

# Arsenic in Soil

How to keep your family safe



## What is arsenic?

Arsenic is a naturally occurring element. Arsenic does not break down in the environment but combines with other elements. Arsenic may combine with other elements like oxygen, chlorine, and sulfur. We call this inorganic arsenic. When arsenic combines with carbon and hydrogen, we call this organic arsenic. Scientific studies in animals show that most organic arsenic compounds are less toxic than the inorganic forms.

## How does arsenic get into the soil?

The amount of arsenic in soil depends on where you live. Natural occurring levels of arsenic in soil range from 1 to 40 milligram per kilogram (mg/kg). Higher levels may occur in mining areas, at hazardous waste sites, near natural deposits of arsenic, or from pesticide application. Inorganic arsenic is no longer used in agriculture, but organic arsenic compounds are still used in pesticides.

## How does arsenic get into my body?

Arsenic enters the body when eaten or inhaled. Here are common ways arsenic from soil can enter your body.

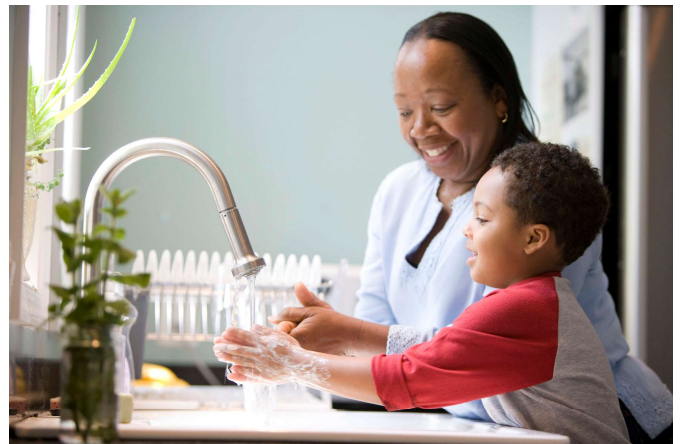
- By incidentally swallowing arsenic in soil. This can happen if hands are not washed after touching contaminated soil.
- By eating food that is grown in soil contaminated with arsenic.
- By breathing in dust from digging or playing in soil containing arsenic.

## Who can I contact for more information?

Call your doctor if you have health concerns.

Call the Texas Poison Center Network, 1-800-222-1222, if you are concerned that you have come into contact with arsenic in soil.

Contact the Texas Department of State Health Services (DSHS) Health Assessment and Toxicology Program at 888-681-0927 or email [epitox@dshs.texas.gov](mailto:epitox@dshs.texas.gov) for assistance with other hazardous substance health-related issues.



***There are actions you can take to protect your family from arsenic.***

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## Can arsenic in my soil be harmful to my health?

Arsenic can cause short and long-term health problems, even if you do not feel sick. Whether a person gets sick depends on the amount of arsenic to which a person is exposed to; how long they are exposed; the type of arsenic; and the person's sensitivity to the harmful effects of arsenic. Arsenic is especially dangerous for children.

Young children are more likely to eat dirt and to put their hands in their mouths, which can have contaminated soil or dust on them. Long-term exposure to children can impact their growth and development. A pregnant mother can pass arsenic to her baby and both can also experience negative health effects.

Long-term (decades) oral exposure to high levels of inorganic arsenic may cause skin changes. These may include patches of darkened skin and the appearance of small "corns" or "warts" on the hands, feet, and torso. Swallowing high levels of arsenic for long periods (decades) may also increase the risk of cancer in the skin, liver, bladder, and lungs.

## What can I do?

If you live in an area with high levels of arsenic in soil there are many things you can do to protect your family from arsenic poisoning.

### Reduce arsenic contaminated dirt and dust in your home.

- Clean areas where children play using wet (not dry) mop and wiping methods.
- Use a vacuum cleaner with a high-efficiency particulate air (HEPA) filter, or vacuum when children are not around.
- Clean pets feet before they come inside and bathe them frequently.
- Wash hands frequently, especially before eating and at naptime and bedtime.
- Wash children's toys often.

### Protect yourself when gardening or playing outside.

- Cover bare patches of soil with mulch, grass, or other ground cover.
- Wash hands immediately after handling soil or playing outside.
- Change out of dirt-covered clothes and wash separately from other laundry.
- Use a raised bed or containers with non-contaminated soil for gardening.
- Wash and peel root vegetables grown in your garden before eating. Wash all fruits and vegetables before eating.

### Avoid arsenic exposure from other sources.

- Wear gloves if using paint or sealer to equipment that has arsenic treated wood.
- If your workplace uses arsenic, follow your employer's safety guidance.
- For people that have private wells, there is a test to detect the arsenic level. The federal standard drinking water level is 10 parts per billion (ppb). Please visit [tceq.texas.gov/assistance/resources/steps-to-locate-an-accredited-laboratory](http://tceq.texas.gov/assistance/resources/steps-to-locate-an-accredited-laboratory) for more information.
- Make sure your diet includes a variety of proteins, grains, fruits, and vegetables.

### Contact your doctor

If you think you came into contact with arsenic, it is important to talk to your doctor. Your doctor may be able to test your urine for arsenic. However, the results of urine tests cannot predict which harmful health effects you may experience if any.

