

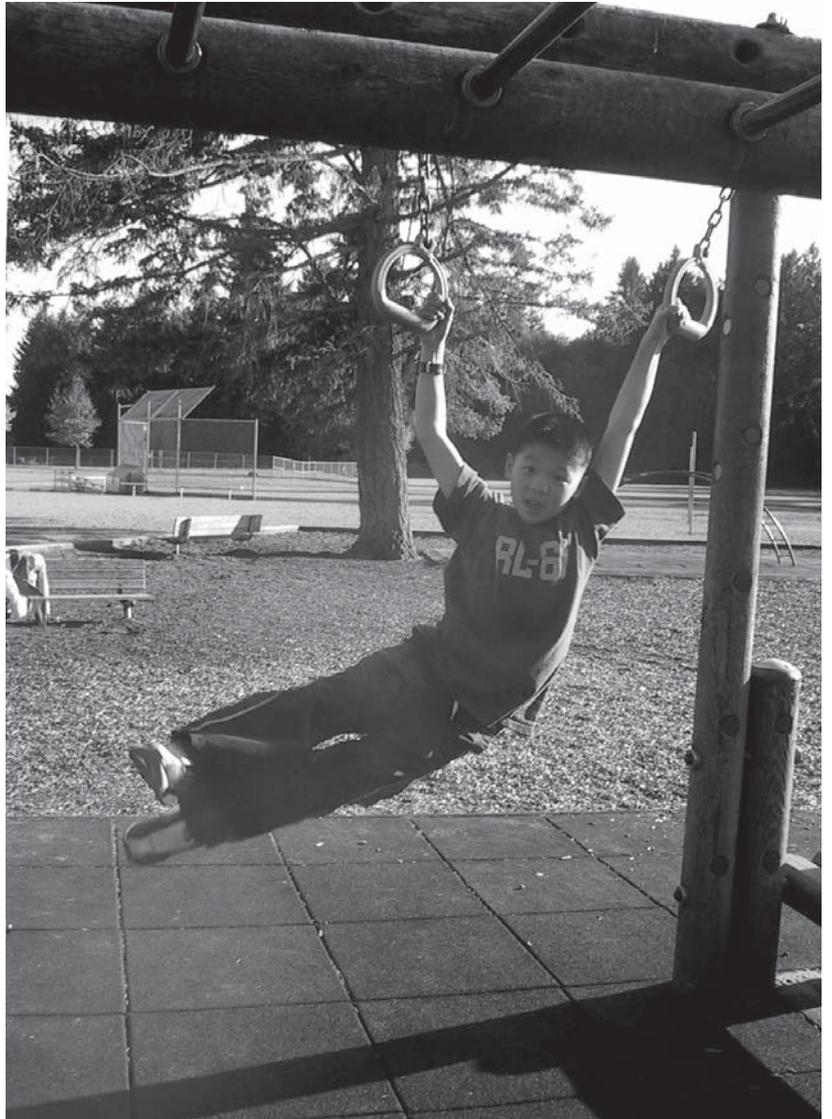
# Dirt Alert



## **General Information** about Arsenic and Lead in Soil

Publication #06-09-048

Arsenic and lead may be in the soil in your yard, childcare, school, or nearby park or camp. This guide can help you identify actions you can take to protect children in your care, your employees, and yourself from this soil pollution.





# Do I live in an affected area?

## **Smelter air pollution and pesticides used on old orchards have polluted large areas of soil with arsenic and lead.**

Large areas of Washington state have soil polluted with lead and arsenic from smelter air pollution and lead-arsenate orchard pesticides in use from the early- to mid-1900s. Counties that may have polluted soils are listed on this page. If you live in one of these counties, this guide is for you. Other historical sources of these pollutants include arsenic treated wood, lead paint, and air emissions from the combustion of leaded gasoline. You can request assistance from the Department of Ecology and your local health department or district in taking the soil safety actions described here.

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### **Counties that may have polluted soil**

- King
- Pierce
- Snohomish
- Kitsap
- Thurston
- Stevens
- Yakima
- Chelan & Douglas
- Spokane
- Okanogan

# Dirt Alert Guides



## What's in this guide?

This guide provides information on affected areas, the possible health effects from long-term contact with lead and arsenic, and soil safety actions you can take to protect children and others. Additional guides are available that describe:

- Soil sampling steps for small areas where children play, such as homes and home-based childcares;
- Soil sampling steps for large areas where children play, such as schools, parks, camps and recreational facilities, and large childcares;
- Soil safety actions you can take for small areas where children play; and
- Soil safety actions you can take for large areas where children play.

Soil sampling guides will tell you how to sample your soil and decide if actions are needed.

