

CHLORAMINES-RELATED RESEARCH

14) How did EPA evaluate the safety of **monochloramine** for use as a drinking water **disinfectant**?

EPA evaluated **monochloramine** primarily through an analysis of human health and animal data.

- Research reviewed in EPA's safety analysis is contained in EPA's *Drinking Water Criteria Document for Chloramines*.¹
- The criteria document for monochloramine provides a complete summary of health and other data considered in establishing a monochloramine standard.
- EPA periodically updates the monochloramine "criteria document."

EPA's monochloramine standard² is set at a level where no human health effects are expected to occur.

- Data from animal and human studies provide information on the health effects of monochloramine.
- EPA reviews and considers new research results as they become available.³
- EPA's standard for monochloramine takes data gaps and uncertainty into account by building safety factors⁴ into the regulatory standard.

EPA reviewed historical data in its evaluation of monochloramine.

- Monochloramine has been in use as a drinking water disinfectant since the 1930's.⁵
- Decades of use in the US, Canada, and Great Britain shows that monochloramine is an effective secondary drinking water disinfectant.
- Denver, Philadelphia, and other large cities have used monochloramine as part of their water treatment process for years.

Additional Supporting Information:

1. The *Drinking Water Criteria Document for Chloramines* can be found at <http://www.epa.gov/ncea/pdfs/water/chloramine/dwchloramine.pdf>, Publication No.: ECAO-CIN-D002, March, 1994.
2. The Maximum Residual Disinfectant Level (MRDL) for chloramines is 4 parts per million (ppm).
3. See the Contaminant Candidate List online at <http://www.epa.gov/OGWDW/ccl/ccl3.html> for contaminants that EPA proposes to review. EPA scientists review regulations of disinfectants and disinfection byproducts every six years. For information on EPA's six-year review visit: <http://epa.gov/safewater/review.html>
4. For additional information regarding how uncertainty factors (also known as safety factors) are applied to risk assessments to provide a wide margin of safety see: <http://epa.gov/risk/dose-response.htm>.
5. Cleveland, OH, Springfield, IL, and Lansing, MI were among the first cities to use monochloramine in 1929 (see Chapter 1 of *The Quest for Pure Water Vol II*, AWWA, 1981).