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## 3 women say they're victims of chloramine

Water is everywhere. We were surrounded by it in the womb, and we bathe in it, drink it, use it to prepare foods, wash our clothes in it, and admire it in rushing mountain streams.

So it's shocking to think it could possibly hurt us.

I attended a meeting where I met three senior women who have become bitter about the switch in

water disinfectants in the Peninsula water supply from chloride to chloramine.

I met Margarita Davison of Palo Alto, who showed me a videotape taken last July depicting an aggressive, itchy skin rash on her legs and her hands which she attributed to chloramine. She complained as well about breathing problems when taking a bath or shower.

I also talked with Marilyn Raubitschek of San Bruno, a 79-year-old pianist in otherwise excellent health who developed a red rash, welts and dry and scaly skin shortly after chloramine was introduced. She tried switching to bottled water to drink and bathe in and the symptoms went away — that is, until she returned to using city water again.

Another woman complained of a dry mouth condition which disappeared when she visited a city not using chloramine.

## Like a nightmare

As Raubitschek put it, "It's like a nightmare. I have to heat my bottled water on the stove to take a bath. This is the United States and I have to live like this? We had no say about adding chloramine to the



BIL PAUL organic matter to form potentially cancer-causing chemicals which could be inhaled as a mist in showers.

Scientists then found that combining ammonia with chlorine to form chloramine allowed the antibacterial action to persist much longer, although it was weaker.

Also, the chemical taste in treated water was

reduced and fewer dangerous byproducts were produced.

Chloramine began to be used around 1900 and as of 1990, approximately 20 percent of U.S. communities were using it. That's expected to rise to 50 percent.

Nearly all the tap water used on the Peninsula comes is provided by the San Francisco Public Utilities Commission and its Hetch Hetchy Reservoir and water supply system. The SFPUC treats it by first adding liquid chlorine and allowing it to do its powerful work for at least several hours.

Then liquid ammonia is added in precise amounts, and the two combine to form chloramine. This compound then persists in the system as water is delivered to customers in the East Bay, South Bay and here on the Peninsula.

## H kills fish

Everyone agrees that chloramine in our water (even at its dilution of two parts per million) isn't a benign agent. If you fill an aquarium with it and add fish, they will die. The water will also degrade rubber.

However, I've noticed that slime no longer builds up in my bird bath since the switch. Palo Alto Daily News September 7, 2004 water. There was no debate."

Let me step back a bit and relate some water-supply history. Several centuries ago, contaminated city water supplies were notorious carriers of disease such as cholera. Researchers found in the 1800s that chlorine introduced to piped water was an effective bacteria-killer. The downside was that it dissipated in the water mains, which allowed the buildup of bacterial and algae slimes, and it combined with certain

The women I met are gentle, unlikely activists who completely distrust the SFPUC.

They've joined with others to publicize their problems and are planning to lobby local legislators to reconsider allowing chloramine in water.

In fact, Denise Johnson-Kula of Menlo Park — who claims chloramine gave her asthma — is going to court to have an injunction

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## **VICTIMS**

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issued to have the SFPUC stop using the chemical in the water supply.

The SFPUC erred when it began using chloramines by assuming that there were no health problems and no one would object. Now, Dr. June Weintraub of San Francisco's Department of Public Health is beginning to work with various country health departments to document reported instances of chloramine-caused problems. It's obvious that there are medical issues to be addressed.

Some anti-chloramine partisans suggest water departments use ozone or ultra-violet water treatments, but the problem is that their action doesn't persist. That is, as water treated by these methods heads into the city mains, it can be re-infected with residual bacteria.

Unfortunately, there aren't any commonly-available or affordable home-use filters now which entirely remove chloramine from tap water.

The reverse-osmosis water filter machine I use to fill up jugs at the Whole Foods store in San Mateo, I've been told, removes 90 percent of the chloramines. Unfortunately, water distilling devices don't remove the chemical.

I talked with Dr. Ken Smith of Multi-Pure Drinking Water Systems of Some anti-chloramine partisans suggest water departments use ozone or ultra-violet water treatments, but the problem is that their action doesn't persist. That is, as water treated by these methods heads into the city mains, it can be reinfected with residual bacteria.

Las Vegas (he calls the municipal use of chloramines "precipitous") who says his line of home filters remove 96 percent of water-borne chloramine. I expect it's simply a matter of time before affordable filters will remove all of it.

Perhaps water departments will eventually supply free filters to those who are allergic.

Despite all my research, I have some unanswered questions:

- ➤ What happens to the chloraminelaced water we drink? Does it also kill beneficial bacteria in our intestines? Some literature says no, but not very convincingly.
- ➤ What happens to chloramine water that goes into gutters and storm drains from overwatered lawns and car washings, then flows into

the Bay? Chloramine water kills fish and amphibians such as salamanders.

➤ I water my vegetable garden heavily, but not frequently. All the snails and slugs have disappeared. Did chloramine do this? Will chloramines kill earthworms and bacteria in my garden soil?

Before we come down too hard on chlorine, though, remember that we love to eat one form of it. Common table salt (NaCl) is composed of two poisonous elements, sodium and chlorine.

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