5.00E-02	1.44E-05	1.44E-05	9.22E-04	2.37E-03	1.06E-02	2.79E-02	2.19E-04	4.46E-05	1.95E-04	9.42E-04	5.99E-05
	0.20	3.39E-05	3.39E-05	9.29E-04	2.03E-03	8.98E-03	2.36E-02	2.64E-04	9.70E-05	1.87E-04	3.55E-03	8.84E-05

TOTAL INGESTION DOSES
ALPHA Q = 10
(REM/MICROCURIE)

NUCLIDE	F1	OVARIES	PANCREAS	BONE	R MAR	Y MAR	ENDOST	SPLEEN	TESTES	THYMUS	THYROID	UTERUS
AC-225	1.00E-03	1.92E-02	1.15E-02	0.12	3.17E-02	1.14E-02	0.18	1.16E-02	1.26E-02	1.08E-02	1.09E-02	1.38E-02
AC-227	1.00E-03	0.39	5.79E-02	31.	5.1	5.81E-02	51.	5.76E-02	0.39	5.76E-02	5.76E-02	5.76E-02
AC-228	1.00E-03	5.31E-04	1.82E-04	1.43E-03	3.54E-04	6.05E-05	2.58E-03	1.23E-04	5.37E-05	1.42E-05	6.63E-06	3.01E-04
TH-227	1.00E-03	3.65E-03	2.01E-03	0.14	2.50E-02	2.01E-03	0.23	1.99E-03	3.09E-03	1.95E-03	1.95E-03	2.19E-03
TH-228	1.00E-03	4.63E-02	8.32E-03	3.3	0.55	8.36E-03	6.2	8.35E-03	4.56E-02	8.25E-03	8.23E-03	8.51E-03
TH-229	1.00E-03	0.59	9.04E-02	44.	7.3	9.21E-02	86.	8.90E-02	0.59	8.86E-02	8.90E-02	8.88E-02
TH-230	1.00E-03	0.38	5.58E-02	17.	2.3	5.59E-02	45.	5.58E-02	0.38	5.58E-02	5.58E-02	5.58E-02
TH-231	1.00E-03	8.26E-05	7.60E-06	1.14E-05	2.29E-05	8.61E-06	1.50E-05	4.65E-06	2.62E-06	1.68E-07	5.26E-08	2.22E-05
TH-232	1.00E-03	0.33	4.85E-02	18.	3.0	4.88E-02	50.	4.87E-02	0.33	4.85E-02	4.85E-02	4.85E-02
TH-234	1.00E-03	1.15E-04	1.37E-05	1.38E-04	7.70E-05	1.45E-05	1.05E-04	1.14E-05	2.30E-05	3.01E-06	2.54E-06	4.38E-05
PA-231	1.00E-03	0.76	0.11	46.	7.7	0.11	91.	0.11	0.76	0.11	0.11	0.11
PA-233	1.00E-03	8.98E-04	1.06E-04	1.04E-04	2.20E-04	9.27E-05	9.41E-05	7.74E-05	7.79E-05	6.35E-06	2.58E-06	3.64E-04
PA-234M	1.00E-03	8.47E-09	3.73E-08	1.75E-09	3.52E-09	2.41E-09	1.75E-09	2.16E-08	7.08E-10	1.81E-09	4.03E-10	5.29E-09
PA-234	1.00E-03	1.26E-03	4.05E-04	1.03E-04	3.00E-04	1.38E-04	1.03E-04	2.71E-04	9.00E-05	2.35E-05	7.20E-06	7.03E-04
U-232	2.00E-03	5.73E-02	5.77E-02	3.1	0.44	5.77E-02	4.3	5.77E-02	5.73E-02	5.77E-02	5.76E-02	5.77E-02
	5.00E-02	1.4	1.4	77.	11.	1.4	1.06E 02	1.4	1.4	1.4	1.4	1.4
	0.20	5.7	5.8	3.06E 02	44.	5.8	4.24E 02	5.8	5.7	5.8	5.8	5.8
U-233	2.00E-03	2.36E-02	2.35E-02	0.81	2.54E-02	2.35E-02	7.22E-02	2.35E-02	2.36E-02	2.35E-02	2.35E-02	2.35E-02
	5.00E-02	0.59	0.59	20.	0.63	0.59	1.8	0.59	0.59	0.59	0.59	0.59
	0.20	2.4	2.3	81.	2.5	2.3	7.2	2.3	2.4	2.3	2.3	2.3
U-234	2.00E-03	2.33E-02	2.33E-02	0.80	2.51E-02	2.33E-02	7.09E-02	2.33E-02	2.33E-02	2.33E-02	2.33E-02	2.33E-02
	5.00E-02	0.58	0.58	20.	0.63	0.58	1.8	0.58	0.58	0.58	0.58	0.58
	0.20	2.3	2.3	80.	2.5	2.3	7.1	2.3	2.3	2.3	2.3	2.3
U-235	2.00E-03	2.20E-02	2.13E-02	0.72	2.29E-02	2.13E-02	6.07E-02	2.11E-02	2.12E-02	2.12E-02	2.12E-02	2.16E-02
	5.00E-02	0.53	0.53	18.	0.57	0.53	1.5	0.53	0.53	0.53	0.53	0.53
	0.20	2.1	2.1	72.	2.3	2.1	6.1	2.1	2.1	2.1	2.1	2.1
U-236	2.00E-03	1.41E-02	1.41E-02	0.75	1.56E-02	1.41E-02	6.40E-02	1.41E-02	1.41E-02	2.20E-02	1.41E-02	2.20E-02
	5.00E-02	0.35	0.35	19.	0.39	0.35	1.6	0.35	0.35	0.55	0.35	0.55
	0.20	1.4	1.4	75.	1.6	1.4	6.4	1.4	1.4	2.2	1.4	2.2
U-237	2.00E-03	6.63E-04	7.68E-05	6.99E-05	2.09E-04	8.48E-05	6.80E-05	5.59E-05	4.64E-05	2.80E-06	8.32E-07	2.82E-04
	5.00E-02	6.41E-04	8.82E-05	2.22E-04	2.38E-04	1.02E-04	1.74E-04	6.89E-05	5.22E-05	1.18E-05	9.16E-06	2.78E-04
	0.20	5.73E-04	1.24E-04	6.97E-04	3.34E-04	1.54E-04	5.06E-04	1.09E-04	7.02E-05	3.99E-05	3.53E-05	2.67E-04

TOTAL INGESTION DOSES
ALPHA Q = 10
(REM/MICROCURIE)

NUCLIDE	FI	LUNGS	RES LYM	S WALL	SI WALL	ULI WALL	LLI WALL	T BODY	ADREN	BL WALL	KIDNEYS	LIVER
U-238	2.00E-03	3.22E-05	3.22E-05	1.86E-03	4.65E-03	2.81E-02	8.92E-02	6.17E-02	2.09E-02	1.05E-02	3.06E-02	2.09E-02
	5.00E-02	8.04E-04	8.04E-04	2.62E-03	5.20E-03	2.76E-02	8.57E-02	1.5	0.52	0.26	0.76	0.52
	0.20	3.21E-03	3.21E-03	4.98E-03	6.91E-03	2.58E-02	7.47E-02	6.1	2.1	1.0	3.1	2.1
U-240	2.00E-03	1.36E-05	1.36E-05	2.97E-03	7.22E-03	2.49E-02	3.38E-02	2.90E-04	3.68E-05	1.25E-04	1.07E-04	6.00E-05
	5.00E-02	2.01E-05	2.01E-05	2.97E-03	6.95E-03	2.39E-02	3.25E-02	3.00E-04	4.67E-05	1.27E-04	7.06E-04	6.64E-05
	0.20	4.10E-05	4.10E-05	2.98E-03	6.06E-03	2.07E-02	2.81E-02	3.30E-04	7.88E-05	1.35E-04	2.64E-03	8.72E-05
NP-237	1.00E-03	8.72E-04	8.72E-04	3.09E-03	6.88E-03	3.70E-02	0.11	1.6	6.20E-02	3.06E-02	1.1	8.2
NP-238	1.00E-03	3.78E-05	3.78E-05	1.54E-03	4.10E-03	1.51E-02	3.21E-02	4.35E-04	1.06E-04	3.94E-04	2.84E-04	6.32E-04
NP-239	1.00E-03	8.92E-06	8.92E-06	1.18E-03	2.98E-03	1.30E-02	2.94E-02	2.10E-04	2.97E-05	1.76E-04	7.79E-05	6.54E-05
NP-240M	1.00E-03	6.71E-07	6.71E-07	4.34E-04	4.72E-05	6.40E-06	1.00E-06	2.08E-06	9.05E-07	3.60E-07	1.37E-06	8.39E-07
NP-240	1.00E-03	1.30E-05	1.30E-05	1.59E-03	1.14E-03	8.33E-04	1.75E-04	4.04E-05	2.27E-05	2.53E-05	4.48E-05	2.85E-05
PU-236	3.00E-05	2.50E-07	2.50E-07	2.49E-03	6.24E-03	3.68E-02	0.11	6.34E-03	4.73E-04	2.36E-04	4.14E-03	4.33E-02
PU-238	3.00E-05	7.89E-08	7.89E-08	2.38E-03	5.95E-03	3.51E-02	0.11	4.32E-02	1.64E-03	8.22E-04	2.91E-02	0.22
PU-239	3.00E-05	6.09E-08	6.09E-08	2.22E-03	5.55E-03	3.28E-02	9.86E-02	4.82E-02	1.85E-03	9.23E-04	3.22E-02	0.25
PU-240	3.00E-05	8.32E-08	8.32E-08	2.24E-03	5.59E-03	3.30E-02	9.93E-02	4.83E-02	1.84E-03	9.23E-04	3.22E-02	0.25
PU-241	3.00E-05	7.18E-08	7.18E-08	2.23E-05	5.57E-05	3.29E-04	9.92E-04	9.83E-04	3.82E-05	1.91E-05	6.24E-04	4.83E-03
PU-242	3.00E-05	1.60E-07	1.60E-07	2.12E-03	5.31E-03	3.13E-02	9.40E-02	4.60E-02	1.75E-03	8.78E-04	3.06E-02	0.24
PU-243	3.00E-05	5.38E-07	5.38E-07	6.51E-04	1.05E-03	2.18E-03	1.50E-03	2.37E-05	1.32E-06	3.80E-06	3.70E-06	2.83E-06
PU-244	3.00E-05	7.02E-05	7.02E-05	2.72E-03	8.61E-03	5.92E-02	0.22	4.79E-02	2.01E-03	1.43E-03	3.21E-02	0.25
AM-241	1.00E-03	1.27E-04	1.27E-04	2.53E-03	6.28E-03	3.60E-02	0.11	1.6	6.33E-02	3.16E-02	1.1	8.5
AM-242M	1.00E-03	5.98E-05	5.98E-05	2.51E-04	8.75E-04	8.05E-03	3.32E-02	1.6	6.22E-02	3.11E-02	1.1	8.3
AM-242	1.00E-03	5.00E-07	5.00E-07	7.37E-04	1.59E-03	5.97E-03	8.97E-03	1.84E-04	6.83E-06	1.01E-05	1.03E-04	7.67E-04
AM-243	1.00E-03	9.55E-04	9.55E-04	3.10E-03	7.08E-03	3.84E-02	0.12	1.6	6.47E-02	3.20E-02	1.1	8.5
CM-242	1.00E-03	1.37E-06	1.37E-06	2.64E-03	6.59E-03	3.88E-02	0.12	3.73E-02	1.38E-03	6.92E-04	2.90E-02	0.22
CM-243	1.00E-03	3.25E-04	3.25E-04	3.41E-03	8.37E-03	4.57E-02	0.14	1.1	4.24E-02	2.12E-02	0.76	5.9
CM-244	1.00E-03	2.32E-06	2.32E-06	2.50E-03	6.25E-03	3.69E-02	0.11	0.85	3.25E-02	1.62E-02	0.61	4.7
CM-245	1.00E-03	3.13E-04	3.13E-04	2.90E-03	7.06E-03	3.90E-02	0.12	1.7	6.57E-02	3.28E-02	1.1	8.8
CM-246	1.00E-03	9.65E-05	9.65E-05	2.53E-03	6.22E-03	3.53E-02	0.11	1.7	6.54E-02	3.27E-02	1.1	8.8
CM-247	1.00E-03	1.41E-03	1.41E-03	3.75E-03	8.84E-03	4.45E-02	0.13	1.5	6.22E-02	3.06E-02	1.0	8.0
CM-248	1.00E-03	3.34E-02	3.34E-02	7.60E-02	0.15	0.38	0.99	11.	0.51	0.24	7.2	56.
CF-252	1.00E-03	1.81E-03	1.81E-03	1.84E-02	5.47E-02	0.16	0.46	0.50	2.43E-02	1.91E-02	0.39	3.0

TOTAL INGESTION DOSES
ALPHA Q = 10
(REM/MICROCURIE)

NUCLIDE	F1	OVARIES	PANCREAS	BONE	R MAR	Y MAR	ENDOST	SPLEEN	TESTES	THYMUS	THYROID	UTERUS
U-238	2.00E-03	2.10E-02	2.09E-02	0.70	2.30E-02	2.09E-02	5.89E-02	2.09E-02	2.10E-02	2.09E-02	2.09E-02	2.09E-02
	5.00E-02	0.52	0.52	18.	0.57	0.52	1.5	0.52	0.53	0.52	0.52	0.52
	0.20	2.1	2.1	71.	2.3	2.1	5.9	2.1	2.1	2.1	2.1	2.1
U-240	2.00E-03	4.50E-04	8.67E-05	3.76E-05	9.51E-05	4.22E-05	4.17E-05	6.25E-05	3.55E-05	5.60E-06	2.03E-06	2.07E-04
	5.00E-02	4.40E-04	9.39E-05	1.83E-04	1.31E-04	4.98E-05	2.87E-04	7.04E-05	4.20E-05	1.34E-05	9.83E-06	2.07E-04
	0.20	4.09E-04	1.17E-04	6.55E-04	2.48E-04	7.44E-05	1.08E-03	9.60E-05	6.30E-05	3.85E-05	3.50E-05	2.08E-04
NP-237	1.00E-03	0.41	6.18E-02	19.	3.1	6.23E-02	44.	6.10E-02	0.41	6.09E-02	6.08E-02	6.09E-02
NP-238	1.00E-03	1.39E-03	2.16E-04	1.14E-03	4.56E-04	1.27E-04	2.30E-03	1.75E-04	1.38E-04	2.04E-05	8.94E-06	6.11E-04
NP-239	1.00E-03	5.81E-04	8.00E-05	6.01E-05	1.64E-04	6.85E-05	6.53E-05	5.61E-05	4.24E-05	3.06E-06	7.71E-07	2.56E-04
NP-240M	1.00E-03	8.83E-07	6.21E-06	2.66E-07	5.24E-07	3.68E-07	2.68E-07	3.45E-06	5.78E-08	1.69E-07	6.10E-08	8.70E-07
NP-240	1.00E-03	9.34E-05	1.12E-04	1.07E-05	2.80E-05	1.47E-05	1.07E-05	6.61E-05	5.07E-06	4.51E-06	1.31E-06	7.11E-05
PU-236	3.00E-05	2.01E-03	4.73E-04	6.38E-02	1.08E-02	4.73E-04	0.12	4.74E-04	2.01E-03	4.72E-04	4.72E-04	4.72E-04
PU-238	3.00E-05	1.12E-02	1.64E-03	0.50	8.50E-02	1.65E-03	1.1	1.64E-03	1.12E-02	1.64E-03	1.64E-03	1.64E-03
PU-239	3.00E-05	1.26E-02	1.85E-03	0.57	9.55E-02	1.85E-03	1.3	1.84E-03	1.26E-02	1.84E-03	1.85E-03	1.85E-03
PU-240	3.00E-05	1.26E-02	1.84E-03	0.57	9.53E-02	1.85E-03	1.3	1.84E-03	1.26E-02	1.84E-03	1.84E-03	1.84E-03
PU-241	3.00E-05	2.60E-04	3.82E-05	1.17E-02	1.96E-03	3.84E-05	2.46E-02	3.82E-05	2.60E-04	3.82E-05	3.82E-05	3.82E-05
PU-242	3.00E-05	1.20E-02	1.76E-03	0.54	9.07E-02	1.76E-03	1.3	1.75E-03	1.20E-02	1.75E-03	1.76E-03	1.75E-03
PU-243	3.00E-05	1.63E-05	5.69E-06	2.71E-06	6.74E-06	2.84E-06	3.54E-06	3.47E-06	6.20E-07	1.19E-07	2.40E-08	9.50E-06
PU-244	3.00E-05	1.41E-02	2.06E-03	0.55	8.60E-02	2.04E-03	1.3	1.99E-03	1.28E-02	1.88E-03	1.86E-03	2.45E-03
AM-241	1.00E-03	0.43	6.33E-02	19.	3.3	6.36E-02	41.	6.32E-02	0.43	6.32E-02	6.32E-02	6.32E-02
AM-242M	1.00E-03	0.42	6.22E-02	19.	3.2	6.24E-02	34.	6.22E-02	0.42	6.22E-02	6.21E-02	6.22E-02
AM-242	1.00E-03	5.77E-05	1.03E-05	1.44E-03	2.51E-04	9.17E-06	2.63E-03	8.61E-06	3.34E-05	5.52E-06	5.41E-06	1.79E-05
AM-243	1.00E-03	0.43	6.45E-02	19.	3.3	6.52E-02	43.	6.36E-02	0.43	6.35E-02	6.34E-02	6.37E-02
CM-242	1.00E-03	9.43E-03	1.38E-03	0.42	7.11E-02	1.38E-03	0.77	1.38E-03	9.43E-03	1.38E-03	1.38E-03	1.38E-03
CM-243	1.00E-03	0.29	4.24E-02	13.	2.2	4.25E-02	24.	4.20E-02	0.28	4.20E-02	4.19E-02	4.22E-02
CM-244	1.00E-03	0.22	3.25E-02	10.	1.7	3.25E-02	19.	3.25E-02	0.22	3.25E-02	3.25E-02	3.25E-02
CM-245	1.00E-03	0.44	6.57E-02	20.	3.4	6.60E-02	44.	6.54E-02	0.44	6.53E-02	6.53E-02	6.54E-02
CM-246	1.00E-03	0.44	6.53E-02	20.	3.3	6.53E-02	43.	6.52E-02	0.44	6.52E-02	6.51E-02	6.52E-02
CM-247	1.00E-03	0.41	6.18E-02	18.	3.1	6.16E-02	44.	6.05E-02	0.41	6.03E-02	6.01E-02	6.07E-02
CM-248	1.00E-03	2.9	0.49	1.25E 02	3.3	0.48	45.	0.44	2.8	0.43	0.43	0.45
CF-252	1.00E-03	0.15	2.50E-02	5.6	0.34	2.30E-02	3.5	2.21E-02	0.13	1.96E-02	1.91E-02	3.01E-02

APPENDIX C

Summary Tables using $Q_{\alpha} = 20$

TOTAL INHALATION DOSES
ALPHA Q = 20
(REM/MICROCURIE)

NUCLIDE	SOL	F1	AMAD	LUNGS	RES LYM	S WALL	SI WALL	ULI WALL	LLI WALL	T BODY	ADREN	BL WALL	KIDNEYS	LIVER
PB-210	W	8.00E-02	0.3	11.	1.89E 02	1.91E-03	4.38E-03	2.47E-02	7.10E-02	16.	0.75	0.37	4.4	3.4
PB-211	W	8.00E-02	0.3	0.14	1.17E-03	4.58E-05	1.90E-05	7.76E-06	8.61E-07	2.11E-03	2.05E-05	9.92E-06	1.32E-03	3.64E-05
PB-212	W	8.00E-02	0.3	2.2	8.41E-02	1.18E-03	2.19E-03	6.99E-03	8.12E-03	3.91E-02	1.09E-03	5.21E-04	7.19E-02	5.76E-03
PB-214	W	8.00E-02	0.3	0.12	1.39E-03	4.96E-05	2.14E-05	9.62E-06	1.62E-06	1.88E-03	7.81E-05	3.50E-05	5.38E-03	9.29E-05
BI-210	W	5.00E-02	0.3	1.8	8.2	4.70E-04	1.09E-03	6.07E-03	1.64E-02	4.23E-02	1.22E-02	6.11E-03	0.71	3.56E-02
BI-211	W	5.00E-02	0.3	8.71E-03	3.25E-05	3.57E-07	1.71E-08	4.22E-09	1.18E-09	1.26E-04	1.38E-06	6.83E-07	1.19E-04	1.38E-06
BI-212	W	5.00E-02	0.3	0.27	1.84E-03	1.08E-04	6.33E-05	4.21E-05	8.08E-06	4.17E-03	2.31E-04	1.10E-04	2.53E-02	2.32E-04
BI-213	W	5.00E-02	0.3	9.64E-03	1.58E-03	5.62E-05	2.22E-05	1.61E-05	3.44E-06	1.60E-04	3.02E-05	5.78E-06	8.57E-04	3.10E-05
BI-214	W	5.00E-02	0.3	9.08E-02	7.95E-04	2.28E-05	5.76E-06	2.67E-06	6.39E-07	1.41E-03	6.87E-05	3.17E-05	5.86E-03	7.19E-05
PO-210	W	1.00E-01	0.3	78.	3.10E 02	1.89E-03	4.24E-03	2.49E-02	7.48E-02	2.0	0.78	0.39	14.	2.4
	D	1.00E-01	0.3	1.7	23.	2.17E-04	4.87E-04	2.86E-03	8.58E-03	3.1	2.9	1.4	52.	8.9
PO-211	W	1.00E-01	0.3	4.35E-05	1.21E-10	1.80E-11	2.32E-12	3.06E-12	6.74E-13	6.23E-07	5.94E-11	2.12E-11	7.46E-10	1.45E-10
	D	1.00E-01	0.3	4.35E-05	5.53E-09	5.49E-11	2.33E-12	3.07E-12	6.75E-13	6.23E-07	1.25E-10	5.40E-11	1.93E-09	3.49E-10
PO-212	W	1.00E-01	0.3	2.80E-11	4.75E-24	1.29E-24	9.78E-35	5.44E-45	8.35E-56	4.00E-13	1.44E-23	7.22E-24	2.60E-22	4.46E-23
	D	1.00E-01	0.3	2.80E-11	1.90E-21	1.43E-23	1.08E-33	6.03E-44	9.26E-55	4.00E-13	3.75E-23	1.88E-23	6.75E-22	1.16E-22
PO-213	W	1.00E-01	0.3	3.68E-10	3.63E-13	1.11E-14	1.44E-14	2.30E-14	1.15E-14	5.27E-12	5.57E-17	2.76E-17	5.44E-15	1.95E-15
	D	1.00E-01	0.3	3.68E-10	3.63E-13	1.11E-14	1.44E-14	2.30E-14	1.15E-14	5.27E-12	5.57E-17	2.76E-17	5.44E-15	1.95E-15
PO-214	W	1.00E-01	0.3	1.31E-08	4.39E-11	5.03E-16	1.03E-15	5.74E-15	1.65E-14	1.92E-10	1.74E-13	8.68E-14	1.03E-12	7.87E-13
	D	1.00E-01	0.3	1.31E-08	1.73E-12	4.64E-16	9.33E-16	5.19E-15	1.48E-14	1.92E-10	2.32E-13	1.16E-13	2.07E-12	9.65E-13
PO-215	W	1.00E-01	0.3	2.50E-07	9.58E-10	3.76E-11	1.56E-11	6.38E-12	7.16E-13	3.90E-09	2.48E-11	1.21E-11	2.23E-09	4.34E-10
	D	1.00E-01	0.3	2.50E-07	9.58E-10	3.76E-11	1.56E-11	6.38E-12	7.16E-13	3.90E-09	2.48E-11	1.21E-11	2.23E-09	4.34E-10
PO-216	W	1.00E-01	0.3	1.94E-05	3.30E-07	4.65E-09	8.61E-09	2.75E-08	3.19E-08	3.31E-07	5.26E-09	2.53E-09	4.09E-07	6.86E-08
	D	1.00E-01	0.3	1.94E-05	3.31E-07	4.65E-09	8.60E-09	2.75E-08	3.19E-08	3.31E-07	5.27E-09	2.54E-09	4.09E-07	6.87E-08
PO-218	W	1.00E-01	0.3	2.44E-02	1.60E-04	6.04E-06	2.57E-06	1.17E-06	2.11E-07	4.02E-04	1.60E-05	7.55E-06	8.03E-04	7.23E-05
	D	1.00E-01	0.3	2.37E-02	1.17E-03	1.02E-05	4.11E-06	1.82E-06	2.97E-07	3.99E-04	2.65E-05	1.28E-05	9.33E-04	1.02E-04
AT-217	D	0.95	0.3	2.50E-06	1.87E-08	6.65E-10	2.63E-10	1.92E-10	4.21E-11	3.59E-08	3.84E-10	8.27E-11	1.01E-08	3.93E-10
RN-219	*	0.0	***	9.14E-04	2.54E-06	2.61E-08	1.03E-08	4.42E-09	5.51E-10	1.32E-05	1.80E-08	7.73E-09	1.39E-06	2.83E-07
RN-220	*	0.0	***	2.16E-03	2.96E-05	2.30E-07	3.69E-07	1.14E-06	1.32E-06	3.22E-05	1.37E-07	5.59E-08	8.11E-06	1.55E-06
RN-222	*	0.0	***	2.34E-03	1.22E-05	1.55E-07	5.24E-08	3.08E-08	6.86E-09	3.46E-05	3.35E-07	1.36E-07	1.37E-05	1.35E-06
FR-221	D	0.95	0.3	3.83E-02	2.77E-03	2.12E-05	4.30E-06	2.57E-06	5.74E-07	5.98E-04	5.77E-05	2.81E-05	1.23E-04	5.79E-05

