Chloramine

Effective August 1st, 2006 Manchester Water Works changed the Secondary Disinfectant used at the Water Treatment Plant from Chlorine to Chloramine.

Why are we doing this?
The current practice of using chlorine alone to disinfect drinking water has been found to create by products that over a lifetime of exposure may pose a health risk. In order to continue to provide the safest and purest water possible, Manchester Water Works will be changing the disinfection practice to rely on ozone and chloramines, a combination that nearly eliminates these by products and disinfects even better than chlorine alone.

What is chloramination?
A Chloramine is a combination of chlorine and a small amount of ammonia. Chloramination is the process that adds chloramines to drinking water. Many cities throughout the United States and elsewhere have been using the chloramination process for decades to purify drinking water and eliminate the bacteria that cause waterborne diseases.

Do chlorine and chloramines work the same?
Both chorine and chloramines are toxic to bacteria and virus' in essentially the same way. The factors that affect this most are: the concentration of chloramine or chlorine; the water temperature; and the time that these chemicals are in contact with the microorganisms.

What are the benefits of chloramination?
• Chloramine is a more stable and persistent but significantly less powerful disinfectant than chlorine. It preserves the quality of water purified at the water treatment plant as it travels through the distribution system.
• Chloramination helps to reduce disinfection by-products such as trihalomethanes (THM's) in the water.
• Chloramine reduces the taste and odor of chlorine in tap water.

What are trihalomethanes (THM's)?
THM's are chemical compounds (by products) that form when chlorine mixes with the natural organic material in water. These compounds are suspected to be carcinogens. The USEPA has recently set a standard of 80 parts per billion (ppb), as the safe maximum level of THM's in drinking water. Chloramination reduces the amount of THM's by more than half.

Is chloraminated water safe?
Chloraminated water is safe for drinking, bathing, cooking, cleaning scrapes or cuts, doing laundry, and watering the garden and has lower concentrations of the by products mentioned above. With the exception of kidney dialysis patients, aquarium owners and certain businesses, there will be no difference in how water can be used for most customers.

What precautions should dialysis patients be aware of?
Dialysis patients can drink, bathe and cook with chloraminated water, but they cannot use chloraminated water in the dialysis process. Because of the persistent nature of chloramines, water used for dialysis must be specially treated to eliminate them. Dialysis patients should call their doctor for more information on the precautions they must take.

Why do fish owners have to take precautions with chloraminated water for fish, reptiles, and amphibians that live in water?
As with chlorine, chloramines are very harmful to fish (saltwater and freshwater), as well as reptiles and amphibians that live in water. Dechloramination of the water must be completed before the water is used.

What can aquarium owners do to remove chloramines?
Household, restaurant, and commercial fish tank owners will need to change their current chlorine removal process to remove chloramines. The appropriate products or carbon filtration equipment for removing chlorine and chloramines will be available in most pet aquariums stores prior to the conversion.

Can home remedies for treating aquarium water such as boiling water, using salts and letting water sit still for a few days remove chloramines?
NO. Home remedies such as boiling, using salts, and having water sit still are not sufficient methods to remove chloramines. Unlike chlorine, which only takes a few days to evaporate when sitting still, chloramines remain in water for a much longer time. The best way for fish owners to remove chloramines is to use a water conditioner that contains a dechloraminating chemical. The chemical is available at pet supply stores.

Is chloraminated water safe for plants and other pets besides fish, reptiles, 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.

What types of businesses and industries need to plan for the conversion? Businesses and industries that need to prepare for the conversion include, but are not limited to, the following: pharmaceutical laboratories, microchip manufacturers, biotech companies, breweries, restaurants or seafood suppliers with fish tanks, and photographic labs.

Why do Commercial/Industrial Consumers with Process Equipment Sensitive to Water Quality have to take precautions with chloraminated water?
Again because of their persistence, chloramines may have adverse effects on Process Equipment that is sensitive to oxidants. Contact your process equipment supplier/process engineer for further instructions.

Will pool owners need to treat chloraminated waters differently?

As with chlorinated water, pool owners will need to maintain the same chlorine residuals as before to prevent algal and bacterial growth. Pool suppliers can provide owners with additional information.

How will chloramines affect household plumbing, pipes and water heaters?
After the conversion, rubber parts on some household plumbing and water heaters may degrade faster than previously experienced. Plumbing hardware supply stores can provide further information and assistance.

Filtering Out Chloramine
For aesthetic or personal reasons, you may wish to remove chloramine from your water. The National Sanitation Foundation (NSF) has a helpful guide to assist you in choosing a certified drinking water filtration product.