

# CHLORINE VS. CHLORAMINE FREQUENTLY ASKED QUESTIONS



## **What is being proposed?**

The District is proposing to supplement its source water with MWRA water via a connection with Wakefield. The District and the MWRA use slightly different disinfection agents, and the waters will be blended in the distribution system. The District uses classic chlorine whereas the MWRA uses something called chloramine. This is common for small water districts that supplement with MWRA water and CDM has thoroughly vetted this blending, as it has done for three other water districts listed within.

## **What are Chloramines?**

Chloramines are a combination of chlorine and ammonia and are one of several U.S. Environmental Protection Agency (EPA) approved disinfectants used to remove pathogens in drinking water.

## **Why do some Water Suppliers use Chloramine?**

Chloramines last longer than chlorine in water distribution systems. Chloramines can create fewer disinfection byproducts, such as trihalomethanes (THMs), which are suspected carcinogens that form when chlorine mixes with natural organic matter in water.

However, chloramines are not a perfect disinfecting agent. Chloramines can be more susceptible to nitrification, which is the process of ammonia being converted to nitrite and eventually nitrate which is a regulated contaminant. Nitrification can be related to water age and depletion of disinfection residual in the distribution system.

Both chlorine and chloramine are accepted disinfectants and are both widely used in Eastern Massachusetts and beyond.

## **Are Chloramines Safe?**

Yes. Chloramines have been safely used since the early 1900s. The entire MWRA water system uses chloramines. Like water disinfected with chlorine, chloramines are safe for everyday use like drinking, bathing, and cooking for people and pets.

## **Why do we notify customers re: chloramine? Why dialysis patients & fish tanks?**

As with chlorine, chloramines must be removed or neutralized for aquatic animals and kidney dialysis patients. Kidney dialysis patients can safely drink chloramines because the body naturally neutralizes them before they enter the bloodstream. However, dialysis treatment must remove them before directly entering the bloodstream, (chlorine as well).

Chlorine and chloramine can harm all saltwater and freshwater fish or amphibians that live in water because they can absorb these directly through the skin or gills to the bloodstream. Aquarium owners and pet shops are notified of this change so they may purchase appropriate water conditioners prior to the change.

## **Will it affect my pool?**

It may temporarily disrupt your chlorine levels in your pool or spa. You will need to monitor & test your pool or spa in order to make any needed adjustments to chlorine levels. Pool supply stores and service companies are very familiar with water quality needs regarding chlorine and chloramine. Chloramines will have no effect on lawns, shrubs, flowers, or trees.

## **Can chlorinated water and chloraminated water be mixed?**

Yes, and it is a common practice in some local water systems which are partially served by the MWRA. Wakefield, Needham, and Woburn blend on a regular basis and have done so for decades. In all of these situations the local water district is supplying a portion of the source water in addition to MWRA connections, sometimes seasonally.

Blending must be studied prior to its implementation, as taste, color, and odor issues can occur if not properly blended. Further, whenever a new source water is introduced corrosion control (lead and copper) and disinfection byproducts studies must be undertaken. This was done in LCWD under the emergency water declaration during the summer of 2020. The Massachusetts DEP accepted the results of CDM Smith's ***Water Quality Blending Analysis Report dated July 24, 2020***. The report indicates that no significant impacts are expected within the system, but the 'mixing zone' between the two sources be monitored closely for taste color or odor complaints.

For more information please contact the Lynnfield Center water District Office at:

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