

**PACKAGE ID** - 000730MLTPL00 CMS

**KWIC TITLE** - Chemical Management System Lab-Wide Electronic  
Chemical Inventory Tracking

**AUTHORS** - Sawyer, J.G.  
Pacific Northwest National Lab., Richland, WA (United  
States)

Cathey, J.B.  
Pacific Northwest National Lab., Richland, WA (United  
States)

Johanson, R.E.  
Pacific Northwest National Lab., Richland, WA (United  
States)

Thomas, S.D.  
Pacific Northwest National Lab., Richland, WA (United  
States)

**LIMITATION CODE** -UNL                   **AUDIENCE CODE** - UNL

**COMPLETION DATE** - 03/01/1998   **PUBLICATION DATE** - 03/01/1998

**DESCRIPTION** - CMS provides an inventory of all chemicals on order or being held in the laboratory, to provide a specific location for all chemical containers, to ensure that health and safety regulatory codes are being upheld, and to provide PNNL staff with hazardous chemical information to better manage their inventories. CMS is comprised of five major modules: 1) chemical purchasing, 2) chemical inventory, 3) chemical names, properties, and hazard groups, 4) reporting, and 5) system administration.

**PACKAGE CONTENTS** - Media Directory; Software Abstract; Media Includes Source Code, Executable Module, Control Information, Programmer Documentation, User's Guide;

**SOURCE CODE INCLUDED?** - No

**MEDIA QUANTITY** - 1 CD Rom

**METHOD OF SOLUTION** - CMS is a relational database system created using Oracle's Developer/2000 development tool, and is a graphical user interface client-server application. Inventory is captured at the time of procurement providing early warning and resolution of potential compliance issues. Comparisons with regulatory limits are facilitated by its ability to convert container units of measure to any standard units of measure. Inventory accuracy is managed through periodic physical inventory reconciliation of the container barcodes. PNNL's standard systems development lifecycle was used from requirements definition through implementation.

**PACKAGE ID** - 000730MLTPL00 CMS

**COMPUTER** - MLT-PLTFM

**OPERATING SYSTEMS** - Server Sun Solaris OS v5.6; client Windows 3.1 or later, or System 7 (Macintosh)

**PROGRAMMING LANGUAGES** - Oracle RDBMS 7.3.2.3 server SQL Forms  
SQLWebv2.5 proprietary

**SOFTWARE LIMITATIONS** - CMS is dependent on the following software:  
Oracle, SQLWEB, Menuze (for the remaining host based system manager functions) and Intermec's IRL barcode scanner software. No practical limitations are imposed by these software products.

**SOURCE CODE AVAILABLE (Y/N)** - N

**UNIQUE FEATURES** - On-order inventory records are created at the time of purchase. Each distinct chemical can have any number of names. The ORACLE 'soundex' capability is used to facilitate approximate spelling of chemical names which aids in maintaining integrity of the data. Relational tables are used to define hazard groups which provide great flexibility in reporting. CMS delivers a comprehensive suite of functionality expected in a chemical inventory system.

**RELATED SOFTWARE** - CMS relies heavily on the ORACLE relational database management system (RDBMS) and its proprietary development tools. Source code, executable, and data files available for this system are in compressed TAR format files.

**OTHER PROG/OPER SYS INFO** - Directory structures are maintained in the TAR files and are required for successful implementation of the system.

**HARDWARE REQS** - UNIX server (minimum configuration for 8 concurrent users), Sun Ultra 1, 100 Megabytes RAM, 1 two Gigabyte disk drive for Oracle executables, 1 two Gigabyte disk drive for OS, and 1 four Gigabyte disk drive for data. NT server (minimum configuration for 8 concurrent users), Pentium 200 Megahertz, 256 Megabytes RAM, 1 two Gigabyte disk drive for Oracle executables, 1 two Gigabyte disk drive for OS, and 1 four Gigabyte disk drive for data. Client, Windows 95 or NT Workstation OS, 486 DX2 66 Megahertz minimum, 32 Megabytes RAM, 45 Megabytes disk space for CMS runtime and other software. Client, Macintosh running System 7 OS, Power macintosh 7500/100 minimum, 32 Megabytes RAM with Connectix RAM Doubler software installed, 50 Megabytes disk space for CMS runtime and other software.

**TIME REQUIREMENTS** - Run time requirements are highly dependent on computer capacity and load. Rule of thumb is 3 seconds per inventory query on a moderately loaded Sun SPARC 3000. Moderate load is 100 processes running.

**PACKAGE ID** - 000730MLTPL00 CMS

**TIME REQUIREMENTS - (CONT)**

**REFERENCES** - User's Guide on Media.

**ABSTRACT STATUS** - Released AS-IS 2/26/1999

**SUBJECT CLASS CODE** - UM

**KEYWORDS** -

COMPUTER PROGRAM DOCUMENTATION  
C CODES  
INVENTORIES  
CHEMISTRY  
DATA BASE MANAGEMENT  
ACCOUNTING

**EDB SUBJECT CATEGORIES** -

990200 990301 400200

**SPONSOR** - DOE/RO

**PACKAGE TYPE** - AS - IS