

Lead in Drinking Water In Schools and Day Nurseries

What is lead?

Lead is a metal that occurs naturally and also has many industrial uses. Lead was previously used extensively in the plumbing industry and appeared in a wide variety of products such as paint, gasoline, lead crystal, solder in food cans and even some glazes used for china pottery and dinnerware. These uses of lead have led to it being widespread in the environment. However, since about the 1980s, the use of lead in consumer products has steadily decreased, significantly reducing the public's exposure to lead in Canada.

How can lead get into my school's drinking water?

All potable water distributed by the Regional Municipality of Waterloo is regularly tested and meets Ontario's drinking water standard for lead, 10 micrograms per litre. However, lead can enter tap water if it comes into contact with lead-containing plumbing within a building (solder, connections, pipes, fixtures). Schools, day nurseries and other facilities with intermittent water use may have higher lead levels because the water is in contact with plumbing components for a longer time, during which lead can enter the water. Flushing the water for a few minutes quickly reduces the lead level. Ontario regulations require that schools and day nurseries flush the water regularly to ensure that lead concentrations remain low.

What are the health effects of lead in school-aged children?

The main concern is that lead can impair brain and nervous system development in infants and young children. The chance and severity of these effects increases with increasing exposure. Adults and children over six are less sensitive than younger children, and tend to have lower exposures. More information about the health effects of lead is available from Health Canada (see Resources below).



What is the acceptable limit for lead in drinking water?

In Ontario, the Safe Drinking Water Act has established 10 micrograms per litre as the drinking water standard for lead. The standard was chosen to protect the entire population, including those most at risk. (A microgram is approximately the weight of a few very fine grains of sand.) This drinking water standard is also a threshold for further investigation and action to reduce exposure. While concentrations slightly higher than the limit (e.g. 10-30 micrograms per litre) are unlikely to cause adverse health effects in the short-term, exposure should be reduced to beneath the threshold as soon as possible to prevent long-term effects. Water containing elevated lead levels should not be used for preparing artificial baby milk (formula).

What about hand washing and art activities?

Activities such as hand washing or handling art supplies made with tap water will not cause a significant exposure to lead. Lead in water is not easily absorbed through the skin or eyes.

What is Public Health doing about lead in drinking water in schools and day nurseries?

The Ministry of Environment and Climate Change requires Ontario schools and day nurseries to regularly test their drinking water for lead under regulation 243/07. Any result higher than the acceptable limit of 10 micrograms per litre must be reported to both the Ministry and to Region of Waterloo Public Health. Public Health would assess the available information and work closely with the school, the Ministry, and the municipal water utility to identify the source, understand the risk, and have the school take appropriate actions, as necessary, to minimize exposure. Depending on the situation, Region of Waterloo Public Health could require a school or day nursery to:

- notify parents and school users,
- temporarily cease use of drinking fountains and other taps, and/or
- provide an alternative source of drinking water until testing shows the water consistently meets the Ontario drinking water standard for lead

What can I do to reduce my family's exposure to lead from drinking water at home?

Infants and young children may consume more water at home than at school or a day nursery. The following steps can minimize exposure to lead from drinking water at home:

- Contact your local municipality to check if you have lead service lines or contact a plumber to determine if you have lead pipes or solder in your home. If you do, have your drinking water tested for lead by a private laboratory and consider replacing lead-containing materials.

- Use the cold water tap for drinking and cooking (hot water tends to sit in the pipes for longer and may dissolve more lead if it is present). Boiling the water does not remove lead.
- Flush water taps for five minutes, or until the water runs cold, each morning before using the water for drinking or cooking, or any time the water has not been used for six hours or more. To avoid having to run your water each time it has not been used for six hours or more, you can also fill kettles, pitchers and pots with enough flushed water for drinking and daily food preparation.
- Use a filtration system certified by the National Sanitation Foundation (NSF) to remove lead. Look for the NSF-53 mark on the label when purchasing a new filtration system. For faucets and fixtures, look for the NSF-61 or NSF-372 mark. Most end-of-tap filtration systems are NSF-53 certified. Note that some older pitcher-type devices may carry the NSF-53 label but have recently been found not to meet the standard for lead removal. For an up-to-date list of filters that meet this standard, use the tool at <http://www.nsf.org/certified/dwtu>. Follow the manufacturer's instructions for maintenance and replacement of these devices.
- If you are on a private well, have your water tested for lead by a private laboratory. Municipalities must test for lead each year.
- If you have elevated levels of lead in your water, consider using an alternate source of water for drinking and cooking, for example bottled water. Boiling the water does not remove lead.

Resources

Region of Waterloo Public Health webpage - Lead: https://www.regionofwaterloo.ca/en/health-and-wellness/resources/Documents/Lead_DrinkingWater.pdf

Health Canada's Lead webpage: http://www.hc-sc.gc.ca/ewh-semt/contaminants/lead-plomb/asked_questions-questions_posees-eng.php

Questions?

If you have any further questions, talk to your Public Health Inspector or contact Public Health at 519-575-4400.

Accessible formats of this document are available upon request.

Region of Waterloo Public Health and Emergency Services

Health Protection and Investigation