

# Chloramine Disinfection

## In The Water Treatment Process

Brick Utilities uses chloramine as a disinfectant. It replaced free chlorine in 2004. Using chloramine allows more effective disinfection in a large distribution system and reduces DBP formation compared to free chlorine.

## Water Quality Information

Up to date water quality information is available by calling the authority at (732) 458-7000 extension 4226.

## Frequently Asked Questions (FAQs)

### What is chloramine?

Chloramine is a combination of chlorine and ammonia. Chloramine is an NJDEP approved disinfectant for drinking water. It has been used safely in the U.S. for many years.

### Why use chloramines over free chlorine?

Chloramine is more stable and longer lasting than free chlorine, so it is better at maintaining a disinfectant residual in the distribution system. Chloramine is also less reactive than chlorine with organic material in water, and produces much lower concentrations of disinfection byproducts.

### What are disinfection byproducts (DBPs)?

DBPs are chemical compounds that are formed when chlorine mixes with naturally occurring organics (decaying leaves, etc.) in the water. Some DBPs, namely Trihalomethanes, are suspected carcinogens (cancer causing agents).

### Is chloramine safe?

Yes. Chloraminated water is safe for bathing, drinking, cooking, and all uses we have for water every day. However, there are two groups of people who need to be especially aware of chloraminated water: kidney dialysis patients and fish owners.

### Why do kidney/dialysis patients have to take special precautions?

In the dialysis process, water comes in contact with the blood across a permeable membrane. Chloramine in that water would be toxic, just as chlorine is toxic, and must

be removed from water used in kidney dialysis machines. Medical centers that perform dialysis are responsible for purifying the water that enters the dialysis machines.

### **If chloramine should not mix with blood, is it safe to drink chloraminated water?**

Yes. Everyone can drink water that is chloraminated because the digestive process neutralizes chloramine before it reaches the bloodstream. Even kidney dialysis patients can drink, cook, and bathe in chloraminated water. It's only when water interacts directly with the bloodstream – as in dialysis or in a fish's gill structure – that chloramine must be removed.

### **What about washing an open wound, like a cut, with chloraminated water?**

This would not be a problem. Even large amounts of water used in cleaning a cut would have no effect because virtually no water actually enters the bloodstream that way.

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

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

### **How does chloramine affect fish?**

Chloramine, like chlorine, is toxic to fish and must be removed from water. You may not have had to remove chlorine from your aquarium water, because it disappears rapidly on its own. This is not the case with chloramine and steps should be taken to remove chloramine. Most pet stores have sold chemicals that neutralize chlorine for years and generally have recommended using them. The chemicals can be purchased at your local pet supplier and are generally inexpensive. Several manufacturers have been adding chloramine information on labels on their products for years. Ask your pet supplier for further information.

### **Are both marine and fresh water fish affected by chloramine?**

Chloramine will have to be removed prior to adding to both marine and fresh aquariums. Chloramine affects salt water fish just as it affects fresh water fish.

### **How do I remove chloramine from my water?**

Remove chloramine by using a chloramine-neutralizing chemical or a granular activated carbon filter. Ask your pet supplier for further information and read the instructions on the container or equipment.

### **Won't letting water sit for a few days remove chloramine from tank or pond water?**

No. Unlike chlorine, which dissipates when water sits for a few days, chloramine may take weeks to disappear. If you don't want to use a chloramine-neutralizing chemical, the next best solution is to install a granular activated carbon filter, allow sufficient contact time, and closely monitor total chlorine levels..

### **Do home water softeners remove chloramine?**

Most water softeners are not designed to remove chloramine.

### **Will a carbon filter remove chloramine?**

Yes, if the filter contains high quality granular activated carbon that has been properly conditioned. Sufficient contact time should be provided and total chlorine levels should be closely monitored.

### **Will reverse osmosis remove chloramine?**

No. Salts can be retained by the permeable membranes but chloramine passes through easily.

### **Will chloramine be removed by boiling the water?**

No. Boiling is not an effective method of removing chloramine from water. The only practical methods for removing chloramines from water are using a water conditioner that contains a chloramine-neutralizing chemical or by using granular activated carbon.

### **Does bottled water have chloramine?**

It could. If the bottled water company uses water supplied by a water district that uses chloramine, then the water it provides will have chloramine in it, unless the company takes special steps to remove it.

### **Will chloramine affect swimming pools?**

No. You still need a free-chlorine residual to retard algae and bacteria growth. The chlorine chemicals and test kits you currently use can still be used with confidence. Contact your local pool supply store for any specific questions.

### **How about using chloraminated water on ornamental plants, vegetables or fruit and nut trees? Will beneficial soil bacteria be harmed?**

The small amount of chloramine should have no effect on plants of any type. Beneficial bacteria will generally be protected by the soil in which they live. Chloramine will be removed by the high chlorine demand in the soil.

**Will chloraminated water used for agricultural purposes have any effect on fish in adjacent streams?**

No. Most water that runs into streams and ponds would be agricultural, landscaping, or storm water drainage. After the water has been used for one purpose, it will not have enough residual chloramine to affect fish.

**How can I learn more about chloramines and the overall water treatment process?**

Call the BTMUA at (732) 458-7000 extension 4226 for more information and any questions/concerns.

**For more information, see the following websites:**

Fish and Aquariums – [faq.thekrib.com/begin-tapwater.html](http://faq.thekrib.com/begin-tapwater.html)

Plants and ponds – [www.watergarten.com](http://www.watergarten.com)

Public Health Organization – [www.nsfconsumer.org](http://www.nsfconsumer.org)

Water Quality Information – [www.watertechonline.com](http://www.watertechonline.com)