

Ministry of the Environment programs and initiatives

Frequently asked questions about lead contamination

Lead is a toxic heavy metal that is released into the environment through industrial sources, the previous use of leaded gasoline (now banned), disposal of lead wastes and the peeling or flaking of lead-based paint.

Individuals are exposed every day to varying amounts of lead in our diets, water, air and soil. House dust may contain lead originating from contaminated soil or from lead-based paint.

How are children affected by lead?

The fetus, infants and young children are most at risk from lead exposure. High levels of lead in children may result in reduced hearing, muscle co-ordination and intellectual development. Lead contamination may also contribute either to lethargy or to aggressive behaviour. If you have concerns and would like more information, contact your local health unit or your medical doctor.

How much lead is there in our soil?

The natural background level of lead in soil is less than 100 parts per million (ppm). Lead in surface soil in residential communities is commonly higher than 200 ppm. In older, urban residential areas lead in soil on some properties may range from 500 to 1000 ppm, even when there is no local industrial source. Where historically there have been commercial or industrial operations mixed with residential housing, lead levels around homes may be higher.

Is lead in soil harmful?

Children take in an average of 80 milligrams of soil and dust (equal to the size of a grain

of rice) each day while they play. Depending on the concentration of lead in the soil, they may develop elevated levels of lead in their blood. In addition, lead-contaminated soil contributes to the lead found in dust in the home. Lead-based paints and industrial pollution can also contribute to lead dust in the home. Soil and dust are considered a major route of exposure for children. The Ministry of the Environment advises that there is minimal risk from exposure to soil with lead levels below 200 ppm. However, when soil lead levels are greater than 1000 ppm on your property or greater than 400 ppm in bare soil areas of a child's play area, the Ministry strongly advises that you take measures to reduce or minimize your child's exposure. Various ways to do this are described below. If you are selling or renting your home or other real estate and lead is present, you may have an obligation to disclose the presence of lead to potential purchasers and others.

What can I do to reduce exposure to lead?

There are ways of reducing or minimizing lead exposure, particularly for young children:

- Keep your children away from soil contaminated with lead. Contaminated soil can be removed, or exposure can be reduced by covering the soil with clean soil or sod. Soil can also be paved over or covered with paving stones or decking.
- Wash children's hands and faces after they have been playing outdoors and before eating.

- Don't let your children eat paint chips. They like them because the lead in the paint makes the chips taste sweet.
- Clean your home regularly using a damp mop or cloth. Vacuuming and sweeping can increase dust levels in the home. Use rugs, curtains and slipcovers that can be cleaned easily.
- Have forced air ducts cleaned by professionals and replace or clean furnace filters often.
- Avoid bringing outdoor dirt inside by removing outdoor shoes.
- Brush pets often as their fur collects dust. Pets should be brushed outside if possible.
- Locate your vegetable garden at least one metre (three to four feet) away from roads, driveways and downspouts. Also make sure your garden is at least a metre away from sources of flaking paint such as walls, sheds and fences. Gardeners should consider bringing in clean soil for growing vegetables.
- Before eating, wash all vegetables thoroughly and peel root crops.

Can I eat vegetables from the garden?

Lead enters and is stored in vegetables grown in lead-contaminated garden soils. The amount of lead taken up and stored in these vegetables will vary depending on the type of vegetable, the type of soil, your gardening practices and the amount of lead in the soil. Although lead normally increases in plants as they age, it is taken up and stored differently in roots and in plant leaves. For example, lettuce leaves can store seven times more lead than the roots of carrots. Beet leaves contain more lead than beet roots. Therefore, it is not always safe to assume that

root vegetables will contain more lead than leafy vegetables. Fruit crops such as tomatoes, berries, apples and cucumbers, present a much lower risk because they take up and store very little lead.

There is minimal risk in consuming home-grown vegetables grown in soil containing less than 200 ppm of lead. However, this is only a guide and it should be remembered that eating vegetables grown in soil contaminated with lead will always increase your exposure to lead and the risk to your health, especially for infants and young children if they are used in baby food recipes. You should not eat any vegetables out of your garden if lead levels are above 1000 ppm.

How can I get more information?

If you live in the vicinity of a source of lead pollution and you suspect your soil may be contaminated, contact your local Ministry of the Environment office for information. The number is listed in the Government of Ontario section of the telephone directory.

Contact your local health unit or your medical doctor if you are concerned about being exposed to lead or have questions about health effects.