TOTAL INHALATION DOSES
ALPHA Q = 20
(REM/MICROCURIE)

NUCLIDE	SOL	F1	AMAD	OVARIES	PANCREAS	BONE	R MAR	Y MAR	ENDOST	SPLEEN	TESTES	THYMUS	THYROID	UTERUS
PB-210	W	8.00E-02	0.3	0.75	0.75	44.	1.5	0.75	21.	3.5	0.75	0.75	0.75	0.75
PB-211	W	8.00E-02	0.3	1.97E-05	2.06E-05	3.39E-04	2.98E-04	2.01E-05	2.65E-03	2.04E-05	1.97E-05	2.10E-05	2.01E-05	1.97E-05
PB-212	W	8.00E-02	0.3	1.10E-03	1.14E-03	1.70E-02	1.50E-02	1.03E-03	0.11	1.11E-03	9.55E-04	1.20E-03	1.01E-03	1.03E-03
PB-214	W	8.00E-02	0.3	7.00E-05	7.99E-05	4.12E-04	3.36E-04	7.34E-05	1.92E-03	8.42E-05	6.89E-05	8.59E-05	7.34E-05	7.00E-05
BI-210	W	5.00E-02	0.3	1.22E-02	1.22E-02	1.23E-02	1.24E-02	1.22E-02	5.70E-03	0.35	1.22E-02	1.22E-02	1.22E-02	1.22E-02
BI-211	W	5.00E-02	0.3	1.35E-06	1.39E-06	1.37E-06	2.48E-06	1.37E-06	1.06E-05	1.38E-06	1.35E-06	1.40E-06	1.37E-06	1.36E-06
BI-212	W	5.00E-02	0.3	2.17E-04	2.35E-04	2.22E-04	4.02E-04	2.24E-04	1.41E-03	2.33E-04	2.16E-04	2.44E-04	2.24E-04	2.19E-04
BI-213	W	5.00E-02	0.3	1.11E-05	3.45E-05	1.74E-05	2.61E-05	1.81E-05	3.21E-05	2.86E-05	8.65E-06	4.68E-05	1.71E-05	1.19E-05
BI-214	W	5.00E-02	0.3	6.33E-05	6.97E-05	1.33E-04	1.17E-04	6.55E-05	3.91E-04	7.31E-05	6.27E-05	7.39E-05	6.57E-05	6.34E-05
PO-210	W	1.00E-01	0.3	0.78	0.78	0.78	0.79	0.78	0.36	24.	0.78	0.78	0.78	0.78
	D	1.00E-01	0.3	2.9	2.9	2.9	2.9	2.9	1.3	89.	2.9	2.9	2.9	2.9
PO-211	W	1.00E-01	0.3	4.25E-11	6.00E-11	4.87E-11	8.47E-11	4.92E-11	2.69E-10	1.29E-09	4.15E-11	7.11E-11	5.13E-11	4.21E-11
	D	1.00E-01	0.3	1.08E-10	1.26E-10	1.15E-10	2.05E-10	1.15E-10	6.87E-10	3.32E-09	1.08E-10	1.37E-10	1.17E-10	1.08E-10
PO-212	W	1.00E-01	0.3	1.45E-23	1.44E-23	1.44E-23	2.64E-23	1.44E-23	6.24E-23	4.46E-22	1.45E-23	1.44E-23	1.44E-23	1.44E-23
	D	1.00E-01	0.3	3.76E-23	3.75E-23	3.75E-23	6.85E-23	3.75E-23	1.62E-22	1.16E-21	3.76E-23	3.75E-23	3.75E-23	3.75E-23
PO-213	W	1.00E-01	0.3	5.52E-17	5.57E-17	3.51E-15	9.65E-16	5.54E-17	2.81E-15	5.58E-17	5.53E-17	5.61E-17	5.54E-17	5.52E-17
	D	1.00E-01	0.3	5.53E-17	5.57E-17	3.51E-15	9.65E-16	5.54E-17	2.81E-15	5.59E-17	5.53E-17	5.61E-17	5.54E-17	5.52E-17
PO-214	W	1.00E-01	0.3	1.74E-13	1.74E-13	1.03E-11	3.46E-13	1.75E-13	4.82E-12	8.11E-13	1.74E-13	1.74E-13	1.74E-13	1.74E-13
	D	1.00E-01	0.3	2.32E-13	2.32E-13	1.04E-11	4.04E-13	2.33E-13	4.85E-12	2.59E-12	2.32E-13	2.32E-13	2.32E-13	2.32E-13
PO-215	W	1.00E-01	0.3	2.41E-11	2.49E-11	8.22E-10	6.99E-10	2.44E-11	6.43E-09	2.47E-11	2.41E-11	2.52E-11	2.44E-11	2.41E-11
	D	1.00E-01	0.3	2.41E-11	2.49E-11	8.22E-10	6.99E-10	2.44E-11	6.43E-09	2.48E-11	2.41E-11	2.52E-11	2.44E-11	2.41E-11
PO-216	W	1.00E-01	0.3	5.29E-09	5.45E-09	1.32E-07	1.13E-07	5.04E-09	8.57E-07	5.50E-09	4.71E-09	5.69E-09	4.93E-09	5.00E-09
	D	1.00E-01	0.3	5.30E-09	5.45E-09	1.31E-07	1.13E-07	5.05E-09	8.57E-07	5.79E-09	4.72E-09	5.70E-09	4.94E-09	5.01E-09
PO-218	W	1.00E-01	0.3	1.51E-05	1.62E-05	1.07E-04	9.44E-05	1.55E-05	5.80E-04	2.21E-04	1.50E-05	1.69E-05	1.55E-05	1.51E-05
	D	1.00E-01	0.3	2.55E-05	2.67E-05	1.13E-04	1.07E-04	2.59E-05	6.10E-04	5.67E-04	2.54E-05	2.73E-05	2.59E-05	2.56E-05
AT-217	D	0.95	0.3	1.58E-10	4.35E-10	2.31E-10	3.52E-10	2.41E-10	4.55E-10	3.65E-10	1.29E-10	5.81E-10	2.38E-10	1.69E-10
RN-219	*	0.0	***	1.54E-08	1.82E-08	5.31E-07	4.52E-07	1.65E-08	4.15E-06	1.77E-08	1.52E-08	1.96E-08	1.64E-08	1.53E-08
RN-220	*	0.0	***	1.21E-07	1.51E-07	2.93E-06	2.52E-06	1.20E-07	1.90E-05	1.48E-07	9.60E-08	1.78E-07	1.16E-07	1.09E-07
RN-222	*	0.0	***	2.72E-07	3.47E-07	2.39E-06	1.68E-06	3.01E-07	1.03E-05	3.97E-06	2.66E-07	4.00E-07	3.02E-07	2.72E-07
FR-221	D	0.95	0.3	5.60E-05	5.82E-05	5.62E-05	1.02E-04	5.65E-05	4.10E-04	5.77E-05	5.55E-05	5.94E-05	5.65E-05	5.60E-05

TOTAL INHALATION DOSES
ALPHA Q = 20
(REM/MICROCURIE)

NUCLIDE	SOL	FI	AMAD	LUNGS	RES LYM	S WALL	SI WALL	ULI WALL	LLI WALL	T BODY	ADREN	BL WALL	KIDNEYS	LIVER
RA-223	W	0.20	0.3	76.	98.	8.51E-03	1.63E-02	9.32E-02	0.26	1.4	0.17	8.39E-02	0.18	0.17
RA-224	W	0.20	0.3	14.	12.	4.91E-03	1.07E-02	6.18E-02	0.17	0.29	4.38E-02	2.21E-02	5.82E-02	4.72E-02
RA-225	W	0.20	0.3	50.	1.37E 02	5.86E-03	7.60E-03	4.94E-02	0.15	1.2	0.18	9.16E-02	0.27	0.91
RA-226	W	0.20	0.3	95.	5.19E 02	3.90E-03	7.34E-03	4.17E-02	0.17	20.	0.68	0.34	0.67	0.67
RA-228	W	0.20	0.3	8.3	2.88E 02	1.46E-02	1.70E-02	4.63E-02	8.78E-02	12.	1.0	0.50	2.1	11.
AC-225	Y	1.00E-03	0.3	81.	30.	1.22E-02	1.53E-02	9.94E-02	0.28	1.2	2.21E-02	1.05E-02	4.79E-02	0.20
	W	1.00E-03	0.3	70.	63.	1.21E-02	1.51E-02	9.37E-02	0.26	1.7	4.57E-02	2.23E-02	0.59	4.5
AC-227	Y	1.00E-03	0.3	1.78E 03	2.17E 05	0.13	0.19	1.0	3.0	4.16E 02	11.	5.4	1.50E 02	1.15E 03
	W	1.00E-03	0.3	1.46E 02	2.60E 03	4.36E-02	5.28E-02	0.15	0.35	6.50E 02	16.	7.7	2.81E 02	2.19E 03
AC-228	Y	1.00E-03	0.3	0.42	15.	3.11E-04	4.82E-04	1.39E-03	2.23E-03	1.59E-02	5.65E-04	2.63E-04	3.30E-03	2.17E-02
	W	1.00E-03	0.3	7.18E-02	0.88	2.20E-04	3.08E-04	7.22E-04	7.93E-04	3.08E-02	1.08E-03	5.16E-04	1.36E-02	0.10
TH-227	Y	1.00E-03	0.3	1.17E 02	2.14E 02	7.79E-03	1.50E-02	8.90E-02	0.27	1.9	7.45E-02	3.70E-02	9.73E-02	0.25
	W	1.00E-03	0.3	90.	2.92E 02	6.64E-03	1.28E-02	7.54E-02	0.23	2.6	8.37E-02	4.18E-02	0.62	4.4
TH-228	Y	1.00E-03	0.3	1.24E 03	4.50E 04	0.16	0.32	1.8	4.8	46.	1.2	0.58	9.4	62.
	W	1.00E-03	0.3	2.02E 02	2.60E 03	3.28E-02	6.43E-02	0.34	1.0	80.	1.8	0.89	35.	2.74E 02
TH-229	Y	1.00E-03	0.3	2.13E 03	2.46E 05	0.32	0.26	0.94	2.4	6.33E 02	18.	8.9	2.41E 02	1.84E 03
	W	1.00E-03	0.3	2.00E 02	2.16E 03	0.21	0.22	0.36	0.55	9.30E 02	24.	12.	4.01E 02	3.10E 03
TH-230	Y	1.00E-03	0.3	9.11E 02	6.52E 04	2.42E-03	5.44E-03	3.08E-02	9.18E-02	2.53E 02	8.7	4.3	1.53E 02	1.18E 03
	W	1.00E-03	0.3	93.	5.05E 02	2.35E-03	5.14E-03	2.82E-02	8.35E-02	3.88E 02	15.	7.4	2.60E 02	2.01E 03
TH-231	Y	1.00E-03	0.3	5.44E-03	1.42E-02	1.51E-04	3.45E-04	1.43E-03	2.55E-03	1.47E-04	8.77E-06	3.97E-06	2.63E-05	1.91E-04
	W	1.00E-03	0.3	5.21E-03	5.61E-03	1.26E-04	2.85E-04	1.18E-03	2.11E-03	1.84E-04	1.16E-05	4.76E-06	6.60E-05	4.97E-04
TH-232	Y	1.00E-03	0.3	7.87E 02	6.07E 04	1.22E-02	1.55E-02	4.49E-02	0.11	2.59E 02	7.9	3.9	1.33E 02	1.03E 03
	W	1.00E-03	0.3	80.	4.41E 02	1.12E-02	1.66E-02	3.66E-02	8.67E-02	3.95E 02	13.	6.5	2.25E 02	1.74E 03
PA-231	Y	1.00E-03	0.3	1.03E 03	1.24E 05	3.99E-02	3.92E-02	9.60E-02	0.20	6.76E 02	20.	10.	3.18E 02	2.47E 03
	W	1.00E-03	0.3	99.	5.57E 02	4.38E-02	4.78E-02	8.31E-02	0.12	9.97E 02	30.	15.	4.99E 02	3.88E 03
PA-233	Y	1.00E-03	0.3	0.10	0.20	1.00E-03	1.04E-03	4.45E-03	1.23E-02	2.07E-03	9.23E-04	1.18E-04	4.08E-04	1.26E-03
	W	1.00E-03	0.3	7.42E-02	0.20	9.33E-04	1.15E-03	4.63E-03	1.25E-02	2.03E-03	9.93E-04	1.78E-04	1.48E-03	9.31E-03
U-232	Y	2.00E-03	0.3	1.54E 03	2.55E 05	9.56E-02	0.13	0.65	1.7	1.37E 02	6.8	3.4	28.	1.45E 02
	W	5.00E-02	0.3	1.14E 02	8.77E 02	1.09E-02	1.56E-02	5.20E-02	0.14	43.	9.1	4.5	16.	19.
	D	5.00E-02	0.3	1.9	33.	2.62E-02	2.80E-02	3.06E-02	3.86E-02	1.35E 02	31.	16.	51.	31.

TOTAL INHALATION DOSES
ALPHA Q = 20
(REM/MICROCURIE)

NUCLIDE	SOL	F1	AMAD	OVARIES	PANCREAS	BONE	R MAR	Y MAR	ENDOST	SPLEEN	TESTES	THYMUS	THYROID	UTERUS
RA-223	W	0.20	0.3	0.17	0.17	0.72	0.76	0.17	5.7	0.17	0.17	0.17	0.17	0.17
RA-224	W	0.20	0.3	4.27E-02	4.38E-02	0.21	0.22	4.38E-02	1.7	4.44E-02	4.21E-02	4.38E-02	4.37E-02	4.40E-02
RA-225	W	0.20	0.3	0.20	0.18	0.96	0.98	0.18	7.8	0.18	0.20	0.19	0.18	0.18
RA-226	W	0.20	0.3	0.68	0.68	49.	23.	0.68	2.31E 02	0.67	0.68	0.68	0.68	0.68
RA-228	W	0.20	0.3	1.3	1.0	32.	27.	1.0	2.90E 02	1.0	1.3	1.0	1.0	1.0
AC-225	Y	1.00E-03	0.3	2.77E-02	2.30E-02	8.35E-02	8.90E-02	2.07E-02	0.65	2.21E-02	2.53E-02	2.51E-02	2.12E-02	2.03E-02
	W	1.00E-03	0.3	0.20	4.62E-02	1.6	1.4	4.40E-02	13.	4.49E-02	0.19	4.75E-02	6.43E-02	4.33E-02
AC-227	Y	1.00E-03	0.3	57.	11.	8.65E 02	7.25E 02	11.	7.20E 03	11.	57.	11.	11.	11.
	W	1.00E-03	0.3	1.04E 02	16.	1.63E 03	1.36E 03	16.	1.36E 04	15.	1.04E 02	15.	15.	15.
AC-228	Y	1.00E-03	0.3	1.18E-03	5.80E-04	1.62E-02	1.39E-02	5.28E-04	0.15	5.71E-04	1.12E-03	6.15E-04	5.26E-04	5.25E-04
	W	1.00E-03	0.3	4.34E-03	1.09E-03	7.34E-02	6.17E-02	1.04E-03	0.67	1.08E-03	4.30E-03	1.12E-03	1.04E-03	1.03E-03
TH-227	Y	1.00E-03	0.3	8.01E-02	7.46E-02	0.43	0.43	7.42E-02	3.4	7.44E-02	7.98E-02	7.49E-02	7.40E-02	7.39E-02
	W	1.00E-03	0.3	0.23	8.37E-02	3.0	2.6	8.35E-02	25.	8.34E-02	0.23	8.39E-02	8.32E-02	8.31E-02
TH-228	Y	1.00E-03	0.3	3.3	1.2	47.	40.	1.2	4.21E 02	1.2	3.2	1.2	1.2	1.2
	W	1.00E-03	0.3	11.	1.8	1.91E 02	1.60E 02	1.8	1.75E 03	1.8	11.	1.8	1.8	1.8
TH-229	Y	1.00E-03	0.3	96.	18.	1.38E 03	1.16E 03	18.	1.36E 04	18.	96.	18.	18.	18.
	W	1.00E-03	0.3	1.57E 02	24.	2.33E 03	1.95E 03	24.	2.31E 04	23.	1.57E 02	23.	23.	23.
TH-230	Y	1.00E-03	0.3	59.	8.7	5.34E 02	4.49E 02	8.7	6.93E 03	8.7	60.	8.7	8.7	8.7
	W	1.00E-03	0.3	1.02E 02	15.	9.14E 02	7.68E 02	15.	1.19E 04	15.	1.02E 02	15.	15.	15.
TH-231	Y	1.00E-03	0.3	2.64E-05	9.44E-06	1.21E-04	1.06E-04	9.41E-06	1.10E-03	9.16E-06	9.89E-06	1.21E-05	3.91E-06	7.10E-06
	W	1.00E-03	0.3	3.76E-05	1.20E-05	2.65E-04	1.87E-04	1.44E-05	2.01E-03	1.13E-05	2.39E-05	1.43E-05	6.22E-06	8.71E-06
TH-232	Y	1.00E-03	0.3	52.	7.9	5.70E 02	4.77E 02	7.9	7.90E 03	7.9	52.	7.9	7.9	7.9
	W	1.00E-03	0.3	88.	13.	9.58E 02	8.02E 02	13.	1.34E 04	13.	88.	13.	13.	13.
PA-231	Y	1.00E-03	0.3	1.27E 02	20.	1.57E 03	1.19E 03	20.	1.53E 04	20.	1.27E 02	20.	20.	20.
	W	1.00E-03	0.3	2.03E 02	30.	2.46E 03	1.87E 03	30.	2.43E 04	30.	2.03E 02	30.	30.	30.
PA-233	Y	1.00E-03	0.3	3.75E-04	9.75E-04	5.69E-04	6.58E-04	5.00E-04	5.36E-04	8.30E-04	5.89E-05	1.41E-03	3.56E-04	1.73E-04
	W	1.00E-03	0.3	7.23E-04	9.93E-04	3.00E-03	1.21E-03	6.61E-04	2.28E-03	7.30E-04	3.90E-04	1.13E-03	3.55E-04	2.71E-04
U-232	Y	2.00E-03	0.3	11.	6.8	1.48E 02	1.20E 02	6.8	1.25E 03	6.8	11.	6.8	6.8	6.8
	W	5.00E-02	0.3	9.3	9.1	1.02E 02	74.	9.1	7.25E 02	9.1	9.3	9.1	9.1	9.1
	D	5.00E-02	0.3	31.	31.	3.33E 02	2.38E 02	32.	2.31E 03	31.	31.	31.	31.	31.

TOTAL INHALATION DOSES
ALPHA Q = 20
(REM/MICROCURIE)

NUCLIDE	SOL	F1	AMAD	LUNGS	RES LYM	S WALL	SI WALL	ULI WALL	LLI WALL	T BODY	ADREN	BL WALL	KIDNEYS	LIVER
U-233	Y	2.00E-03	0.3	9.39E 02	6.72E 04	4.86E-03	7.97E-03	3.37E-02	9.62E-02	33.	1.9	0.95	2.8	1.9
	W	5.00E-02	0.3	96.	5.21E 02	7.09E-03	9.73E-03	3.20E-02	8.60E-02	12.	3.7	1.8	5.4	3.7
	D	5.00E-02	0.3	1.6	21.	1.83E-02	1.86E-02	2.09E-02	2.64E-02	38.	13.	6.4	19.	13.
U-234	Y	2.00E-03	0.3	9.30E 02	6.66E 04	4.81E-03	7.92E-03	3.37E-02	9.61E-02	33.	1.9	0.94	2.8	1.9
	W	5.00E-02	0.3	95.	5.16E 02	7.02E-03	9.66E-03	3.19E-02	8.59E-02	12.	3.6	1.8	5.3	3.6
	D	5.00E-02	0.3	1.6	21.	1.81E-02	1.84E-02	2.07E-02	2.62E-02	38.	13.	6.4	19.	13.
U-235	Y	2.00E-03	0.3	8.39E 02	5.99E 04	4.16E-02	4.34E-02	0.17	0.34	30.	1.7	0.85	2.5	1.8
	W	5.00E-02	0.3	86.	4.64E 02	1.09E-02	1.51E-02	4.95E-02	0.12	11.	3.3	1.6	4.8	3.3
	D	5.00E-02	0.3	1.4	19.	2.21E-02	2.33E-02	2.61E-02	3.28E-02	34.	12.	5.8	17.	12.
U-236	Y	2.00E-03	0.3	8.77E 02	6.28E 04	4.52E-03	7.46E-03	3.18E-02	9.04E-02	31.	1.8	0.88	2.6	1.8
	W	5.00E-02	0.3	90.	4.87E 02	6.62E-03	9.10E-03	3.02E-02	8.08E-02	12.	3.4	1.7	5.0	3.4
	D	5.00E-02	0.3	1.5	20.	1.71E-02	1.73E-02	1.95E-02	2.47E-02	36.	12.	6.0	18.	12.
U-238	Y	2.00E-03	0.3	8.32E 02	5.91E 04	1.40E-02	2.59E-02	0.14	0.40	29.	1.7	0.83	2.5	1.7
	W	5.00E-02	0.3	84.	4.58E 02	7.55E-03	1.15E-02	4.43E-02	0.12	11.	3.2	1.6	4.7	3.3
	D	5.00E-02	0.3	1.4	18.	1.67E-02	1.71E-02	1.94E-02	2.52E-02	33.	11.	5.7	17.	11.
U-240	Y	2.00E-03	0.3	1.54E-02	3.04E-02	5.80E-04	1.16E-03	3.96E-03	5.37E-03	3.50E-04	6.04E-05	2.38E-05	1.06E-04	3.30E-04
	W	5.00E-02	0.3	1.47E-02	1.53E-02	4.70E-04	8.97E-04	3.03E-03	4.11E-03	3.76E-04	7.41E-05	2.98E-05	1.07E-03	4.27E-04
	D	5.00E-02	0.3	7.82E-03	5.56E-02	2.23E-04	3.87E-04	1.17E-03	1.56E-03	4.21E-04	1.30E-04	7.32E-05	6.15E-03	3.60E-04
NP-237	Y	1.00E-03	0.3	9.86E 02	7.03E 04	7.64E-02	6.33E-02	0.13	0.20	2.73E 02	9.6	4.7	1.65E 02	1.28E 03
	W	1.00E-03	0.3	100.	5.45E 02	8.86E-02	9.11E-02	0.14	0.16	4.19E 02	16.	8.1	2.81E 02	2.17E 03
NP-238	Y	1.00E-03	0.3	6.60E-02	3.3	5.80E-04	1.07E-03	3.87E-03	8.14E-03	1.26E-02	9.72E-04	4.68E-04	7.37E-03	5.62E-02
	W	1.00E-03	0.3	1.98E-02	4.61E-02	5.34E-04	9.37E-04	3.34E-03	6.98E-03	2.23E-02	1.49E-03	7.01E-04	1.49E-02	0.11
NP-239	Y	1.00E-03	0.3	1.49E-02	2.93E-02	3.74E-04	7.83E-04	3.40E-03	7.66E-03	3.68E-04	1.06E-04	4.90E-05	8.72E-05	3.79E-04
	W	1.00E-03	0.3	1.42E-02	1.68E-02	3.35E-04	6.81E-04	2.93E-03	6.59E-03	4.30E-04	1.22E-04	4.76E-05	1.99E-04	1.21E-03
NP-240M	Y	1.00E-03	0.3	1.52E-04	3.04E-04	1.83E-06	2.25E-07	1.23E-07	2.49E-08	3.07E-06	6.36E-07	4.06E-08	6.32E-07	3.44E-06
	W	1.00E-03	0.3	1.47E-04	1.48E-04	1.35E-06	1.81E-07	1.26E-07	3.05E-08	3.46E-06	6.77E-07	6.23E-08	1.06E-06	6.74E-06
NP-240	Y	1.00E-03	0.3	1.09E-03	2.40E-03	5.52E-05	3.08E-05	2.39E-05	5.08E-06	3.20E-05	2.09E-05	1.47E-06	1.26E-05	4.56E-05
	W	1.00E-03	0.3	1.01E-03	1.02E-03	4.24E-05	2.23E-05	1.80E-05	4.10E-06	3.59E-05	2.18E-05	1.72E-06	1.85E-05	8.95E-05
PU-236	Y	3.00E-05	0.3	7.71E 02	1.96E 04	3.80E-03	6.86E-03	3.74E-02	0.11	31.	2.7	1.4	10.	1.07E 02
	W	3.00E-05	0.3	1.10E 02	5.69E 02	3.22E-03	6.53E-03	3.45E-02	0.10	51.	2.5	1.2	35.	3.68E 02
PU-238	Y	3.00E-05	0.3	1.05E 03	6.76E 04	2.64E-03	6.21E-03	3.58E-02	0.11	2.45E 02	8.2	4.1	1.47E 02	1.14E 03
	W	3.00E-05	0.3	1.09E 02	5.92E 02	2.56E-03	5.84E-03	3.29E-02	9.75E-02	3.81E 02	15.	7.3	2.58E 02	2.00E 03

TOTAL INHALATION DOSES
ALPHA Q = 20
(REM/MICROCURIE)

