

Soil Contamination Evaluation

Eastern and Central Washington Schools

Fact Sheet – 2009

DOH 334-187 October 2009

The Department of Health completed a health consultation to assess arsenic and lead content of soil at 100 elementary schools in eastern and central Washington. This is a summary of the results.

Background

Many schools in eastern and central Washington were built on lands historically used as orchards. From 1905 to 1947, lead arsenate was the primary insecticide used to control bugs. Today, some lead and arsenic contamination remains in the soil.



What does this mean?

Children at elementary schools that have contaminated soil may be exposed to lead or arsenic. In general, play areas in these schools are well maintained and covered with grass, gravel, or other barriers to reduce contact with the underlying soil. However, there are some areas where the soil is exposed, increasing the possibility for children and local residents to come into contact with the contamination.

For information on evaluated schools, check the health consultation:

<http://www.doh.wa.gov/consults>

How are you exposed?

The most common ways people are exposed to lead and arsenic in soil are inhaling and swallowing.

- Young children often put hands, toys, pacifiers, and other things in their mouths, and these may have dirt or dust on them that can be swallowed.
- Soil on homegrown vegetables may be swallowed when the produce is eaten.
- Adults may swallow or inhale soil and dust while gardening, mowing, dusting, and doing construction work.

Contaminants of concern

Lead: Many parts of the body can be damaged by lead, and there's no known safe level of lead exposure. Young children are particularly vulnerable to lead contamination because lead interferes with the developing brain. Children with lead poisoning may find it hard to learn and may not behave well. Pregnant women can pass lead to the unborn baby.

Arsenic: It's difficult to predict how a person will react to arsenic exposure, because people are affected differently. Illnesses often linked to long-term exposure to small amounts of arsenic are bladder cancer, lung cancer, skin cancer, liver cancer, prostate cancer, kidney cancer, cardiovascular disease, diabetes, nerve damage, and changes to the pattern of color or thickness of the skin. Most of these effects are delayed and may not appear for years or decades.

Conclusions and recommendations

Lead and arsenic are the contaminants of concern for these schools and their neighbors. The results of the evaluation show:

- Lead and arsenic exist in soil at levels that may cause a health risk to children.
- The potential long-term health risks from exposure to lead and arsenic are relatively low for most children; however, these health risks may increase when children come into contact with contaminated soil more frequently, come into contact with soil containing high concentrations of contaminants, or when the amount of soil that is ingested increases.
- Children should be discouraged from playing in areas that have bare soil and are known to have higher concentrations of lead and arsenic.
- Because lead and arsenic are present at levels of health concern, schools are encouraged to use maintenance techniques that reduce exposure. These techniques may include frequent watering to reduce bare patches or using mulch or sod for cover.

Healthy actions you can take

There are simple steps people can take that will help reduce exposure to soils that may contain lead or arsenic.

Use plenty of soap and water

- Wash your hands and face after playing or working outside, especially before eating. Use a scrub brush to clean dirt from under your nails.
- Wash heavily soiled clothing separately.
- Wash children's toys, bedding, and pacifiers frequently.

Garden & yard

- Wear gloves while gardening.
- Wash fruits and vegetables before eating them.
- Peel carrots, potatoes, and other root crops. Throw peelings away instead of composting.
- Cover exposed soil in your yard by growing grass on it.
- Maintain painted surfaces. Lead-based paint was used on some homes built before 1978.

Mop, dust, and vacuum

- Remove shoes before entering the house. Place a wipe-off mat outside entrances.
- Damp-mop floors and dust window sills, bookcases, and other surfaces at least once a week.
- Vacuum frequently, and change your vacuum cleaner bag at least once a month.

Keep pets clean

- Wipe-down pets before letting them in.
- Brush and bathe pets regularly.
- Keep pets in areas of your home that have no carpeting and upholstery.
- Make pets sleep in their own beds.

Eat a healthy diet

- Foods that contain the daily recommended amounts of iron and calcium help decrease lead absorption.

If you're concerned about lead exposure, contact your physician or other health care provider to learn more about blood-lead testing.

For more information, please contact:

Washington State Department of Health
Toll Free, 1-877-485-7316