

## Frequently Asked Questions: Lead in drinking water

### What is lead?

Lead is a naturally occurring substance present in soil, food and air. Lead has many industrial uses and has been used in water systems since the late 1880s. While lead can leach into drinking water from lead service lines and plumbing, the bulk of human exposure is from other sources. Over the past few decades, the level of lead the general public is exposed to has significantly decreased. The decrease is the result of restrictions relating to the use of lead as an additive in gasoline, paint and solder. Lead additives in gasoline were eliminated in the early 1990s. Lead in paint was banned in the mid-1970s. Lead in solder, used in tin cans and drinking-water pipes, has significantly decreased or has been eliminated entirely.

### Does Alberta have a drinking-water quality standard for lead?

Yes. Alberta adopted the revised Canadian Drinking Water Quality Guideline for lead of five parts per billion (ppb). The drinking water guideline is based on a conservative, or more protective, estimate of how much lead in drinking water can contribute to a child's total exposure to lead from all sources.

### If my child drinks water from the tap and we have lead service lines, should I be concerned?

Generally, 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. The level of lead found in drinking water is usually a minor contributor to overall lead intake. Parents are advised to discuss specific health concerns with their physicians.

### What about lead in sources other than drinking water?

Humans are exposed to lead in both outdoor and indoor environments. It's found in air, soil, dust, drinking water, food and various consumer products. Wild game meats can contain lead if a lead shot is used for hunting. In young children, lead exposure can also come from eating dirt and dust by hand-to-mouth activity. In older houses, lead-based paints may remain a source of lead exposure, particularly to children who have eaten lead-based paint chips or ingested house dust. Information on how to reduce lead exposure in the home is available on [Health Canada's](#) website.

### How does lead affect health?

Exposure to lead can affect the brain development of infants and young children. Lead exposure can also cause cardiovascular, kidney and reproductive health effects. Young children, particularly those under six years of age, are most at risk because they're still developing and are able to absorb lead more easily than adults. Lead exposure may also have effects on the intellectual development of infants and children. Pregnant women are also encouraged to limit their lead intake as much as possible to protect their fetus.

## **How does lead get into drinking water?**

Potential sources of lead can include water mains, service lines and lead-containing components in household plumbing—pipes, solder, and fixtures. The most significant source of lead is from lead pipes used to deliver water to homes built before 1960. The use of lead pipes was phased out of drinking-water systems in the late 1950s. Older homes, generally those built before 1960, are more likely to have lead components. The amount of lead leaching into drinking water can be affected by the acidity or corrosiveness of the water. If the water is corrosive, more lead can be leached from the plumbing into the drinking water. The problem increases if the water stays in contact with the lead source for extended periods and if hot water is used directly from the tap.

## **How do I know if I have lead pipes or lead service lines in my home?**

Homes built before 1960 are more likely to have lead pipes and service lines. Lead pipes were not used in multi-dwelling buildings with more than eight units. If your home was built after 1960, you likely don't have lead pipes or service lines. Your water-utility provider may have records of lead service lines for your municipality. Also, a plumber or home inspector may be able to identify lead pipes.

## **What should I do if I live in a house with lead service lines?**

Alberta Health recommends you get your tap water tested for lead concentration. When water sits in a pipe for longer than six hours, run or flush the water lines for five minutes before drinking and cooking with the water. Use only cold water from the tap for drinking and cooking.

## **How can I get my water tested?**

Currently, in Alberta, there are three ways to test residential water for lead concentration:

- (1) Some water utility companies, including EPCOR in Edmonton and Calgary, offer water lead testing for homes built before 1960 with known lead service lines in their area. For more information on testing availability, homeowners and residents can contact their local water utility company.
- (2) Where the water utility does not offer lead testing, or for small private water systems, a limited volume of laboratory testing can be arranged through a local public health office. The local office provides homeowners and residents of homes built before 1960 with a kit to take a sample of their drinking water for testing.
- (3) Homeowners and residents can contact private laboratories directly to arrange a water test at their own expense. Costs vary by laboratory and location. Information on accredited water-testing laboratories is available at the Canadian Association for Environmental Analytical Laboratories.

