

# KNOW THE FACTS

## FISH, AMPHIBIAN, POND, & POOL OWNERS

### PREPARING FOR CHLORAMINES

In April 2013, the following local water utilities: City of Bismarck, City of Lincoln, and South Central Regional Water District will embark on a modification of their current water treatment process. The new process will involve switching the disinfectant chemical from free chlorine to chloramines to comply with new federal regulatory standards. Chloraminated water is safe for drinking, bathing, cooking, and all other uses we have for water every day. However, there are three groups that need to take special precautions when using chloraminated water: kidney dialysis patients, fish, pond, and aquarium owners, and specialized businesses using high quality treated water.

### WHAT ARE CHLORAMINES?

Chloramines are disinfectants used to treat drinking water. They are formed by mixing chlorine with ammonia at carefully controlled levels. Similar to chlorine, chloramines are effective at killing harmful bacteria and other germs. Chloramines have been used safely in the United States for many years.

### WHY ARE CHLORAMINES TOXIC TO FISH, AND AMPHIBIANS?

Chloramines are a combination of chlorine and ammonia, both which are harmful for fish, and amphibians. When water that contains chloramines is digested by humans, that water is neutralized by the digestive system before it reaches the bloodstream. Since chloramines enters directly into the bloodstream through gills, this inhibits the red blood cells ability to carry oxygen.

### WHAT PRECAUTIONS SHOULD FISH SHOPS, HOBBYISTS, AND AQUACULTURE BUSINESS TAKE?

Chloramines must be neutralized or removed from the water that is used in fish tanks, ponds, and aquariums. Unlike free chlorine, chloramines do not dissipate as quickly from water. As chloramines are removed, ammonia is released and must also be removed prior to coming in contact with fish, and amphibians. Households, fish shops, hobbyists, and other businesses that keep aquatic animals should contact knowledgeable suppliers or veterinarians.

### ARE CHLORAMINES TOXIC TO BOTH SALTWATER AND FRESHWATER FISH?

**Yes.** Chloramines are only toxic to both saltwater and freshwater fish, as well as amphibians.

### WILL LETTING WATER SIT FOR A FEW DAYS CAUSE CHLORAMINES TO DISAPPEAR?

**No.** Unlike chlorine which will eventually dissipate, chloramines may take weeks to disappear.





# KNOW THE FACTS

## FISH, AMPHIBIAN, POND, & POOL OWNERS

### WHAT METHODS ARE AVAILABLE TO REMOVE CHLORAMINES AND AMMONIA?

Chloramines can be removed by one of two methods; a carbon filter that contains a high quality granular activated carbon, or water treatment products designed to remove chloramines. Ammonia must also be removed because of the potentially toxic effect it may have on fish. Biological filters, and natural zeolites can be effective at removing ammonia.

### WILL CHLORAMINES HARM OTHER PETS?

**No.** Chloramines is only potentially harmful to fish and other aquatic or semi-aquatic life.

### WILL BOILING WATER REMOVE CHLORAMINES?

**No.** Chloramine cannot be removed by boiling water, adding salt, or letting water stand in an open container to dissipate.

### WHAT TEST WILL DETERMINE IF THE WATER IS SAFE FOR AQUATIC ANIMALS?

Aquarium owners should monitor their ammonia and “total” chlorine not “free” chlorine concentration levels closely. A total chlorine test or combined chlorine test should be available at local pet or pool supply stores, and chemical supply houses.

### WILL REVERSE OSMOSIS REMOVE CHLORAMINES?

**No.** Only salts that are caught by the permeable membranes, allowing chloramines to easily pass through.

### WILL CHLORAMINES AFFECT SWIMMING POOLS?

**No.** Pool owners will still need a free-chlorine residual to retard algae and bacteria growth.

### WILL CHLORAMINES CHANGE THE pH OF THE WATER?

**No.** The pH of the water should remain the same.

## QUESTIONS ABOUT CHLORAMINES?

Contact Your Water Provider Listed Below:

#### City of Bismarck

PO Box 5503  
Bismarck, ND 58506-5503  
(701) 355-1700

#### City of Lincoln

74 Santee Rd  
Lincoln, ND 58504  
(701) 258-7969

#### South Central Regional Water District Office

PO Box 4182  
Bismarck, ND 58502-4182  
(701) 258-8710