



Soil Contaminants

Soil is considered contaminated when it contains an element or chemical at levels that could harm a person's health. Contamination can occur through industrial releases, homeowner maintenance activities, or naturally from local geology. **Wash your hands and follow other best practices when working with soil.**

A soil test can tell you what contaminants are in your soil. The University of Illinois Extension has information about soil quality and testing. [Contact an educator](#) there to discuss your soil concerns and testing options.

REDUCE YOUR EXPOSURE TO SOIL CONTAMINANTS

- Wear gloves when working with soil and wash hands before eating or drinking.
- Discourage children from eating soil. Don't let children play in soil you know or suspect to be contaminated.
- Wash all produce grown in your garden using running water. Discard the outer leaves of greens before washing. Peel root vegetables that were in direct contact with soil.
- Bare dirt patches should be covered with mulch, grass, or other ground cover; especially in areas where children play.
- Vacuum carpeting, rugs, and upholstery often to keep dust from accumulating. Wet mop and wet wipe surfaces in the home, especially in areas where children play.
- Take off your shoes when you go inside and leave outdoor shoes in the garage or the entryway. Heavily soiled clothes should be washed separately.

PLANT A SAFER GARDEN

- Locate your garden away from old painted buildings. Buildings built before 1978 are potential sources of lead contamination to nearby soils.
- Locate your garden away from roadways, driveways, or sidewalks where heavy metals, petroleum byproducts, and other chemicals might contaminate nearby soils.
- Cover garden soil with mulch, compost, or another type of groundcover. This might also benefit your garden by increasing nutrients and water retention for the plants.
- Build raised beds. Use untreated wood for your frame, apply fabric sheeting at the bottom of the raised bed, and fill with clean soil. The National Gardening Association provides instructions on proper raised bed construction and upkeep.

THE TYPE OF CONTAMINANTS IN YOUR SOIL CAN VARY

Soil near industrial areas can be contaminated with:

- metals, such as arsenic, cadmium, lead, and manganese, and
- organic chemicals, such as those found in oil, gas, and cleaning solvents.

In urban areas, petroleum-based chemicals are found in soil near fuel stations, roadways, and parking lots, especially those treated with asphalt or coal tar sealants.

Additionally, painting or staining exterior wood surfaces can contaminate underlying soil with organic chemicals and metals. Outdoor burning and pesticide application can also contaminate soil.

LEAD AND ARSENIC CAN OCCUR NATURALLY IN YOUR SOIL

Lead is found at low levels in Illinois soils¹, but there is no known level of lead exposure considered safe for the human body. Children exposed to lead may experience reduced IQ and attention span, hyperactivity, impaired growth, and learning disabilities.

Arsenic, a metal that can cause cancer, is found across Illinois at levels exceeding cancer guidelines. In some regions, arsenic levels may also exceed health guidelines for non-cancer effects, such as skin abnormalities and numbness in the hands and feet.

THE MAIN WAY YOU CAN BE EXPOSED TO CONTAMINANTS IN SOIL IS EATING OR SWALLOWING IT

After working or playing in soil, you may accidentally eat or swallow some of the soil on your hands if you don't wash them before eating, drinking, or smoking. Other routes of exposure include breathing in dust and getting it on your skin when gardening, working, or playing in soil without gloves. You can also be exposed when you eat homegrown fruits and vegetables, especially those that are not thoroughly washed or peeled.

WHERE CAN I GET MORE INFORMATION?

Illinois Department of Public Health
Division of Environmental Health
525 W. Jefferson St.
Springfield, IL 62761

217-782-5830

TTY (hearing impaired use only) 800-547-0466

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¹ Cahill, R.A., 2017, Inorganic chemical composition of Illinois soils: Illinois State Geological Survey, Circular 590, 148 p