Depending on where you get your water tested, your water utility, local public health office or private laboratory will provide you with your lead concentration results.

## **What should I do if my water test results show my water has five or more parts per billion (ppb) of lead?**

Infants, children under six years of age, and pregnant women **should not** consume tap water without a water filtration device that meets the National Sanitation Foundation 053 guideline (NSF-053), American National Standards Institute (ANSI), Underwriters Laboratories (UL) or Water Quality Association (and Canadian chapter CWAQ) certification for removing lead.

**In the short-term:** Until a water filter is installed, it's generally recommended residents run or flush their water lines for five minutes before use for drinking or cooking when the water has been sitting in the pipes for longer than six hours. Only use cold water from the tap for drinking and cooking. Use a water filtration device that meets the National Sanitation Foundation 053 guideline (NSF-053), American National Standards Institute (ANSI), Underwriters Laboratories (UL) or Water Quality Association (and Canadian chapter CWAQ) certification for removing lead. When using these filtration systems, it's important to follow the manufacturer's instructions carefully. Reverse osmosis and distillation systems are also effective at removing lead.

**In the long-term:** Work with your water-utility company to replace lead pipes. **Contact your physician for follow-up** and to test blood lead levels.

### **Who will pay to replace the lead service connections?**

The municipality or the water-utility company owns the section of the service pipe between the water main and the curb stop. Therefore, the water-utility company is responsible for the costs associated with this portion of the distribution system.

The homeowner owns the section between the curb stop and the house. Therefore, the homeowner is responsible for the costs associated with this portion of the system. Testing has shown only full replacement of both sections is effective at reducing lead in drinking water. Homeowners can work with their water-utility company to undertake the replacement project. Homeowners with private water systems are responsible for replacing lead components in their water systems.

### **Why is lead a concern specifically for infants, children under six years of age, and pregnant women?**

Children under six years of age are still developing and are, therefore, more sensitive to the toxic effects of lead. As well, children absorb lead more easily than adults. Recommendations are made for **infants who consume formula or juice prepared with tap water** because the water used to make formula can contribute 40 per cent to 60 per cent of an infant's lead intake. Drinking water in older children and adults only contributes approximately 10 per cent to 20 per cent of total lead intake. Pregnant women can pass lead in their blood to their fetus during pregnancy. Lead levels for pregnant women should be kept as low as possible.

## **Do breastfeeding mothers need to use filtered water if they have lead service pipes?**

Breastfeeding is beneficial to babies and is recommended as the best choice for babies. It's important for breastfeeding women to reduce lead exposure as much as possible. If a home has lead service pipes and confirmed high levels of lead in tap water, it's recommended breastfeeding women **do not** consume tap water without a water filtration device that meets the National Sanitation Foundation 053 guideline (NSF-053), American National Standards Institute (ANSI), Underwriters Laboratories (UL) or Water Quality Association (and Canadian chapter CWAQ) certification for removing lead.

## **If I have lead service lines, can I use the water for bathing, showering, and washing dishes and clothes?**

Yes. Activities such as bathing, showering and washing dishes and clothes will not cause undue exposure to lead. Lead in water is not easily absorbed through the skin or mucous membranes.

## **How should I run or flush the water lines to lower my exposure to lead?**

Generally, its recommended residents run or flush their water lines for five minutes prior to use for drinking and cooking when the water has been sitting in the pipes for longer than six hours. It's also recommended to use only cold water from the tap for drinking and cooking. Boiling the water does not reduce the lead concentration.

## **Where can I get more information?**

- For more information on your water service lines, contact your water-utility provider.
- For information on drinking-water testing, contact your local public health office.
- For more information about lead in drinking water, visit the Government of Alberta [website](#)

*Source:* Adapted from materials provided by [Health Canada](#)