NUCLIDE	SOL	F1	AMAD	OVARIES	PANCREAS	BONE	R MAR	Y MAR	ENDOST	SPLEEN	TESTES	THYMUS	THYPOID	UTERUS
U-233	Y	2.00E-03	0.3	1.9	1.9	13.	2.0	1.9	5.8	1.9	1.9	1.9	1.9	1.9
	W	5.00E-02	0.3	3.7	3.7	25.	3.9	3.7	11.	3.7	3.7	3.7	3.7	3.7
	D	5.00E-02	0.3	13.	13.	88.	14.	13.	39.	13.	13.	13.	13.	13.
U-234	Y	2.00E-03	0.3	1.9	1.9	13.	2.0	1.9	5.7	1.9	1.9	1.9	1.9	1.9
	W	5.00E-02	0.3	3.6	3.6	25.	3.9	3.6	11.	3.6	3.6	3.6	3.6	3.6
	D	5.00E-02	0.3	13.	13.	87.	14.	13.	39.	13.	13.	13.	13.	13.
U-235	Y	2.00E-03	0.3	1.7	1.7	12.	1.9	1.7	5.5	1.7	1.7	1.8	1.7	1.7
	W	5.00E-02	0.3	3.3	3.3	23.	3.5	3.3	9.4	3.3	3.3	3.3	3.3	3.3
	D	5.00E-02	0.3	12.	12.	79.	12.	12.	33.	12.	12.	12.	12.	12.
U-236	Y	2.00E-03	0.3	1.8	1.8	12.	1.9	1.8	5.1	1.8	1.8	1.8	1.8	1.8
	W	5.00E-02	0.3	3.4	3.4	24.	3.7	3.4	10.	3.4	3.4	3.4	3.4	3.4
	D	5.00E-02	0.3	12.	12.	82.	13.	12.	35.	12.	12.	12.	12.	12.
U-238	Y	2.00E-03	0.3	1.7	1.7	11.	1.8	1.7	4.7	1.7	1.7	1.7	1.7	1.7
	W	5.00E-02	0.3	3.2	3.2	22.	3.5	3.2	9.0	3.2	3.3	3.2	3.2	3.2
	D	5.00E-02	0.3	11.	11.	78.	12.	11.	32.	11.	11.	11.	11.	11.
U-240	Y	2.00E-03	0.3	8.89E-05	7.34E-05	1.52E-04	1.48E-04	3.31E-05	1.45E-03	5.92E-05	2.01E-05	8.69E-05	2.99E-05	3.97E-05
	W	5.00E-02	0.3	8.77E-05	8.24E-05	3.15E-04	2.46E-04	4.48E-05	2.41E-03	6.97E-05	3.41E-05	9.59E-05	4.10E-05	4.44E-05
	D	5.00E-02	0.3	1.08E-04	1.18E-04	9.41E-04	5.81E-04	9.83E-05	5.13E-03	1.15E-04	8.51E-05	1.16E-04	8.65E-05	8.72E-05
NP-237	Y	1.00E-03	0.3	64.	9.6	5.79E 02	4.86E 02	9.6	6.88E 03	9.5	64.	9.5	9.4	9.5
	W	1.00E-03	0.3	1.10E 02	16.	9.91E 02	8.31E 02	16.	1.18E 04	16.	1.10E 02	16.	16.	16.
NP-238	Y	1.00E-03	0.3	3.13E-03	9.85E-04	2.50E-02	2.14E-02	8.49E-04	0.26	9.72E-04	2.80E-03	1.13E-03	8.53E-04	8.84E-04
	W	1.00E-03	0.3	6.01E-03	1.49E-03	5.11E-02	4.34E-02	1.35E-03	0.53	1.46E-03	5.71E-03	1.61E-03	1.34E-03	1.36E-03
NP-239	Y	1.00E-03	0.3	1.68E-04	1.19E-04	1.85E-04	2.05E-04	7.36E-05	1.39E-03	1.01E-04	2.48E-05	1.56E-04	3.76E-05	7.30E-05
	W	1.00E-03	0.3	1.85E-04	1.31E-04	4.87E-04	3.41E-04	8.98E-05	2.84E-03	1.06E-04	5.97E-05	1.60E-04	4.44E-05	7.25E-05
NP-240M	Y	1.00E-03	0.3	1.86E-07	7.06E-07	1.52E-06	1.40E-06	3.01E-07	1.49E-05	5.77E-07	1.50E-07	1.01E-06	3.42E-07	7.19E-08
	W	1.00E-03	0.3	3.47E-07	7.36E-07	2.89E-06	2.41E-06	3.43E-07	2.71E-05	6.02E-07	3.10E-07	1.03E-06	3.74E-07	1.10E-07
NP-240	Y	1.00E-03	0.3	4.90E-06	2.34E-05	2.00E-05	2.09E-05	9.66E-06	1.36E-04	2.00E-05	1.63E-06	3.35E-05	1.09E-05	3.04E-06
	W	1.00E-03	0.3	6.42E-06	2.33E-05	3.63E-05	3.14E-05	1.06E-05	2.60E-04	1.95E-05	3.74E-06	3.27E-05	1.10E-05	3.25E-06
PU-236	Y	3.00E-05	0.3	6.4	2.7	33.	30.	2.7	3.15E 02	2.7	6.5	2.7	2.7	2.7
	W	3.00E-05	0.3	16.	2.5	1.09E 02	91.	2.5	1.04E 03	2.5	16.	2.5	2.5	2.5
PU-238	Y	3.00E-05	0.3	56.	8.2	5.06E 02	4.25E 02	8.2	5.32E 03	8.2	56.	8.2	8.2	8.2
	W	3.00E-05	0.3	99.	15.	8.93E 02	7.51E 02	15.	9.40E 03	15.	99.	15.	15.	15.

TOTAL INHALATION DOSES
ALPHA Q = 20
(REM/MICROCURIE)

NUCLIDE	SOL	F1	AMAD	LUNGS	RES LYM	S WALL	SI WALL	ULI WALL	LLI WALL	T BODY	ADREN	BL WALL	KIDNEYS	LIVER
PU-239	Y	3.00E-05	0.3	1.00E 03	7.18E 04	2.48E-03	5.85E-03	3.35E-02	0.10	2.78E 02	9.5	4.8	1.68E 02	1.30E 03
	W	3.00E-05	0.3	1.03E 02	5.57E 02	2.40E-03	5.47E-03	3.06E-02	9.15E-02	4.27E 02	16.	8.2	2.86E 02	2.21E 03
PU-240	Y	3.00E-05	0.3	1.00E 03	7.19E 04	2.51E-03	5.89E-03	3.38E-02	0.10	2.77E 02	9.5	4.8	1.67E 02	1.30E 03
	W	3.00E-05	0.3	1.03E 02	5.58E 02	2.42E-03	5.51E-03	3.09E-02	9.20E-02	4.26E 02	16.	8.2	2.85E 02	2.21E 03
PU-241	Y	3.00E-05	0.3	1.9	5.99E 02	1.60E-04	1.56E-04	3.73E-04	6.90E-04	5.8	0.26	0.13	3.7	28.
	W	3.00E-05	0.3	2.65E-02	0.33	2.01E-04	2.08E-04	4.10E-04	5.87E-04	8.7	0.34	0.17	5.5	43.
PU-242	Y	3.00E-05	0.3	9.54E 02	6.82E 04	2.64E-03	5.72E-03	3.23E-02	9.60E-02	2.64E 02	9.1	4.5	1.59E 02	1.23E 03
	W	3.00E-05	0.3	97.	5.29E 02	2.55E-03	5.43E-03	2.96E-02	8.74E-02	4.05E 02	16.	7.8	2.71E 02	2.10E 03
PU-243	Y	3.00E-05	0.3	1.43E-03	6.62E-03	5.69E-05	8.98E-05	1.86E-04	1.28E-04	4.34E-05	3.38E-06	9.85E-07	1.36E-05	1.00E-04
	W	3.00E-05	0.3	1.30E-03	1.35E-03	4.23E-05	6.64E-05	1.37E-04	9.43E-05	5.88E-05	4.50E-06	1.48E-06	2.89E-05	2.18E-04
PU-244	Y	3.00E-05	0.3	9.50E 02	6.73E 04	0.25	0.28	0.74	0.97	2.60E 02	9.3	4.5	1.58E 02	1.22E 03
	W	3.00E-05	0.3	96.	5.23E 02	0.20	0.20	0.33	0.34	4.00E 02	16.	7.8	2.69E 02	2.08E 03
AM-241	Y	1.00E-03	0.3	1.07E 03	7.45E 04	1.24E-02	1.20E-02	4.42E-02	0.11	2.86E 02	9.8	4.9	1.72E 02	1.34E 03
	W	1.00E-03	0.3	1.09E 02	5.92E 02	1.27E-02	1.53E-02	4.63E-02	0.10	4.39E 02	17.	8.4	2.95E 02	2.28E 03
AM-242M	Y	1.00E-03	0.3	3.84E 02	5.41E 04	2.22E-02	4.17E-02	0.16	0.28	2.74E 02	10.	5.1	1.74E 02	1.35E 03
	W	1.00E-03	0.3	13.	1.81E 02	7.54E-03	1.04E-02	2.98E-02	5.32E-02	4.30E 02	17.	8.3	2.87E 02	2.23E 03
AM-242	Y	1.00E-03	0.3	0.85	4.6	1.31E-04	2.80E-04	1.08E-03	1.76E-03	1.72E-02	2.64E-04	1.32E-04	2.98E-03	2.31E-02
	W	1.00E-03	0.3	0.27	1.1	1.07E-04	2.29E-04	8.95E-04	1.49E-03	3.18E-02	1.50E-03	7.50E-04	2.17E-02	0.17
AM-243	Y	1.00E-03	0.3	1.03E 03	7.35E 04	9.73E-02	9.99E-02	0.28	0.53	2.85E 02	10.	4.9	1.73E 02	1.34E 03
	W	1.00E-03	0.3	1.05E 02	5.71E 02	9.54E-02	1.00E-01	0.17	0.20	4.38E 02	17.	8.4	2.94E 02	2.27E 03
CM-242	Y	1.00E-03	0.3	2.97E 02	1.62E 03	2.03E-03	5.00E-03	2.94E-02	8.80E-02	5.9	7.06E-02	3.54E-02	0.98	7.6
	W	1.00E-03	0.3	94.	3.87E 02	2.51E-03	5.82E-03	3.29E-02	9.80E-02	9.8	0.32	0.16	6.5	51.
CM-243	Y	1.00E-03	0.3	1.09E 03	5.79E 04	3.37E-02	2.55E-02	6.47E-02	0.13	1.83E 02	6.0	3.0	1.09E 02	8.48E 02
	W	1.00E-03	0.3	1.16E 02	6.26E 02	3.48E-02	3.80E-02	7.83E-02	0.13	2.92E 02	11.	5.6	2.03E 02	1.58E 03
CM-244	Y	1.00E-03	0.3	1.05E 03	4.88E 04	2.73E-03	6.41E-03	3.70E-02	0.11	1.41E 02	4.4	2.2	83.	6.39E 02
	W	1.00E-03	0.3	1.14E 02	6.18E 02	2.70E-03	6.15E-03	3.45E-02	0.10	2.28E 02	8.6	4.3	1.62E 02	1.25E 03
CM-245	Y	1.00E-03	0.3	1.05E 03	7.49E 04	3.00E-02	2.50E-02	6.13E-02	0.12	2.96E 02	10.	5.1	1.79E 02	1.39E 03
	W	1.00E-03	0.3	1.07E 02	5.80E 02	3.23E-02	3.58E-02	7.28E-02	0.12	4.53E 02	18.	8.7	3.02E 02	2.34E 03
CM-246	Y	1.00E-03	0.3	1.06E 03	7.55E 04	1.88E-02	1.51E-02	4.62E-02	0.11	2.93E 02	10.	5.0	1.77E 02	1.37E 03
	W	1.00E-03	0.3	1.08E 02	5.86E 02	1.83E-02	1.97E-02	4.96E-02	0.10	4.50E 02	17.	8.6	3.01E 02	2.33E 03
CM-247	Y	1.00E-03	0.3	9.69E 02	6.92E 04	0.14	0.12	0.20	0.20	2.69E 02	9.5	4.7	1.63E 02	1.26E 03
	W	1.00E-03	0.3	99.	5.36E 02	0.15	0.15	0.22	0.20	4.12E 02	16.	8.0	2.76E 02	2.14E 03
CM-248	Y	1.00E-03	0.3	3.85E 03	2.74E 05	5.8	3.2	4.0	2.4	1.07E 03	47.	20.	6.50E 02	5.01E 03
	W	1.00E-03	0.3	3.95E 02	2.13E 03	5.6	5.0	6.3	3.5	1.64E 03	77.	34.	1.10E 03	8.50E 03
CF-252	Y	1.00E-03	0.3	1.51E 03	2.76E 04	0.54	0.13	0.21	0.30	51.	1.5	0.46	18.	1.41E 02
	W	1.00E-03	0.3	2.22E 02	1.15E 03	0.31	0.25	0.37	0.38	88.	3.8	1.7	68.	5.22E 02

TOTAL INHALATION DOSES
ALPHA Q = 20
(REM/MICROCURIE)

NUCLIDE	SOL	F1	AMAD	OVARIES	PANCREAS	BONE	R MAR	Y MAR	ENDOST	SPLEEN	TESTES	THYMUS	THYROID	UTERUS
PU-239	Y	3.00E-05	0.3	65.	9.5	5.85E 02	4.93E 02	9.5	6.78E 03	9.5	65.	9.5	9.5	9.5
	W	3.00E-05	0.3	1.12E 02	16.	1.00E 03	8.47E 02	16.	1.16E 04	16.	1.12E 02	16.	16.	16.
PU-240	Y	3.00E-05	0.3	65.	9.5	5.84E 02	4.92E 02	9.5	6.76E 03	9.5	65.	9.5	9.5	9.5
	W	3.00E-05	0.3	1.12E 02	16.	1.00E 03	8.45E 02	16.	1.16E 04	16.	1.11E 02	16.	16.	16.
PU-241	Y	3.00E-05	0.3	1.5	0.26	13.	11.	0.26	1.40E 02	0.26	1.5	0.26	0.26	0.26
	W	3.00E-05	0.3	2.3	0.34	21.	17.	0.34	2.18E 02	0.34	2.3	0.34	0.34	0.34
PU-242	Y	3.00E-05	0.3	62.	9.1	5.58E 02	4.69E 02	9.1	6.84E 03	9.1	62.	9.1	9.1	9.1
	W	3.00E-05	0.3	1.06E 02	16.	9.58E 02	8.04E 02	16.	1.17E 04	16.	1.06E 02	16.	16.	16.
PU-243	Y	3.00E-05	0.3	6.36E-06	3.76E-06	4.59E-05	3.98E-05	3.04E-06	4.93E-04	3.32E-06	4.98E-06	4.60E-06	1.90E-06	2.14E-06
	W	3.00E-05	0.3	1.17E-05	4.78E-06	9.65E-05	7.62E-05	4.25E-06	9.51E-04	4.28E-06	1.07E-05	5.55E-06	2.96E-06	3.03E-06
PU-244	Y	3.00E-05	0.3	61.	9.3	5.51E 02	4.41E 02	9.2	6.91E 03	9.1	61.	9.2	9.1	9.0
	W	3.00E-05	0.3	1.05E 02	16.	9.45E 02	7.57E 02	16.	1.19E 04	16.	1.05E 02	16.	16.	16.
AM-241	Y	1.00E-03	0.3	67.	9.8	6.01E 02	5.05E 02	9.8	6.33E 03	9.8	67.	9.8	9.8	9.8
	W	1.00E-03	0.3	1.15E 02	17.	1.03E 03	8.70E 02	17.	1.09E 04	17.	1.15E 02	17.	17.	17.
AM-242M	Y	1.00E-03	0.3	68.	10.	6.07E 02	5.12E 02	10.	5.48E 03	10.	67.	10.	10.	10.
	W	1.00E-03	0.3	1.13E 02	17.	1.02E 03	8.57E 02	17.	9.15E 03	17.	1.13E 02	17.	17.	17.
AM-242	Y	1.00E-03	0.3	1.04E-03	2.64E-04	9.35E-03	7.98E-03	2.63E-04	9.16E-02	2.63E-04	1.04E-03	2.65E-04	2.61E-04	2.63E-04
	W	1.00E-03	0.3	7.05E-03	1.50E-03	6.34E-02	5.39E-02	1.50E-03	0.58	1.50E-03	7.04E-03	1.50E-03	1.50E-03	1.50E-03
AM-243	Y	1.00E-03	0.3	67.	10.	6.06E 02	5.07E 02	10.	6.76E 03	9.9	67.	9.9	9.9	9.9
	W	1.00E-03	0.3	1.15E 02	17.	1.04E 03	8.69E 02	17.	1.16E 04	17.	1.15E 02	17.	17.	17.
CM-242	Y	1.00E-03	0.3	0.34	7.06E-02	3.1	2.6	7.07E-02	31.	7.06E-02	0.34	7.06E-02	7.06E-02	7.06E-02
	W	1.00E-03	0.3	2.1	0.32	19.	16.	0.32	1.76E 02	0.32	2.1	0.32	0.32	0.32
CM-243	Y	1.00E-03	0.3	41.	6.0	3.64E 02	3.07E 02	6.0	3.46E 03	6.0	41.	6.0	6.0	6.0
	W	1.00E-03	0.3	76.	11.	6.80E 02	5.73E 02	11.	6.46E 03	11.	76.	11.	11.	11.
CM-244	Y	1.00E-03	0.3	30.	4.4	2.71E 02	2.27E 02	4.4	2.59E 03	4.4	30.	4.4	4.4	4.4
	W	1.00E-03	0.3	59.	8.6	5.31E 02	4.45E 02	8.6	5.09E 03	8.6	59.	8.6	8.6	8.6
CM-245	Y	1.00E-03	0.3	70.	10.	6.29E 02	5.27E 02	10.	6.84E 03	10.	69.	10.	10.	10.
	W	1.00E-03	0.3	1.19E 02	18.	1.07E 03	8.98E 02	18.	1.17E 04	18.	1.18E 02	18.	18.	18.
CM-246	Y	1.00E-03	0.3	69.	10.	6.20E 02	5.14E 02	10.	6.69E 03	10.	69.	10.	10.	10.
	W	1.00E-03	0.3	1.18E 02	17.	1.06E 03	8.81E 02	17.	1.15E 04	17.	1.18E 02	17.	17.	17.
CM-247	Y	1.00E-03	0.3	63.	9.5	5.70E 02	4.79E 02	9.5	6.90E 03	9.4	63.	9.4	9.3	9.3
	W	1.00E-03	0.3	1.08E 02	16.	9.74E 02	8.19E 02	16.	1.18E 04	16.	1.08E 02	16.	16.	16.
CM-248	Y	1.00E-03	0.3	2.51E 02	45.	2.26E 03	4.82E 02	43.	6.94E 03	41.	2.51E 02	42.	39.	38.
	W	1.00E-03	0.3	4.29E 02	73.	3.85E 03	8.23E 02	71.	1.19E 04	67.	4.30E 02	67.	65.	65.
CF-252	Y	1.00E-03	0.3	5.9	1.3	53.	23.	1.1	2.45E 02	1.3	5.9	1.5	1.3	0.91
	W	1.00E-03	0.3	22.	3.7	1.94E 02	84.	3.5	9.06E 02	3.4	22.	3.4	3.3	3.3

TOTAL INHALATION DOSES
ALPHA Q = 20
(REM/MICROCURIE)

NUCLIDE	SOL	F1	AMAD	LUNGS	RES LYM	S WALL	SI WALL	ULI WALL	LLI WALL	T BODY	ADREN	BL WALL	KIDNEYS	LIVER
PB-210	W	8.00E-02	1.0	6.2	1.09E 02	1.20E-03	2.74E-03	1.56E-02	4.70E-02	15.	0.67	0.33	3.3	3.1
PB-211	W	8.00E-02	1.0	0.14	1.10E-03	1.01E-04	4.18E-05	1.70E-05	1.86E-06	2.20E-03	3.21E-05	1.57E-05	2.14E-03	5.52E-05
PB-212	W	8.00E-02	1.0	1.8	5.14E-02	2.00E-03	3.97E-03	1.28E-02	1.49E-02	3.65E-02	1.83E-03	9.32E-04	0.13	8.78E-03
PB-214	W	8.00E-02	1.0	0.12	1.13E-03	1.02E-04	4.63E-05	1.91E-05	2.79E-06	1.96E-03	1.18E-04	5.50E-05	8.60E-03	1.36E-04
BI-210	W	5.00E-02	1.0	1.0	4.7	6.57E-04	1.53E-03	8.47E-03	2.28E-02	2.79E-02	8.68E-03	4.33E-03	0.83	2.38E-02
BI-211	W	5.00E-02	1.0	9.23E-03	3.38E-05	7.83E-07	3.54E-08	5.40E-09	1.34E-09	1.34E-04	2.00E-06	9.93E-07	1.73E-04	1.99E-06
BI-212	W	5.00E-02	1.0	0.27	1.59E-03	2.19E-04	1.34E-04	8.71E-05	1.65E-05	4.32E-03	3.32E-04	1.60E-04	3.68E-02	3.32E-04
BI-213	W	5.00E-02	1.0	9.77E-03	1.59E-03	1.02E-04	4.45E-05	2.99E-05	6.20E-06	1.68E-04	3.61E-05	8.34E-06	1.25E-03	3.60E-05
BI-214	W	5.00E-02	1.0	9.39E-02	6.48E-04	4.41E-05	1.15E-05	4.24E-06	8.43E-07	1.49E-03	9.71E-05	4.57E-05	8.52E-03	9.89E-05
PO-210	W	1.00E-01	1.0	46.	1.79E 02	2.22E-03	4.99E-03	2.93E-02	8.79E-02	1.6	0.80	0.40	14.	2.5
	D	1.00E-01	1.0	1.0	13.	7.22E-04	1.62E-03	9.50E-03	2.85E-02	2.8	2.6	1.3	46.	8.0
PO-211	W	1.00E-01	1.0	4.64E-05	1.23E-10	2.36E-11	2.47E-12	3.26E-12	7.18E-13	6.63E-07	7.94E-11	3.06E-11	1.09E-09	2.04E-10
	D	1.00E-01	1.0	4.63E-05	3.24E-09	1.58E-10	2.49E-12	3.27E-12	7.21E-13	6.63E-07	2.18E-10	9.96E-11	3.56E-09	6.32E-10
PO-212	W	1.00E-01	1.0	2.98E-11	2.74E-24	2.90E-24	2.21E-34	1.23E-44	1.89E-55	4.26E-13	2.10E-23	1.05E-23	3.78E-22	6.50E-23
	D	1.00E-01	1.0	2.98E-11	1.09E-21	5.02E-23	3.82E-33	2.13E-43	3.26E-54	4.26E-13	6.96E-23	3.48E-23	1.25E-21	2.15E-22
PO-213	W	1.00E-01	1.0	3.92E-10	3.41E-13	2.28E-14	2.95E-14	4.71E-14	2.35E-14	5.61E-12	8.19E-17	4.07E-17	8.01E-15	2.88E-15
	D	1.00E-01	1.0	3.92E-10	3.41E-13	2.28E-14	2.95E-14	4.71E-14	2.35E-14	5.61E-12	8.19E-17	4.07E-17	8.01E-15	2.88E-15
PO-214	W	1.00E-01	1.0	1.40E-08	2.53E-11	3.40E-16	6.47E-16	3.65E-15	1.09E-14	2.04E-10	1.55E-13	7.76E-14	7.73E-13	7.17E-13
	D	1.00E-01	1.0	1.40E-08	9.98E-13	3.28E-16	5.92E-16	3.33E-15	9.94E-15	2.04E-10	1.89E-13	9.42E-14	1.37E-12	8.20E-13
PO-215	W	1.00E-01	1.0	2.61E-07	9.02E-10	8.31E-11	3.44E-11	1.40E-11	1.54E-12	4.20E-09	3.79E-11	1.87E-11	3.43E-09	6.35E-10
	D	1.00E-01	1.0	2.61E-07	9.02E-10	8.31E-11	3.44E-11	1.40E-11	1.54E-12	4.20E-09	3.79E-11	1.87E-11	3.43E-09	6.35E-10
PO-216	W	1.00E-01	1.0	1.84E-05	2.02E-07	7.88E-09	1.56E-08	5.03E-08	5.85E-08	3.43E-07	8.68E-09	4.39E-09	7.07E-07	1.03E-07
	D	1.00E-01	1.0	1.84E-05	2.02E-07	7.89E-09	1.56E-08	5.03E-08	5.85E-08	3.43E-07	8.70E-09	4.40E-09	7.07E-07	1.03E-07
PO-218	W	1.00E-01	1.0	2.49E-02	1.29E-04	1.26E-05	5.63E-06	2.36E-06	3.66E-07	4.33E-04	2.41E-05	1.15E-05	1.27E-03	1.07E-04
	D	1.00E-01	1.0	2.29E-02	7.05E-04	2.84E-05	1.15E-05	4.83E-06	6.83E-07	4.21E-04	4.57E-05	2.24E-05	1.55E-03	1.69E-04
AT-217	D	0.95	1.0	2.66E-06	1.88E-08	1.21E-09	5.27E-10	3.55E-10	7.53E-11	3.82E-08	4.66E-10	1.20E-10	1.46E-08	4.65E-10
RN-219	*	0.0	***	9.14E-04	2.54E-06	2.61E-08	1.03E-08	4.42E-09	5.51E-10	1.32E-05	1.80E-08	7.73E-09	1.39E-06	2.83E-07
RN-220	*	0.0	***	2.16E-03	2.96E-05	2.30E-07	3.69E-07	1.14E-06	1.32E-06	3.22E-05	1.37E-07	5.59E-08	8.11E-06	1.55E-06
RN-222	*	0.0	***	2.34E-03	1.22E-05	1.55E-07	5.24E-08	3.08E-08	6.86E-09	3.46E-05	3.35E-07	1.36E-07	1.37E-05	1.35E-06
FR-221	D	0.95	1.0	3.72E-02	1.65E-03	6.54E-05	1.20E-05	6.47E-06	1.33E-06	6.23E-04	1.05E-04	5.18E-05	2.01E-04	1.05E-04

