

LEAD

in SOIL



Urban yards and gardens can contain contaminated soil, putting you and your family at risk of swallowing or inhaling lead.

Lead naturally occurs in soil at low levels. Hundreds of years of human activities have contributed to increased levels of lead in soil, especially in and around urban areas and near older homes. Lead does not breakdown over time, so lead deposited in the past can still be a problem today. Lead in soil can contribute to overall environmental lead exposure.

The good news is that there are many things to prevent exposure to yourself and your family.

Lead is harmful to everyone, but most dangerous to children and pregnant women.

One way lead can get into our bodies is by swallowing or breathing in soil that contains lead. Children can get lead in their bodies when they put their hands, toys, dirt, or other items in their mouths. When lead gets into our bodies, it can cause health problems. Checking your yard and home for lead, and your children's blood-lead levels, can reduce your concern about lead exposures.

- Lead can damage the brain, nervous system, kidneys, and immune system
- Lead exposure can result in slowed growth and development
- Lead exposure can cause learning and behavior problems
- Pregnant women exposed to lead may experience an increased risk for miscarriage, low birth weight, and premature births. Prenatal exposure to lead may hurt the baby's brain, kidneys and nervous system, or cause the children to have learning or behavior problems.

Lead poisoning is preventable! Protect yourself and your family. There is no safe level of lead. Stay safe while enjoying homegrown vegetables and fruit.

Sources of Lead in Soil

- **Lead-based paint** in pre-1978 homes—contamination in the soil can occur from old paint chips falling to the ground or from past renovations activities and mix with soil near the house or other structures.
- **Leaded gasoline** in vehicles until the late 1980s—can leach into the soil.
- **Old equipment** near gardens may be leach lead into soil.
- **Historic mine sites and areas close to industrial sites.** Industrial sites, such as lead smelters, auto repair facilities, etc., can release lead into the environment and contaminate the soil.

If You Are Concerned About Lead Exposure From Soil:

- Contact your health care provider and ask for a simple blood lead level test for you and your family. Tests are covered by Medicaid and most private health insurance
- Assess for possible lead contamination:
 - If you live in a home built before 1978, get your paint tested for lead
 - Before you paint, repair, or renovate, take “lead-safe” worker training to learn how to lower the amount of lead dust made while working is being done
 - Hire a certified professional trained in lead-safe work practices
 - Get the dust in your home and your drinking water tested for lead
 - Talk to your local health department if you need help finding resources for testing dust, drinking water or paint for lead
- **There is no safe blood lead level in children.** Even low levels of lead have been shown to affect a child’s learning capability, ability to pay attention, and academic achievement. The effects of lead exposure can be permanent. The most important step parents, doctors, and others can take is to prevent lead exposure before it occurs.
- Follow practices, such as those listed below, that reduce exposure to you and your family.

Reduce Exposure

- Wash hands immediately after gardening.
- Remove shoes and clothing before entering the home-clothing should be washed separately from the rest of your laundry.
- Wash pets regularly
- Wash all vegetables and fruits before eating.
- When eating outdoors, try to eat in an area where there is no bare dirt
- Clean tools before bringing indoors.
- Eat a protective diet. Eating fresh fruits, vegetables (rich in vitamin C, calcium and iron) and proteins from a variety of sources reduces the body’s absorption of heavy metals.
- Keep soils moist to reduce dust.
- Wear gloves while gardening and keep used gloves outside away from children.
- If you are concerned about lead in your soil or are aware of elevated lead in your garden soil, keep children away from those areas.

Do Not Let Children Play in Dirt That is Contaminated With Lead

- Have children play on grass or in areas covered with lead-free mulch, wood chips,
- or sand.
- Keep children from playing in bare dirt.
- Wash children’s hands, toys, pacifiers, and dishes frequently.
- Help your children keep their hands and toys away from their mouths. This includes when they are helping in the garden or playing in a sandbox.
- Cover bare dirt with grass, bushes, or 4 to 6 inches of lead-free wood chips, mulch, soil, or sand.

Additional Safe Gardening Practices

- Use planter boxes or raised garden beds at least 18 inches tall and fill with uncontaminated soil.

- Plant gardens at least 10 feet away from building foundations, roads, and driveways to avoid contamination from exterior paint chipping from buildings and leaded gasoline
- Do not use treated wood, old railroad ties, single-use plastics or other similar materials in your garden
- Wash all fruits and vegetables from the garden with clean, cold running water before storing and before consumption. A vinegar solution will help remove soil particles and keep your vegetables and fruits fresh longer.

