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For health questions or to learn about services in your area:

**Tacoma-Pierce County Health Department**  
Dirt Alert  
dirtalert@tpchd.org  
253.798.6492

**Public Health – Seattle & King County**  
dirtalert@kingcounty.gov  
206.477.DIRT

**Thurston County Department of Health and Social Services**  
HealthyHomes@co.thurston.wa.us  
360.867.2582

**Department of Ecology Tacoma Smelter Plume**  
[www.ecy.wa.gov/toxics/tacoma-smelter.html](http://www.ecy.wa.gov/toxics/tacoma-smelter.html)



Landscaping & Gardening

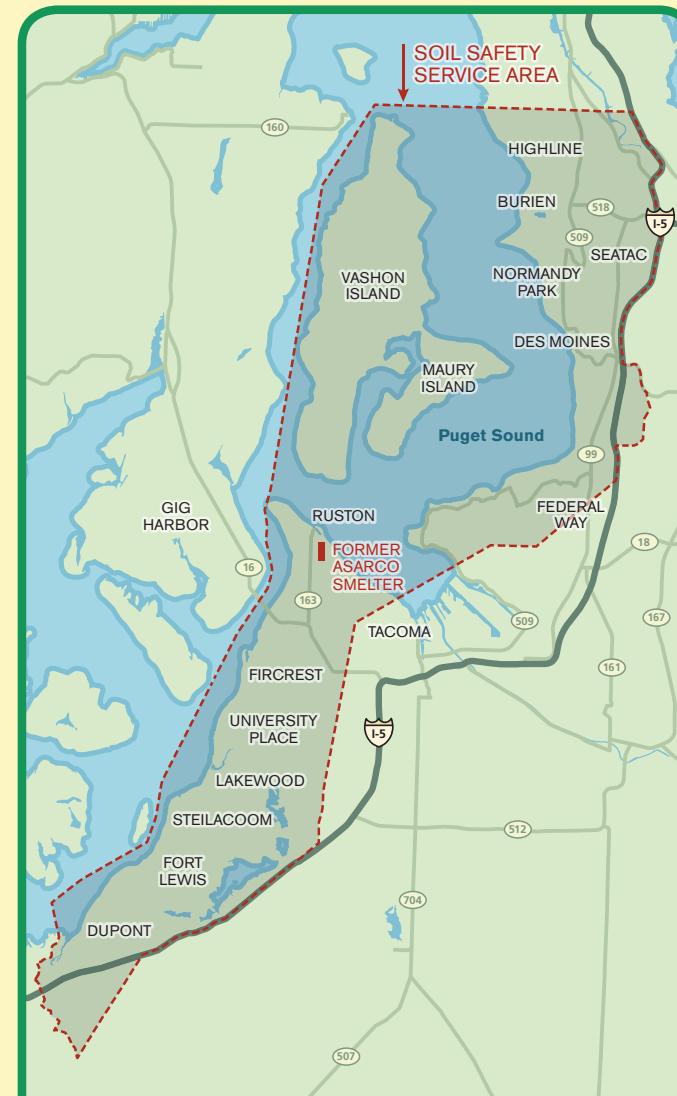
# ARSENIC AND LEAD In the Soil

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## Arsenic and Lead in King, Pierce and Thurston Counties

For almost 100 years, arsenic and lead were blown from Asarco's Ruston copper smelter smoke stack throughout King, Pierce and Thurston Counties. The smelter closed in 1986. Even though the smelter is no longer operating, the arsenic and lead remain in the soil and will continue to be a health risk for years to come.

See map for communities most affected:



## Gardening and Landscaping in Arsenic and Lead Contaminated Soil

If you live in the affected area (see map), you may have arsenic or lead in your soil. This brochure explains how you can reduce contact with soil during landscaping and gardening.

### The Risk to Human Health

Breathing dust or accidentally eating soil that contains arsenic and lead can contribute to poor health, especially in young children.

- Lead is linked to developmental disabilities in children and may affect I.Q.
- Arsenic may cause cancer later in life and may also contribute to heart disease.
- Children under the age of six are at greatest risk because they put things into their mouths. They can inhale dust or eat it when it falls on food or anything they put in their mouths.

There is no immediate danger, but long-term, daily exposure slightly raises the risk of health problems.



Protect yourself from arsenic and lead!

Tom the Gardener



# Reduce your contact with arsenic and lead in dirt

## **Grow Produce in Raised Beds**

**Build raised beds using cedar, plastic lumber, or concrete.**

- If using salvaged wood, do not use arsenic-treated (CCA) lumber or railroad ties.
- If you have limited yard space, grow your produce in ceramic pots.

**Add organic material to raised beds or pots.**

- Add at least 12 inches of organic material to raised beds and mix soil well. Do not mix with underlying soil.
- Compost, manure and other organic additions are good for plants.

**Make sure you buy clean soil.**

Ask your soil supplier about soil quality before buying. The State does not regulate soil suppliers. Ask your soil supplier if they test for metals, petroleum and other contaminants.

## **Wash and Peel Fruits and Vegetables**

Some plants may take up small amounts of arsenic and lead into their edible parts. The greater risk is from eating dirt or dust stuck to the outside of your produce.

- Avoid growing vegetables in contaminated soil.
- Wash fruits and vegetables with a scrub brush and water to remove all dirt.
- Peel carrots, potatoes, and other root crops. Throw away peelings and do not use them for compost.



## **Cover Bare Patches of Soil**

Choose one of the following options to cover bare patches of soil. These options help create a barrier between you and the soil underneath.

**Place a layer of wood chips or bark.**

- Lay four to six inches of wood chips or bark around flower gardens, under hedges, bushes, trees, and children's play areas.

**Use decorative rock and pea gravel.**

- Line the area with permeable landscape fabric under the gravel. The fabric will keep soil from seeping into the gravel and reduce weeds.

**Build a healthy grass cover.**

- Use slow release fertilizers.
- Water one inch a week in the summer.
- Avoid chemical pesticides and herbicides.

**Place a new layer of topsoil over existing soil.**

- Cover existing soil with four or more inches of topsoil.

**Plant a bed of bushy or thorny native plants.**

- Bushy plants can discourage foot traffic in areas and give a natural look.

**Install walkways, a patio, or hard surface.**

- Use permeable concrete or pavers to create a patio, sport courts, or driveway.
- Create a path or border with brick and stone pavers.

## **Remove and Replace Soil**

**Remove the soil in your garden.**

- Contact your local health department for advice on proper soil disposal (*see back of brochure*).

**Remove soil during a major landscaping or building project.**

- For advice on moving soils during a major landscaping or building project, please contact WA Department of Ecology at (360) 407-7688, press 2.

### **KID'S PLAY AREAS**

**Build or install a sandbox.**

Sandboxes provide a safe place for children to play and stay out of the soil.

- Use a cover to keep rain and cats out.
- Use play sand that has been washed and screened for use in children play areas.

**Place rubber mats, pea gravel or mulch under children's play sets.**

- Be sure to check that the rubber mats, pea gravel or playground wood chips are safe for children.

**Wash children's toys, bedding, and pacifiers frequently.**

## **Take Healthy Actions While Working in Your Yard**

- Wash your hands with soap and water before eating and after working in the soil.
- Use a scrub brush to clean dirt from under your nails.
- Brush soil off clothes after gardening.
- Wash heavily soiled clothing separate from other laundry.
- Wear gloves and shoes while gardening, and remove them before entering the house.
- Avoid gardening on windy, dusty days, or cover your face with a dust mask.
- Moisten soil before gardening to control dust.

