

APR 9 1980

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Suggested Action Guidance - Tetrachloroethylene
Criteria and Standards Division
Office of Drinking Water
U.S. Environmental Protection Agency
Washington, D.C. 20460

The Office of Drinking Water, Criteria and Standards Division, recommends the following actions related to drinking water contamination from coated A/C pipe based upon its earlier document entitled "SNARL for tetrachloroethylene (February 6, 1980). This suggested action guidance should not imply that EPA condones the presence of any level of this contaminant in drinking water, but rather provides useful information to assist in the setting of control priorities in those cases where tetrachloroethylene has been found so as to minimize possible risks from exposure from drinking water.

Our recommendations for this situation include: (1) immediate remedial action (within 24 hours) if the drinking water concentration of tetrachloroethylene is found to exceed 2.3 mg/l (equivalent to our 1-day SNARL), and (2) remedial action within 10 days if the tetrachloroethylene concentration exceeds 0.13 mg/l (equivalent to our 10-day SNARL). Furthermore, the priority and timeliness of remedial actions should be proportional to the exposure level. For extended exposures, we recommend, in addition, that the drinking water supplies should be maintained at no more than 0.04 mg/l for any extended period. That concentration, if consumed over a lifetime at 2 l/day would, by a conservative estimation process, have an associated excess cancer risk of approximately one per 100,000. Thus, an additional safety margin is included since the source of this present exposure would be transient and variable, not lifetime. In light of the limited precision for estimating concentrations which may result in a particular computed risk and appreciating the variability in water concentrations over time, the 0.04 mg/l concentration is essentially equivalent to our longer-term SNARL of 0.02 mg/l where a margin of safety was incorporated to protect the 10 kg child from non-carcinogenic, adverse health effects from long term exposure.

In the derivation of the tetrachloroethylene SNARL, and of this suggested action guidance, it has been assumed that drinking water is the sole source of the exposure of an individual to this particular contaminant. In actuality, however, any individual is exposed to most substances via a variety of routes including air, food and drinking water. Even though the relative exposure from each source is location dependant, it was estimated that a 10 kg child would be exposed on the average across the U.S. to 0.04 mg TCE/day with 94 percent, 4 percent, and < 1 percent coming from air, drinking water and food, respectively. We assume that the

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Rate of absorption through the gastrointestinal tract for food and water is nearly 100 percent and that the rate of absorption via inhalation is approximately 30 percent. Further consideration should also be given to the fact that the amount of tetrachloroethylene exposure from air would be much higher for people working in dry-cleaning and metal degreasing industries. With the exception of occupational exposure to tetrachloroethylene, then, the body burden from non-impacted environmental sources and the associated background levels due to normal releases of tetrachloroethylene nationally are roughly equivalent to the longer-term SNARL of 0.02 mg/l or the suggested guidance of 0.04 mg/l (rounded from the 35 ug/l SNARL). The suggested guidance would then pose, a risk which is essentially equivalent to that experienced from exposure to the national background levels.

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