Clean-up of Highly Contaminated Soil

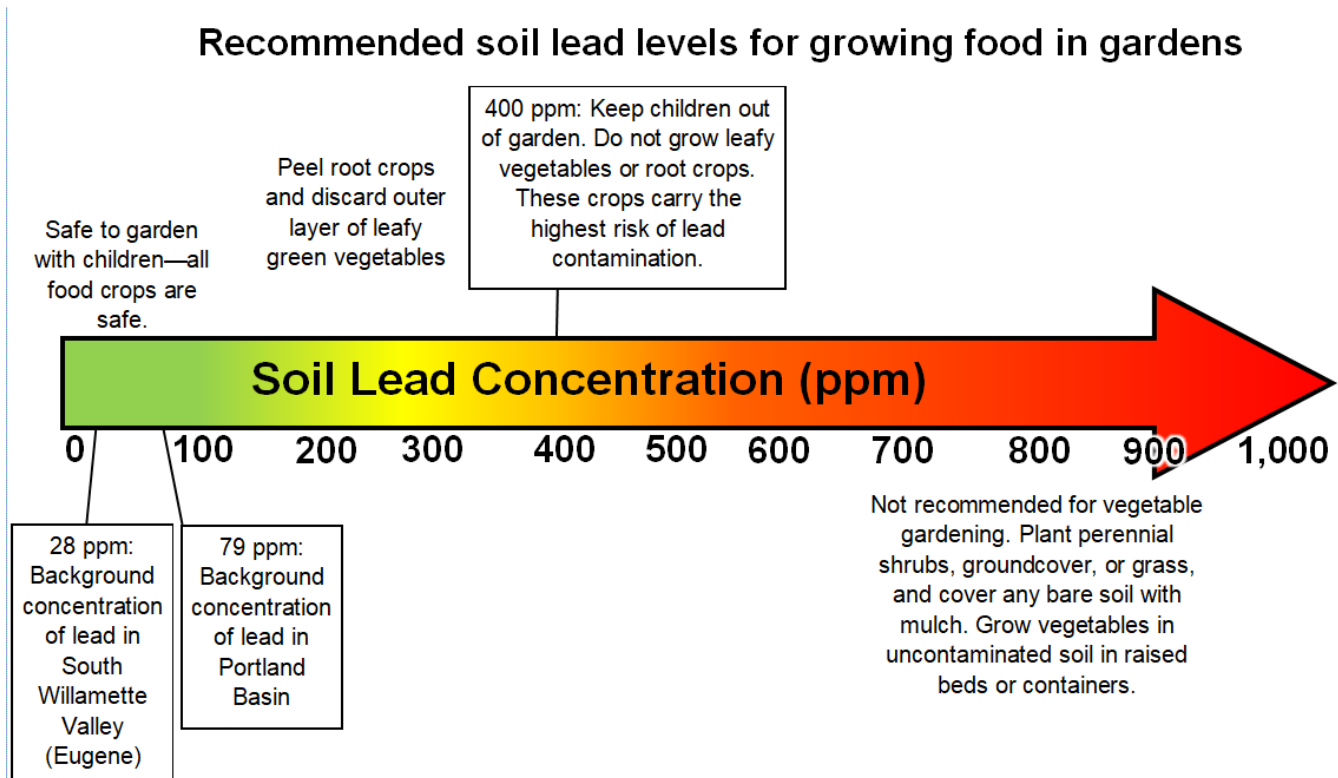
Do not allow children to access or use the area if you are unable to remove the contaminated soil.

- Soil can be removed and replaced by an EPA certified lead-safe contractor
- Cover area with heavy duty landscaping cloth over the ground and top with gravel or mulch, or a permanent cover such as concrete.

Recommended Soil Level Limits for Growing Food in Gardens

EPA's standard for lead in bare soil in play areas is 400 parts per million (ppm) by weight and 1200 ppm for non-play areas. It is important to keep in mind that results from just a few samples collected from your yard may not represent soil levels throughout your yard. Soil can change, and lead concentrations may be very different throughout. If you are concerned, please contact the Oregon Health Authority Lead Poisoning Prevention Program (www.healthoregon.org/lead) for more information and the next steps you can take.

Soil Lead Levels and Garden Vegetables



Additional Resources:



Oregon Health Authority:

- SoilSHOP webpage: www.oregon.gov/soilshoporegon
- [Lead Poisoning in Oregon webpage](http://www.healthoregon.gov/lead): [www.healthoregon/lead](http://www.healthoregon.gov/lead)

Oregon Department of Environmental Quality:

- [Background Levels of Metals in Soils for Cleanups](https://www.oregon.gov/deq/FilterDocs/cu-bkgrmetals.pdf): <https://www.oregon.gov/deq/FilterDocs/cu-bkgrmetals.pdf>

Centers for Disease Control and Prevention:

- <https://www.cdc.gov/nceh/lead/default.htm>

Agency for Toxic Substances and Disease Registry:

- [What Are U.S. Standards for Lead Levels?](#)

U.S. Environmental Protection Agency:

- [Lead in Soil, August 2020 EPA](#)