



## FACTS ABOUT CHLORAMINES

The U.S. Environmental Protection Agency (EPA) has imposed stringent regulations to address known health risks associated with disinfection byproducts in chlorinated water. To comply with the tougher standards, many water systems across the country have transitioned from chlorine to a safe, proven disinfectant known as chloramine.

**Chloramination** is a common disinfection process used by the water industry in which a small amount of ammonia in water is added to chlorine in water at the end of our treatment process. The EPA widely accepts chloramine as an effective treatment to prevent the waterborne transmission of parasites that are capable of causing sickness. With its 100-year track record as a safe, effective disinfectant, chloramine is widely used by municipally run and privately owned water systems across the United States and Canada. In fact, one in three Pennsylvanians uses water treated with chloramine for cooking, bathing, cleaning and drinking.

### FREQUENTLY ASKED QUESTIONS

#### WHAT ARE CHLORAMINES?

##### **Why does Pennsylvania American Water use chloramine for the disinfection process?**

To comply with more stringent Environmental Protection Agency (EPA) regulations, Pennsylvania American Water transitioned the water treatment disinfection practices at some of its facilities from chlorine to chloramine. We made the change to reduce the levels of disinfection byproducts that EPA has found to have known health risks. These byproducts are potentially harmful contaminants that form when chlorine reacts with organic compounds naturally present in our surface water sources of supply during the normal water purification process.

Compared to chlorine, chloramine produces substantially lower concentrations of the disinfection byproducts that the EPA regulates in drinking water. Prior to the federal regulations taking effect in 2012, we took a proactive approach to ensure that our water meets all public health standards.

##### **How does chloramine affect our drinking water?**

People use chloraminated water in all the same ways for drinking, bathing, cooking, cleaning and watering lawns and gardens. The only change that customers might notice is a reduced taste and odor of chlorine. If you prefer, products are available that reduce or remove chloramine, such as home treatment systems and water filters, which often contain certifications describing their effectiveness. We recommend that you visit the National Sanitation Foundation's website for information on in-home filters that remove chloramine and chlorine.



### LEARN MORE

For more information, visit us online at [pennsylvaniaamwater.com](http://pennsylvaniaamwater.com). Under the Water Quality drop-down menu, select Chloramine Facts.

Customers can also contact our Customer Service Center:  
1-800-565-7292  
Hours: 7 a.m.–7 p.m.  
For emergencies, we're available 24/7.



## PRECAUTIONS FOR KIDNEY DIALYSIS PATIENTS AND FISH OWNERS

Although the use of chloramine is proven to be safe, kidney dialysis patients and fish owners must take special care not to use water directly from the tap. As with chlorine, chloramine must be removed from water that is used in the kidney dialysis process and from water that is used in fish tanks or ponds. Please follow these precautions:

### KIDNEY DIALYSIS PATIENTS

In the dialysis process, water comes in direct contact with the bloodstream. Just like chlorine, the presence of chloramine in dialysis water would be toxic and must be removed.

Dialysis systems already pre-treat their source water to remove chlorine. However, some modifications might be necessary to remove chloramines. Consult your dialysis provider or health care practitioner for more information on your particular treatment need.

Medical facilities that perform dialysis are responsible for purifying the water, which enters the dialysis machines. Consult your physician if you have any questions.

If you use a home dialysis machine, check with your physician. He/she will most likely recommend the appropriate type of treatment. Many home dialysis service companies are able to make the necessary modifications.

Kidney dialysis patients can drink, cook and bathe in the water, because the digestive process neutralizes chloramine before it reaches the bloodstream. Chloraminated water can be used without treatment for these general uses.

### FISH OWNERS

Both chlorine and chloramines are toxic in very low levels and must be removed from the water used for aquatic life. Most pet stores sell disinfectant-removal products that can be added to the tap water prior to introduction to the fish tank or pond.

Consult your local pet supply store for specific assistance on recommended products.

Chloramine is a very stable disinfectant and will remain in water for weeks. You are advised to remove chloramines from any water used for fish or aquatic life. This approach will provide maximum protection for your pets.



### How can we be sure that chloramination is safe?

For nearly 100 years, water systems across the United States and Canada have used chloramine without any ill effects. Every day, one in five Americans receive drinking water treated with chloramine, including residents in Washington, D.C., San Francisco, Boston, Dallas, Indianapolis, Denver and Miami. In Pennsylvania, four million people, including people in York, Lebanon and Philadelphia, have been using tap water treated with chloramine for decades. That's one out of every three people in Pennsylvania. In addition, Pennsylvania American Water has years of experience providing chloraminated water for community water systems, including Norristown, Clarion, Yardley, Butler, Ellwood City, Connellsville, Mechanicsburg and Hershey.

### Does chloramine increase the chance of lead poisoning due to leaching from household plumbing?

No. Proper corrosion control is always the key to reducing the risk of lead leaching, and Pennsylvania American Water has extensive experience in this field. In fact, when the Washington D.C. water system had issues with lead and a lack of proper corrosion control with chlorine – before it made the transition to chloramine, the EPA called our parent company, American Water, to help resolve the issue. Our environmental experts assisted Washington D.C. officials in developing the solution – a phosphate-based corrosion inhibitor.

Pennsylvania American Water practices corrosion control at all of its water treatment facilities, and is in compliance at all systems with the Federal and State Lead and Copper regulation.

### When a main break occurs with chloraminated water, what is the likelihood of a significant fish kill?

Both chlorine and chloramine are toxic to fish. Therefore, regardless of whether water is treated with chlorine or chloramine, water companies must react quickly when main breaks occur and employ best management practices to minimize the environmental impact on streams and rivers.

### Should I be concerned about washing open wounds with chloraminated water?

No. Water disinfected with chloramine is no different than using chlorinated water to cleanse a wound. Virtually no water comes into direct contact with the bloodstream, so there is no harm.

### Will chloramine adversely affect my swimming pool?

You should continue to treat your pool according to the manufacturer's recommendations. Test kits available at your local pool supply store can be used to measure the disinfectant concentration in the pool water. Contact your local pool supply store for additional details.

### When it comes to gardening, will chloraminated water harm ornamental plants, vegetables, trees or shrubs?

No. The low levels of disinfectant in the water should not have any effect on plant life. The bacteria that contribute to plant growth live within the soil and are generally protected from chloramine concentrations by the soil layer. Soil will reduce or remove the disinfectant, thereby reducing its levels in the water that reach the plants.