Paul Tabayoyon

I noted that there once no reference taken to Choloromines which have been transitioned into the water treatments systems to extend the sanitization of operational systems.

Please add Chloromines to the list, for evaluation at least, to ensure that they are not leaving our water treatment systems in large quantities from existing municipal systems. Also please add then to the non-applied list as the slide 13 of the Aquatics Life Toxics Rulemaking presentation given by DOE on Oct. 10th 2023, noting EPA recommendations are not planned to be used. Please reconsider to ensure that Chloromines are not hidden chemical combination that might have the potential in damaging small marine life and plants.

https://www.epa.gov/dwreginfo/chloramines-drinking-water

Thank you,

BASIC INFORMATION ABOUT CHLORAMINES

1) What are chloramines?

Chloramines are disinfectants used to treat drinking water.

- Chloramines are most commonly formed when ammonia is added to chlorine to treat drinking water.
- The most typical purpose of chloramines is to protect water quality as it moves through pipes.
- Chloramines provide long-lasting protection as they do not break down quickly in water pipes.

The different types of chloramines are monochloramine, dichloramine, trichloramine, and organic chloramines.

- When chloramines are used to disinfect drinking water, monochloramine is the most common form.
- Dichloramine, trichloramine, and organic chloramines[1,2] are produced when treating drinking water but at much lower levels than monochloramine.
- Trichloramines[1] are typically associated with disinfected water used in swimming pools.

***The Environmental Protection Agency regulates the safe use of chloramines* in drinking water.** [3]

- EPA requires water utilities to meet strict health standards when using chloramines to treat water.
- EPA chloramines regulations are based on the average concentration of chloramines found in a water system over time.
- EPA regulates certain chemicals formed when chloramines react with natural organic matter[4] in water.

Additional Supporting Information:

1. Dichloramine is formed when the chlorine to ammonia-nitrogen weight ratio is greater than 5:1, however, this reaction is very slow. Organic chloramines are formed when chlorine reacts with organic nitrogen compounds. Source: *Optimizing Chloramine Treatment*, 2nd Edition, AwwaRF, 2004
2. Trichloramine formation does not usually occur under normal drinking water treatment conditions. However, if the pH is lowered below 4.4 or the chlorine to ammonia-nitrogen weight ratio becomes greater than 7.6:1, then trichloramine can form. Trichloramine formation can occur at a pH between 7 and 8 if the chlorine to ammonia-nitrogen weight ratio is increased to 15:1. Source: *Optimizing Chloramine Treatment*, 2nd Edition, AwwaRF, 2004
3. The drinking water standard for chloramines is 4 parts per million (ppm) measured as an annual average. More information on water utility use of chloramines is available at http://www.epa.gov/safewater/disinfection/index.html and in the 1997-1998 Information Collection Rule, a national survey of large drinking water utilities for the Stage 2 Disinfection Byproducts Rule (DBPR). Information on the Stage 2 DBPR is available at http://www.epa.gov/safewater/disinfection/stage2/.
   More information on EPA's standard setting process may be found at: http://www.epa.gov/OGWDW/standard/setting.html.
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.