

Analysis of Alleged Health Risk from DBCP in Drinking Water

By ACSH Staff — April 1, 2000

In November 1999, the Environmental Working Group (EWG), an environmental organization, issued a memorandum entitled "Tap Water in 38 Central California Cities Tainted with Banned Pesticide Some Bottle-Fed Infants May Exceed 'Safe' Dose Before Age 1" (EWG, 1999). They determined that 1,2-dibromo-3-chloropropane (DBCP; CAS #96-12-8), a nematocide whose use was discontinued more than 20 years ago, still exists in drinking water at concentrations that they assert may pose a health risk to humans, particularly infants and young children. In an effort to analyze the validity and accuracy of the EWG report, the American Council on Science and Health has reviewed the scientific data on DBCP and presents below its findings and conclusions.

Deficiencies of the EWG Report

Invalid Assumptions

The claim that DBCP in drinking water poses an equivalent risk to humans based on established effects in laboratory animals includes assumptions that have not been adequately validated. These assumptions include the two stated below.

1. *If an effect occurs in experimental animal tests following chronic, high-dose exposure, the same effect will occur with low-level, environmental exposure in humans.*

But reproductive effects reported in humans have been associated exclusively with high chronic occupational exposures (Thomas, 1996; ATSDR, 1992). There are not even suggestive data associating either non-occupational or drinking water exposures to DBCP with effects in humans, including children. Furthermore, there may be important route and exposure-specific considerations that preclude direct extrapolation of occupational exposures to humans with trace environmental exposures.

2. *"DBCP is a potent carcinogen and perhaps the most powerful testicular toxin ever made."*

There is no comparative analysis presented or appropriate measures by which this statement can be assessed, and thus, this is subjective, sensationalistic speculation. There are other well-known testicular toxicants including cyclophosphamide, 2-methoxyethanol, TCDD, and X-rays, any of which may be more or less potent than DBCP, depending on other variables, including time and route of exposure or target site (Witorsch, 1995).

With regard to carcinogenicity, even the U.S. Environmental Protection Agency (EPA) considers DBCP to be a "probable" human carcinogen, rather than an established, known carcinogen. Thus, the statement that DBCP is a "potent carcinogen" is unscientific, remains unsubstantiated, and is not relevant for humans (as discussed further below).

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