

CHLORAMINES

Straight Talk About Water Quality



PENNSYLVANIA
AMERICAN WATER

The Facts About Chloramination

As Pennsylvania American Water proceeds with plans to improve its water treatment process, we want to keep you informed about the proposed switch to chloramines. This change is necessary to meet future drinking water standards, so that we continue to provide high-quality water service for drinking, cooking, bathing and all other typical uses.

Frequently Asked Questions and Answers

Q. Why is Pennsylvania American Water changing its disinfection process?

We are switching from chlorine to chloramine to ensure that our drinking water continues to comply with all U.S. Environmental Protection Agency (EPA) drinking water standards. The EPA is imposing more stringent standards to reduce health risks associated with disinfection byproducts (DBPs) in chlorinated water. These DBPs form when chlorine reacts with naturally occurring organic materials, such as decomposing plant material, in the raw water.

Since chloramine is not as reactive as chlorine with organic materials, it produces substantially lower concentrations of DBPs. In addition, chloramine is more stable than chlorine and more effective at extending disinfection through the pipelines that distribute water to customers' homes and businesses.

Q. What is chloramination?

To disinfect drinking water, chloramination is a common industry application in which chlorine is mixed with a very small amount of ammonia. It would be like adding less than two quarts of

ammonia per million gallons of water, or two quarts to a football field filled four feet deep.

The EPA widely accepts chloramines as an effective method of water disinfection. The amount of chlorine and ammonia applied to form chloramines is carefully controlled by water utility professionals.

Q. Does chloramination have a proven track record as a safe and effective disinfectant?

Since the early 1900s, chloramines have been used routinely to treat drinking water across the United States and Canada. Nearly one in three U.S. surface water facilities currently use chloramination.

The first U.S. implementation occurred in Denver in 1917, and today, about one in five Americans receive drinking water treated with chloramines. U.S. cities supplied by chloraminated water include Washington, D.C., San Francisco, Boston, Dallas, Indianapolis, Philadelphia and nearby York, PA.

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Did You Know?

In Pennsylvania, 73 water systems serving approximately 4 million people – or one out of every three Pennsylvanians – rely on chloramines to effectively treat drinking water.

What's more, Pennsylvania American Water brings years of experience providing chloraminated water in its community water systems, which include Norristown, Clarion, Yardley, Butler, Ellwood City and Connellsville.

For more information

Contact our Customer Service Center at (800) 565-7292.

Our customer service representatives are available 24/7 to assist you.

WE CARE ABOUT WATER. IT'S WHAT WE DO.



Q. How will my drinking water be affected?

You will not notice any changes, except some may notice that the taste and odor of chlorine is reduced. Chloraminated water can be used in all the same ways for drinking, bathing, cooking, cleaning and watering lawns and gardens. The change in disinfection processes will take place at Pennsylvania American Water's treatment facilities that serve customers in Camp Hill, East Pennsboro, Enola, Fairview, Hampden, Lemoyne, Lower Allen, Newberry, New Cumberland, New Kingstown, Shiremanstown, Silver Spring, Upper Allen and Wormleysburg.

Q. Are there any special precautions for specific types of water use?

Two groups of people need to take special care when using chloraminated water:

- **Kidney dialysis patients:**
Because water comes in contact with the bloodstream in the dialysis process, chloramine in the water would be toxic, just as chlorine would be toxic. Chloramines can be removed by adding ascorbic acid or by filtering the water through granular activated carbon prior to use. Dialysis patients can drink chloraminated water and use it for bathing, washing wounds and all other standard uses of water. Contact your physician if you have any health-related questions.
- **Fish owners:**
Both chlorine and chloramines are toxic to fish in very low levels and must be removed from the water to be used in an aquarium. Most pet stores sell a disinfectant-removal product that can be added to the tap water prior to introduction to the fish tank or pond. It is wise to remove chloramines from water used for fish or aquatic life.

Q. When will the new disinfection process be implemented?

The switch to chloramine is anticipated later this year. Customers will be notified in writing at least three months prior to the transition.

Pennsylvania American Water received the necessary permits in 2006 from the PA Department of Environmental Protection. In 2007, we delayed implementation to provide customers with more time to learn about chloramination. A small group of opponents raised legal challenges. All challenges have been dismissed by the courts in all of the decisions made to date before the Commonwealth Court, Environmental Hearing Board and the PA Public Utility Commission.

Q. Why doesn't Pennsylvania American Water delay implementation until further research into chloramine is completed?

We welcome and support ongoing research into chloramine's use to disinfect drinking water. However, the EPA widely accepts chloramines as a safe, effective treatment. EPA believes that drinking water disinfected with chloramine that meets regulatory standards poses no known or anticipated adverse health problems.

If additional research prompts the EPA to change its guidelines in the future, we will adopt those new standards. But today, it is unknown how long such research would take, and what, if any, changes EPA would make. In the meantime, the new federal regulations take effect in 2012, and the company believes in being proactive to ensure that our water meets all public health standards.

For more information

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Be sure to get the facts about chloramines from trusted, credible organizations, such as:

- U.S. Environmental Protection Agency: <http://www.epa.gov/safewater/disinfection/chloramine>
- Pennsylvania Department of Environmental Protection: <http://www.depweb.state.pa.us/watersupply>
- Pennsylvania Department of Health: <http://www.dsf.health.state.pa.us/health/cwp/view.asp?A=171&Q=248993>
- San Francisco Public Utilities Commission: <http://sfwater.org>