

City of Luverne Water Utility to Change Disinfection Process to Chloramines

In early 2016 the City of Luverne Water Utility will be changing our disinfection process from free chlorine to chloramines. This process change will allow the City of Luverne to match the quality of water we will receive from Lewis & Clark Regional Water. A second mailing will be sent to each customer shortly before we make the change. A list of frequently asked questions can be found below.

Why is the City of Luverne making the change to chloramines? The primary reason is to match the water quality that we will receive from Lewis & Clark Regional Water. A secondary benefit will be to provide water to our customers with the lowest possible levels of trihalomethanes (THMs).

What is chloramine?

Chloramine is a disinfectant used to treat drinking water. It is formed by mixing chlorine with ammonia. It is a more stable form of disinfectant and extends the disinfectant benefits throughout the water distribution system. Chloramine has been used by water systems for almost 90 years and its use is closely regulated.

What are trihalomethanes (THMs)? THMs are chemical compounds that are formed when chlorine mixes with naturally occurring organics in water. The US Environmental Protection Agency (EPA) conducted tests which determined that chloroform (one of the THMs) is carcinogenic when consumed by laboratory animals in large quantities over a prolonged period of time, and is a suspected carcinogen for people. EPA set a standard of 80 parts per billion (ppb) as the maximum level of THMs in drinking water.

Are chloramines new? No. Many cities in the US and Canada have used chloramines for decades. Water systems in South Dakota that currently use chloramines include Mid-Dakota Rural Water, WEB Water, and the City of Sioux Falls.

Are Chloramines Safe? Yes. Chloramines have been used safely in the US and Canada for many years. EPA accepts chloramines as a disinfectant and as a way to avoid THM formations. Without the use of some kind of disinfectant, disease causing organisms could be spread through drinking water. Chloraminated water is safe for bathing, drinking, cooking and all of the uses we have for water each day. However, there are two groups of people who need to take special care with 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. Chloramines 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.

What should people with home dialysis machines do to remove chloramines? You should first check with your physician, who can recommend the appropriate type of water treatment. Often home dialysis service companies can make the needed modifications but you should check with your physicians to be certain.

If chloramines are toxic, won't they harm people and pets? Chloramines are harmful when they go directly into the bloodstream as happens in kidney dialysis. Fish also take chloramines directly into their bloodstream. That's why chloramines must be removed from water that goes into kidney dialysis machines or is used in fish tanks and ponds.

If chloramines shouldn't mix with blood, is it safe to drink water containing them? Yes. Everyone can drink water that is chloraminated because the digestive process neutralizes the chloramines before they reach 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 chloramines must be removed.

How about washing an open wound, such as a cut, with chloraminated water? Certainly. Even large amounts of water used in cleaning a cut would have no effect because virtually no water actually enters the bloodstream that way.

Will chloramines change the pH of water? No. It will remain the same (pH = 8.6 to 8.9).

What will water taste like with chloramines? If you notice any change at all, you may find the water has less of a chlorine odor or taste.

Do home water softeners remove chloramines? Most water softeners are not designed to remove chloramines.

If chloramines are such effective disinfectants, why haven't they been used more? Given enough contact time, chloramines are just as effective as chlorine at doing their job - killing bacteria. While chlorine works more quickly, it doesn't last as long as chloramines. Both disinfectants have advantages and disadvantages. The choice of disinfectant depends on local water conditions.

How do chloramines affect fish? Chloramines are toxic to fish and must be removed from water, just as chlorine is toxic and must be removed. 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 chloramines and steps should be taken to remove chloramines. Most pet stores sell dechlorinating agents.

Won't letting water sit for a few days remove chloramines from tank or pond water? No. Unlike chlorine, which dissipates when water sits for a few days, chloramines may take weeks to disappear. If you don't want to use a dechlorinating chemical, the next best solution is to install a granular activated carbon filter and allow sufficient contact time.

When will this conversion take place? We plan to make the change in early 2016.

Will chloraminated water affect the toilet mechanisms?

Chloramines may wear out the rubber inner workings of the toilet more quickly, especially mechanisms like the toilet flapper. It is advisable to inspect your toilet flapper once or twice a year to ensure that it is functioning properly.