



THE METROPOLITAN WATER DISTRICT of SOUTHERN CALIFORNIA

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Chloramines and Fish Don't Mix

Water that's safe to drink isn't necessarily safe to breathe. And vice versa.

People have no problems with the tiny amount of chloramines used as a disinfectant to kill water-borne bacteria in drinking water. But fish and chloramines don't mix. That's because there's a world of difference between the ways fish and humans use water.

When people swallow water, it is neutralized by the digestive system before it reaches the blood. Fish and other marine life, however, don't just swallow water - they breathe it. When that water contains chloramines, these substances enter the blood stream and chemically bind to iron in the red blood cells, which makes it difficult for those cells to carry oxygen. Eventually, fish may "suffocate" from lack of oxygen.

Chloramines, a combination of chlorine and ammonia, are harmful to fish - but so is chlorine alone. That's why experienced fish hobbyists and professionals have always conditioned tap water before adding it to ponds and aquariums.

Chlorine can be removed from water by exposing it to air for a few days. Not so with chloramines, which may take as long as several weeks to disappear. This is one of the advantages for people: chloramines last long enough to do a thorough disinfecting job.

If tap water is used for fish, the disinfectant must be removed. The same chemicals most pet stores have sold for years to eliminate chlorine from water are equally effective in neutralizing chloramines. Many manufacturers of these chemicals now include chloramine-removal information on their labels.

Granular-activated carbon (GAC), the popular filter material used by the aquarium industry, also removes the disinfectant. But the carbon must be high quality and the water must be filtered long enough to be sure the chloramines are gone. Much depends on individual circumstances such as the amount of water and the type of filter system.

The staff at local pet and aquarium supply stores should be able to offer advice about both methods, recommend a specific chemical or carbon, and determine how long the water must be exposed to either material to make it safe for fish.

Some people have been fearful that water that poses a threat to fish might not be safe to drink. That couldn't be further from the truth. Consider the orange juice people are urged to drink for good health; a fish would meet a swift, unpleasant fate if asked to swim in it.