TOTAL INHALATION DOSES
ALPHA Q = 20
(REM/MICROCURIE)

NUCLIDE	SOL	F1	AMAD	OVARIES	PANCREAS	BONE	R MAR	Y MAR	ENDOST	SPLEEN	TESTES	THYMUS	THYROID	UTERUS
PB-210	W	8.00E-02	1.0	0.67	0.67	42.	1.4	0.67	20.	2.3	0.67	0.67	0.67	0.67
PB-211	W	8.00E-02	1.0	3.12E-05	3.22E-05	4.97E-04	4.39E-04	3.16E-05	3.88E-03	3.20E-05	3.12E-05	3.26E-05	3.16E-05	3.13E-05
PB-212	W	8.00E-02	1.0	1.97E-03	1.89E-03	2.55E-02	2.28E-02	1.78E-03	0.17	1.85E-03	1.71E-03	1.90E-03	1.75E-03	1.84E-03
PB-214	W	8.00E-02	1.0	1.10E-04	1.21E-04	5.59E-04	5.02E-04	1.13E-04	2.82E-03	1.22E-04	1.09E-04	1.26E-04	1.13E-04	1.10E-04
BI-210	W	5.00E-02	1.0	8.68E-03	8.68E-03	8.71E-03	8.79E-03	8.68E-03	4.05E-03	0.23	8.68E-03	8.68E-03	8.68E-03	8.68E-03
BI-211	W	5.00E-02	1.0	1.97E-06	2.01E-06	1.99E-06	3.60E-06	1.99E-06	1.54E-05	1.99E-06	1.97E-06	2.02E-06	1.99E-06	1.98E-06
BI-212	W	5.00E-02	1.0	3.17E-04	3.36E-04	3.20E-04	5.82E-04	3.23E-04	2.05E-03	3.33E-04	3.15E-04	3.43E-04	3.23E-04	3.19E-04
BI-213	W	5.00E-02	1.0	1.62E-05	4.16E-05	2.15E-05	3.31E-05	2.24E-05	4.29E-05	3.49E-05	1.26E-05	5.14E-05	2.10E-05	1.71E-05
BI-214	W	5.00E-02	1.0	9.13E-05	9.83E-05	1.55E-04	1.67E-04	9.35E-05	5.51E-04	9.95E-05	9.06E-05	1.02E-04	9.36E-05	9.14E-05
PO-210	W	1.00E-01	1.0	0.80	0.80	0.81	0.81	0.80	0.37	25.	0.80	0.80	0.80	0.80
	D	1.00E-01	1.0	2.6	2.6	2.6	2.6	2.6	1.2	80.	2.6	2.6	2.6	2.6
PO-211	W	1.00E-01	1.0	6.13E-11	8.00E-11	6.79E-11	1.20E-10	6.85E-11	3.89E-10	1.87E-09	6.04E-11	9.18E-11	7.07E-11	6.09E-11
	D	1.00E-01	1.0	2.00E-10	2.19E-10	2.06E-10	3.73E-10	2.07E-10	1.27E-09	6.15E-09	1.99E-10	2.30E-10	2.09E-10	2.00E-10
PO-212	W	1.00E-01	1.0	2.11E-23	2.10E-23	2.10E-23	3.84E-23	2.10E-23	9.09E-23	6.50E-22	2.11E-23	2.10E-23	2.10E-23	2.10E-23
	D	1.00E-01	1.0	6.97E-23	6.96E-23	6.96E-23	1.27E-22	6.96E-23	3.01E-22	2.15E-21	6.97E-23	6.96E-23	6.96E-23	6.96E-23
PO-213	W	1.00E-01	1.0	8.14E-17	8.19E-17	5.17E-15	1.42E-15	8.16E-17	4.14E-15	8.20E-17	8.14E-17	8.23E-17	8.16E-17	8.14E-17
	D	1.00E-01	1.0	8.14E-17	8.19E-17	5.17E-15	1.42E-15	8.16E-17	4.14E-15	8.23E-17	8.14E-17	8.23E-17	8.16E-17	8.14E-17
PO-214	W	1.00E-01	1.0	1.55E-13	1.55E-13	9.72E-12	3.17E-13	1.56E-13	4.54E-12	5.23E-13	1.55E-13	1.55E-13	1.55E-13	1.55E-13
	D	1.00E-01	1.0	1.89E-13	1.89E-13	9.75E-12	3.51E-13	1.90E-13	4.55E-12	1.55E-12	1.89E-13	1.89E-13	1.89E-13	1.89E-13
PO-215	W	1.00E-01	1.0	3.72E-11	3.80E-11	1.20E-09	1.02E-09	3.75E-11	9.39E-09	3.78E-11	3.71E-11	3.83E-11	3.75E-11	3.72E-11
	D	1.00E-01	1.0	3.72E-11	3.80E-11	1.20E-09	1.02E-09	3.75E-11	9.39E-09	3.79E-11	3.71E-11	3.83E-11	3.75E-11	3.72E-11
PO-216	W	1.00E-01	1.0	9.18E-09	8.89E-09	1.97E-07	1.71E-07	8.48E-09	1.29E-06	8.98E-09	8.17E-09	8.93E-09	8.30E-09	8.66E-09
	D	1.00E-01	1.0	9.20E-09	8.91E-09	1.97E-07	1.71E-07	8.50E-09	1.29E-06	9.59E-09	8.19E-09	8.95E-09	8.32E-09	8.68E-09
PO-218	W	1.00E-01	1.0	2.31E-05	2.43E-05	1.54E-04	1.41E-04	2.35E-05	8.62E-04	3.22E-04	2.29E-05	2.48E-05	2.34E-05	31E-05
	D	1.00E-01	1.0	4.48E-05	4.61E-05	1.62E-04	1.69E-04	4.51E-05	9.40E-04	1.04E-03	4.45E-05	4.64E-05	4.50E-05	49E-05
AT-217	D	0.95	1.0	2.31E-10	5.32E-10	2.91E-10	4.56E-10	3.04E-10	6.17E-10	4.51E-10	1.88E-10	6.49E-10	3.05E-10	44E-10
RN-219	*	0.0	***	1.54E-08	1.82E-08	5.31E-07	4.52E-07	1.65E-08	4.15E-06	1.77E-08	1.52E-08	1.96E-08	1.64E-08	1.53E-08
RN-220	*	0.0	***	1.21E-07	1.51E-07	2.93E-06	2.52E-06	1.20E-07	1.90E-05	1.48E-07	9.60E-08	1.78E-07	1.16E-07	.09E-07
RN-222	*	0.0	***	2.72E-07	3.47E-07	2.39E-06	1.68E-06	3.01E-07	1.03E-05	3.97E-06	2.66E-07	4.00E-07	3.02E-07	2.72E-07
FR-221	D	0.95	1.0	1.03E-04	1.06E-04	1.03E-04	1.88E-04	1.03E-04	7.57E-04	1.05E-04	1.02E-04	1.06E-04	1.03E-04	1.03E-04

TOTAL INHALATION DOSES
ALPHA Q = 20
(REM/MICROCURIE)

NUCLIDE	SOL	FI	AMAD	LUNGS	RES LYM	S WALL	SI WALL	ULI WALL	LLI WALL	T BODY	ADREN	BL WALL	KIDNEYS	LIVER
RA-223	W	0.20	1.0	46.	57.	1.09E-02	2.21E-02	0.13	0.36	1.1	0.22	0.11	0.25	0.23
RA-224	W	0.20	1.0	8.8	6.6	6.66E-03	1.47E-02	8.83E-02	0.25	0.27	6.26E-02	3.16E-02	8.32E-02	6.69E-02
RA-225	W	0.20	1.0	29.	79.	4.02E-03	5.37E-03	3.55E-02	0.12	0.94	0.23	0.11	0.29	0.73
RA-226	W	0.20	1.0	56.	2.99E 02	3.81E-03	7.47E-03	4.42E-02	0.18	19.	0.67	0.33	0.66	0.66
RA-228	W	0.20	1.0	4.8	1.66E 02	9.68E-03	1.22E-02	3.37E-02	6.99E-02	11.	0.95	0.47	1.6	6.4
AC-225	Y	1.00E-03	1.0	49.	17.	1.84E-02	2.22E-02	0.14	0.40	0.78	2.75E-02	1.40E-02	7.70E-02	0.36
	W	1.00E-03	1.0	43.	36.	1.76E-02	2.09E-02	0.13	0.36	1.5	5.74E-02	2.89E-02	0.77	5.7
AC-227	Y	1.00E-03	1.0	1.03E 03	1.25E 05	7.33E-02	0.11	0.60	1.8	2.55E 02	6.6	3.3	93.	7.14E 02
	W	1.00E-03	1.0	84.	1.50E 03	3.61E-02	4.18E-02	0.10	0.22	5.81E 02	14.	6.9	2.52E 02	1.96E 03
AC-228	Y	1.00E-03	1.0	0.24	8.7	4.46E-04	7.27E-04	1.77E-03	2.07E-03	1.03E-02	3.87E-04	1.85E-04	2.41E-03	1.63E-02
	W	1.00E-03	1.0	4.29E-02	0.51	3.56E-04	5.61E-04	1.24E-03	1.12E-03	3.08E-02	1.01E-03	4.90E-04	1.39E-02	0.11
TH-227	Y	1.00E-03	1.0	69.	1.23E 02	6.24E-03	1.31E-02	7.98E-02	0.26	1.2	4.89E-02	2.44E-02	8.78E-02	0.36
	W	1.00E-03	1.0	53.	1.68E 02	5.50E-03	1.14E-02	6.82E-02	0.22	2.2	6.88E-02	3.44E-02	0.71	5.3
TH-228	Y	1.00E-03	1.0	7.16E 02	2.59E 04	9.24E-02	0.19	1.1	2.9	29.	0.72	0.36	6.3	43.
	W	1.00E-03	1.0	1.17E 02	1.50E 03	2.24E-02	4.34E-02	0.23	0.71	72.	1.6	0.79	32.	2.50E 02
TH-229	Y	1.00E-03	1.0	1.23E 03	1.42E 05	0.19	0.16	0.56	1.5	3.87E 02	11.	5.4	1.48E 02	1.13E 03
	W	1.00E-03	1.0	1.16E 02	1.25E 03	0.18	0.19	0.30	0.42	8.30E 02	21.	10.	3.59E 02	2.77E 03
TH-230	Y	1.00E-03	1.0	5.26E 02	3.76E 04	2.58E-03	6.07E-03	3.50E-02	0.10	1.55E 02	5.4	2.7	94.	7.30E 02
	W	1.00E-03	1.0	54.	2.91E 02	2.51E-03	5.63E-03	3.13E-02	9.31E-02	3.47E 02	13.	6.7	2.33E 02	1.80E 03
TH-231	Y	1.00E-03	1.0	4.16E-03	9.24E-03	2.42E-04	5.61E-04	2.33E-03	4.15E-03	1.21E-04	6.79E-06	5.22E-06	1.94E 05	1.33E-04
	W	1.00E-03	1.0	3.91E-03	4.15E-03	2.05E-04	4.74E-04	1.96E-03	3.50E-03	1.77E-04	1.09E-05	6.34E-06	7.56E 05	5.67E-04
TH-232	Y	1.00E-03	1.0	4.54E 02	3.50E 04	8.28E-03	1.18E-02	4.10E-02	0.11	1.58E 02	4.9	2.4	82.	6.34E 02
	W	1.00E-03	1.0	47.	2.54E 02	1.03E-02	1.56E-02	3.78E-02	9.29E-02	3.53E 02	12.	5.8	2.01E 02	1.56E 03
PA-231	Y	1.00E-03	1.0	5.94E 02	7.13E 04	2.52E-02	2.68E-02	7.53E-02	0.17	4.13E 02	12.	6.2	1.95E 02	1.51E 03
	W	1.00E-03	1.0	58.	3.21E 02	3.95E-02	4.38E-02	8.07E-02	0.13	8.90E 02	27.	13.	4.46E 02	3.47E 03
PA-233	Y	1.00E-03	1.0	6.22E-02	0.12	8.88E-04	1.42E-03	6.25E-03	1.75E-02	1.32E-03	5.72E-04	1.48E-04	3.22E- 4	1.14E-03
	W	1.00E-03	1.0	4.43E-02	0.11	8.73E-04	1.43E-03	5.93E-03	1.62E-02	1.58E-03	7.94E-04	2.07E-04	1.59E 3	1.04E-02
U-232	Y	2.00E-03	1.0	8.87E 02	1.47E 05	5.66E-02	7.61E-02	0.39	1.1	80.	4.1	2.0	16.	84.
	W	5.00E-02	1.0	67.	5.05E 02	1.00E-02	1.45E-02	4.88E-02	0.13	39.	8.4	4.2	14.	14.
	D	5.00E-02	1.0	1.1	19.	2.36E-02	2.59E-02	3.44E-02	5.65E-02	1.19E 02	28.	14.	45.	27.

TOTAL INHALATION DOSES
ALPHA Q = 20
(REM/MICROCURIE)

NUCLIDE	SOL	FI	AMAD	OVARIES	PANCREAS	BONE	R MAR	Y MAR	ENDOST	SPLEEN	TESTES	THYMUS	THYROID	UTERUS
RA-223	W	0.20	1.0	0.22	0.22	0.96	1.0	0.22	7.5	0.22	0.22	0.22	0.22	0.22
RA-224	W	0.20	1.0	6.11E-02	6.26E-02	0.30	0.31	6.26E-02	2.5	6.35E-02	6.03E-02	6.26E-02	6.25E-02	6.29E-02
RA-225	W	0.20	1.0	0.24	0.23	1.1	1.1	0.23	8.8	0.23	0.24	0.23	0.23	0.23
RA-226	W	0.20	1.0	0.67	0.67	49.	23.	0.67	2.27E 02	0.66	0.66	0.66	0.66	0.66
RA-228	W	0.20	1.0	1.1	0.95	29.	25.	0.95	2.62E 02	0.95	1.1	0.95	0.94	0.94
AC-225	Y	1.00E-03	1.0	4.05E-02	2.81E-02	0.15	0.15	2.66E-02	1.2	2.75E-02	3.72E-02	2.91E-02	2.78E- 2	2.70E-02
	W	1.00E-03	1.0	0.25	5.77E-02	2.1	1.8	5.62E-02	17.	5.66E-02	0.25	5.79E-02	8.23E -2	5.61E-02
AC-227	Y	1.00E-03	1.0	35.	6.6	5.37E 02	4.50E 02	6.6	4.47E 03	6.6	35.	6.6	6.6	6.6
	W	1.00E-03	1.0	93.	14.	1.46E 03	1.22E 03	14.	1.22E 04	14.	93.	14.	14.	14.
AC-228	Y	1.00E-03	1.0	8.95E-04	4.10E-04	1.20E-02	1.02E-02	3.52E-04	0.11	3.95E-04	8.05E-04	4.27E-04	3.47E-04	3.70E-04
	W	1.00E-03	1.0	4.44E-03	1.03E-03	7.48E-02	6.28E-02	9.76E-04	0.68	1.01E-03	4.38E-03	1.04E-03	9.63E-04	9.79E-04
TH-227	Y	1.00E-03	1.0	5.93E-02	4.90E-02	0.40	0.38	4.88E-02	3.2	4.88E-02	5.90E-02	4.92E-02	4.86E-02	4.86E-02
	W	1.00E-03	1.0	0.25	6.88E-02	3.5	2.9	6.87E-02	29.	6.85E-02	0.25	6.88E-02	6.84E-02	6.84E-02
TH-228	Y	1.00E-03	1.0	2.2	0.72	32.	27.	0.72	2.87E 02	0.73	2.1	0.73	0.71	0.72
	W	1.00E-03	1.0	10.	1.6	1.74E 02	1.46E 02	1.6	1.59E 03	1.6	10.	1.6	1.6	1.6
TH-229	Y	1.00E-03	1.0	59.	11.	8.49E 02	7.14E 02	11.	8.40E 03	11.	59.	11.	11.	11.
	W	1.00E-03	1.0	1.40E 02	21.	2.08E 03	1.74E 03	21.	2.06E 04	21.	1.40E 02	21.	21.	21.
TH-230	Y	1.00E-03	1.0	37.	5.4	3.29E 02	2.77E 02	5.4	4.28E 03	5.4	37.	5.4	5.4	5.4
	W	1.00E-03	1.0	91.	13.	8.17E 02	6.87E 02	13.	1.06E 04	13.	91.	13.	13.	13.
TH-231	Y	1.00E-03	1.0	3.39E-05	8.31E-06	8.18E-05	7.27E-05	8.60E-06	7.01E-04	7.55E-06	7.18E-06	9.03E-06	2.70E-06	9.05E-06
	W	1.00E-03	1.0	4.96E-05	1.20E-05	2.87E-04	1.89E-04	1.57E-05	1.99E-03	1.06E-05	2.69E-05	1.21E-05	6.01E-06	1.13E-05
TH-232	Y	1.00E-03	1.0	32.	4.9	3.51E 02	2.94E 02	4.9	4.87E 03	4.9	32.	4.9	4.9	4.9
	W	1.00E-03	1.0	79.	12.	8.56E 02	7.17E 02	12.	1.19E 04	12.	79.	12.	12.	12.
PA-231	Y	1.00E-03	1.0	78.	12.	9.62E 02	7.28E 02	12.	9.37E 03	12.	78.	12.	12.	12.
	W	1.00E-03	1.0	1.81E 02	27.	2.20E 03	1.67E 03	27.	2.17E 04	27.	1.81E 02	27.	27.	27.
PA-233	Y	1.00E-03	1.0	4.89E-04	6.18E-04	4.69E-04	4.80E-04	3.34E-04	4.19E-04	5.18E-04	7.01E-05	8.42E-04	2.15E-04	2.09E-04
	W	1.00E-03	1.0	8.53E-04	7.83E-04	3.30E-03	1.18E-03	5.85E-04	2.47E-03	5.30E-04	4.44E-04	7.45E-04	2.69E-04	3.10E-04
U-232	Y	2.00E-03	1.0	6.4	4.1	88.	71.	4.1	7.33E 02	4.1	6.4	4.1	4.1	4.1
	W	5.00E-02	1.0	8.5	8.4	92.	67.	8.4	6.49E 02	8.4	8.5	8.4	8.4	8.4
	D	5.00E-02	1.0	27.	28.	2.93E 02	2.09E 02	28.	2.03E 03	28.	28.	28.	28.	28.

TOTAL INHALATION DOSES
ALPHA Q = 20
(REM/MICROCURIE)

NUCLIDE	SOL	F1	AMAD	LUNGS	RES LYM	S WALL	SI WALL	ULI WALL	LLI WALL	T BODY	ADREN	BL WALL	KIDNEYS	LIVER
U-233	Y	2.00E-03	1.0	5.42E 02	3.87E 04	4.11E-03	7.70E-03	3.71E-02	0.11	20.	1.2	0.59	1.7	1.2
	W	5.00E-02	1.0	56.	3.00E 02	6.93E-03	9.87E-03	3.47E-02	9.49E-02	11.	3.4	1.7	5.0	3.4
	D	5.00E-02	1.0	0.95	12.	1.66E-02	1.75E-02	2.51E-02	4.36E-02	34.	11.	5.7	17.	11.
U-234	Y	2.00E-03	1.0	5.36E 02	3.84E 04	4.08E-03	7.66E-03	3.71E-02	0.11	19.	1.2	0.58	1.7	1.2
	W	5.00E-02	1.0	55.	2.97E 02	6.86E-03	9.80E-03	3.46E-02	9.48E-02	11.	3.4	1.7	4.9	3.4
	D	5.00E-02	1.0	0.94	12.	1.64E-02	1.73E-02	2.49E-02	4.34E-02	33.	11.	5.6	16.	11.
U-235	Y	2.00E-03	1.0	4.84E 02	3.45E 04	2.53E-02	2.83E-02	0.12	0.25	17.	1.1	0.53	1.6	1.1
	W	5.00E-02	1.0	50.	2.67E 02	9.53E-03	1.36E-02	4.56E-02	0.12	9.8	3.0	1.5	4.4	3.0
	D	5.00E-02	1.0	0.85	11.	1.99E-02	2.16E-02	2.96E-02	4.98E-02	30.	10.	5.1	15.	10.
U-236	Y	2.00E-03	1.0	5.06E 02	3.62E 04	3.84E-03	7.21E-03	3.51E-02	0.10	18.	1.1	0.55	1.6	1.1
	W	5.00E-02	1.0	52.	2.80E 02	6.47E-03	9.23E-03	3.27E-02	8.92E-02	10.	3.2	1.6	4.6	3.2
	D	5.00E-02	1.0	0.89	11.	1.55E-02	1.63E-02	2.35E-02	4.08E-02	31.	11.	5.3	15.	11.
U-238	Y	2.00E-03	1.0	4.80E 02	3.40E 04	9.23E-03	1.77E-02	9.52E-02	0.28	17.	1.0	0.52	1.5	1.1
	W	5.00E-02	1.0	49.	2.64E 02	6.92E-03	1.05E-02	4.04E-02	0.11	9.6	3.0	1.5	4.4	3.0
	D	5.00E-02	1.0	0.83	11.	1.51E-02	1.60E-02	2.31E-02	4.07E-02	29.	9.9	5.0	15.	10.
U-240	Y	2.00E-03	1.0	1.27E-02	2.14E-02	9.49E-04	1.96E-03	6.71E-03	9.12E-03	3.19E-04	5.53E-05	3.71E-05	1.41E-04	2.23E-04
	W	5.00E-02	1.0	1.18E-02	1.21E-02	7.95E-04	1.59E-03	5.38E-03	7.30E-03	3.60E-04	7.51E-05	4.59E-05	1.53E-03	3.67E-04
	D	5.00E-02	1.0	4.71E-03	3.22E-02	5.45E-04	1.15E-03	3.78E-03	5.11E-03	3.98E-04	1.29E-04	8.99E-05	6.58E-03	2.60E-04
NP-237	Y	1.00E-03	1.0	5.69E 02	4.05E 04	4.74E-02	4.18E-02	9.44E-02	0.18	1.67E 02	5.9	2.9	1.02E 02	7.89E 02
	W	1.00E-03	1.0	59.	3.14E 02	7.93E-02	8.23E-02	0.13	0.16	3.74E 02	15.	7.2	2.51E 02	1.94E 03
NP-238	Y	1.00E-03	1.0	4.00E-02	1.9	7.40E-04	1.63E-03	5.96E-03	1.26E-02	8.04E-03	6.45E-04	3.82E-04	4.77E-03	3.60E-02
	W	1.00E-03	1.0	1.32E-02	2.83E-02	6.71E-04	1.43E-03	5.15E-03	1.08E-02	2.18E-02	1.31E-03	6.76E-04	1.47E-02	0.11
NP-239	Y	1.00E-03	1.0	1.03E-02	1.86E-02	5.19E-04	1.20E-03	5.22E-03	1.18E-02	3.00E-04	8.11E-05	7.28E-05	8.03E-05	2.94E-04
	W	1.00E-03	1.0	9.73E-03	1.12E-02	4.59E-04	1.04E-03	4.50E-03	1.01E-02	3.91E-04	1.04E-04	6.97E-05	2.32E-04	1.43E-03
NP-240M	Y	1.00E-03	1.0	1.60E-04	2.48E-04	3.07E-06	3.64E-07	1.50E-07	2.98E-08	3.00E-06	6.61E-07	3.63E-08	5.23E-07	2.47E-06
	W	1.00E-03	1.0	1.54E-04	1.54E-04	2.49E-06	3.12E-07	1.55E-07	3.79E-08	3.56E-06	7.17E-07	6.60E-08	1.12E-06	7.00E-06
NP-240	Y	1.00E-03	1.0	1.11E-03	1.87E-03	9.03E-05	5.57E-05	4.21E-05	8.92E-06	3.17E-05	2.19E-05	1.99E-06	1.29E-05	3.90E-05
	W	1.00E-03	1.0	1.02E-03	1.02E-03	7.41E-05	4.51E-05	3.48E-05	7.76E-06	3.76E-05	2.32E-05	2.38E-06	2.12E-05	1.01E-04
PU-236	Y	3.00E-05	1.0	4.45E 02	1.13E 04	3.65E-03	7.56E-03	4.28E-02	0.13	19.	1.6	0.81	6.8	70.
	W	3.00E-05	1.0	64.	3.28E 02	3.40E-03	7.14E-03	3.85E-02	0.11	46.	2.2	1.1	32.	3.33E 02
PU-238	Y	3.00E-05	1.0	6.08E 02	3.90E 04	2.90E-03	7.01E-03	4.09E-02	0.12	1.49E 02	5.1	2.5	90.	7.00E 02
	W	3.00E-05	1.0	64.	3.41E 02	2.77E-03	6.43E-03	3.66E-02	0.11	3.40E 02	13.	6.5	2.30E 02	1.79E 03

TOTAL INHALATION DOSES
ALPHA Q = 20
(REM/MICROCURIE)

