

HARRIS COUNTY MUNICIPAL UTILITY DISTRICT No. 136 DRINKING WATER DISINFECTION METHOD

Harris County Municipal Utility District (MUD) No. 136 began a new process of water disinfection in April 2007 when it began using chloramines rather than chlorine as the disinfectant in the water supply. The District currently obtains its drinking water from two wells located within the District. The District has emergency water use agreements with the neighboring districts to the east and north, Harris County MUD No. 183 and Barker Cypress MUD. Harris County MUD No. 183 and Barker Cypress MUD converted to surface water around this time to comply with mandates from the Harris Galveston Coastal Subsidence District to reduce ground water pumpage. These districts, through their participation in the West Harris County Regional Water Authority, will receive treated surface water from the City of Houston. This water will be supplied through a newly constructed water transmission line. The treated surface water blended with these districts' well water will require the use of chloramines as the disinfectant of the water supply. Although our District is not scheduled to convert to surface water until 2009, we switched disinfection systems so that we can use water from either Harris County MUD No. 183 or Barker Cypress MUD in the event that either of our two wells fail.

The use of chloramines rather than chlorine is not new technology as it is in widespread use in many cities and other drinking water supplies. The change is intended to benefit our customers by reducing the levels of disinfection byproducts (DBPs) in the system, while providing protection from waterborne disease. The City of Houston has been treating its water with chloramines for over twenty years. Water containing chloramines is perfectly safe for drinking, bathing, cooling, and most other uses we have for water. **HOWEVER, there are two categories of people who need to take special care with chloraminated water:**

Kidney Dialysis Patients – Chloramines can cause problems to persons dependent on dialysis machines. A condition known as hemolytic anemia can occur if the disinfectant is not completely removed from the water that is used for the dialysate. Consequently, a pretreatment scheme may be necessary for your dialysis unit. ***Your doctor or medical/dialysis facility should determine what precaution, pretreatment or modification is required for dialysis and or other medical equipment.***

Live Fish or Other Aquatic Animals – Chloraminated water may be toxic to fish. If you have a fish tank, please make sure that the chemicals or filters that you are using are designed for use in water that has been treated with chloramines. You may also need to change the type of filter that you use for the fish tank.

Following are questions and answers that may address questions that you may have:

What is chloramination?

Chloramination is the use of both ammonia and chlorine to disinfect water. Ammonia is added to water at a carefully controlled level. The chlorine and ammonia react chemically to produce a combined chlorine residual or chloramines. Chloramines are safe in drinking water and serve as an effective method of disinfection. In the U.S., many water systems have used chloramination for several decades.

How will chloramination affect water customers?

For most customers, the only noticeable change will be that the chlorine smell and taste in our water will be less apparent. Two groups of water customers - kidney dialysis patients and fish owners - must take special precautions.

Why will kidney dialysis patients and fish owners be affected by chloramines?

Customers who use the District's water for dialysis treatment, in fish tanks, in aquaculture, and for certain other special uses will need to make some changes. Chloramines are harmful when they go directly into the bloodstream. In the dialysis process, water comes into contact with blood across a permeable membrane. Chloramines in dialysis water would be toxic, just as chlorine in dialysis would be toxic, and therefore must be removed from water used in kidney dialysis machines. Fish also take chloramines directly into their blood streams, so chloramines must be removed from aquariums and fish tanks or ponds.

What precautions should kidney dialysis patients take?

Both chlorine and chloramines must be removed from the water used in kidney dialysis machines. Medical centers that perform dialysis and dialysis centers are responsible for purifying water that enters the dialysis machines. Customers with home dialysis equipment should contact their physicians or dialysis centers regarding chloramination and how it will affect them. They should also check with the equipment manufacturer for information.

People with weakened immune systems, including infants, elderly people, and persons with HIV/AIDs or who are undergoing chemotherapy, etc. should consult a health professional about whether to use specially treated water instead of water from normal public sources using either chlorinated or chloraminated drinking water.

What precautions should fish owners take?

Chloramines should be removed from water that is used in fish tanks, ponds, and aquariums. Tropical fish shops and other businesses that keep fish or other animals in aquariums or ponds are encouraged to contact a pet supply company about how to remove chloramines before using drinking water in an aquarium.

Similarly, customers who use drinking water for aquaculture (growing plants in a water tank or pond) are encouraged to get expert advice regarding whether and how to neutralize or remove chloramines. Also, restaurants and grocery stores with lobster tanks must take special precautions to treat the water.

Will chloramination affect routine business water uses?

Businesses and other organizations in the District that use the District's water for commercial laundering operations, textile dyeing, laboratory procedures and other processes in which water characteristics must be carefully controlled should get advice from equipment manufacturers or other suppliers regarding changes that may or may not be needed.

Will chloramination affect routine household water uses?

Chloramination will not affect routine water uses such as food preparation, household laundering and dishwashing, watering plants, etc. Chloramines will not have any effect on any type of lawn and will usually be removed by the high chlorine demand in the soil.

Do home water softeners remove chloramines?

Most water softeners are not designed to remove chloramines.

Will using chloramines affect swimming pools?

No. Swimming pool managers and owners will still need a free-chlorine residual to retard algae and bacterial growths. Contact local pool supply stores for specifics.

Does bottled water have chloramines?

Possibly, depending on the source of the water. If the bottled water company uses water supplied by a municipal water source that uses chloramines, the bottled water will have chloramines unless the company takes special steps to remove it.

How can I get more information?

Feel free to contact the Harris County Municipal Utility District No. 136 and West Harris County Regional Water Authority (WHCRWA) Operator, ECO Resources, Inc. ECO's Regulatory Compliance Director can be reached at (713) 983-3449 should you have a question or comment.

The WHCRWA website can be viewed at www.whcrwa.com.