



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY  
REGION 1  
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BOSTON, MA 02114-2023

**Memorandum**

**Date:** 1/22/2008

**Subject:** Home treatment information for chloramine removal

**To:** Jane Downing

**From:** Marcel Belaval

As requested, the following represents the information gathered regarding home treatment of chloramine.

- **NSF International is an organization that provides third-party verification testing of home water treatment devices for the removal of monochloramine.**

Devices are certified to improve water for aesthetic (taste or odor) reasons, and certified devices must demonstrate at least an 83% chloramine reduction (at 3 ppm) over the entire service cycle of the filter media. A list of certified devices may be found at NSF International's website, [www.nsf.org](http://www.nsf.org). All of the devices certified for chloramine reduction treat the water using adsorption methods (i.e. granular activated carbon). EPA does not test or approve home treatment devices.

- **The majority of the certified products are point-of-use devices.**

Point-of-use devices are primarily used for treating drinking water and may be plumbed in to an existing tap, plumbed into a new tap, or placed on a counter top and connected to an existing faucet. These devices are typically intended for cold water use only. There are over 100 certified point-of-use devices for monochloramine, and prices range from less than \$100 to \$700+. Generally, the flow rates of the devices are too small for whole-house treatment or shower use.

- **NSF International's website lists two point-of-entry products certified for monochloramine removal.**

Point-of-entry devices may treat all incoming water to a house and are typically intended for cold water use only. The two products listed on NSF International's website are in the price range of \$1,300, and are rated for 5 gallons-per-minute flow. This flow rate should be adequate for typical household water use.

- **As with any home water treatment device, proper installation and maintenance is essential.**

The homeowner is responsible for servicing water treatment devices in their home at regular intervals as specified by the manufacturer. For the monochloramine-certified devices, this typically involves replacing the adsorption media (the filter) at the end of the service cycle. Improper maintenance will reduce the removal effectiveness of the device and may create a

health risk by allowing bacteria to grow in the filter. The cost of regular service and replacement filter media should be considered when deciding on a home treatment device.

- **The length of the service cycle varies by product.**

For the point-of-*use* monochloramine-certified devices, the range varies widely, from 300 to 60,000 gallons. The two point-of-*entry* devices have a service cycle of 21,000 gallons and 84,000 gallons, which corresponds to approximately 2.5 months or 9.5 months for the typical water use of a family of four.

- **NSF International does not certify shower head devices for chloramine reduction; however, some devices are available that claim to reduce chloramines in shower water.** Shower head devices that add ascorbic acid (Vitamin C) to the water claim to reduce chloramine concentrations. The use of ascorbic acid to reduce chlorine and chloramine concentrations is an established practice in the water industry when necessary to dechlorinate wastewater that will be discharged to a surface water. Ascorbic acid works by chemically reducing chloramine in water to chloride, ammonium, and dehydroascorbic acid. To EPA's knowledge, the performance of these shower head devices has not been tested through a third party verification.