NUCLIDE	SOL	F1	AMAD	OVARIES	PANCREAS	BONE	R MAR	Y MAR	ENDOST	SPLEEN	TESTES	THYMUS	THYROID	UTERUS
U-233	Y	2.00E-03	1.0	1.2	1.2	8.0	1.3	1.2	3.6	1.2	1.2	1.2	1.2	1.2
	W	5.00E-02	1.0	3.4	3.4	23.	3.7	3.4	10.	3.4	3.4	3.4	3.4	3.4
	D	5.00E-02	1.0	11.	11.	77.	12.	11.	35.	11.	11.	11.	11.	11.
U-234	Y	2.00E-03	1.0	1.2	1.2	7.9	1.3	1.2	3.5	1.2	1.2	1.2	1.2	1.2
	W	5.00E-02	1.0	3.4	3.4	23.	3.6	3.4	10.	3.4	3.4	3.4	3.4	3.4
	D	5.00E-02	1.0	11.	11.	77.	12.	11.	34.	11.	11.	11.	11.	11.
U-235	Y	2.00E-03	1.0	1.0	1.1	7.2	1.2	1.1	3.4	1.1	1.0	1.1	1.0	1.1
	W	5.00E-02	1.0	3.0	3.1	21.	3.3	3.0	8.7	3.0	3.0	3.1	3.0	3.1
	D	5.00E-02	1.0	10.	10.	69.	11.	10.	29.	10.	10.	10.	10.	10.
U-236	Y	2.00E-03	1.0	1.1	1.1	7.5	1.2	1.1	3.2	1.1	1.1	1.1	1.1	1.1
	W	5.00E-02	1.0	3.2	3.2	22.	3.4	3.2	9.2	3.2	3.2	3.2	3.2	3.2
	D	5.00E-02	1.0	11.	11.	72.	11.	11.	31.	11.	11.	11.	11.	11.
U-238	Y	2.00E-03	1.0	1.0	1.0	7.1	1.1	1.0	2.9	1.0	1.0	1.0	1.0	1.0
	W	5.00E-02	1.0	3.0	3.0	21.	3.2	3.0	8.4	3.0	3.0	3.0	3.0	3.0
	D	5.00E-02	1.0	10.	9.9	68.	11.	9.9	28.	9.9	10.	9.9	9.9	9.9
U-240	Y	2.00E-03	1.0	1.33E-04	7.35E-05	1.10E-04	1.16E-04	3.31E-05	9.14E-04	5.80E-05	1.91E-05	7.26E-05	2.48E-05	6.13E-05
	W	5.00E-02	1.0	1.32E-04	8.65E-05	3.46E-04	2.56E-04	5.01E-05	2.27E-03	7.31E-05	3.94E-05	8.53E-05	4.08E-05	6.84E-05
	D	5.00E-02	1.0	1.55E-04	1.21E-04	9.51E-04	5.79E-04	1.03E-04	4.86E-03	1.17E-04	8.86E-05	1.04E-04	8.50E-05	1.12E-04
NP-237	Y	1.00E-03	1.0	40.	5.9	3.57E 02	3.00E 02	5.9	4.24E 03	5.9	40.	5.9	5.8	5.8
	W	1.00E-03	1.0	98.	15.	8.86E 02	7.43E 02	15.	1.05E 04	15.	99.	15.	14.	15.
NP-238	Y	1.00E-03	1.0	2.32E-03	6.77E-04	1.60E-02	1.37E-02	5.62E-04	0.17	6.58E-04	1.82E-03	7.33E-04	5.39E-04	6.90E-04
	W	1.00E-03	1.0	6.09E-03	1.32E-03	5.04E-02	4.26E-02	1.21E-03	0.53	1.28E-03	5.65E-03	1.35E-03	1.16E-03	1.29E-03
NP-239	Y	1.00E-03	1.0	2.45E-04	1.01E-04	1.45E-04	1.75E-04	6.69E-05	9.07E-04	8.25E-05	2.71E-05	1.09E-04	2.63E-05	1.07E-04
	W	1.00E-03	1.0	2.64E-04	1.18E-04	5.55E-04	3.58E-04	8.96E-05	2.84E-03	9.02E-05	7.43E-05	1.17E-04	3.61E-05	1.05E-04
NP-240M	Y	1.00E-03	1.0	1.41E-07	7.49E-07	1.08E-06	1.02E-06	3.05E-07	9.43E-06	6.05E-07	9.98E-08	1.06E-06	3.47E-07	6.30E-08
	W	1.00E-03	1.0	3.60E-07	7.91E-07	2.94E-06	2.38E-06	3.62E-07	2.58E-05	6.39E-07	3.18E-07	1.08E-06	3.90E-07	1.15E-07
NP-240	Y	1.00E-03	1.0	6.58E-06	2.64E-05	1.68E-05	1.86E-05	1.02E-05	9.11E-05	2.18E-05	1.35E-06	3.44E-05	1.12E-05	4.51E-06
	W	1.00E-03	1.0	8.82E-06	2.63E-05	3.97E-05	3.32E-05	1.15E-05	2.64E-04	2.11E-05	4.32E-06	3.31E-05	1.13E-05	4.90E-06
PU-236	Y	3.00E-05	1.0	4.1	1.6	22.	19.	1.6	2.05E 02	1.6	4.1	1.6	1.6	1.6
	W	3.00E-05	1.0	14.	2.2	98.	82.	2.2	9.44E 02	2.2	14.	2.2	2.2	2.2
PU-238	Y	3.00E-05	1.0	35.	5.1	3.11E 02	2.61E 02	5.1	3.27E 03	5.1	35.	5.1	5.1	5.1
	W	3.00E-05	1.0	89.	13.	7.98E 02	6.71E 02	13.	8.40E 03	13.	89.	13.	13.	13.

TOTAL INHALATION DOSES
ALPHA Q = 20
(REM/MICROCURIE)

NUCLIDE	SOL	FI	AMAD	LUNGS	RES LYM	S WALL	SI WALL	ULI WALL	LLI WALL	T BODY	ADREN	BL WALL	KIDNEYS	LIVER
PU-239	Y	3.00E-05	1.0	5.80E 02	4.14E 04	2.72E-03	6.58E-03	3.82E-02	0.11	1.69E 02	5.8	2.9	1.03E 02	7.97E 02
	W	3.00E-05	1.0	60.	3.21E 02	2.59E-03	6.02E-03	3.40E-02	0.10	3.81E 02	15.	7.3	2.55E 02	1.98E 03
PU-240	Y	3.00E-05	1.0	5.79E 02	4.14E 04	2.74E-03	6.62E-03	3.85E-02	0.11	1.69E 02	5.8	2.9	1.03E 02	7.95E 02
	W	3.00E-05	1.0	60.	3.22E 02	2.62E-03	6.06E-03	3.43E-02	0.10	3.80E 02	15.	7.3	2.55E 02	1.97E 03
PU-241	Y	3.00E-05	1.0	1.1	3.45E 02	1.03E-04	1.10E-04	3.16E-04	6.88E-04	3.5	0.16	7.95E-02	2.2	17.
	W	3.00E-05	1.0	1.54E-02	0.19	1.81E-04	1.91E-04	3.99E-04	6.23E-04	7.8	0.30	0.15	4.9	38.
PU-242	Y	3.00E-05	1.0	5.50E 02	3.93E 04	2.75E-03	6.36E-03	3.67E-02	0.11	1.61E 02	5.6	2.8	98.	7.57E 02
	W	3.00E-05	1.0	57.	3.05E 02	2.71E-03	5.94E-03	3.29E-02	9.74E-02	3.61E 02	14.	6.9	2.42E 02	1.88E 03
PU-243	Y	3.00E-05	1.0	1.31E-03	4.31E-03	1.01E-04	1.62E-04	3.36E-04	2.31E-04	3.62E-05	2.88E-06	1.01E-06	9.48E-06	6.68E-05
	W	3.00E-05	1.0	1.18E-03	1.21E-03	8.25E-05	1.31E-04	2.72E-04	1.87E-04	5.93E-05	4.45E-06	1.71E-06	3.10E-05	2.33E-04
PU-244	Y	3.00E-05	1.0	5.48E 02	3.88E 04	0.15	0.17	0.46	0.65	1.59E 02	5.7	2.8	97.	7.49E 02
	W	3.00E-05	1.0	56.	3.01E 02	0.17	0.17	0.28	0.31	3.56E 02	14.	6.9	2.40E 02	1.86E 03
AM-241	Y	1.00E-03	1.0	6.15E 02	4.29E 04	8.79E-03	1.06E-02	4.62E-02	0.13	1.75E 02	6.0	3.0	1.06E 02	8.24E 02
	W	1.00E-03	1.0	64.	3.41E 02	1.18E-02	1.49E-02	4.86E-02	0.11	3.92E 02	15.	7.5	2.63E 02	2.04E 03
AM-242M	Y	1.00E-03	1.0	2.21E 02	3.12E 04	1.31E-02	2.45E-02	9.53E-02	0.17	1.68E 02	6.3	3.1	1.07E 02	8.28E 02
	W	1.00E-03	1.0	7.3	1.04E 02	6.12E-03	7.97E-03	2.19E-02	4.11E-02	3.84E 02	15.	7.4	2.57E 02	1.99E 03
AM-242	Y	1.00E-03	1.0	0.49	2.7	2.15E-04	4.63E-04	1.78E-03	2.82E-03	1.10E-02	2.01E-04	1.01E-04	2.53E-03	1.96E-02
	W	1.00E-03	1.0	0.16	0.64	1.81E-04	3.90E-04	1.50E-03	2.39E-03	3.16E-02	1.44E-03	7.20E-04	2.28E-02	0.18
AM-243	Y	1.00E-03	1.0	5.95E 02	4.23E 04	5.96E-02	6.33E-02	0.18	0.37	1.75E 02	6.2	3.0	1.07E 02	8.23E 02
	W	1.00E-03	1.0	61.	3.29E 02	9.48E-02	8.92E-02	0.15	0.19	3.91E 02	15.	7.5	2.63E 02	2.03E 03
CM-242	Y	1.00E-03	1.0	1.72E 02	9.32E 02	2.70E-03	6.68E-03	3.93E-02	0.12	3.7	4.95E-02	2.48E-02	0.75	5.8
	W	1.00E-03	1.0	55.	2.23E 02	2.87E-03	6.74E-03	3.84E-02	0.11	8.8	0.30	0.15	6.2	48.
CM-243	Y	1.00E-03	1.0	6.27E 02	3.34E 04	2.18E-02	1.96E-02	6.20E-02	0.15	1.13E 02	3.7	1.8	68.	5.26E 02
	W	1.00E-03	1.0	68.	3.61E 02	3.15E-02	3.54E-02	7.95E-02	0.14	2.61E 02	10.	5.0	1.82E 02	1.41E 03
CM-244	Y	1.00E-03	1.0	6.07E 02	2.81E 04	3.02E-03	7.31E-03	4.27E-02	0.13	87.	2.7	1.4	52.	3.98E 02
	W	1.00E-03	1.0	67.	3.56E 02	2.93E-03	6.78E-03	3.85E-02	0.11	2.04E 02	7.7	3.9	1.45E 02	1.12E 03
CM-245	Y	1.00E-03	1.0	6.04E 02	4.32E 04	1.94E-02	1.88E-02	5.74E-02	0.13	1.81E 02	6.4	3.2	1.10E 02	8.54E 02
	W	1.00E-03	1.0	62.	3.34E 02	2.93E-02	3.33E-02	7.26E-02	0.13	4.04E 02	16.	7.8	2.70E 02	2.10E 03
CM-246	Y	1.00E-03	1.0	6.10E 02	4.35E 04	1.26E-02	1.25E-02	4.70E-02	0.12	1.80E 02	6.2	3.1	1.09E 02	8.44E 02
	W	1.00E-03	1.0	63.	3.38E 02	1.68E-02	1.88E-02	5.14E-02	0.11	4.01E 02	15.	7.7	2.69E 02	2.08E 03
CM-247	Y	1.00E-03	1.0	5.59E 02	3.99E 04	8.83E-02	7.42E-02	0.14	0.18	1.65E 02	5.9	2.9	100.	7.77E 02
	W	1.00E-03	1.0	58.	3.09E 02	0.13	0.13	0.20	0.20	3.68E 02	15.	7.1	2.47E 02	1.91E 03
CM-248	Y	1.00E-03	1.0	2.22E 03	1.58E 05	3.4	2.0	2.6	1.8	6.55E 02	29.	12.	4.01E 02	3.09E 03
	W	1.00E-03	1.0	2.32E 02	1.23E 03	5.0	4.5	5.7	3.2	1.46E 03	69.	30.	9.86E 02	7.60E 03
CF-252	Y	1.00E-03	1.0	8.71E 02	1.59E 04	0.32	9.73E-02	0.18	0.34	31.	0.95	0.31	12.	94.
	W	1.00E-03	1.0	1.30E 02	6.62E 02	0.26	0.23	0.35	0.40	79.	3.5	1.5	61.	4.73E 02

TOTAL INHALATION DOSES
ALPHA Q = 20
(REM/MICROCURIE)

NUCLIDE	SOL	F1	AMAD	OVARIES	PANCREAS	BONE	R MAR	Y MAR	ENDOST	SPLEEN	TESTES	THYMUS	THYROID	UTERUS
PU-239	Y	3.00E-05	1.0	40.	5.8	3.59E 02	3.03E 02	5.8	4.16E 03	5.8	40.	5.8	5.8	5.8
	W	3.00E-05	1.0	100.	15.	8.97E 02	7.56E 02	15.	1.04E 04	15.	100.	15.	15.	15.
PU-240	Y	3.00E-05	1.0	40.	5.8	3.59E 02	3.02E 02	5.8	4.15E 03	5.8	40.	5.8	5.8	5.8
	W	3.00E-05	1.0	100.	15.	8.95E 02	7.55E 02	15.	1.04E 04	15.	100.	15.	15.	15.
PU-241	Y	3.00E-05	1.0	0.90	0.16	8.1	6.8	0.16	85.	0.16	0.90	0.16	0.16	0.16
	W	3.00E-05	1.0	2.0	0.30	19.	16.	0.30	1.94E 02	0.30	2.1	0.30	0.30	0.30
PU-242	Y	3.00E-05	1.0	38.	5.6	3.42E 02	2.87E 02	5.6	4.19E 03	5.6	38.	5.6	5.6	5.6
	W	3.00E-05	1.0	95.	14.	8.55E 02	7.18E 02	14.	1.05E 04	14.	95.	14.	14.	14.
PU-243	Y	3.00E-05	1.0	5.78E-06	3.57E-06	3.07E-05	2.69E-05	2.68E-06	3.17E-04	2.98E-06	3.33E-06	3.93E-06	1.40E-06	2.32E-06
	W	3.00E-05	1.0	1.34E-05	4.99E-06	1.02E-04	7.76E-05	4.36E-06	9.57E-04	4.32E-06	1.14E-05	5.25E-06	2.87E-06	3.58E-06
PU-244	Y	3.00E-05	1.0	38.	5.7	3.38E 02	2.71E 02	5.6	4.24E 03	5.6	38.	5.6	5.6	5.5
	W	3.00E-05	1.0	94.	14.	8.44E 02	6.76E 02	14.	1.06E 04	14.	94.	14.	14.	14.
AM-241	Y	1.00E-03	1.0	41.	6.0	3.71E 02	3.12E 02	6.1	3.90E 03	6.0	41.	6.0	6.0	6.0
	W	1.00E-03	1.0	1.03E 02	15.	9.25E 02	7.77E 02	15.	9.73E 03	15.	1.03E 02	15.	15.	15.
AM-242M	Y	1.00E-03	1.0	42.	6.3	3.74E 02	3.15E 02	6.3	3.37E 03	6.3	42.	6.3	6.3	6.3
	W	1.00E-03	1.0	1.01E 02	15.	9.09E 02	7.66E 02	15.	8.18E 03	15.	1.01E 02	15.	15.	15.
AM-242	Y	1.00E-03	1.0	8.72E-04	2.01E-04	7.78E-03	6.62E-03	2.00E-04	7.46E-02	2.01E-04	8.64E-04	2.02E-04	1.98E-04	2.01E-04
	W	1.00E-03	1.0	7.43E-03	1.44E-03	6.68E-02	5.66E-02	1.44E-03	0.61	1.44E-03	7.41E-03	1.44E-03	1.44E-03	1.44E-03
AM-243	Y	1.00E-03	1.0	41.	6.2	3.74E 02	3.13E 02	6.2	4.17E 03	6.1	42.	6.1	6.1	6.1
	W	1.00E-03	1.0	1.03E 02	15.	9.27E 02	7.77E 02	15.	1.03E 04	15.	1.03E 02	15.	15.	15.
CM-242	Y	1.00E-03	1.0	0.26	4.95E-02	2.3	2.0	4.95E-02	23.	4.95E-02	0.26	4.95E-02	4.95E-02	4.95E-02
	W	1.00E-03	1.0	2.0	0.30	19.	15.	0.30	1.68E 02	0.30	2.0	0.30	0.30	0.30
CM-243	Y	1.00E-03	1.0	25.	3.7	2.26E 02	1.90E 02	3.7	2.15E 03	3.7	25.	3.7	3.7	3.7
	W	1.00E-03	1.0	68.	10.	6.08E 02	5.13E 02	10.	5.78E 03	10.	68.	10.	10.	10.
CM-244	Y	1.00E-03	1.0	19.	2.7	1.69E 02	1.41E 02	2.7	1.62E 03	2.7	19.	2.7	2.7	2.7
	W	1.00E-03	1.0	53.	7.7	4.76E 02	3.99E 02	7.7	4.56E 03	7.7	53.	7.7	7.7	7.7
CM-245	Y	1.00E-03	1.0	43.	6.4	3.88E 02	3.25E 02	6.4	4.22E 03	6.3	43.	6.3	6.3	6.3
	W	1.00E-03	1.0	1.06E 02	16.	9.58E 02	8.03E 02	16.	1.04E 04	16.	1.06E 02	16.	16.	16.
CM-246	Y	1.00E-03	1.0	42.	6.2	3.82E 02	3.17E 02	6.2	4.13E 03	6.2	42.	6.2	6.2	6.2
	W	1.00E-03	1.0	1.05E 02	15.	9.48E 02	7.88E 02	15.	1.02E 04	15.	1.05E 02	15.	15.	15.
CM-247	Y	1.00E-03	1.0	39.	5.9	3.51E 02	2.95E 02	5.8	4.25E 03	5.8	39.	5.8	5.8	5.8
	W	1.00E-03	1.0	97.	14.	8.71E 02	7.32E 02	14.	1.06E 04	14.	97.	14.	14.	14.
CM-248	Y	1.00E-03	1.0	1.55E 02	28.	1.39E 03	2.97E 02	26.	4.28E 03	25.	1.55E 02	26.	24.	24.
	W	1.00E-03	1.0	3.83E 02	65.	3.44E 03	7.36E 02	64.	1.06E 04	60.	3.84E 02	59.	58.	59.
CF-252	Y	1.00E-03	1.0	3.9	0.87	36.	15.	0.74	1.63E 02	0.81	3.9	0.98	0.68	0.61
	W	1.00E-03	1.0	20.	3.3	1.76E 02	77.	3.2	8.22E 02	3.1	20.	3.0	3.0	3.0

TOTAL INHALATION DOSES
ALPHA Q = 20
(REM/MICROCURIE)

NUCLIDE	SOL	F1	AMAD	LUNGS	RES LYM	S WALL	SI WALL	ULI WALL	LLI WALL	T BODY	ADREN	BL WALL	KIDNEYS	LIVER
PB-210	W	8.00E-02	5.0	2.2	39.	6.39E-04	1.48E-03	8.95E-03	3.10E-02	18.	0.75	0.38	2.8	3.5
PB-211	W	8.00E-02	5.0	0.19	1.40E-03	2.11E-04	8.69E-05	3.52E-05	3.84E-06	3.09E-03	5.49E-05	2.70E-05	3.75E-03	9.22E-05
PB-212	W	8.00E-02	5.0	1.8	2.54E-02	3.85E-03	7.82E-03	2.52E-02	2.94E-02	4.49E-02	3.35E-03	1.75E-03	0.25	1.49E-02
PB-214	W	8.00E-02	5.0	0.16	1.18E-03	2.09E-04	9.57E-05	3.85E-05	5.31E-06	2.75E-03	2.01E-04	9.46E-05	1.49E-02	2.26E-04
BI-210	W	5.00E-02	5.0	0.37	1.7	1.15E-03	2.68E-03	1.48E-02	3.99E-02	1.76E-02	6.75E-03	3.37E-03	1.2	1.61E-02
BI-211	W	5.00E-02	5.0	1.31E-02	4.74E-05	1.62E-06	7.21E-08	8.79E-09	1.99E-09	1.92E-04	3.22E-06	1.60E-06	2.79E-04	3.21E-06
BI-212	W	5.00E-02	5.0	0.37	1.83E-03	4.44E-04	2.76E-04	1.78E-04	3.33E-05	6.02E-03	5.32E-04	2.57E-04	5.94E-02	5.31E-04
BI-213	W	5.00E-02	5.0	1.35E-02	2.18E-03	1.99E-04	8.97E-05	5.86E-05	1.19E-05	2.36E-04	5.44E-05	1.37E-05	2.01E-03	5.35E-05
BI-214	W	5.00E-02	5.0	0.13	6.76E-04	8.78E-05	2.32E-05	7.75E-06	1.37E-06	2.11E-03	1.55E-04	7.34E-05	1.37E-02	1.56E-04
PO-210	W	1.00E-01	5.0	18.	63.	3.49E-03	7.82E-03	4.59E-02	0.14	1.4	1.1	0.53	19.	3.3
	D	1.00E-01	5.0	0.42	4.6	1.71E-03	3.82E-03	2.25E-02	6.74E-02	3.2	3.0	1.5	54.	9.2
PO-211	W	1.00E-01	5.0	6.61E-05	1.66E-10	3.91E-11	3.52E-12	4.66E-12	1.02E-12	9.46E-07	1.24E-10	4.91E-11	1.74E-09	3.26E-10
	D	1.00E-01	5.0	6.61E-05	1.27E-09	3.64E-10	3.58E-12	4.67E-12	1.03E-12	9.46E-07	4.08E-10	1.90E-10	6.81E-09	1.20E-09
PO-212	W	1.00E-01	5.0	4.25E-11	9.66E-25	6.06E-24	4.61E-34	2.57E-44	3.94E-55	6.08E-13	3.39E-23	1.69E-23	6.09E-22	1.05E-22
	D	1.00E-01	5.0	4.25E-11	3.87E-22	1.20E-22	9.16E-33	5.10E-43	7.82E-54	6.08E-13	1.33E-22	6.65E-23	2.39E-21	4.11E-22
PO-213	W	1.00E-01	5.0	5.59E-10	4.36E-13	4.65E-14	6.03E-14	9.62E-14	4.80E-14	8.00E-12	1.33E-16	6.63E-17	1.31E-14	4.69E-15
	D	1.00E-01	5.0	5.59E-10	4.36E-13	4.65E-14	6.03E-14	9.62E-14	4.80E-14	8.00E-12	1.33E-16	6.64E-17	1.31E-14	4.69E-15
PO-214	W	1.00E-01	5.0	1.99E-08	8.93E-12	2.38E-16	3.58E-16	2.10E-15	7.20E-15	2.90E-10	1.75E-13	8.74E-14	6.64E-13	8.27E-13
	D	1.00E-01	5.0	1.99E-08	3.53E-13	2.58E-16	3.39E-16	1.98E-15	6.86E-15	2.90E-10	1.87E-13	9.33E-14	8.75E-13	8.64E-13
PO-215	W	1.00E-01	5.0	3.67E-07	1.15E-09	1.73E-10	7.14E-11	2.89E-11	3.17E-12	6.01E-09	6.37E-11	3.15E-11	5.77E-09	1.03E-09
	D	1.00E-01	5.0	3.67E-07	1.15E-09	1.73E-10	7.14E-11	2.89E-11	3.17E-12	6.01E-09	6.37E-11	3.16E-11	5.77E-09	1.03E-09
PO-216	W	1.00E-01	5.0	2.34E-05	9.99E-08	1.52E-08	3.07E-08	9.92E-08	1.16E-07	4.70E-07	1.56E-08	8.08E-09	1.29E-06	1.72E-07
	D	1.00E-01	5.0	2.34E-05	1.00E-07	1.52E-08	3.07E-08	9.92E-08	1.16E-07	4.70E-07	1.57E-08	8.10E-09	1.29E-06	1.72E-07
PO-218	W	1.00E-01	5.0	3.45E-02	1.32E-04	2.59E-05	1.17E-05	4.76E-06	6.94E-07	6.18E-04	4.02E-05	1.94E-05	2.19E-03	1.75E-04
	D	1.00E-01	5.0	2.99E-02	3.23E-04	6.44E-05	2.61E-05	1.08E-05	1.46E-06	5.89E-04	8.42E-05	4.16E-05	2.77E-03	3.02E-04
AT-217	D	0.95	5.0	3.78E-06	2.57E-08	2.35E-09	1.06E-09	6.95E-10	1.44E-10	5.45E-08	7.06E-10	1.95E-10	2.36E-08	6.96E-10
RN-219	*	0.0	***	9.14E-04	2.54E-06	2.61E-08	1.03E-08	4.42E-09	5.51E-10	1.32E-05	1.80E-08	7.73E-09	1.39E-06	2.83E-07
RN-220	*	0.0	***	2.16E-03	2.96E-05	2.30E-07	3.69E-07	1.14E-06	1.32E-06	3.22E-05	1.37E-07	5.59E-08	8.11E-06	1.55E-06
RN-222	*	0.0	***	2.34E-03	1.22E-05	1.55E-07	5.24E-08	3.08E-08	6.86E-09	3.46E-05	3.35E-07	1.36E-07	1.37E-05	1.35E-06
FR-221	D	0.95	5.0	4.86E-02	7.13E-04	1.53E-04	2.73E-05	1.43E-05	2.83E-06	8.67E-04	1.99E-04	9.89E-05	3.55E-04	1.99E-04

