
Lead in Tap Water & PUC Action to Control It

Overview

Ontario legislation requires municipal water supply authorities to test for the presence of lead in drinking water at customer taps, and to put into effect corrosion control measures in the event that lead levels are higher than the regulatory limit (O.Reg. 170/03, Schedule 15.1, of the Safe Drinking Water Act, 2002; MOE, 2007).

Testing performed by the PUC has shown that while lead is not present as a contaminant in drinking water when it is distributed from Sault Ste. Marie water treatment facilities to our customers, lead may enter the water after coming into prolonged contact with a building's pipes and plumbing fixtures, particularly in older properties (e.g. built prior to the mid-1950s).

In compliance with the legislation, PUC is undertaking the addition of two new treatment processes required to reduce the potential for lead uptake from lead bearing pipes and fixtures. These new processes include the addition of soda ash and carbon dioxide to adjust pH and the addition of blended phosphates to control internal corrosion of pipes and fixtures. Construction of the new processes is in progress now and is scheduled to be completed by year-end 2014.

Some Frequently Asked Questions & Answers include the following:

Why is lead an issue in Sault Ste. Marie?

Results from the recent community lead testing program carried out in Sault Ste. Marie indicated that some older properties experienced raised levels of lead in the tap water

Where is lead most commonly found?

Lead in drinking water comes primarily from materials and components associated with lead service pipes and home plumbing and fixtures. Houses built before the mid-1950s are more likely to have lead service pipes.

Why is lead a problem?

Lead can cause serious health problems if too much enters your body from drinking water or other sources. It can cause damage to the brain and kidneys, and can interfere with the production of red blood cells that carry oxygen to all parts of your body. The greatest risk of lead exposure is to infants, young children, and pregnant women. Scientists have linked the effects of lead on the brain with lowered IQ in children. Adults with kidney problems and high blood pressure can be affected by low levels of lead more than healthy adults. Lead is stored in the bones and it can be released later in life. During pregnancy, the child receives lead from the mother's bones, which may affect brain development.

How do I know if I may have a lead service line?

The PUC can help assess whether you may have a lead service pipe. The PUC will take a sample from your drinking water tap free of charge if your home was built between 1943 and 1948, or has a recorded lead service pipe, or has an observed lead service pipe. If you would like to find out if you qualify for a free lead sample please contact the PUC for more information.

How can I limit my exposure?

Lead is a common metal found in the environment. The main sources of lead exposure are lead-based paint and lead-contaminated dust or soil. Drinking water is also a possible source of lead exposure, although it is typically present at only low concentrations.

If you know you have a lead service line the PUC recommends replacing your portion of the line to reduce lead exposure.

For those customers that know they have a lead service line the Ministry of the Environment recommends flushing the cold-water tap for at least 5 minutes prior to using the water for drinking or cooking if the water has not been used for 6 hours (for example, first thing in the morning)

Do not boil water to remove lead – excessive boiling makes lead more concentrated as the lead remains when the water is evaporated.

Use cold water for cooking and preparing baby formula. Lead dissolves more easily into hot water.

Is this a problem that is affecting Sault Ste. Marie in particular?

No. Most water utilities in North America used lead service pipes up until the mid-1950s.

What is the PUC doing to resolve the issue?

The PUC is responsible for providing high quality drinking water, but cannot control the variety of materials used in plumbing components. However, PUC is taking steps to reduce the amount of lead which can dissolve into the water by adding two new water treatment process to the existing system. One of the new processes will stabilize the pH of the drinking water so there is minimal variation across the distribution system. The other process will add small amounts of phosphates to the water to help further reduce lead and to help reduce the occurrence of red water.

What is pH?

pH is a measure of the acidity of the water. The opposite of an acid is called a "base". pH is measured on a scale which ranges from 0 to 14 (pH 7 is neutral, i.e. neither acidic nor basic). A pH reading below 7 indicates that water is acidic, and a reading above 7 indicates that water is basic. Lower pH readings indicate stronger acids and higher pH readings indicate stronger bases.

What causes water to have different pH levels?

Some of the drinking water supplying Sault Ste. Marie comes from Lake Superior, and some comes from groundwater wells. Lake Superior has a naturally lower pH (i.e. is more acidic) than groundwater, and

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water from the east end wells has a higher pH than water from the west end wells. These naturally occurring differences in source water pH result in a range of pH values occurring across the water distribution system.

How is the pH of Sault Ste. Marie's water being changed?

Small amounts of soda ash (sodium carbonate) will be added to the water at the surface water treatment plant. Also, small amounts of carbon dioxide will be added at the wells in the east end. Together, these will stabilize the pH of the drinking water to pH 7.6 so as to match the pH of the west wells.

How will the PUC determine if the treatment upgrades are reducing lead levels?

The PUC will continue to take drinking water samples from customer homes to monitor how lead levels change after the new treatment is started.

How long will it take before the PUC's corrosion control measures start to work?

It is anticipated that the amount of lead in the drinking water will start to reduce within 4 to 6 months following implementation of the treatment upgrades. Further reductions will occur over the next few years.

Can I have my water tested for lead?

To arrange testing of your drinking water for lead please contact the PUC.

Can I have my lead service pipe replaced?

Yes, PUC will replace its side of the piping at no charge up to the property line. The customer is responsible for replacing the service pipe on their property. PUC offers zero-interest loan programs to assist property owners with the cost of replacing their side of the service pipe.

Will I notice any changes to my water as a result of the change in treatment?

It is anticipated that the taste, odour and colour of the water will all improve as a result of these treatment upgrades.

Who do I call if I have questions or concerns about the health effects of lead in tap water?

Algoma Public Health: (705) 942-4646

Website: www.algomapublichealth.com

Who do I call if I have questions about replacing my lead service line?

PUC Services: (705) 759-6522

Email: customerservice@ssmpuc.com

Website: www.ssmpuc.com

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