

Arsenic is a naturally occurring element in soil and minerals. It is a silver-gray solid with no smell or taste. Arsenic has two forms. Organic arsenic occurs naturally, mainly in seafood. It is not known to be toxic. Inorganic arsenic occurs naturally in soil, sediments, and groundwater. It may also be in our environment from industrial use. It can enter the air from wind-blown dust. The [U.S. Geological Survey](#) reported a median arsenic concentration of less than 0.004 parts per million in Pennsylvania groundwater samples from 1969 to 2007.<sup>1</sup> In addition, the [engineering firm AECOM](#)<sup>2</sup> reported a median arsenic concentration of 10.3 milligrams per kilogram in Pennsylvania soil samples from 1995 to 2001.

## HOW DOES ARSENIC GET INTO MY BODY?

You ingest it by drinking water or eating foods that contain arsenic, such as seafood (organic) or rice (inorganic). You breathe in arsenic from contaminated air, sawdust, or smoke from arsenic-treated wood or tobacco smoke.



## WHAT CAN ARSENIC DO TO ME?

Short-term exposure to high levels of inorganic arsenic can be fatal. Short-term exposure to low levels of inorganic arsenic may cause symptoms such as nausea, vomiting, or abnormal heartbeat. Long-term exposure to inorganic arsenic may cause skin disorders, high blood pressure, diabetes, and cancer. It can also lower IQ scores in children. Skin contact with inorganic arsenic may cause redness and swelling. Organic arsenic is not known to be toxic. The distinction between forms of arsenic is important. Another example of toxicity differences by form of the compound is chromium. Hexavalent chromium (Cr VI) is substantially more toxic than trivalent chromium (Cr III). Chromium III is an essential element in humans, whereas exposure to chromium VI can cause respiratory effects and is considered a human carcinogen through the inhalation route of exposure.

## WHAT ARE THE ENVIRONMENTAL REGULATIONS FOR ARSENIC?

The Environmental Protection Agency (EPA) limits arsenic in public drinking water to 0.01 parts per million. Private well owners should test their water to ensure their systems are within EPA regulations. Additionally, the Occupational Safety and Health Administration limits arsenic in workplace air to 10 micrograms per cubic meter during an 8-hour day and 40-hour week.<sup>3</sup>

Pennsylvania tracks arsenic concentrations in public drinking water and the data, which is provided by the Pennsylvania Department of Environmental Protection, is available on the [Enterprise Data Dissemination Informatics Exchange \(EDDIE\)](#) by county and public water system.<sup>4</sup>

## WHAT CAN I DO?

- Wear dust masks, gloves, and protective clothing when working with arsenic-treated wood.
- Use raised bed gardens and store-bought soil.
- Regularly test private water wells for arsenic.
- If your water is high in arsenic, consider installing a water treatment system or change water sources.
- If you work in an occupation that may expose you to arsenic, be aware that you may carry it home. Shower and change clothes before going home.
- Concerned about arsenic in your body? Visit a health care provider for testing and follow-up.

If you have questions or concerns about arsenic, please contact the  
Division of Environmental Health Epidemiology at [dehe@pa.gov](mailto:dehe@pa.gov) or 717-787-3350.

August 2023

<sup>1</sup> <https://pubs.usgs.gov/sir/2012/5257/support/sir2012-5257.pdf>

<sup>2</sup> <https://scholarworks.umass.edu/cgi/viewcontent.cgi?article=1093&context=soilsproceedings>

<sup>3</sup> <https://www.osha.gov/laws-regs/regulations/standardnumber/1910/1910.1018>

<sup>4</sup> <https://www.health.pa.gov/topics/HealthStatistics/EDDIE/Pages/EDDIE.aspx>