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:
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).