

Safe Water

Lead in Drinking Water

What is Lead?

Lead is a toxic metal that was used for many years in products found in and around homes. Lead is also present almost everywhere in nature. It can be found in the air, soil, dust, drinking water, food, and in consumer products.

Concentrations of lead in the environment increased significantly following the industrial revolution, however, over the past 25 years regulatory agencies have substantially reduced Canadian's exposure to lead. The Ontario Drinking Water Standards specifies that the lead level in drinking water must be below 10 micrograms per litre (ug/L).

How does lead get into tap water?

Typically, lead gets into your water after it leaves your local water treatment plant or your well. Levels of lead in drinking water can result from the use of lead solder in plumbing, lead service connections that link the house to the main water supply, lead pipes in the home or from brass fixtures. Older homes, particularly those constructed before 1955, often contain lead water service lines. In newer homes, excessive leaching from leaded solder and brass fixtures (e.g. faucets), may occur for the first year until a protective oxide layer has formed in the pipes.

For lengthy periods of time (over 6 hours), lead can dissolve into drinking water that is left standing in household piping made with these materials.

What are the health effects of lead?

There have been very few reported cases of lead poisoning in Canada. The health effects of lead are most severe for infants and children under six years of age, pregnant women and nursing mothers. Because of the smaller mass and higher metabolism of children under six years of age, exposure to high levels of lead in drinking water can result in delays in physical or mental development. Lead from water may account for up to 10% of the lead blood level in children, recognizing the major sources of lead are still non-water related. Pregnant women can pass lead in their blood to their fetus during pregnancy. For adults, high lead levels can result in kidney problems or high blood pressure.

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If you have lead service lines or lead has been detected in your water through testing, please review the following situations that may apply to you.

- What should households do if lead levels in water have been shown to be below the standard of 10 micrograms per litre?

If your water has been shown to have lead levels below the standard of 10 micrograms per litre, it is recommended that you run your water for at least five minutes after an extended period of non-use. Filtration systems or bottled water are not needed in this type of scenario

- What should households do if lead levels in water have been shown to be above the standard of 10 micrograms per litre?

Children under the age of 6 and pregnant women should drink bottled water or use an approved filter attached directly to the tap or systems installed in the plumbing systems. Make sure any filtration product purchased is certified and check the National Sanitation Foundation (NSF) website at www.nsf.org/certified/dwtu to ensure that the filter is effective in reducing lead levels.

This recommendation is particularly important for infants whose formula is prepared by adding tap water to liquid concentrate or powder.

When using filtration devices it is important to follow the manufacturer's instructions carefully. When using a filter that is directly attached to the tap, ensure that the water is flushed for at least 30 seconds.

The label on bottled water should be checked to ensure it is lead-free. Lead content is listed on the "Analysis Label" and is also referred to as "Pb". The water is lead-free if the value for lead is zero. It is important to note that not all bottled water is lead-free.

For older children and non-pregnant women, run the water from the drinking water tap if it has been sitting in the pipes for 6 hours or more. Water should be flushed for at least five minutes. (More information on how to run or flush your water is listed below).

Generally, older children and non-pregnant women do not need to use filtered water or bottled water. Older children and non-pregnant women usually get only a small percentage of their lead from water.

Use cold, flushed water for drinking and preparing food. Water from the hot water tap should not be consumed as heated water generally contains higher lead levels.

Building owner(s) may wish to carry out a plumbing assessment by a plumber or other water quality professional.

Where lead service lines exist, home owners should consider replacing the privately owned portion of the service line.

- Do breastfeeding mothers need to use filtered water or bottled water?

No. The amount of lead found in the breast milk of women who drink tap water in homes served by lead service lines does not constitute a risk to their infants' health. Breastfeeding mothers should follow the recommendations for non-pregnant women.

- **What if my child has been drinking water from the tap? Should I be concerned?**

No. Over the years, the major sources of lead exposure for children have decreased significantly because of the elimination of lead in gasoline, paint and solder in tin cans. Other jurisdictions have similar lead issues in their drinking water systems. In some areas where lead toxicity is reportable to public health, significantly elevated lead levels in blood have not been reported. Parents are advised to discuss specific health concerns with their physicians.

- **Can I use the water for bathing, showering, and washing dishes and clothes?**

Yes. Activities such as bathing, showering and washing dishes and clothes do not expose people in the house to lead.

How should I be "running" or "flushing" the water to lower my exposure to lead?

People with lead service lines or who have had lead detected in their water through testing, should "run" or "flush" their water lines when the water has been sitting in the pipes for longer than 6 hours as follows:

When water has been sitting in the pipes for 6 hours or more:

Let the water run from the cold drinking water tap at medium flow for 5 minutes.

- OR -

Take a shower or run a major appliance such as a washing machine or dishwasher and then let the water from the cold drinking water tap run for 2 minutes at medium flow before using for drinking or food preparation.

To avoid having to run your water each time it has been sitting in the pipes for 6 hours or more, you can run your water as described above and then fill kettles, pitchers and pots with enough flushed water for drinking and food preparation during the day.

If I have further questions with regard to Lead Water Service Lines in my home or testing for lead, who should I contact?

Please contact your local municipal office.

For testing for lead, please contact a licensed lab for details:

<https://www.ontario.ca/document/laboratories-licensed-test-lead>

Where can I get more information on lead?

You can find more information on lead from the following links.

Health Canada:

http://www.hc-sc.gc.ca/ewh-semt/contaminants/lead-plomb/asked_questions-questions_posees_e.html

For further information on the health effects of lead, please contact Lambton Public Health at 519-383-8331 ext. 3576.