TOTAL INHALATION DOSES
ALPHA Q = 20
(REM/MICROCURIE)

NUCLIDE	SOL	F1	AMAD	OVARIES	PANCREAS	BONE	R MAR	Y MAR	ENDOST	SPLEEN	TESTES	THYMUS	THYROID	UTERUS
PB-210	W	8.00E-02	5.0	0.75	0.75	50.	1.6	0.76	23.	1.3	0.75	0.75	0.75	0.75
PB-211	W	8.00E-02	5.0	5.37E-05	5.52E-05	9.04E-04	7.14E-04	5.43E-05	6.29E-03	5.48E-05	5.36E-05	5.56E-05	5.42E-05	5.38E-05
PB-212	W	8.00E-02	5.0	3.71E-03	3.44E-03	4.27E-02	3.85E-02	3.29E-03	0.28	3.38E-03	3.21E-03	3.40E-03	3.22E-03	3.45E-03
PB-214	W	8.00E-02	5.0	1.89E-04	2.05E-04	8.78E-04	8.29E-04	1.93E-04	4.61E-03	2.02E-04	1.87E-04	2.10E-04	1.93E-04	1.89E-04
BI-210	W	5.00E-02	5.0	6.75E-03	6.75E-03	6.77E-03	6.83E-03	6.75E-03	3.16E-03	0.14	6.75E-03	6.75E-03	6.75E-03	6.75E-03
BI-211	W	5.00E-02	5.0	3.17E-06	3.23E-06	3.20E-06	5.79E-06	3.20E-06	2.48E-05	3.21E-06	3.17E-06	3.25E-06	3.20E-06	3.18E-06
BI-212	W	5.00E-02	5.0	5.12E-04	5.40E-04	5.15E-04	9.37E-04	5.19E-04	3.30E-03	5.34E-04	5.08E-04	5.46E-04	5.19E-04	5.16E-04
BI-213	W	5.00E-02	5.0	2.67E-05	6.36E-05	3.27E-05	5.10E-05	3.42E-05	6.72E-05	5.32E-05	2.04E-05	7.40E-05	3.19E-05	2.80E-05
BI-214	W	5.00E-02	5.0	1.47E-04	1.57E-04	2.22E-04	2.68E-04	1.49E-04	8.74E-04	1.55E-04	1.45E-04	1.62E-04	1.50E-04	1.47E-04
PO-210	W	1.00E-01	5.0	1.1	1.1	1.1	1.1	1.1	0.49	33.	1.1	1.1	1.1	1.1
	D	1.00E-01	5.0	3.0	3.0	3.0	3.0	3.0	1.4	92.	3.0	3.0	3.0	3.0
PO-211	W	1.00E-01	5.0	9.86E-11	1.25E-10	1.08E-10	1.91E-10	1.09E-10	6.25E-10	3.01E-09	9.72E-11	1.42E-10	1.12E-10	9.80E-11
	D	1.00E-01	5.0	3.82E-10	4.08E-10	3.91E-10	7.08E-10	3.92E-10	2.42E-09	1.17E-08	3.81E-10	4.25E-10	3.95E-10	3.81E-10
PO-212	W	1.00E-01	5.0	3.39E-23	3.39E-23	3.39E-23	6.18E-23	3.39E-23	1.46E-22	1.05E-21	3.39E-23	3.39E-23	3.39E-23	3.39E-23
	D	1.00E-01	5.0	1.33E-22	1.33E-22	1.33E-22	2.43E-22	1.33E-22	5.75E-22	4.11E-21	1.33E-22	1.33E-22	1.33E-22	1.33E-22
PO-213	W	1.00E-01	5.0	1.33E-16	1.33E-16	8.44E-15	2.32E-15	1.33E-16	6.75E-15	1.34E-16	1.33E-16	1.34E-16	1.33E-16	1.33E-16
	D	1.00E-01	5.0	1.33E-16	1.33E-16	8.44E-15	2.32E-15	1.33E-16	6.75E-15	1.34E-16	1.33E-16	1.34E-16	1.33E-16	1.33E-16
PO-214	W	1.00E-01	5.0	1.75E-13	1.75E-13	1.16E-11	3.69E-13	1.76E-13	5.44E-12	3.06E-13	1.75E-13	1.75E-13	1.75E-13	1.75E-13
	D	1.00E-01	5.0	1.87E-13	1.87E-13	1.17E-11	3.81E-13	1.88E-13	5.45E-12	6.71E-13	1.87E-13	1.87E-13	1.87E-13	1.87E-13
PO-215	W	1.00E-01	5.0	6.27E-11	6.40E-11	1.94E-09	1.65E-09	6.32E-11	1.52E-08	6.36E-11	6.26E-11	6.42E-11	6.31E-11	6.28E-11
	D	1.00E-01	5.0	6.27E-11	6.40E-11	1.94E-09	1.65E-09	6.32E-11	1.52E-08	6.38E-11	6.26E-11	6.42E-11	6.31E-11	6.28E-11
PO-216	W	1.00E-01	5.0	1.70E-08	1.60E-08	3.28E-07	2.86E-07	1.54E-08	2.14E-06	1.61E-08	1.50E-08	1.57E-08	1.51E-08	1.59E-08
	D	1.00E-01	5.0	1.70E-08	1.60E-08	3.28E-07	2.86E-07	1.54E-08	2.14E-06	1.73E-08	1.50E-08	1.58E-08	1.51E-08	1.60E-08
PO-218	W	1.00E-01	5.0	3.88E-05	4.06E-05	2.49E-04	2.33E-04	3.93E-05	1.42E-03	5.20E-04	3.85E-05	4.11E-05	3.91E-05	3.88E-05
	D	1.00E-01	5.0	8.32E-05	8.50E-05	2.67E-04	2.92E-04	8.33E-05	1.59E-03	1.97E-03	8.26E-05	8.49E-05	8.31E-05	8.32E-05
AT-217	D	0.95	5.0	3.79E-10	8.16E-10	4.46E-10	7.07E-10	4.68E-10	9.74E-10	6.92E-10	3.04E-10	9.41E-10	4.74E-10	3.98E-10
RN-219	*	0.0	***	1.54E-08	1.82E-08	5.31E-07	4.52E-07	1.65E-08	4.15E-06	1.77E-08	1.52E-08	1.96E-08	1.64E-08	1.53E-08
RN-220	*	0.0	***	1.21E-07	1.51E-07	2.93E-06	2.52E-06	1.20E-07	1.90E-05	1.48E-07	9.60E-08	1.78E-07	1.16E-07	1.09E-07
RN-222	*	0.0	***	2.72E-07	3.47E-07	2.39E-06	1.68E-06	3.01E-07	1.03E-05	3.97E-06	2.66E-07	4.30E-07	3.02E-07	2.72E-07
FR-221	D	0.95	5.0	1.98E-04	2.01E-04	1.96E-04	3.58E-04	1.97E-04	1.45E-03	2.00E-04	1.96E-04	2.01E-04	1.97E-04	1.97E-04

TOTAL INHALATION DOSES
ALPHA Q = 20
(REM/MICROCURIE)

NUCLIDE	SOL	F1	AMAD	LUNGS	RES LYM	S WALL	SI WALL	ULI WALL	LLI WALL	T BODY	ADREN	BL WALL	KIDNEYS	LIVER
RA-223	W	0.20	5.0	23.	20.	1.83E-02	3.82E-02	0.22	0.63	1.1	0.36	0.18	0.41	0.37
RA-224	W	0.20	5.0	5.5	2.3	1.15E-02	2.56E-02	0.16	0.45	0.32	0.11	5.33E-02	0.14	0.11
RA-225	W	0.20	5.0	10.	28.	2.95E-03	4.25E-03	2.94E-02	0.11	0.90	0.35	0.18	0.39	0.71
RA-226	W	0.20	5.0	21.	1.06E 02	5.00E-03	1.03E-02	6.35E-02	0.26	23.	0.85	0.43	0.85	0.85
RA-228	W	0.20	5.0	1.7	59.	6.36E-03	9.99E-03	2.86E-02	7.06E-02	13.	1.2	0.58	1.4	3.2
AC-225	Y	1.00E-03	5.0	24.	6.1	3.37E-02	3.93E-02	0.25	0.71	0.48	4.41E-02	2.36E-02	0.14	0.71
	W	1.00E-03	5.0	21.	13.	3.13E-02	3.62E-02	0.22	0.63	1.7	8.84E-02	4.55E-02	1.2	8.6
AC-227	Y	1.00E-03	5.0	3.63E 02	4.42E 04	2.79E-02	4.21E-02	0.22	0.64	1.26E 02	3.2	1.6	49.	3.74E 02
	W	1.00E-03	5.0	30.	5.29E 02	3.56E-02	3.85E-02	6.80E-02	0.11	6.35E 02	15.	7.5	2.76E 02	2.14E 03
AC-228	Y	1.00E-03	5.0	9.03E-02	3.1	7.71E-04	1.29E-03	2.86E-03	2.53E-03	6.23E-03	2.82E-04	1.44E-04	2.05E-03	1.47E-02
	W	1.00E-03	5.0	1.88E-02	0.18	6.67E-04	1.10E-03	2.38E-03	1.96E-03	3.88E-02	1.20E-03	5.92E-04	1.78E-02	0.14
TH-227	Y	1.00E-03	5.0	27.	44.	6.31E-03	1.50E-02	9.49E-02	0.33	0.60	3.13E-02	1.57E-02	0.10	0.62
	W	1.00E-03	5.0	21.	59.	5.88E-03	1.35E-02	8.32E-02	0.28	2.3	6.83E-02	3.44E-02	1.0	7.6
TH-228	Y	1.00E-03	5.0	2.55E 02	9.15E 03	3.72E-02	7.79E-02	0.46	1.4	15.	0.36	0.18	4.3	31.
	W	1.00E-03	5.0	44.	5.29E 02	1.57E-02	2.98E-02	0.16	0.57	79.	1.7	0.86	36.	2.79E 02
TH-229	Y	1.00E-03	5.0	4.36E 02	5.00E 04	8.19E-02	7.48E-02	0.26	0.67	1.88E 02	5.2	2.6	75.	5.72E 02
	W	1.00E-03	5.0	43.	4.41E 02	0.19	0.21	0.30	0.39	9.06E 02	23.	11.	3.92E 02	3.03E 03
TH-230	Y	1.00E-03	5.0	1.87E 02	1.33E 04	3.68E-03	9.01E-03	5.28E-02	0.16	76.	2.7	1.4	48.	3.70E 02
	W	1.00E-03	5.0	21.	1.03E 02	3.61E-03	8.31E-03	4.69E-02	0.14	3.79E 02	15.	7.3	2.54E 02	1.97E 03
TH-231	Y	1.00E-03	5.0	3.93E-03	5.72E-03	4.45E-04	1.04E-03	4.31E-03	7.69E-03	1.28E-04	6.52E-06	8.66E-06	1.68E-05	1.01E-04
	W	1.00E-03	5.0	3.58E-03	3.66E-03	3.88E-04	9.03E-04	3.74E-03	6.68E-03	2.19E-04	1.30E-05	1.05E-05	1.06E-04	7.89E-04
TH-232	Y	1.00E-03	5.0	1.62E 02	1.24E 04	5.79E-03	1.07E-02	4.98E-02	0.14	78.	2.4	1.2	41.	3.21E 02
	W	1.00E-03	5.0	18.	90.	1.19E-02	1.88E-02	5.19E-02	0.13	3.86E 02	13.	6.3	2.20E 02	1.70E 03
PA-231	Y	1.00E-03	5.0	2.12E 02	2.52E 04	1.42E-02	1.94E-02	7.33E-02	0.19	2.01E 02	6.0	3.0	97.	7.49E 02
	W	1.00E-03	5.0	22.	1.13E 02	4.40E-02	5.02E-02	0.10	0.18	9.72E 02	29.	15.	4.87E 02	3.79E 03
PA-233	Y	1.00E-03	5.0	2.58E-02	4.62E-02	1.04E-03	2.42E-03	1.08E-02	3.04E-02	7.64E-04	2.98E-04	2.38E-04	3.18E-04	1.35E-03
	W	1.00E-03	5.0	1.93E-02	4.41E-02	1.09E-03	2.33E-03	9.84E-03	2.71E-02	1.45E-03	7.49E-04	3.11E-04	2.10E-03	1.42E-02
U-232	Y	2.00E-03	5.0	3.15E 02	5.18E 04	2.35E-02	3.51E-02	0.18	0.51	30.	1.9	0.96	6.5	30.
	W	5.00E-02	5.0	25.	1.78E 02	1.19E-02	1.75E-02	6.16E-02	0.17	43.	9.7	4.9	16.	12.
	D	5.00E-02	5.0	0.48	6.6	2.77E-02	3.15E-02	5.15E-02	0.10	1.35E 02	31.	16.	51.	31.

TOTAL INHALATION DOSES
ALPHA Q = 20
(REM/MICROCURIE)

NUCLIDE	SOL	F1	AMAD	OVARIES	PANCREAS	BONE	R MAR	Y MAR	ENDOST	SPLEEN	TESTES	THYMUS	THYROID	UTERUS
RA-223	W	0.20	5.0	0.36	0.36	1.5	1.6	0.36	12.	0.36	0.36	0.36	0.36	0.36
RA-224	W	0.20	5.0	0.10	0.11	0.50	0.52	0.11	4.2	0.11	0.10	0.10	0.10	0.11
RA-225	W	0.20	5.0	0.36	0.35	1.5	1.6	0.35	13.	0.35	0.36	0.35	0.35	0.35
RA-226	W	0.20	5.0	0.85	0.85	62.	29.	0.86	2.91E 02	0.85	0.85	0.85	0.85	0.85
RA-228	W	0.20	5.0	1.2	1.2	33.	29.	1.2	3.05E 02	1.2	1.2	1.2	1.2	1.2
AC-225	Y	1.00E-03	5.0	7.18E-02	4.47E-02	0.28	0.28	4.37E-02	2.3	4.43E-02	6.61E-02	4.45E-02	4.63E-02	4.55E-02
	W	1.00E-03	5.0	0.39	8.86E-02	3.1	2.7	8.74E-02	26.	8.74E-02	0.38	8.74E-02	0.13	8.82E-02
AC-227	Y	1.00E-03	5.0	18.	3.2	2.81E 02	2.35E 02	3.2	2.34E 03	3.2	18.	3.2	3.2	3.2
	W	1.00E-03	5.0	1.02E 02	15.	1.60E 03	1.34E 03	15.	1.33E 04	15.	1.02E 02	15.	15.	15.
AC-228	Y	1.00E-03	5.0	8.21E-04	3.22E-04	1.04E-02	8.85E-03	2.38E-04	9.45E-02	2.95E-04	6.56E-04	3.22E-04	2.26E-04	2.89E-04
	W	1.00E-03	5.0	5.73E-03	1.23E-03	9.58E-02	8.03E-02	1.15E-03	0.87	1.20E-03	5.60E-03	1.22E-03	1.13E-03	1.18E-03
TH-227	Y	1.00E-03	5.0	5.16E-02	3.13E-02	0.49	0.44	3.12E-02	4.0	3.12E-02	5.12E-02	3.14E-02	3.11E-02	3.13E-02
	W	1.00E-03	5.0	0.33	6.83E-02	4.9	4.1	6.83E-02	41.	6.80E-02	0.33	6.82E-02	6.80E-02	6.82E-02
TH-228	Y	1.00E-03	5.0	1.4	0.36	22.	19.	0.36	2.04E 02	0.36	1.4	0.36	0.36	0.36
	W	1.00E-03	5.0	11.	1.7	1.95E 02	1.63E 02	1.7	1.78E 03	1.7	11.	1.7	1.7	1.7
TH-229	Y	1.00E-03	5.0	30.	5.2	4.29E 02	3.60E 02	5.2	4.25E 03	5.1	30.	5.2	5.1	5.1
	W	1.00E-03	5.0	1.54E 02	23.	2.28E 03	1.91E 03	23.	2.26E 04	23.	1.53E 02	23.	23.	23.
TH-230	Y	1.00E-03	5.0	19.	2.7	1.67E 02	1.40E 02	2.7	2.17E 03	2.7	19.	2.7	2.7	2.7
	W	1.00E-03	5.0	99.	15.	8.94E 02	7.51E 02	15.	1.16E 04	15.	100.	15.	15.	15.
TH-231	Y	1.00E-03	5.0	5.54E-05	9.67E-06	5.77E-05	5.32E-05	1.05E-05	4.06E-04	8.02E-06	6.00E-06	8.07E-06	2.02E-06	1.47E-05
	W	1.00E-03	5.0	8.04E-05	1.55E-05	3.84E-04	2.40E-04	2.17E-05	2.47E-03	1.30E-05	3.72E-05	1.30E-05	7.30E-06	1.84E-05
TH-232	Y	1.00E-03	5.0	16.	2.4	1.77E 02	1.48E 02	2.4	2.46E 03	2.4	16.	2.4	2.4	2.4
	W	1.00E-03	5.0	86.	13.	9.37E 02	7.85E 02	13.	1.31E 04	13.	86.	13.	13.	13.
PA-231	Y	1.00E-03	5.0	39.	6.0	4.76E 02	3.61E 02	6.0	4.65E 03	6.0	39.	6.0	6.0	6.0
	W	1.00E-03	5.0	1.98E 02	29.	2.40E 03	1.83E 03	29.	2.37E 04	29.	1.98E 02	29.	29.	29.
PA-233	Y	1.00E-03	5.0	8.10E-04	3.50E-04	4.97E-04	4.05E-04	2.24E-04	4.07E-04	2.76E-04	1.09E-04	3.65E-04	9.97E-05	3.29E-04
	W	1.00E-03	5.0	1.28E-03	7.28E-04	4.44E-03	1.45E-03	6.40E-04	3.29E-03	4.24E-04	6.20E-04	4.68E-04	2.31E-04	4.58E-04
U-232	Y	2.00E-03	5.0	2.7	1.9	36.	29.	1.9	2.93E 02	1.9	2.7	1.9	1.9	1.9
	W	5.00E-02	5.0	9.7	9.7	1.04E 02	75.	9.7	7.25E 02	9.7	9.7	9.7	9.7	9.7
	D	5.00E-02	5.0	31.	31.	3.33E 02	2.38E 02	32.	2.31E 03	31.	31.	31.	31.	31.

TOTAL INHALATION DOSES
ALPHA Q = 20
(REM/MICROCURIE)

NUCLIDE	SOL	F1	AMAD	LUNGS	RES LYM	S WALL	SI WALL	ULI WALL	LLI WALL	T BODY	ADREN	BL WALL	KIDNEYS	LIVER
U-233	Y	2.00E-03	5.0	1.93E 02	1.37E 04	4.52E-03	9.98E-03	5.45E-02	0.16	7.5	0.60	0.30	0.89	0.60
	W	5.00E-02	5.0	21.	1.06E 02	8.79E-03	1.32E-02	5.05E-02	0.14	12.	4.0	2.0	5.8	3.9
	D	5.00E-02	5.0	0.40	4.3	1.96E-02	2.18E-02	3.98E-02	8.34E-02	38.	13.	6.4	19.	13.
U-234	Y	2.00E-03	5.0	1.91E 02	1.35E 04	4.50E-03	9.94E-03	5.45E-02	0.16	7.4	0.60	0.30	0.89	0.60
	W	5.00E-02	5.0	21.	1.05E 02	8.72E-03	1.31E-02	5.05E-02	0.14	12.	3.9	2.0	5.7	3.9
	D	5.00E-02	5.0	0.40	4.2	1.94E-02	2.16E-02	3.96E-02	8.32E-02	38.	13.	6.4	19.	13.
U-235	Y	2.00E-03	5.0	1.73E 02	1.22E 04	1.21E-02	1.77E-02	8.38E-02	0.22	6.7	0.55	0.27	0.80	0.57
	W	5.00E-02	5.0	19.	95.	1.06E-02	1.58E-02	5.63E-02	0.16	11.	3.5	1.8	5.2	3.5
	D	5.00E-02	5.0	0.36	3.8	2.33E-02	2.65E-02	4.47E-02	9.15E-02	34.	12.	5.8	17.	12.
U-236	Y	2.00E-03	5.0	1.80E 02	1.28E 04	4.23E-03	9.36E-03	5.16E-02	0.15	7.0	0.56	0.28	0.83	0.56
	W	5.00E-02	5.0	20.	99.	8.22E-03	1.24E-02	4.77E-02	0.13	11.	3.7	1.8	5.4	3.7
	D	5.00E-02	5.0	0.38	4.0	1.83E-02	2.03E-02	3.74E-02	7.83E-02	36.	12.	6.0	18.	12.
U-238	Y	2.00E-03	5.0	1.71E 02	1.20E 04	6.00E-03	1.28E-02	7.14E-02	0.21	6.6	0.53	0.27	0.78	0.54
	W	5.00E-02	5.0	19.	93.	8.18E-03	1.25E-02	4.92E-02	0.14	11.	3.5	1.7	5.1	3.5
	D	5.00E-02	5.0	0.35	3.7	1.79E-02	1.99E-02	3.62E-02	7.73E-02	33.	11.	5.7	17.	11.
U-240	Y	2.00E-03	5.0	1.36E-02	1.67E-02	1.76E-03	3.69E-03	1.26E-02	1.72E-02	3.88E-04	6.77E-05	6.73E-05	2.36E-04	1.57E-04
	W	5.00E-02	5.0	1.21E-02	1.23E-02	1.52E-03	3.09E-03	1.05E-02	1.43E-02	4.58E-04	9.99E-05	8.18E-05	2.49E-03	4.06E-04
	D	5.00E-02	5.0	2.13E-03	1.18E-02	1.20E-03	2.66E-03	8.90E-03	1.21E-02	4.99E-04	1.69E-04	1.43E-04	9.21E-03	2.11E-04
NP-237	Y	1.00E-03	5.0	2.03E 02	1.43E 04	2.46E-02	2.74E-02	8.57E-02	0.20	82.	3.0	1.5	52.	3.99E 02
	W	1.00E-03	5.0	23.	1.11E 02	8.73E-02	9.22E-02	0.16	0.21	4.09E 02	16.	7.9	2.75E 02	2.13E 03
NP-238	Y	1.00E-03	5.0	1.88E-02	0.67	1.21E-03	2.94E-03	1.08E-02	2.29E-02	4.71E-03	4.28E-04	3.97E-04	2.92E-03	2.12E-02
	W	1.00E-03	5.0	8.87E-03	1.42E-02	1.10E-03	2.61E-03	9.48E-03	2.00E-02	2.66E-02	1.43E-03	8.37E-04	1.81E-02	0.14
NP-239	Y	1.00E-03	5.0	7.80E-03	1.07E-02	8.92E-04	2.17E-03	9.46E-03	2.14E-02	3.13E-04	7.54E-05	1.30E-04	9.87E-05	2.83E-04
	W	1.00E-03	5.0	7.17E-03	7.70E-03	7.95E-04	1.91E-03	8.28E-03	1.87E-02	4.59E-04	1.12E-04	1.24E-04	3.34E-04	2.04E-03
NP-240M	Y	1.00E-03	5.0	2.26E-04	2.57E-04	5.65E-06	6.61E-07	2.35E-07	4.62E-08	3.93E-06	9.23E-07	4.30E-08	5.56E-07	2.03E-06
	W	1.00E-03	5.0	2.17E-04	2.18E-04	4.85E-06	5.92E-07	2.46E-07	5.94E-08	4.83E-06	1.01E-06	8.91E-08	1.48E-06	9.08E-06
NP-240	Y	1.00E-03	5.0	1.52E-03	1.79E-03	1.65E-04	1.06E-04	7.92E-05	1.68E-05	4.22E-05	3.09E-05	3.33E-06	1.76E-05	4.36E-05
	W	1.00E-03	5.0	1.39E-03	1.39E-03	1.42E-04	9.13E-05	6.93E-05	1.53E-05	5.20E-05	3.29E-05	3.99E-06	3.09E-05	1.42E-04
PU-236	Y	3.00E-05	5.0	1.60E 02	3.98E 03	4.70E-03	1.11E-02	6.48E-02	0.19	9.4	0.69	0.35	4.3	44.
	W	3.00E-05	5.0	25.	1.16E 02	4.80E-03	1.05E-02	5.79E-02	0.17	50.	2.3	1.2	36.	3.70E 02
PU-238	Y	3.00E-05	5.0	2.17E 02	1.38E 04	4.24E-03	1.05E-02	6.19E-02	0.18	72.	2.5	1.3	45.	3.49E 02
	W	3.00E-05	5.0	24.	1.21E 02	4.04E-03	9.54E-03	5.49E-02	0.16	3.71E 02	14.	7.1	2.52E 02	1.95E 03

TOTAL INHALATION DOSES
ALPHA Q = 20
(REM/MICROCURIE)

