

Lead

FactSheet



Saskatchewan
Ministry of
Health



What is lead?

Lead is a heavy, soft bluish-grey metal that occurs naturally in the earth's crust. Lead is used in the manufacture of many consumer products such as pipes, sheeting, and as filler in the automobile body industry.

In Canada, the major use of lead is in the production of (lead-acid) batteries used in automobiles. It can be found in some types of ammunition, fishing weights and solder. Lead pigments are added to glass to prevent radiation exposure from television and computer screens.

How can I be exposed to lead?

Everyone is exposed to trace amounts of lead through air, soil, household dust, food, drinking water and various consumer products. Traces of lead are found in almost all food. Airborne lead falls onto crops or soil and is absorbed by plants. Cigarette smoke may also contain small amounts of lead.

The amount of lead in the environment increased during the industrial revolution, and again significantly in the 1920s with the introduction of leaded gasoline. With the introduction of unleaded gasoline in Canada in 1975, lead concentrations in the air have declined significantly, falling 76 per cent between 1973 and 1985.

The most important source of lead exposure for young children is chewing surfaces covered in lead paint (such as a windowsill) or eating paint chips or paint dust which contains lead. Lead paint may exist in older homes.

The use of lead in interior residential paints ended in the late 1970s. However, some lead could still have been present in exterior residential paints used until 1992. Interior paint is a greater concern than exterior paint as there is a greater likelihood that small children will be exposed to this type of paint.

Lead in soil can come from sources of air borne lead emissions (ex: past automobile emissions or local industrial emissions, smelters or refineries) or from erosion of lead-bearing rocks, or from lead-based paints (ex: from building exteriors or fences) and may be carried indoors as dust. Lead dust can also come from within the home, especially older homes that used lead-based paints or lead solder.

Workers in certain industries may be exposed to high

levels of lead. Lead dust may be breathed in. It can also cling to skin, hair, clothing and vehicles and be carried to the home, exposing workers' families. Most provincial governments, including Manitoba, require that lead-exposed workers be monitored for blood lead levels.

Lead can enter the water supply from lead solder in plumbing, lead service connections or lead pipes in your home. Homes built before 1950 often have leaded distribution lines and service connections.

Some consumer products can also contain lead. Inexpensive, horizontal PVC (plastic) mini-blinds made in Asia or Mexico may contain lead. Health Canada recommends that if you have children six years of age or under, you should remove these blinds from your home. They should also be removed from schools and child care centres.

Lead can enter food, especially acidic food such as fruit juice, from lead-based glazes on glassware and ceramics. Canadian regulations limit the amount of lead that can leach from glazes on glass and ceramic products sold in Canada, if they are intended for use in preparing, serving or storing food. However, glazed ceramic or glass dishes bought in other countries may contain enough lead to be a hazard to your health. Lead bullets and lead shot has also been shown to increase the lead levels in hunted game meat.

Lead fumes can be released when waste oil, coloured newsprint, battery casings or wood covered with lead paint are burned. Candles that contain lead in their wicks may also release harmful levels of lead vapour when burned. Using lead solder in a hobby, such as in making stained glass, lead shot or lead fishing weights, may expose you or your family to harmful lead vapours. The vapours may settle on nearby surfaces as lead dust.

For more information on sources of lead, view the Health Canada fact sheet at: http://www.hc-sc.gc.ca/ewh-semt/contaminants/lead-plomb/asked_questions-questions_posees-eng.php

What are the health risks of lead?

Short-term exposure to high levels of lead can cause vomiting, diarrhea, convulsions, coma or even death. However, severe cases of lead poisoning are rare in Canada.

Ongoing exposure to small amounts of lead can cause health effects, especially for infants and young children. Lead taken in by pregnant women may affect the health of unborn children.

Symptoms of the effects of lead can include:

- appetite loss
- abdominal pain
- constipation
- fatigue sleeplessness
- irritability
- headache

The symptoms of long-term, low-level exposure may not be obvious. The health effects of lead exposure can include anemia, kidney effects, small increases in blood pressure, nervous system and developmental effects.

Low levels of lead exposure may affect intellectual development, behaviour, size and hearing of infants and children.

If you are concerned about lead exposure, your doctor can conduct a blood test to measure your blood lead level. Your doctor or your public health unit will recommend corrective action if the amount is over 10 micrograms per decilitre. General approaches to reduce exposures to lead may also be beneficial for those with levels lower than 10 micrograms per decilitre.

Does lead cause cancer?

There is no conclusive proof that lead causes cancer in humans. Kidney tumors have developed in rats and mice that had been given large doses of some lead compounds. High exposures to lead in occupational groups have shown limited evidence for an increased risk of cancer. In the general population, blood lead levels have not been associated with cancer.

How can I reduce my exposure to lead?

There are a number of steps you can take to reduce you and your family's exposure to lead.

