



Fact Sheet: Arsenic

Sources: Occurs naturally in soil. Inorganic arsenic compounds are mainly used to preserve wood. Organic arsenic compounds are used as pesticides, mainly on cotton fields and in orchards.

Physical Properties: Arsenic is a heavy metal. Many common arsenic compounds (called “arsenates”) can dissolve in water. Most of the arsenic in water end up in soil or sediment. Arsenic does not easily volatilize (evaporate and go into the air) but arsenic dust can be blown into the air by wind, construction, or industrial processes.

Exposures: Arsenic may enter the air, water, and land from wind-blown dust and get into water from runoff and leaching. Rain and snow remove arsenic dust particles from the air.

Health Effects: Breathing high levels of inorganic arsenic can give you a sore throat or irritated lungs, and may eventually cause lung cancer. Ingesting (eating or drinking) very high levels of arsenic can be deadly. Exposure to lower levels can make you sick and vomit. Inorganic arsenic can give you cancer of the skin, liver, bladder, and lungs. It can damage your blood cells, which hurts your immune system. Damaged blood cells also make it harder to get oxygen to all parts of your body, hurting your heart and blood vessels, and causing tingling in your hands and feet. Ingesting or breathing low levels of inorganic arsenic for a long time can darken your skin and cause small “corns” or “warts” on your hands, feet, and body. Touching inorganic arsenic may cause redness and swelling.



Check Your Answers: Arsenic

Compare your ratings to these ones by Jim Luker, an Environmental Professional. (On a scale of 1 to 10, the least risky exposure is a 1, and the most risky is a 10.)

Type of Exposure	Risk	An environmental professional speaks:
Ingesting (drinking or cooking with) contaminated water	9	Food and water are major sources of exposure. Ingesting high levels can result in death. Consuming arsenic for a long time can cause digestive problems, anemia, skin discoloring, and nerve and organ damage. Tip: If you suspect contaminated food or water, avoid eating or drinking it and have it tested immediately.
Living or working in a building where indoor air is contaminated	8	This is rare, because an industrial process or continuous wind is needed to keep arsenic in the air. But if it does happen, breathing arsenic dust (including fine sawdust) can cause lung irritation or lung cancer. Tip: Wear a facemask if working around arsenic dust.
Working or playing in contaminated dirt	8	You can be exposed by accidentally eating soil or touching it with bare skin. High levels can cause illness, cancer, or death. Lower levels irritate skin. Tip: If the contamination is only moderate, adults working with the soil can wear gloves and facemasks and avoid dusty conditions to reduce exposure. Children should never play in soil with arsenic contamination.
Showering in contaminated water	6	Breathing arsenic in the shower is unlikely. High levels of arsenic may irritate or damage your skin, or you could accidentally swallow some. Tip: Avoid showering in highly contaminated water. Consider filtering less-contaminated water.
Swimming or wading in contaminated lake or pond	6	Same exposures as with showering. Swimming is riskier than wading because there is more contact. Swimmers swallow a little water, too. Tip: If you regularly swim or wade in a lake, have the water tested.
Eating food grown in contaminated soil or with contaminated water	6	Plants can pick up arsenic from the soil. Vegetables grown in the ground (carrots, potatoes) absorb more arsenic than on-the-vine vegetables (tomatoes, beans). Plants high in iron (spinach) absorb the most arsenic. You can also be exposed by touching or breathing in contaminated dirt while gardening. Tip: If soil is contaminated, grow lower-risk plants. Use raised-bed gardens with clean soil. Wear gloves and facemask while gardening. Keep the soil wet to reduce dust. Wash vegetable thoroughly before eating.
Using contaminated water for or laundry	1	Arsenic does not volatilize. If levels are very high, your skin might be harmed. Tip: Avoid drinking shower water. Take short showers in contaminated water.
Living or working where the soil beneath the building is contaminated.	1	Arsenic does not volatilize. Risk is small unless there is arsenic dust in the air. Tip: Avoid direct contact with contaminated soil and dust.