NUCLIDE	SOL	F1	AMAD	OVARIES	PANCREAS	BONE	R MAR	Y MAR	ENDOST	SPLEEN	TESTES	THYMUS	THYROID	UTERUS
U-233	Y	2.00E-03	5.0	0.60	0.60	4.1	0.65	0.60	1.8	0.60	0.60	0.60	0.60	0.60
	W	5.00E-02	5.0	4.0	4.0	27.	4.3	4.0	12.	4.0	4.0	4.0	4.0	4.0
	D	5.00E-02	5.0	13.	13.	88.	14.	13.	39.	13.	13.	13.	13.	13.
U-234	Y	2.00E-03	5.0	0.60	0.60	4.1	0.64	0.60	1.8	0.60	0.60	0.60	0.60	0.60
	W	5.00E-02	5.0	3.9	3.9	27.	4.2	3.9	12.	3.9	3.9	3.9	3.9	3.9
	D	5.00E-02	5.0	13.	13.	87.	14.	13.	39.	13.	13.	13.	13.	13.
U-235	Y	2.00E-03	5.0	0.54	0.55	3.7	0.59	0.54	1.7	0.54	0.54	0.55	0.54	0.54
	W	5.00E-02	5.0	3.5	3.6	24.	3.8	3.5	10.	3.5	3.5	3.6	3.5	3.6
	D	5.00E-02	5.0	12.	12.	79.	12.	12.	33.	12.	12.	12.	12.	12.
U-236	Y	2.00E-03	5.0	0.56	0.56	3.9	0.60	0.56	1.6	0.56	0.56	0.56	0.56	0.56
	W	5.00E-02	5.0	3.7	3.7	25.	3.9	3.7	11.	3.7	3.7	3.7	3.7	3.7
	D	5.00E-02	5.0	12.	12.	82.	13.	12.	35.	12.	12.	12.	12.	12.
U-238	Y	2.00E-03	5.0	0.53	0.53	3.6	0.58	0.53	1.5	0.53	0.53	0.53	0.53	0.53
	W	5.00E-02	5.0	3.5	3.5	24.	3.8	3.5	9.7	3.5	3.5	3.5	3.5	3.5
	D	5.00E-02	5.0	11.	11.	79.	12.	11.	32.	11.	11.	11.	11.	11.
U-240	Y	2.00E-03	5.0	2.37E-04	9.91E-05	9.15E-05	1.12E-04	4.46E-05	5.10E-04	7.65E-05	2.42E-05	7.90E-05	2.67E-05	1.11E-04
	W	5.00E-02	5.0	2.36E-04	1.20E-04	4.79E-04	3.42E-04	7.24E-05	2.73E-03	1.01E-04	5.78E-05	9.94E-05	5.26E-05	1.23E-04
	D	5.00E-02	5.0	2.74E-04	1.64E-04	1.26E-03	7.59E-04	1.41E-04	6.03E-03	1.58E-04	1.22E-04	1.20E-04	1.10E-04	1.85E-04
NP-237	Y	1.00E-03	5.0	20.	3.0	1.81E 02	1.52E 02	3.0	2.15E 03	3.0	20.	3.0	2.9	3.0
	W	1.00E-03	5.0	1.07E 02	16.	9.69E 02	8.13E 02	16.	1.15E 04	16.	1.08E 02	16.	16.	16.
NP-238	Y	1.00E-03	5.0	2.03E-03	4.97E-04	9.45E-03	8.16E-03	3.70E-04	9.80E-02	4.63E-04	1.12E-03	4.59E-04	3.01E-04	6.65E-04
	W	1.00E-03	5.0	7.76E-03	1.47E-03	6.19E-02	5.21E-02	1.34E-03	0.65	1.40E-03	6.96E-03	1.39E-03	1.23E-03	1.56E-03
NP-239	Y	1.00E-03	5.0	4.32E-04	1.11E-04	1.40E-04	1.96E-04	8.11E-05	5.76E-04	8.65E-05	3.95E-05	8.44E-05	2.04E-05	1.89E-04
	W	1.00E-03	5.0	4.58E-04	1.40E-04	7.75E-04	4.77E-04	1.17E-04	3.55E-03	9.92E-05	1.12E-04	9.76E-05	3.60E-05	1.84E-04
NP-240M	Y	1.00E-03	5.0	1.28E-07	1.06E-06	8.62E-07	8.66E-07	4.14E-07	5.33E-06	8.50E-07	6.71E-08	1.48E-06	4.73E-07	7.24E-08
	W	1.00E-03	5.0	4.69E-07	1.13E-06	3.74E-06	2.97E-06	5.04E-07	3.06E-05	9.02E-07	4.06E-07	1.51E-06	5.39E-07	1.54E-07
NP-240	Y	1.00E-03	5.0	1.09E-05	3.92E-05	1.83E-05	2.17E-05	1.43E-05	6.17E-05	3.17E-05	1.44E-06	4.76E-05	1.53E-05	7.90E-06
	W	1.00E-03	5.0	1.46E-05	3.92E-05	5.46E-05	4.50E-05	1.65E-05	3.36E-04	3.07E-05	6.16E-06	4.54E-05	1.55E-05	8.64E-06
PU-236	Y	3.00E-05	5.0	2.3	0.69	13.	12.	0.69	1.27E 02	0.70	2.3	0.69	0.69	0.69
	W	3.00E-05	5.0	16.	2.3	1.09E 02	91.	2.3	1.05E 03	2.3	16.	2.3	2.3	2.3
PU-238	Y	3.00E-05	5.0	17.	2.5	1.55E 02	1.31E 02	2.5	1.63E 03	2.5	17.	2.5	2.5	2.5
	W	3.00E-05	5.0	97.	14.	8.72E 02	7.33E 02	14.	9.18E 03	14.	97.	14.	14.	14.

TOTAL INHALATION DOSES
ALPHA Q = 20
(REM/MICROCURIE)

NUCLIDE	SOL	F1	AMAD	LUNGS	RES LYM	S WALL	SI WALL	ULI WALL	LLI WALL	T BODY	ADREN	BL WALL	KIDNEYS	LIVER
PU-239	Y	3.00E-05	5.0	2.07E 02	1.46E 04	3.98E-03	9.94E-03	5.76E-02	0.17	82.	2.9	1.4	51.	3.94E 02
	W	3.00E-05	5.0	23.	1.13E 02	3.78E-03	8.93E-03	5.10E-02	0.15	4.15E 02	16.	8.0	2.79E 02	2.16E 03
PU-240	Y	3.00E-05	5.0	2.07E 02	1.46E 04	3.98E-03	9.89E-03	5.81E-02	0.17	81.	2.9	1.4	51.	3.93E 02
	W	3.00E-05	5.0	23.	1.14E 02	3.80E-03	8.99E-03	5.15E-02	0.15	4.15E 02	16.	8.0	2.78E 02	2.16E 03
PU-241	Y	3.00E-05	5.0	0.39	1.22E 02	6.11E-05	8.58E-05	3.48E-04	9.23E-04	1.7	7.33E-02	3.66E-02	1.1	8.3
	W	3.00E-05	5.0	5.75E-03	6.74E-02	2.03E-04	2.20E-04	5.04E-04	8.87E-04	8.5	0.33	0.16	5.4	42.
PU-242	Y	3.00E-05	5.0	1.96E 02	1.39E 04	3.96E-03	9.41E-03	5.53E-02	0.17	77.	2.8	1.4	48.	3.74E 02
	W	3.00E-05	5.0	22.	1.08E 02	3.85E-03	8.73E-03	4.92E-02	0.15	3.94E 02	15.	7.6	2.64E 02	2.05E 03
PU-243	Y	3.00E-05	5.0	1.62E-03	2.68E-03	1.94E-04	3.11E-04	6.44E-04	4.42E-04	3.90E-05	3.22E-06	1.38E-06	7.22E-06	4.50E-05
	W	3.00E-05	5.0	1.45E-03	1.46E-03	1.66E-04	2.66E-04	5.51E-04	3.78E-04	7.72E-05	5.71E-06	2.51E-06	4.15E-05	3.09E-04
PU-244	Y	3.00E-05	5.0	1.95E 02	1.37E 04	6.56E-02	7.97E-02	0.24	0.45	76.	2.8	1.4	48.	3.70E 02
	W	3.00E-05	5.0	22.	1.07E 02	0.18	0.19	0.30	0.37	3.89E 02	16.	7.6	2.62E 02	2.03E 03
AM-241	Y	1.00E-03	5.0	2.19E 02	1.52E 04	6.92E-03	1.25E-02	6.49E-02	0.19	86.	3.1	1.5	54.	4.18E 02
	W	1.00E-03	5.0	24.	1.21E 02	1.38E-02	1.89E-02	6.82E-02	0.17	4.28E 02	17.	8.3	2.88E 02	2.23E 03
AM-242M	Y	1.00E-03	5.0	78.	1.10E 04	5.23E-03	9.94E-03	4.11E-02	8.71E-02	83.	3.1	1.6	54.	4.16E 02
	W	1.00E-03	5.0	2.6	37.	5.89E-03	7.11E-03	1.84E-02	3.91E-02	4.20E 02	16.	8.1	2.81E 02	2.18E 03
AM-242	Y	1.00E-03	5.0	0.18	0.94	4.00E-04	8.63E-04	3.30E-03	5.19E-03	6.43E-03	1.85E-04	9.49E-05	2.82E-03	2.18E-02
	W	1.00E-03	5.0	5.93E-02	0.23	3.47E-04	7.48E-04	2.85E-03	4.49E-03	3.92E-02	1.74E-03	8.72E-04	3.01E-02	0.23
AM-243	Y	1.00E-03	5.0	2.12E 02	1.49E 04	2.94E-02	3.58E-02	0.12	0.29	86.	3.1	1.5	54.	4.17E 02
	W	1.00E-03	5.0	24.	1.16E 02	9.25E-02	9.82E-02	0.17	0.24	4.27E 02	17.	8.3	2.87E 02	2.22E 03
CM-242	Y	1.00E-03	5.0	63.	3.29E 02	4.53E-03	1.12E-02	6.62E-02	0.20	1.9	3.80E-02	1.90E-02	0.70	5.4
	W	1.00E-03	5.0	22.	79.	4.38E-03	1.04E-02	5.97E-02	0.18	9.6	0.35	0.18	7.3	57.
CM-243	Y	1.00E-03	5.0	2.24E 02	1.18E 04	1.33E-02	1.84E-02	7.98E-02	0.22	56.	1.9	0.96	35.	2.74E 02
	W	1.00E-03	5.0	26.	1.27E 02	3.54E-02	4.18E-02	0.10	0.21	2.85E 02	11.	5.5	1.99E 02	1.55E 03
CM-244	Y	1.00E-03	5.0	2.16E 02	9.92E 03	4.46E-03	1.10E-02	6.51E-02	0.19	43.	1.4	0.72	27.	2.11E 02
	W	1.00E-03	5.0	26.	1.26E 02	4.26E-03	1.01E-02	5.78E-02	0.17	2.23E 02	8.5	4.2	1.59E 02	1.23E 03
CM-245	Y	1.00E-03	5.0	2.15E 02	1.52E 04	1.19E-02	1.68E-02	7.18E-02	0.20	89.	3.2	1.6	56.	4.32E 02
	W	1.00E-03	5.0	24.	1.18E 02	3.28E-02	3.90E-02	9.48E-02	0.19	4.41E 02	17.	8.5	2.96E 02	2.29E 03
CM-246	Y	1.00E-03	5.0	2.17E 02	1.54E 04	8.51E-03	1.32E-02	6.43E-02	0.18	88.	3.1	1.6	55.	4.27E 02
	W	1.00E-03	5.0	24.	1.19E 02	1.92E-02	2.31E-02	7.08E-02	0.17	4.39E 02	17.	8.4	2.94E 02	2.28E 03
CM-247	Y	1.00E-03	5.0	1.99E 02	1.41E 04	4.26E-02	4.33E-02	0.11	0.22	81.	3.0	1.5	51.	3.93E 02
	W	1.00E-03	5.0	22.	1.09E 02	0.14	0.15	0.24	0.26	4.02E 02	16.	7.8	2.70E 02	2.09E 03
CM-248	Y	1.00E-03	5.0	7.92E 02	5.57E 04	1.5	1.1	1.5	1.5	3.22E 02	15.	6.2	2.03E 02	1.56E 03
	W	1.00E-03	5.0	92.	4.36E 02	5.4	4.9	6.3	3.7	1.60E 03	75.	33.	1.08E 03	8.32E 03
CF-252	Y	1.00E-03	5.0	3.12E 02	5.62E 03	0.14	8.73E-02	0.21	0.51	16.	0.55	0.21	8.3	63.
	W	1.00E-03	5.0	50.	2.34E 02	0.27	0.27	0.43	0.56	87.	3.8	1.7	68.	5.27E 02

TOTAL INHALATION DOSES
ALPHA Q = 20
(REM/MICROCURIE)

NUCLIDE	SOL	F1	AMAD	OVARIES	PANCREAS	BONE	R MAR	Y MAR	ENDOST	SPLEEN	TESTES	THYMUS	THYROID	UTERUS
PU-239	Y	3.00E-05	5.0	20.	2.9	1.78E 02	1.50E 02	2.9	2.06E 03	2.9	20.	2.9	2.9	2.9
	W	3.00E-05	5.0	1.09E 02	16.	9.80E 02	8.26E 02	16.	1.14E 04	16.	1.09E 02	16.	16.	16.
PU-240	Y	3.00E-05	5.0	20.	2.9	1.77E 02	1.50E 02	2.9	2.06E 03	2.9	20.	2.9	2.9	2.9
	W	3.00E-05	5.0	1.09E 02	16.	9.78E 02	8.25E 02	16.	1.13E 04	16.	1.09E 02	16.	16.	16.
PU-241	Y	3.00E-05	5.0	0.43	7.33E-02	3.9	3.3	7.34E-02	41.	7.32E-02	0.44	7.32E-02	7.32E-02	7.32E-02
	W	3.00E-05	5.0	2.2	0.33	20.	17.	0.33	2.12E 02	0.33	2.3	0.33	0.33	0.33
PU-242	Y	3.00E-05	5.0	19.	2.8	1.70E 02	1.42E 02	2.8	2.08E 03	2.8	19.	2.8	2.8	2.8
	W	3.00E-05	5.0	1.04E 02	15.	9.34E 02	7.85E 02	15.	1.15E 04	15.	1.03E 02	15.	15.	15.
PU-243	Y	3.00E-05	5.0	6.94E-06	4.52E-06	2.08E-05	1.86E-05	3.13E-06	1.90E-04	3.56E-06	2.26E-06	4.42E-06	1.21E-06	3.33E-06
	W	3.00E-05	5.0	1.90E-05	6.81E-06	1.33E-04	9.96E-05	5.81E-06	1.21E-03	5.69E-06	1.50E-05	6.51E-06	3.56E-06	5.37E-06
PU-244	Y	3.00E-05	5.0	19.	2.8	1.67E 02	1.34E 02	2.8	2.10E 03	2.8	19.	2.8	2.8	2.8
	W	3.00E-05	5.0	1.03E 02	15.	9.22E 02	7.38E 02	15.	1.16E 04	15.	1.02E 02	15.	15.	15.
AM-241	Y	1.00E-03	5.0	21.	3.1	1.88E 02	1.58E 02	3.1	1.98E 03	3.1	21.	3.1	3.1	3.1
	W	1.00E-03	5.0	1.12E 02	17.	1.01E 03	8.51E 02	17.	1.06E 04	17.	1.13E 02	17.	17.	17.
AM-242M	Y	1.00E-03	5.0	21.	3.1	1.89E 02	1.59E 02	3.1	1.70E 03	3.1	21.	3.1	3.1	3.1
	W	1.00E-03	5.0	1.11E 02	16.	9.94E 02	8.37E 02	16.	8.94E 03	16.	1.10E 02	16.	16.	16.
AM-242	Y	1.00E-03	5.0	9.43E-04	1.87E-04	8.36E-03	7.09E-03	1.86E-04	7.77E-02	1.86E-04	9.28E-04	1.86E-04	1.83E-04	1.89E-04
	W	1.00E-03	5.0	9.76E-03	1.74E-03	8.77E-02	7.42E-02	1.74E-03	0.80	1.74E-03	9.73E-03	1.74E-03	1.74E-03	1.74E-03
AM-243	Y	1.00E-03	5.0	21.	3.1	1.90E 02	1.59E 02	3.1	2.11E 03	3.1	21.	3.1	3.1	3.1
	W	1.00E-03	5.0	1.12E 02	17.	1.01E 03	8.50E 02	17.	1.13E 04	17.	1.13E 02	17.	17.	17.
CM-242	Y	1.00E-03	5.0	0.23	3.80E-02	2.1	1.8	3.80E-02	20.	3.80E-02	0.23	3.80E-02	3.80E-02	3.80E-02
	W	1.00E-03	5.0	2.4	0.35	22.	18.	0.35	1.97E 02	0.35	2.4	0.35	0.35	0.35
CM-243	Y	1.00E-03	5.0	13.	1.9	1.18E 02	99.	1.9	1.12E 03	1.9	13.	1.9	1.9	1.9
	W	1.00E-03	5.0	74.	11.	6.67E 02	5.62E 02	11.	6.34E 03	11.	75.	11.	11.	11.
CM-244	Y	1.00E-03	5.0	9.9	1.4	89.	75.	1.4	8.55E 02	1.4	9.9	1.4	1.4	1.4
	W	1.00E-03	5.0	58.	8.5	5.22E 02	4.38E 02	8.5	5.01E 03	8.5	58.	8.5	8.5	8.5
CM-245	Y	1.00E-03	5.0	22.	3.2	1.96E 02	1.65E 02	3.2	2.14E 03	3.2	22.	3.2	3.2	3.2
	W	1.00E-03	5.0	1.16E 02	17.	1.03E 03	8.78E 02	17.	1.14E 04	17.	1.16E 02	17.	17.	17.
CM-246	Y	1.00E-03	5.0	22.	3.1	1.94E 02	1.61E 02	3.1	2.09E 03	3.1	22.	3.1	3.1	3.1
	W	1.00E-03	5.0	1.15E 02	17.	1.04E 03	8.62E 02	17.	1.12E 04	17.	1.15E 02	17.	17.	17.
CM-247	Y	1.00E-03	5.0	20.	3.0	1.78E 02	1.50E 02	3.0	2.16E 03	2.9	20.	2.9	2.9	2.9
	W	1.00E-03	5.0	1.06E 02	16.	9.53E 02	8.01E 02	16.	1.15E 04	16.	1.06E 02	16.	16.	16.
CM-248	Y	1.00E-03	5.0	79.	14.	7.05E 02	1.51E 02	13.	2.17E 03	13.	79.	13.	12.	12.
	W	1.00E-03	5.0	4.19E 02	71.	3.77E 03	8.05E 02	70.	1.16E 04	66.	4.21E 02	65.	64.	64.
CF-252	Y	1.00E-03	5.0	2.7	0.52	24.	10.	0.47	1.10E 02	0.48	2.6	0.54	0.43	0.41
	W	1.00E-03	5.0	22.	3.7	1.96E 02	85.	3.5	9.14E 02	3.4	22.	3.4	3.3	3.3

TOTAL INGESTION DOSES
ALPHA Q = 20
(REM/MICROCURIE)

NUCLIDE	F1	LUNGS	RES LYM	S WALL	SI WALL	ULI WALL	LLI WALL	T BODY	ADREN	BL WALL	KIDNEYS	LIVER
PB-210	8.00E-02	6.93E-05	6.93E-05	1.95E-04	5.20E-04	4.26E-03	2.03E-02	7.4	0.30	0.15	0.94	1.4
PB-211	8.00E-02	6.75E-07	6.75E-07	4.24E-03	1.95E-03	7.94E-04	8.57E-05	5.77E-05	6.43E-06	3.61E-06	1.12E-04	9.72E-06
PB-212	8.00E-02	5.33E-05	5.33E-05	4.87E-03	1.71E-02	6.32E-02	7.57E-02	7.75E-03	6.41E-04	6.45E-04	3.43E-02	5.85E-03
PB-214	8.00E-02	7.59E-06	7.59E-06	3.14E-03	2.06E-03	8.73E-04	1.05E-04	8.16E-05	2.53E-05	1.87E-05	8.51E-04	2.97E-05
BI-210	5.00E-02	5.20E-11	5.20E-11	1.65E-03	3.85E-03	2.13E-02	5.71E-02	3.04E-03	1.25E-03	6.26E-04	0.37	2.32E-03
BI-211	5.00E-02	3.08E-08	3.08E-08	3.67E-04	1.50E-05	6.78E-07	3.57E-08	1.01E-06	1.12E-07	4.45E-08	1.00E-06	1.06E-07
BI-212	5.00E-02	1.29E-05	1.29E-05	5.90E-03	3.81E-03	2.41E-03	4.37E-04	1.39E-04	7.02E-05	4.52E-05	5.28E-03	7.24E-05
BI-213	5.00E-02	1.79E-05	1.79E-05	2.96E-03	1.49E-03	8.96E-04	1.55E-04	5.27E-05	4.04E-05	3.08E-05	2.01E-04	3.75E-05
BI-214	5.00E-02	6.36E-06	6.36E-06	3.18E-03	8.51E-04	2.15E-04	2.45E-05	4.02E-05	1.53E-05	8.08E-06	3.90E-04	1.58E-05
PO-210	1.00E-01	1.13E-08	1.13E-08	4.54E-03	1.02E-02	5.97E-02	0.18	0.56	0.52	0.26	9.3	1.6
PO-211	1.00E-01	2.28E-11	2.28E-11	1.42E-06	2.32E-10	3.93E-11	1.68E-11	3.08E-09	2.69E-11	6.12E-12	4.13E-11	2.52E-11
PO-212	1.00E-01	0.0	0.0	9.17E-13	6.97E-23	3.88E-33	5.95E-44	1.96E-15	3.48E-34	1.74E-34	6.26E-33	1.08E-33
PO-213	1.00E-01	6.56E-19	6.56E-19	1.22E-11	3.18E-13	5.07E-13	2.53E-13	3.16E-14	4.43E-17	2.20E-17	4.29E-15	1.54E-15
PO-214	1.00E-01	1.08E-16	1.08E-16	4.28E-10	2.69E-16	1.15E-15	4.79E-15	2.65E-12	7.02E-14	3.50E-14	2.22E-13	3.35E-13
PO-215	1.00E-01	5.57E-13	5.57E-13	7.97E-09	1.60E-09	6.51E-10	7.03E-11	1.00E-10	6.89E-12	3.77E-12	3.25E-10	9.02E-11
PO-216	1.00E-01	2.29E-10	2.29E-10	3.68E-07	6.71E-08	2.48E-07	2.97E-07	5.93E-08	3.62E-09	3.07E-09	2.75E-07	7.39E-08
PO-218	1.00E-01	8.31E-07	8.31E-07	6.84E-04	2.60E-04	1.08E-04	1.29E-05	1.45E-05	3.16E-06	2.35E-06	1.23E-04	1.11E-05
AT-217	0.95	2.11E-10	2.11E-10	1.13E-07	1.76E-08	1.06E-08	1.83E-09	7.93E-10	4.81E-10	3.66E-10	2.36E-09	4.46E-10
RN-219	0.0	2.40E-09	2.40E-09	2.69E-05	3.58E-06	1.45E-06	1.58E-07	2.44E-07	1.69E-08	8.62E-09	7.11E-07	2.02E-07
RN-220	0.0	8.46E-08	8.46E-08	2.51E-04	2.81E-05	9.20E-05	1.10E-04	2.22E-05	1.34E-06	1.14E-06	9.99E-05	2.74E-05
RN-222	0.0	1.15E-04	1.15E-04	1.48E-02	5.10E-02	0.27	0.69	4.60E-03	5.51E-04	1.76E-03	1.40E-02	1.90E-03
FR-221	0.95	1.87E-06	1.87E-06	1.47E-03	2.14E-04	1.00E-04	1.68E-05	6.10E-05	6.43E-05	3.35E-05	8.16E-05	6.42E-05
RA-223	0.20	5.16E-05	5.16E-05	2.23E-02	5.15E-02	0.31	0.97	0.56	0.27	0.14	0.27	0.27
RA-224	0.20	9.21E-05	9.21E-05	1.64E-02	3.69E-02	0.23	0.66	0.19	8.34E-02	4.25E-02	0.10	8.90E-02
RA-225	0.20	3.37E-04	3.37E-04	9.07E-04	2.14E-03	1.83E-02	9.74E-02	0.52	0.26	0.13	0.26	0.26
RA-226	0.20	1.76E-03	1.76E-03	5.37E-03	1.17E-02	7.93E-02	0.33	16.	0.59	0.30	0.59	0.59
RA-228	0.20	2.41E-03	2.41E-03	2.40E-03	5.82E-03	2.19E-02	7.15E-02	8.4	0.79	0.39	0.77	0.77

TOTAL INGESTION DOSES
ALPHA Q = 20
(REM/MICROCURIE)