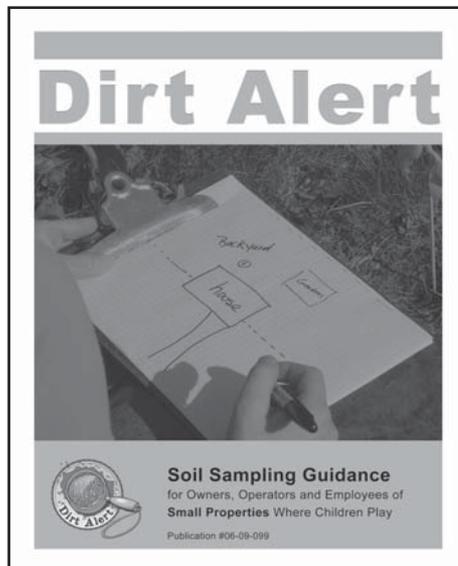
## Where can I find these other guides?

You can find these other guides at your regional Department of Ecology office or your local health department or district. Contact information is provided at the end of this guide.

Information about soil safety actions that you can take, and how to sample your soil, are available in these guides.



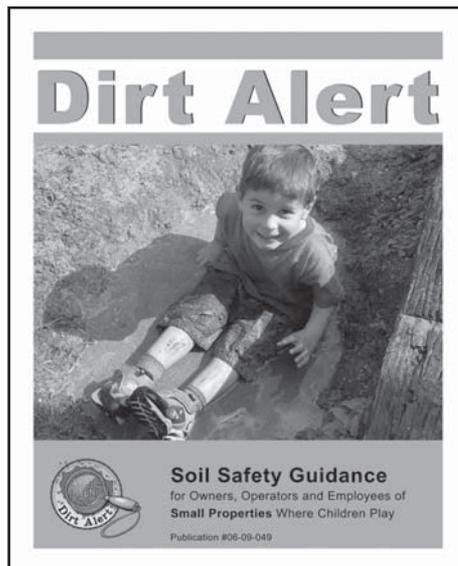
Large Areas Sampling Guidance



Small Areas Sampling Guidance



Large Areas Soil Safety Guide



Small Areas Soil Safety Guide

# Your Health



## Can lead and arsenic cause health problems?

Lead and arsenic are harmful, and can cause health problems. Arsenic and lead are not well absorbed through the skin; however, arsenic and lead can get into your body when you swallow small amounts of soil by eating with dirty hands or putting dirty fingers into your mouth.

Scientists have linked long-term exposure to arsenic to a variety of health problems, including heart disease, diabetes, and cancer of the bladder, lung, skin, kidney, liver, and prostate. Lead can cause behavioral problems, permanent learning difficulties, and reduced physical growth. Whether someone is affected depends on the amount of arsenic and lead taken into their body over time.

Young children are the most vulnerable. They are more likely to play in soil, put dirty fingers in their mouths, and eat with dirty hands. The small amount of polluted soil that they may swallow is more harmful to children because they are still growing. Children at home, childcares, schools, parks, and camps can come in contact with lead and arsenic while playing outside on bare soil and grass, and playing inside where polluted soil has been tracked in from outside.

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## Should I be concerned?

If your business or property is in one of the counties listed in this guide, you should learn more about your soil and take soil safety actions to protect children, employees, and yourself. You especially need to be concerned about increased levels of arsenic and lead if you live in an affected county and your business or property has:

- High levels of arsenic and lead in the soil;
- Children playing in soil; or
- Children or employees tracking soil inside.

By learning more and sharing what you learn with others, you will support a healthier environment for everyone.

## What can I do to protect children and others from arsenic and lead?

If you live in one of the affected counties, you should either sample and test your soil to learn whether these pollutants are present, or you should assume that your soil has these pollutants. There are easy actions you can take to protect your children and others from polluted soil. Some of these actions are for outside remedies and some are for inside remedies. You may already be applying many of these soil safety actions.

### There are two types of soil safety actions:

**Action 1** Soil safety actions you can take now.

**Action 2** Soil safety actions you should plan for.

# Action 1



## Soil Safety Actions You Can Take Now

Please consider taking these actions right away to provide some immediate protection.

- **Inform employees, children, and parents** about arsenic and lead polluted soil, health problems, and actions they can take to protect themselves and others.
- **Keep children away from polluted soil** until the soil is covered, mixed, or removed.
- **Wash hands and face** after playing outside and before eating.
- **Keep soil outside**—use doormats at every door or take off shoes when coming inside.
- **Mop, dust, and vacuum** regularly to remove soil tracked in from outside.
- **Keep rooms clean** so dust does not collect.
- **Wash and rinse toys often.**
- **Maintain your grounds** by covering bare patches of soil.

# Action 2

## Soil Safety Actions You Should Plan For



Photo courtesy of Seattle SPU

After you have taken the easy soil safety actions, it is important to plan and take additional actions to provide long-term protection.