Run the cold water tap first thing in the morning or any other time the system hasn't been used for a number of hours. This is especially true if you have soft water. Use only cold tap water for drinking, cooking and making baby formula, since hot water is likely to contain more lead.

If you have an older home and suspect that it might contain lead-based paint, do not use sanders, heat guns or blowlamps to remove it. They create dust and fumes that contain lead. Use a chemical paint stripper, preferably one with a paste that can be applied with a brush. Chemical strippers contain potentially harmful substances themselves, so use them carefully. Keep

children and pregnant women away from the work area and always wear goggles, gloves and a good quality breathing mask. It is not always in your best interest to remove lead-based paint. In some situations leaving leaded paint alone, as long as it is not chipping or within the reach of children, is safer than trying to remove it.

Covering the painted area with vinyl wallpaper, wallboard or paneling can provide extra safety. Lead-based paint in the home is a significant health hazard when it is chipping or flaking, or it is within the reach of children who might chew on it. In such cases, paint can be removed by following very specific guidelines. For more on lead-based paint, see the Health Canada fact sheet at <http://www.hc-sc.gc.ca/hl-vs/iyh-vsv/prod/paint-peinture-eng.php>

Clean your house regularly to remove dust and particles that may contain lead. This is especially important for surfaces that young children might contact. For more information on lead in your home, please see the Canadian Mortgage and Housing Corporation booklet at <http://www.cmhc-schl.gc.ca/odpub/pdf/61941.pdf?lang=en>

In addition, some children's toys and jewellery have been found to contain lead.

Do not put food or beverages in lead crystal containers for any length of time. Do not serve pregnant women or children drinks in crystal glasses. Babies should never drink from lead crystal baby bottles. For more on lead crystal, see the link to Health Canada website at: http://www.hc-sc.gc.ca/ewh-semt/contaminants/lead-plomb/asked_questions-questions_posees-eng.php

If you own glazed glass or ceramic dishes you bought outside Canada, do not use them for serving food or beverages, as they may contain higher levels of lead than are allowed in Canada.

Hunters are encouraged to select ammunition that does not contain lead. If harvesting game shot with lead bullets, remind your meat processor to avoid meat with excessive shot damage and to trim generous distances from wound channels.

If you have children six years of age or under, you should remove any horizontal PVC (plastic) mini-blinds made in Asia or Mexico from your home.

If you work in a smelter, refinery or any other industry where you are exposed to high levels of lead, shower and change your clothing before going home, to minimize the amount of lead your family is exposed to. Make sure you have your blood lead level checked regularly.

Never burn waste oil, coloured newsprint, battery casings or wood covered with lead paint in or near your home, as lead fumes may be released. Dispose of them as part of your municipality's Hazardous Waste program.

If you use lead solder in a hobby, such as stained glass-making, use a good quality breathing mask, keep surfaces clean and keep children and pregnant women out of the area.

If you are concerned about your exposure to lead, talk to your doctor, who can order a test to measure the amount of lead in your blood.

How can I reduce my exposure to lead in soil?

The following precautionary measures can help reduce exposure to lead in soil:

- Wash your hands after outside activities, such as playing and gardening, before handling and eating food or smoking.
- Remind children to keep their hands out of their mouths when playing outside.
- Wear gloves when working outside.

- Wear certain clothing only for outdoor play, work and gardening. Remove this clothing after going inside.
- Keep children's toys, play areas and surfaces clean.

You can also reduce the risk of lead exposure from soil:

- Remove shoes and boots at the door.
- Clean stroller and bike wheels to avoid tracking soil indoors.
- Wet mop or wet wipe when dusting where possible (vacuuming and sweeping can raise dust levels).
- Clean heat ducts and furnace filters regularly.
- Brush and/or wash pets often and outdoors, removing dirt before they enter the home.

I think I have been exposed to lead. What should I do?

If you have concerns about exposure to lead, discuss this with your family doctor.

For More Information

Manitoba

Manitoba Workplace Safety and Health

<http://www.safemanitoba.com/>

Health Links-Info Santé: 788-8200 or 1-888-315-9257 (toll-free)

Saskatchewan

HealthLine at 1-877-800-0002

Health Canada

Effects of Lead on Human Health:

<http://www.hc-sc.gc.ca/hl-vs/iyh-vsv/environ/lead-plomb-eng.php>

Commonly Asked Questions About Lead and Human Health:

http://www.hc-sc.gc.ca/ewh-semt/contaminants/lead-plomb/asked_questions-questions_posees-eng.php

Lead-based Paint:

<http://www.hc-sc.gc.ca/hl-vs/iyh-vsv/prod/paint-peinture-eng.php>

Minimizing Exposure to Lead from Drinking Water Distribution Systems:

<http://www.hc-sc.gc.ca/ewh-semt/pubs/water-eau/lead-plomb-eng.php>