

CHLORAMINES-RELATED RESEARCH

17) What does EPA see as the advantages of using **monochloramine**?

Switching to *monochloramine* is one approach that utilities can use to meet new EPA drinking water regulations.¹

- Water utilities are required to comply with EPA's new drinking water regulations to control disinfection byproducts.
- Water utilities are assessing whether to switch to monochloramine use as a way to meet new EPA drinking water regulations.
- To meet the new EPA regulations, a subset of utilities has decided to use monochloramine as a secondary disinfectant.²

Water treated with *monochloramine* contains reduced levels of regulated disinfection byproducts compared to water treated with chlorine.³

- Monochloramine produces lower concentrations of *regulated* disinfection byproducts because it is less reactive than chlorine with natural organic matter.⁴
- The formation of disinfection byproducts is influenced by source water type and the type of disinfection used.
- The formation of disinfection byproducts can vary daily with the amount of natural organic matter in the water, temperature, rainfall, distance from the treatment plant, and other factors.

Monochloramine is a practical and effective *secondary disinfectant*.

- The use of monochloramine is often more affordable and requires less new equipment than other alternatives², especially if a water utility is already using chlorine.
- Monochloramine helps protect drinking water quality as it moves through pipes.
- Several large cities such as Denver and Philadelphia have used monochloramine successfully as part of their water treatment process for decades.

Additional Supporting Information:

1. See question 18 for additional information on factors that utilities should consider when deciding whether to switch to monochloramine.
2. See question 11 for additional ways utilities could comply.
3. See Stage 2 Disinfection Byproducts Rule (71 FR 388, January 4, 2006) for more information on disinfection byproducts and discussion of epidemiological data on chlorinated water exposure and cancer, <http://www.epa.gov/fedrgstr/EPA-WATER/2006/January/Day-04/w03.pdf>.
4. *Natural Organic Matter*. Complex organic compounds that are formed from decomposing plant, animal and microbial material in soil and water. They can react with disinfectants to form disinfection by products. Total organic carbon (TOC) is often measured as an indicator of natural organic matter.