

Rennaker, Joanne (DEQ)

From: Henry, James <jhenry@gchd.us>
Sent: Tuesday, July 28, 2015 4:38 PM
To: deborah.d.conrad@gmail.com
Cc: Prysby, Mike (DEQ); mglasgow@cityofflint.com
Subject: FW: HIGH LEAD REPORT

Hello Ms. Conrad,

I've copied Flint City and MDEQ regarding elevated Lead that was detected in your City of Flint residential water. You may want to speak with them regarding your situation. Below are some recommendations to reduce Lead. Please refer to the following Center for Disease Control links.

<http://www.cdc.gov/nceh/lead/tips/water.htm>

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The following information was obtained from the tips link.

Before using any tap water for drinking or cooking, flush your water system by running the kitchen tap (or any other tap you take drinking or cooking water from) on COLD for 1–2 minutes; Then, fill a clean container(s) with water from this tap. This water will be suitable for drinking, cooking, preparation of baby formula, or other consumption. To conserve water, collect multiple containers of water at once (after you have fully flushed the water from the tap as described).

Types of Point-of-Use Devices for Lead Reduction

Reverse-Osmosis

Reverse-osmosis devices, usually installed underneath the sink, use a membrane with pores tiny enough to screen out contaminants. They are effective in reducing inorganic materials, including lead. However, these units are expensive and may be difficult to install. In addition, reverse-osmosis units waste water by shunting at least three gallons of water directly down the drain for every gallon that is treated. Despite their cost and other drawbacks, reverse-osmosis devices may be considered for situations in which maximum lead reduction is necessary.

Distillers

Distillers are another effective means of reducing lead in water. A distiller uses electricity to boil water. After water from the tap is poured into the distiller, the unit condenses the steam, reducing contaminants in the process, and allows clean water to drip into a collection jug. The purchase price is much lower than that of a reverse-osmosis unit but the operating cost is higher because of the electricity needed to run the distiller. A distiller can sit on top of a counter. The only installation involved is plugging it into an electrical outlet.

Filters

Filters, the simplest type of point-of-use devices, trap particles in a porous material while allowing water to pass through. There are many brands and types of filters which vary in their effectiveness at reducing lead. Product literature should be checked to determine the filter's capabilities.

Undersink Filters

Undersink filters send water through prefilters to remove sediment and organic chemicals, then through a lead-

reducing filter. Attached to the cold-water line beneath the sink, these filters are less expensive and much easier to install than reverse-osmosis devices although a hole may have to be drilled through the counter to allow passage for the treatment unit's spigot.

Countertop Filter

These types of filters typically have a hose that attaches to the faucet. At this connection is a diverter with a valve inside. When water is needed for non-consumptive purposes, it can be drawn through the tap as usual. When it is needed for drinking or cooking, the valve in the diverter can be activated to shunt the water through the filter, where it is treated, and then out a spigot in the unit.

Faucet Filter

This is similar to a countertop unit, but, instead of being connected to the faucet with a hose, this filter sits atop the faucet. When the diverter valve is activated, water flows through the filter and out an opening in the unit.

With any type of filter, regular maintenance is critical. As filters remove particles from the water, they become clogged and have to be replaced or cleaned. Failure to do so may result in an increase in the bacteriological content in the water.

Considerations In Purchasing a POU Device

Purchase price is not the only consideration that should be made when buying a home water treatment unit. Cost of operation and effectiveness should be also taken into account in addition to the unit's efficiency with regard to how much water it wastes in processing a certain quantity of treated water.

Two reliable sources of information on treatment units are NSF International and the Water Quality Association (WQA). NSF International develops and adopts voluntary, consensus standards and testing programs for a wide variety of water treatment units. WQA represents firms and individuals engaged in the design, manufacture, production, distribution, and sale of equipment, products, supplies, and services for providing quality water.

Neither NSF nor WQA recommends particular brands of home treatment units, but both have literature for consumers and can offer advice on the type of treatment unit needed.

Note: *Water treatment* devices—which are designed to reduce chemical contaminants, including lead, from the water—should not be confused with *water purification* devices, which are designed to remove bacteria.

Treatment devices *will not* remove bacteria from the water and may actually increase bacterial content. The Minnesota Department of Health recommends that POU devices be used only on water that is free of harmful bacteria.

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