NUCLIDE	F1	OVARIES	PANCREAS	BONE	R MAR	Y MAR	ENDOST	SPLEEN	TESTES	THYMUS	THYROID	UTERUS
PB-210	8.00E-02	0.30	0.30	21.	0.64	0.30	9.6	0.30	0.30	0.30	0.30	0.30
PB-211	8.00E-02	8.42E-06	1.16E-05	7.06E-05	6.14E-05	5.98E-06	5.28E-04	8.84E-06	5.42E-06	5.50E-06	5.40E-06	8.00E-06
PB-212	8.00E-02	1.87E-03	7.84E-04	1.83E-02	1.59E-02	6.53E-04	0.12	6.99E-04	6.31E-04	5.44E-04	5.22E-04	1.15E-03
PB-214	8.00E-02	5.17E-05	7.57E-05	9.49E-05	6.40E-05	1.85E-05	3.03E-04	4.92E-05	1.33E-05	1.35E-05	1.18E-05	4.64E-05
BI-210	5.00E-02	1.25E-03	1.25E-03	1.26E-03	1.27E-03	1.25E-03	5.89E-04	1.65E-02	1.25E-03	1.25E-03	1.25E-03	1.25E-03
BI-211	5.00E-02	8.81E-08	3.77E-07	8.36E-08	1.01E-07	8.94E-08	1.48E-07	2.40E-07	7.19E-08	7.66E-08	7.43E-08	9.48E-08
BI-212	5.00E-02	1.15E-04	1.40E-04	5.62E-05	1.05E-04	5.96E-05	3.03E-04	1.02E-04	5.32E-05	5.45E-05	4.97E-05	1.02E-04
BI-213	5.00E-02	7.68E-05	1.48E-04	1.71E-05	3.42E-05	2.14E-05	2.03E-05	8.89E-05	1.14E-05	1.42E-05	7.97E-06	7.21E-05
BI-214	5.00E-02	2.12E-05	6.04E-05	4.08E-05	1.49E-05	8.76E-06	4.16E-05	3.66E-05	5.82E-06	6.76E-06	5.11E-06	1.96E-05
PO-210	1.00E-01	0.52	0.52	0.52	0.53	0.52	0.24	16.	0.52	0.52	0.52	0.52
PO-211	1.00E-01	1.33E-11	2.11E-10	7.47E-12	1.27E-11	1.04E-11	7.48E-12	1.19E-10	1.30E-12	7.15E-12	2.10E-12	1.19E-11
PO-212	1.00E-01	3.49E-34	3.48E-34	3.48E-34	6.35E-34	3.48E-34	1.50E-33	1.08E-32	3.49E-34	3.48E-34	3.48E-34	3.48E-34
PO-213	1.00E-01	4.40E-17	4.96E-17	2.77E-15	7.62E-16	4.39E-17	2.22E-15	4.70E-17	4.36E-17	4.38E-17	4.36E-17	4.39E-17
PO-214	1.00E-01	7.01E-14	7.09E-14	4.80E-12	1.50E-13	7.05E-14	2.24E-12	7.05E-14	7.00E-14	7.01E-14	7.01E-14	7.01E-14
PO-215	1.00E-01	8.52E-12	1.11E-11	1.68E-10	1.43E-10	6.52E-12	1.30E-09	8.87E-12	6.06E-12	6.12E-12	6.04E-12	8.17E-12
PO-216	1.00E-01	8.43E-09	4.16E-09	1.44E-07	1.22E-07	3.66E-09	9.35E-07	3.82E-09	3.54E-09	3.20E-09	3.11E-09	5.60E-09
PO-218	1.00E-01	6.41E-06	8.55E-06	2.13E-05	1.62E-05	2.42E-06	9.60E-05	8.98E-06	1.88E-06	1.84E-06	1.64E-06	5.76E-06
AT-217	0.95	9.11E-10	1.75E-09	2.06E-10	4.11E-10	2.57E-10	2.51E-10	1.05E-09	1.38E-10	1.72E-10	9.81E-11	8.56E-10
RN-219	0.0	1.93E-08	3.65E-08	3.75E-07	3.19E-07	1.52E-08	2.89E-06	2.62E-08	1.35E-08	1.38E-08	1.35E-08	1.88E-08
RN-220	0.0	3.12E-06	1.54E-06	5.32E-05	4.53E-05	1.35E-06	3.47E-04	1.41E-06	1.31E-06	1.19E-06	1.15E-06	2.07E-06
RN-222	0.0	5.43E-03	8.34E-04	2.78E-03	3.03E-03	6.94E-04	1.31E-02	3.30E-03	7.06E-04	2.76E-04	2.44E-04	2.44E-03
FR-221	0.95	6.85E-05	7.48E-05	6.17E-05	1.13E-04	6.24E-05	4.49E-04	6.92E-05	6.14E-05	6.17E-05	6.11E-05	6.79E-05
RA-223	0.20	0.27	0.27	1.2	1.2	0.27	9.2	0.27	0.27	0.27	0.27	0.27
RA-224	0.20	8.27E-02	8.35E-02	0.40	0.41	8.35E-02	3.3	8.47E-02	8.05E-02	8.33E-02	8.32E-02	8.43E-02
RA-225	0.20	0.26	0.26	1.1	1.1	0.26	8.7	0.26	0.26	0.26	0.26	0.26
RA-226	0.20	0.59	0.59	43.	20.	0.60	2.02E 02	0.59	0.59	0.59	0.59	0.59
RA-228	0.20	0.78	0.79	22.	19.	0.79	2.03E 02	0.79	0.78	0.79	0.79	0.79

TOTAL INGESTION DOSES
ALPHA Q = 20
(REM/MICROCURIE)

NUCLIDE	F1	LUNGS	RES LYM	S WALL	SI WALL	ULI WALL	LLI WALL	T BODY	ADREN	BL WALL	KIDNEYS	LIVER
AC-225	1.00E-03	2.01E-04	2.01E-04	1.90E-02	4.39E-02	0.31	0.87	3.35E-02	2.13E-02	1.30E-02	3.16E-02	9.36E-02
AC-227	1.00E-03	3.54E-04	3.54E-04	3.77E-04	6.63E-04	4.45E-03	2.48E-02	4.8	0.11	5.68E-02	2.1	16.
AC-228	1.00E-03	2.59E-05	2.59E-05	2.08E-03	3.74E-03	8.07E-03	6.30E-03	3.82E-04	6.99E-05	1.47E-04	2.38E-04	8.77E-04
TH-227	1.00E-03	1.19E-05	1.19E-05	5.40E-03	1.40E-02	9.14E-02	0.33	2.43E-02	3.84E-03	2.09E-03	1.17E-02	6.68E-02
TH-228	1.00E-03	7.61E-05	7.61E-05	4.94E-03	1.36E-02	0.11	0.47	0.60	1.63E-02	8.34E-03	0.28	2.1
TH-229	1.00E-03	2.00E-03	2.00E-03	6.13E-03	1.35E-02	7.07E-02	0.21	6.8	0.17	8.70E-02	3.0	23.
TH-230	1.00E-03	4.62E-06	4.62E-06	4.04E-03	1.01E-02	5.95E-02	0.18	2.8	0.11	5.49E-02	1.9	15.
TH-231	1.00E-03	6.41E-07	6.41E-07	7.16E-04	1.68E-03	6.99E-03	1.25E-02	8.07E-05	1.87E-06	1.32E-05	6.59E-06	1.00E-05
TH-232	1.00E-03	1.14E-04	1.14E-04	3.52E-03	8.72E-03	5.11E-02	0.15	2.9	9.56E-02	4.76E-02	1.6	13.
PA-231	1.00E-03	4.36E-04	4.36E-04	4.71E-03	1.14E-02	6.49E-02	0.19	7.3	0.22	0.11	3.7	29.
PA-233	1.00E-03	1.45E-05	1.45E-05	1.04E-03	2.85E-03	1.28E-02	3.62E-02	2.61E-04	4.73E-05	2.67E-04	1.19E-04	1.86E-04
U-232	2.00E-03	1.02E-04	1.02E-04	4.68E-03	1.16E-02	6.78E-02	0.20	0.49	0.11	5.67E-02	0.18	0.11
	5.00E-02	2.56E-03	2.56E-03	6.92E-03	1.34E-02	6.69E-02	0.20	12.	2.8	1.4	4.6	2.8
	0.20	1.02E-02	1.02E-02	1.39E-02	1.91E-02	6.41E-02	0.17	49.	11.	5.7	18.	11.
U-233	2.00E-03	6.53E-05	6.53E-05	4.19E-03	1.04E-02	6.06E-02	0.18	0.14	4.63E-02	2.32E-02	6.78E-02	4.62E-02
	5.00E-02	1.63E-03	1.63E-03	5.76E-03	1.14E-02	5.93E-02	0.17	3.4	1.2	0.58	1.7	1.2
	0.20	6.53E-03	6.53E-03	1.06E-02	1.49E-02	5.51E-02	0.15	14.	4.6	2.3	6.8	4.6
U-234	2.00E-03	6.46E-05	6.46E-05	4.18E-03	1.03E-02	6.06E-02	0.18	0.14	4.59E-02	2.30E-02	6.70E-02	4.59E-02
	5.00E-02	1.61E-03	1.61E-03	5.72E-03	1.14E-02	5.93E-02	0.17	3.4	1.1	0.57	1.7	1.1
	0.20	6.46E-03	6.46E-03	1.06E-02	1.47E-02	5.50E-02	0.15	14.	4.6	2.3	6.7	4.6
U-235	2.00E-03	9.27E-05	9.27E-05	4.07E-03	1.05E-02	6.03E-02	0.19	0.12	4.14E-02	2.11E-02	6.05E-02	4.14E-02
	5.00E-02	2.08E-03	2.08E-03	5.95E-03	1.20E-02	5.94E-02	0.18	3.1	1.0	0.52	1.5	1.0
	0.20	8.31E-03	8.31E-03	1.18E-02	1.66E-02	5.66E-02	0.16	12.	4.1	2.1	6.0	4.1
U-236	2.00E-03	6.09E-05	6.09E-05	3.93E-03	9.73E-03	5.74E-02	0.17	0.13	4.32E-02	2.16E-02	6.32E-02	4.32E-02
	5.00E-02	1.52E-03	1.52E-03	5.39E-03	1.07E-02	5.61E-02	0.16	3.2	1.1	0.54	1.6	1.1
	0.20	6.09E-03	6.09E-03	9.95E-03	1.38E-02	5.20E-02	0.14	13.	4.3	2.2	6.3	4.3
U-238	2.00E-03	6.01E-05	6.01E-05	3.68E-03	9.15E-03	5.45E-02	0.17	0.12	4.08E-02	2.04E-02	5.96E-02	4.08E-02
	5.00E-02	1.50E-03	1.50E-03	5.11E-03	1.02E-02	5.34E-02	0.16	3.0	1.0	0.51	1.5	1.0
	0.20	6.01E-03	6.01E-03	9.57E-03	1.33E-02	4.97E-02	0.14	12.	4.1	2.0	6.0	4.1

TOTAL INGESTION DOSES
ALPHA Q = 20
(REM/MICROCURIE)

NUCLIDE	F1	OVARIES	PANCREAS	BONE	R MAR	Y MAR	ENDOST	SPLEEN	TESTES	THYMUS	THYROID	UTERUS
AC-225	1.00E-03	3.06E-02	2.17E-02	4.69E-02	6.07E-02	2.15E-02	0.36	2.16E-02	2.40E-02	2.10E-02	2.13E-02	2.40E-02
AC-227	1.00E-03	0.77	0.11	12.	10.	0.11	1.01E 02	0.11	0.77	0.11	0.11	0.11
AC-228	1.00E-03	5.46E-04	1.85E-04	5.86E-04	5.78E-04	6.37E-05	5.01E-03	1.26E-04	6.94E-05	1.73E-05	9.83E-06	3.04E-04
TH-227	1.00E-03	6.57E-03	3.87E-03	5.48E-02	4.91E-02	3.87E-03	0.45	3.85E-03	6.02E-03	3.81E-03	3.81E-03	4.05E-03
TH-228	1.00E-03	9.01E-02	1.62E-02	1.5	1.3	1.63E-02	14.	1.63E-02	8.96E-02	1.62E-02	1.61E-02	1.64E-02
TH-229	1.00E-03	1.2	0.17	17.	14.	0.18	1.70E 02	0.17	1.2	0.17	0.17	0.17
TH-230	1.00E-03	0.75	0.11	6.7	5.7	0.11	87.	0.11	0.75	0.11	0.11	0.11
TH-231	1.00E-03	8.26E-05	7.61E-06	8.91E-06	2.36E-05	8.62E-06	2.28E-05	4.66E-06	2.69E-06	1.79E-07	6.30E-08	2.22E-05
TH-232	1.00E-03	0.65	9.55E-02	7.1	5.9	9.58E-02	99.	9.53E-02	0.65	9.55E-02	9.55E-02	9.55E-02
PA-231	1.00E-03	1.5	0.22	18.	14.	0.22	1.78E 02	0.22	1.5	0.22	0.22	0.22
PA-233	1.00E-03	8.98E-04	1.06E-04	1.04E-04	2.21E-04	9.27E-05	9.41E-05	7.74E-05	7.80E-05	6.40E-06	2.62E-06	3.64E-04
U-232	2.00E-03	0.11	0.11	1.2	0.86	0.11	8.3	0.11	0.11	0.11	0.11	0.11
	5.00E-02	2.8	2.8	30.	22.	2.8	2.08E 02	2.8	2.8	2.8	2.8	2.8
	0.20	11.	11.	1.20E 02	86.	11.	8.32E 02	11.	11.	11.	11.	11.
U-233	2.00E-03	4.64E-02	4.63E-02	0.32	4.99E-02	4.63E-02	0.14	4.63E-02	4.64E-02	4.63E-02	4.63E-02	4.63E-02
	5.00E-02	1.2	1.2	7.9	1.3	1.2	3.5	1.2	1.2	1.2	1.2	1.2
	0.20	4.6	4.6	32.	5.0	4.6	14.	4.6	4.6	4.6	4.6	4.6
U-234	2.00E-03	4.59E-02	4.59E-02	0.31	4.94E-02	4.59E-02	0.14	4.59E-02	4.59E-02	4.59E-02	4.59E-02	4.59E-02
	5.00E-02	1.1	1.1	7.9	1.2	1.1	3.5	1.1	1.1	1.1	1.1	1.1
	0.20	4.6	4.6	31.	4.9	4.6	14.	4.6	4.6	4.6	4.6	4.6
U-235	2.00E-03	4.24E-02	4.18E-02	0.28	4.48E-02	4.15E-02	0.12	4.14E-02	4.14E-02	4.17E-02	4.14E-02	4.21E-02
	5.00E-02	1.0	1.0	7.1	1.1	1.0	3.0	1.0	1.0	1.0	1.0	1.0
	0.20	4.1	4.2	28.	4.5	4.1	12.	4.1	4.1	4.2	4.1	4.2
U-236	2.00E-03	4.32E-02	4.32E-02	0.30	4.62E-02	4.32E-02	0.13	4.32E-02	4.32E-02	4.32E-02	4.32E-02	4.32E-02
	5.00E-02	1.1	1.1	7.4	1.1	1.1	3.1	1.1	1.1	1.1	1.1	1.1
	0.20	4.3	4.3	30.	4.6	4.3	13.	4.3	4.3	4.3	4.3	4.3
U-238	2.00E-03	4.08E-02	4.08E-02	0.28	4.40E-02	4.08E-02	0.11	4.08E-02	4.10E-02	4.08E-02	4.08E-02	4.08E-02
	5.00E-02	1.0	1.0	7.0	1.1	1.0	2.8	1.0	1.0	1.0	1.0	1.0
	0.20	4.1	4.1	28.	4.4	4.1	11.	4.1	4.1	4.1	4.1	4.1

TOTAL INGESTION DOSES
ALPHA Q = 20
(REM/MICROCURIE)

NUCLIDE	F1	LUNGS	RES LYM	S WALL	SI WALL	ULI WALL	LLI WALL	T BODY	ADREN	BL WALL	KIDNEYS	LIVER
U-240	2.00E-03	1.36E-05	1.36E-05	2.97E-03	7.22E-03	2.49E-02	3.38E-02	2.90E-04	3.68E-05	1.25E-04	1.12E-04	6.00E-05
	5.00E-02	2.01E-05	2.01E-05	2.97E-03	6.95E-03	2.39E-02	3.25E-02	3.06E-04	4.70E-05	1.28E-04	8.18E-04	6.67E-05
	0.20	4.10E-05	4.10E-05	2.98E-03	6.06E-03	2.07E-02	2.81E-02	3.58E-04	8.00E-05	1.36E-04	3.10E-03	8.81E-05
NP-237	1.00E-03	8.73E-04	8.73E-04	5.24E-03	1.22E-02	6.88E-02	0.20	3.1	0.12	5.96E-02	2.1	16.
NP-238	1.00E-03	3.78E-05	3.78E-05	1.54E-03	4.10E-03	1.51E-02	3.21E-02	5.21E-04	1.10E-04	3.96E-04	3.42E-04	1.08E-03
NP-239	1.00E-03	8.92E-06	8.92E-06	1.18E-03	2.99E-03	1.30E-02	2.94E-02	2.10E-04	2.97E-05	1.76E-04	7.92E-05	6.74E-05
NP-240M	1.00E-03	6.71E-07	6.71E-07	4.34E-04	4.72E-05	6.40E-06	1.00E-06	2.08E-06	9.05E-07	3.60E-07	1.37E-06	8.40E-07
NP-240	1.00E-03	1.30E-05	1.30E-05	1.59E-03	1.14E-03	8.33E-04	1.75E-04	4.04E-05	2.27E-05	2.53E-05	4.48E-05	2.85E-05
PU-236	3.00E-05	2.86E-07	2.86E-07	4.96E-03	1.24E-02	7.31E-02	0.22	1.25E-02	9.28E-04	4.64E-04	3.14E-03	8.50E-02
PU-238	3.00E-05	1.14E-07	1.14E-07	4.71E-03	1.18E-02	6.99E-02	0.21	8.50E-02	3.23E-03	1.62E-03	5.72E-02	0.44
PU-239	3.00E-05	9.35E-08	9.35E-08	4.42E-03	1.10E-02	6.50E-02	0.20	9.51E-02	3.63E-03	1.82E-03	6.33E-02	0.49
PU-240	3.00E-05	1.16E-07	1.16E-07	4.42E-03	1.11E-02	6.55E-02	0.20	9.50E-02	3.62E-03	1.81E-03	6.32E-02	0.49
PU-241	3.00E-05	7.18E-08	7.18E-08	2.23E-05	5.57E-05	3.30E-04	9.92E-04	1.93E-03	7.50E-05	3.75E-05	1.23E-03	9.50E-03
PU-242	3.00E-05	1.91E-07	1.91E-07	4.21E-03	1.05E-02	6.23E-02	0.19	9.02E-02	3.45E-03	1.73E-03	6.01E-02	0.47
PU-243	3.00E-05	5.38E-07	5.38E-07	6.51E-04	1.05E-03	2.18E-03	1.50E-03	2.38E-05	1.32E-06	3.80E-06	3.73E-06	3.12E-06
PU-244	3.00E-05	7.02E-05	7.02E-05	4.69E-03	1.35E-02	8.82E-02	0.30	8.96E-02	3.60E-03	2.23E-03	6.00E-02	0.46
AM-241	1.00E-03	1.28E-04	1.28E-04	4.85E-03	1.21E-02	7.05E-02	0.21	3.2	0.12	6.22E-02	2.2	17.
AM-242M	1.00E-03	5.98E-05	5.98E-05	2.61E-04	9.02E-04	8.24E-03	3.41E-02	3.2	0.12	6.10E-02	2.1	16.
AM-242	1.00E-03	5.02E-07	5.02E-07	7.37E-04	1.59E-03	6.03E-03	9.26E-03	3.06E-04	1.20E-05	1.27E-05	1.98E-04	1.51E-03
AM-243	1.00E-03	9.56E-04	9.56E-04	5.35E-03	1.27E-02	7.16E-02	0.22	3.2	0.13	6.24E-02	2.2	17.
CM-242	1.00E-03	2.65E-06	2.65E-06	5.25E-03	1.31E-02	7.71E-02	0.23	7.34E-02	2.72E-03	1.36E-03	5.72E-02	0.44
CM-243	1.00E-03	3.26E-04	3.26E-04	5.92E-03	1.46E-02	8.22E-02	0.25	2.1	8.27E-02	4.14E-02	1.5	12.
CM-244	1.00E-03	3.54E-06	3.54E-06	4.96E-03	1.24E-02	7.36E-02	0.22	1.7	6.40E-02	3.20E-02	1.2	9.3
CM-245	1.00E-03	3.15E-04	3.15E-04	5.20E-03	1.28E-02	7.30E-02	0.22	3.3	0.13	6.43E-02	2.2	17.
CM-246	1.00E-03	9.76E-05	9.76E-05	4.81E-03	1.20E-02	6.89E-02	0.21	3.3	0.13	6.36E-02	2.2	17.
CM-247	1.00E-03	1.41E-03	1.41E-03	5.87E-03	1.41E-02	7.55E-02	0.23	3.0	0.12	5.93E-02	2.0	16.
CM-248	1.00E-03	3.34E-02	3.34E-02	7.80E-02	0.16	0.41	1.1	12.	0.57	0.27	8.1	63.
CF-252	1.00E-03	1.81E-03	1.81E-03	2.10E-02	6.09E-02	0.20	0.57	0.66	3.03E-02	2.21E-02	0.52	4.0

TOTAL INGESTION DOSES
ALPHA Q = 20
(REM/MICRCCURIE)

NUCLIDE	F1	OVARIES	PANCREAS	BONE	R MAR	Y MAR	ENDOST	SPLEEN	TESTES	THYMUS	THYROID	UTERUS
U-240	2.00E-03	4.50E-04	8.67E-05	3.54E-05	9.56E-05	4.23E-05	4.99E-05	6.25E-05	3.56E-05	5.62E-06	2.04E-06	2.07E-04
	5.00E-02	4.40E-04	9.42E-05	1.29E-04	1.46E-04	5.01E-05	4.89E-04	7.07E-05	4.23E-05	1.37E-05	1.01E-05	2.08E-04
	0.20	4.10E-04	1.18E-04	4.30E-04	3.09E-04	7.56E-05	1.91E-03	9.71E-05	6.42E-05	3.96E-05	3.62E-05	2.09E-04
NP-237	1.00E-03	0.81	0.12	7.3	6.1	0.12	87.	0.12	0.81	0.12	0.12	0.12
NP-238	1.00E-03	1.41E-03	2.20E-04	5.09E-04	6.25E-04	1.31E-04	4.42E-03	1.78E-04	1.60E-04	2.37E-05	1.22E-05	6.15E-04
NP-239	1.00E-03	5.81E-04	8.00E-05	5.72E-05	1.65E-04	6.85E-05	7.59E-05	5.61E-05	4.25E-05	3.07E-06	7.86E-07	2.56E-04
NP-240M	1.00E-03	8.83E-07	6.21E-06	2.65E-07	5.25E-07	3.68E-07	2.71E-07	3.45E-06	5.78E-08	1.69E-07	6.10E-08	8.70E-07
NP-240	1.00E-03	9.34E-05	1.12E-04	1.06E-05	2.81E-05	1.47E-05	1.09E-05	6.61E-05	5.07E-06	4.51E-06	1.31E-06	7.11E-05
PU-236	3.00E-05	3.95E-03	9.28E-04	2.52E-02	2.14E-02	9.28E-04	0.24	9.31E-04	3.94E-03	9.28E-04	9.28E-04	9.28E-04
PU-238	3.00E-05	2.21E-02	3.23E-03	0.20	0.17	3.23E-03	2.1	3.23E-03	2.21E-02	3.23E-03	3.23E-03	3.23E-03
PU-239	3.00E-05	2.48E-02	3.63E-03	0.22	0.19	3.63E-03	2.6	3.63E-03	2.48E-02	3.63E-03	3.63E-03	3.63E-03
PU-240	3.00E-05	2.48E-02	3.62E-03	0.22	0.19	3.62E-03	2.6	3.62E-03	2.47E-02	3.62E-03	3.62E-03	3.62E-03
PU-241	3.00E-05	5.10E-04	7.50E-05	4.59E-03	3.86E-03	7.51E-05	4.83E-02	7.49E-05	5.11E-04	7.49E-05	7.49E-05	7.49E-05
PU-242	3.00E-05	2.36E-02	3.45E-03	0.21	0.18	3.45E-03	2.6	3.45E-03	2.35E-02	3.45E-03	3.45E-03	3.45E-03
PU-243	3.00E-05	1.63E-05	5.70E-06	2.30E-06	6.85E-06	2.84E-06	5.01E-06	3.47E-06	6.35E-07	1.22E-07	2.78E-08	9.51E-06
PU-244	3.00E-05	2.50E-02	3.65E-03	0.21	0.17	3.63E-03	2.6	3.58E-03	2.35E-02	3.47E-03	3.45E-03	4.04E-03
AM-241	1.00E-03	0.85	0.12	7.6	6.4	0.13	80.	0.12	0.85	0.12	0.12	0.12
AM-242M	1.00E-03	0.83	0.12	7.5	6.3	0.12	67.	0.12	0.83	0.12	0.12	0.12
AM-242	1.00E-03	8.86E-05	1.54E-05	5.69E-04	4.97E-04	1.44E-05	5.19E-03	1.38E-05	8.42E-05	1.07E-05	1.06E-05	2.31E-05
AM-243	1.00E-03	0.85	0.13	7.6	6.4	0.13	85.	0.13	0.85	0.13	0.13	0.13
CM-242	1.00E-03	1.85E-02	2.72E-03	0.17	0.14	2.72E-03	1.5	2.72E-03	1.85E-02	2.72E-03	2.72E-03	2.72E-03
CM-243	1.00E-03	0.56	8.27E-02	5.0	4.2	8.29E-02	48.	8.24E-02	0.56	8.23E-02	8.22E-02	8.25E-02
CM-244	1.00E-03	0.44	6.40E-02	3.9	3.3	6.40E-02	38.	6.40E-02	0.43	6.40E-02	6.40E-02	6.40E-02
CM-245	1.00E-03	0.87	0.13	7.9	6.6	0.13	86.	0.13	0.87	0.13	0.13	0.13
CM-246	1.00E-03	0.87	0.13	7.8	6.5	0.13	84.	0.13	0.87	0.13	0.13	0.13
CM-247	1.00E-03	0.80	0.12	7.2	6.0	0.12	87.	0.12	0.80	0.12	0.12	0.12
CM-248	1.00E-03	3.2	0.54	28.	6.1	0.53	88.	0.50	3.2	0.49	0.48	0.51
CF-252	1.00E-03	0.19	3.10E-02	1.5	0.65	2.90E-02	6.9	2.82E-02	0.17	2.56E-02	2.51E-02	3.61E-02

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