

The terminology used in this document regarding employees in the dial painting industry should be carefully noted. All of those who are known to have worked in the industry are called "dial workers." Only those who actually applied paint containing radium to the dials or hands of watches and clocks, or those who used the paint on other products, are classified as "dial painters." This difference has been misunderstood in the past, because many have assumed that only dial painters were exposed to radium. Many individuals described as "dial handlers" or "dial remote" or by other codes have been found to contain radium, but at much lower levels than the actual dial painters. For example, the average systemic intake for dial painters was more than 10 times the average intake for those identified as dial handlers or dial remote workers and 100 times the average for those identified as dial blue-collar or dial remote white-collar workers.

Much of the history of the dial painting era can be visualized from Table 1. When the hazards of dial painting became known after 1925, the number of new employees dropped markedly. At the same time the practice of tipping the brush with the lips was stopped. This simple change in work habits greatly reduced the quantity of radium that entered the bodies of the workers. World War II increased the demand for aircraft dials and other items that could be seen in the dark and significantly increased the number of new employees needed in the industry. However, the knowledge previously acquired about the hazards of radium was sufficient to protect the workers from excess intakes, so the employees hired during the war years showed no increase in the amount of radium acquired. Indeed, no radium-induced malignancy has yet been observed in anyone who entered the dial painting industry after 1925.

The number of men in the industry was small, and very few men actually painted dials. Men in the industry were usually involved in other occupations in the dial painting plants, and few had large radium intakes. Thus, it is not surprising that no men in the dial painting industry were ever diagnosed with one of the radium-induced malignancies.

Some employees in the dial painting industry were never identified, and many of those identified never had their radium body contents measured. Many died before the large search for former workers was underway. Table 2 summarizes the numbers of identified but unmeasured employees in the dial industry by their periods of first employment. The total number of identified employees of the dial painting industry was 4,133; of these 88% were female. Only 34% of the identified males were measured, while 48% of the identified females were brought to a laboratory for measurements and examinations.