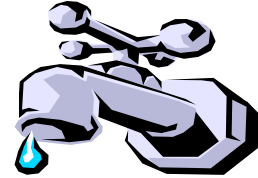


City of Monroe

Water Resources Department

"Chloramine" Questions & Answers

The following are answers to commonly asked questions about chloramines.



Why does water need to be disinfected?

Disinfectants are required because they prevent the spread of germs that cause diseases. Years ago, before disinfectants were used for drinking water, diseases such as cholera, typhoid fever, and dysentery were common. Drinking water disinfection has improved the quality and safety of drinking water greatly.

What are the benefits of converting from chlorine to chloramine?

For many reasons, chloramine is a better choice as a final disinfectant than chlorine alone. The main benefit of the conversion is that chloramine will lower the level of disinfectant by-products that form when water is chlorinated. Some chlorinated water by-products are suspected carcinogens. The conversion will reduce the level of by-products formed and meet stricter drinking water regulations. While we comply with all current regulations, the City of Monroe is being proactive in meeting these new regulations and in planning for the optimal health and safety of its drinking water customers. Also, chloramine is more stable than chlorine and lasts longer in the distribution system, providing increased protection from bacterial contamination.

What are disinfection byproducts?

Disinfection byproducts (DBPs) are chemical compounds that are formed when chlorine reacts with trace quantities of naturally occurring organic substances found in water.

How will water disinfected with chloramines taste?

Most consumers should not notice the change. Many consumers from other utilities report that chloramine improves the taste and odor of drinking water.

Is chloramine disinfection safe?

Yes. Chloramine disinfection has been used safely in the U.S. and Canada for many years. The Environmental Protection Agency (EPA) and the State of North Carolina accepts the use of chloramines as a disinfectant and as a way to reduce the formation of disinfection byproducts. Chloraminated water is safe for bathing, drinking, cooking, baby formula and all other everyday uses. However, three special groups, kidney dialysis patients, fish owners, and industries that use water in their treatment processes will need to take special care with chloraminated water

Will chloramines affect my plumbing?

No. Early investigations claimed chloramines might affect synthetic rubber materials used in seals and o-rings; however, these tests were performed at excessively high chloramine concentrations. Utilities using chloramines have shown that these materials are little affected.

Will a carbon filter remove chloramines?

Yes; however, it must contain high quality granular activated carbon, and sufficient contact time between the water and filter must be provided. (See filter instructions.)

Will chloramines affect water purifiers?

Yes. Carbon filters may need to be changed more frequently.

Information for Dialysis Patients

Why do kidney dialysis patients need to take special precautions?

Just as with chlorine, chloramine can harm kidney dialysis patients during the dialysis process if it is not removed before water mixes with the bloodstream.

Kidney dialysis patients can safely drink chloraminated water because the digestive process neutralizes chloramine before it enters the bloodstream. To

protect dialysis patients during the dialysis process, chloramine must be removed from tap water.

Medical centers that perform dialysis are responsible for preparing the water that enters the dialysis machines. They are being informed of this change.

**What should people with home dialysis machines do to remove chloramines?**

First check with your dialysis physician, who probably will recommend the proper type of water treatment. Often, home dialysis service companies can make the needed modifications, but check with your physician to be certain.

Will reverse osmosis plant membranes remove all of the chloramine for kidney dialysis use?

Both chlorine and chloramine can be damaging to most (but not all) membranes. They are typically removed prior to processing water through reverse osmosis membranes. For information regarding your specific equipment, you should consult the manufacturer of your reverse osmosis membranes and experts in the medical field with respect to your process.

Do medical centers and hospitals, know about the change to chloramines?

Yes. All medical facilities are being notified of the change. All dialysis systems already prepare water being used for dialysis. Some may need to modify their equipment when the change is made from chlorine to chloramine disinfection. Talk with your physician.

Can people with kidney ailments, diabetes, or on low-sodium diets use chloraminated water?

Yes. People with these medical problems can use chloraminated water for everyday purposes such as bathing, drinking and cooking.

Information For Aquarium, Pond, and Pool Owners

Will chloramines harm my fish?

As with chlorine, chloramine is harmful to fish (saltwater and freshwater), reptiles, shellfish, and amphibians that live in water. They take chloramine directly into their bloodstream through their gills and must therefore be protected.



What can aquarium or pond owners do to remove chloramine?

Household, restaurant, and commercial fish tank owners will need to change their current chlorine removal process to remove chloramine. The appropriate de-chloraminating products or carbon filtration equipment for removing chlorine and ammonia are available in most pet and aquarium stores.

Can home remedies for treating aquarium water such as boiling water, using salts, and letting water remain still for a few days remove chloramine?

No. Home remedies such as boiling water, using salts, and having water remain still are not effective methods to remove chloramine. Unlike chlorine, which only takes a few days to dissipate when remaining still, chloramine stays in water for a few weeks. The best way for fish owners to remove chloramine is to use a conditioner that contains a de-chloraminating chemical. The conditioner is available at pet stores.

Is chloraminated water safe for plants and other animals besides fish, reptiles, shellfish, and amphibians that live in water?

Yes. Chloraminated water is just as safe as chlorinated water for plants and animals that do not live in water. Chloramine only is dangerous for fish, reptiles, shellfish, and amphibians that take water directly into their bloodstream.

If only a small amount of water is added to an aquarium or pond to make up for evaporation, do chloramines still need to be removed?

As with chlorine, this will depend on the amount of water added in relation to the size of the aquarium or pond and the time period in which it is added. An alternative is to monitor for a total chlorine residual in the aquarium or pond while adding the chloraminated water. Chloramine residuals in water used to keep fish should be kept below 0.1 mg/L. Total chlorine test kits are available from pet stores, pool supply stores, and chemical supply houses.

How will chloramines affect swimming pools?

You still will need chlorine to prevent algae and bacterial growth. The chlorine chemicals and test kits you currently use will still work. Contact your local pool supply store for any specific questions.

Will chloramines change the pH of water?

The pH of water will be adjusted from approximately 8.1 to 8.3 during the chloramine conversion. This change should have no impact on the way customers use the water.