

Arsenic

How You Can be Exposed

Arsenic is a naturally occurring element in the Earth's crust and rocks. People can be exposed to arsenic from air, water, food, or soil and dust.

- **Air** – small amounts of arsenic are present in the air we breathe. For most people, air contributes the smallest amount to overall arsenic exposure.
- **Water** – for people who rely on public water systems, the federal drinking water standard for arsenic is 10 micrograms per liter ($\mu\text{g/L}$). This limit is designed to reduce lifelong health risks. If you use a private well for drinking water, your well should be tested for arsenic. If arsenic levels exceed 10 $\mu\text{g/L}$, treatment is recommended. See the Additional Resources section for more information about testing and treatment options.
- **Food**- for most people, the main route of arsenic exposure is dietary. It is important to note that there are two forms of arsenic: organic and inorganic. Inorganic arsenic is more harmful to health, and can be found in foods like rice, grains, meat, and poultry. Organic arsenic is of less concern for health and can be consumed in foods like seafood and shellfish.
- **Soil and dust** - soil, especially in agricultural areas, may contain arsenic from natural sources or past pesticide use. Arsenic in soil can also enter household dust. Exposure can occur when soil or dust is accidentally swallowed, such as after gardening or when children play outside and put their hands in their mouths.

Health Effects

Health effects from arsenic depend on the level and duration of exposure as well as individual factors like age, body size, and more. Children may take longer to get arsenic out of their system than adults, and smaller amounts of arsenic can still have a significant impact. Exposure to elevated levels of arsenic in drinking water have been associated with chronic diseases like cardiovascular disease, diabetes, kidney disease, asthma, skin conditions, cancer, and reproductive outcomes.

How to Limit Exposure

Reducing your arsenic exposure depends on how you are exposed. If there is arsenic in your private drinking water source, be sure to treat or filter water before cooking, washing fruits and vegetables, or drinking the water. For soil exposure, clean your home frequently by vacuuming, mopping, wiping down surfaces, and removing shoes when you enter. Children tend to play outside in the dirt or on the floor where they may be exposed to arsenic more than adults. It is

important to have children wash their hands frequently, especially after playtime and before meals where they may be putting their hands in their mouth.

Additional Resources

- You can look up reports on your public water system using this [tool](#) from the Colorado Department of Public Health and Environment.

Sources

Agency for Toxic Substances and Disease Registry. (2005). *Toxicological profile for arsenic* (Draft for Public Comment). U.S. Department of Health and Human Services, Public Health Service. Retrieved from <https://www.atsdr.cdc.gov/toxprofiles/tp2.pdf>

Centers for Disease Control and Prevention, Agency for Toxic Substances and Disease Registry. (2023, May 19). *What are the routes of exposure for arsenic?* Archived from the original on CDC. https://archive.cdc.gov/www_atsdr_cdc_gov/csem/arsenic/what_routes.html

U.S. Food and Drug Administration. (2024). *Arsenic in food*. U.S. Department of Health and Human Services. <https://www.fda.gov/food/environmental-contaminants-food/arsenic-food>