**Covering or reducing the amount of polluted soil** at your property provides long-term protection for everyone without relying on behavior changes such as hand washing. However, such actions are more costly. Covering or reducing the amount of polluted soil while completing other landscaping or construction projects can reduce costs and save time. It is important to plan and budget for long-term soil safety actions. Specific future soil safety actions you can plan for are described in other guides available from Department of Ecology and your local health department or district. Contact your local health department or regional Department of Ecology office for more information.

**Do These Actions Meet the Requirements of the Cleanup Law?**

Many of these polluted areas are subject to the requirements of the Model Toxics Control Act (MTCA) state cleanup law (Chapter 70.105D RCW). The actions described in this guide provide some protection from potential health effects. However, these actions may not meet all the legal requirements for soil cleanup actions under MTCA. Contact Ecology or see Ecology's webpage for more information about the law.

# Help is Available

The Washington Department of Ecology or your local health department or district is available to assist you as you plan each step. We want you to succeed in protecting children, employees, and yourself from harmful arsenic and lead in soil.

## Learn more about your soil

Assistance is available to help you learn about your soil. Sampling guides with step-by-step instructions are available to help you through the sampling process. Soil safety guides with step-by-step instructions are available to help you through simple actions to protect children in your care. Please call your regional Department of Ecology office or local health department or district for these guides.

## Learn about funding

Funding options are available and vary by region. Public properties may apply for state remedial action grants to help pay for testing, covering, mixing, and removing polluted soil. These grants require a 50% match.

## Information is available from your regional Department of Ecology office:

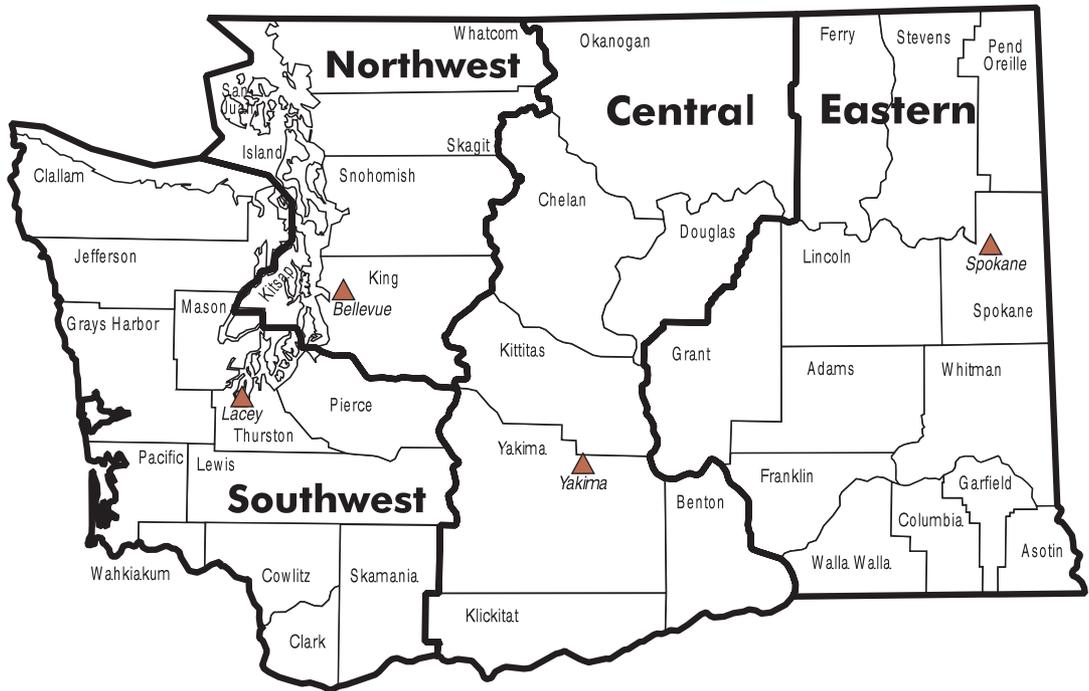
To find Ecology staff in your region to assist you with polluted soil, visit the **Ecology web-site:** [http://www.ecy.wa.gov/programs/tcp/sites/dirt\\_alert/dirt\\_alert\\_hp.htm](http://www.ecy.wa.gov/programs/tcp/sites/dirt_alert/dirt_alert_hp.htm), **or call:**

**Southwest Regional Office:** 360-407-6300

**Northwest Regional Office:** 425-649-7000

**Central Regional Office:** 509-575-2490

**Eastern Regional Office:** 509-329-3400



▲ = Regional Office Location



Your local health department or district may have information about lead or arsenic in your area.

If you need this publication in an alternate format, please contact the Toxics Cleanup Program at 360-407-7170. For persons with a speech or hearing impairment call 711 for relay service or 800-833-6341 for TTY.



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