

Working in Lead- and Arsenic-Contaminated Soil



Understand the laws and simple actions to protect yourself when working in lead- and arsenic-contaminated soil.

More information

Dirt Alert Program:

<https://ecology.wa.gov/DirtAlert>

Former Orchard Lands:

<https://ecology.wa.gov/FormerOrchards>

Worker Safety & Health:

<https://lni.wa.gov/safety-health/>

Contact information

Rhonda Luke
 Project Coordinator
 509-454-7838
Rhonda.Luke@ecy.wa.gov

Jeff Newschwander
 Project Manager
 509-454-7842
Jeff.Newschwander@ecy.wa.gov

Department of Labor &
 Industries, Safety & Health
 1-800-423-7233

For construction workers, gardeners, landscapers, and their employers

In the early 20th Century to about 1950, lead arsenate was commonly used as a pesticide in Washington state apple and pear orchards including in Chelan, Douglas, Okanogan, Yakima, and Benton counties.

The pesticide's components, lead and arsenic, do not easily break down and therefore have remained stable in the soil. Because of this, historic orchard sites have an increased potential for soil contamination. Levels of metals in soils are often above concentrations allowed under Washington state cleanup standards designed to protect human health and the environment.

Ecology's Former Orchard Lands webpage includes maps of potentially affected areas based on aerial photography and land uses from 1947. You can also review property records to identify if your worksite is in an area of potential contamination.

It's important for people to understand what risks these properties may pose and to provide the resources needed to prevent and manage exposure and/or clean up contamination.

Workplace safety rules

The Washington Department of Labor and Industries (LNI) rules to protect workers from lead and arsenic exposure in the workplace apply to any employees exposed to soil at former orchard lands.

Employers must comply with all workplace safety rules on toxic exposures, including lead, Chapter 296-62, WAC¹, arsenic, Chapter 296-848², WAC, and Hazardous Waste Operations, Chapter 296-843, WAC³.

For help understanding and complying with these rules, please contact LNI Safety & Health at 1-800-423-7233.

Why it matters

Lead and arsenic are toxic metals. Lead and arsenic are not easily absorbed through the skin. However, working in soil can increase the risk of breathing or accidentally swallowing contaminated dust or soil.

Protect yourself by reducing exposure

- Wear appropriate personal protection equipment to limit dust inhalation.
- Wash your hands with soap. After working in dirt, always wash your hands, especially before eating. Use plenty of soap and hot water — not hand sanitizer. Hand sanitizers don't remove dirt. Use a scrub brush to clean dirt from under your fingernails.
- Take your work boots off at the door. Use a "wipe-off" mat to reduce the amount of dirt and dust coming into your home.
- Dust yourself off outside and wash dirt-covered clothes separately.



Health effects of lead and arsenic

There are health risks associated with lead and arsenic contamination. It can be present in surface soils as well as in deeper soils that are moved or exposed, such as during construction of new housing developments or in the case of homes built on newly disturbed soil.

In children, lead can cause behavioral problems such as hyperactivity, permanent learning difficulties, and reduced physical growth. In adults, lead can increase blood pressure, affect memory, and contribute to other health problems.

Arsenic can cause a variety of health problems, including heart disease, diabetes, and cancer of the bladder, lung, skin, kidney, liver, and prostate.

Learn more on Ecology's Dirt Alert – Health Effects web page⁴ that includes links to more information from the Washington State Department of Health, Agency for Toxic Substances and Disease Registry, and other agencies.

Special accommodations

To request Americans with Disabilities Act (ADA) accommodation, or printed materials in a format for the visually impaired, contact Rhonda Luke at 509-454-7838 or Rhonda.Luke@ecy.wa.gov, or visit <https://ecology.wa.gov/accessibility>. People with impaired hearing may call Washington Relay Service at 711. People with speech disability may call TTY at 877-833-6341.

¹ <https://apps.leg.wa.gov/wac/default.aspx?dispo=true&cite=296-62>

² <https://apps.leg.wa.gov/wac/default.aspx?dispo=true&cite=296-848>

³ <https://apps.leg.wa.gov/wac/default.aspx?dispo=true&cite=296-843>

⁴ <https://ecology.wa.gov/Spills-Cleanup/Contamination-cleanup/Dirt-Alert-program/Health-effects-of-arsenic-and-lead>