

Arsenic Mine Site Evaluation of Shallow Residential Soils

Town of Kent, Putnam County, New York



The Agency for Toxic Substances and Disease Registry (ATSDR) created this fact sheet to provide you the results of our joint evaluation with the New York State Department of Health (NYSDOH) of the public health implications from exposure to arsenic in shallow residential soils at the Arsenic Mine Site. We also provide steps you can take to reduce exposures to arsenic and help protect your health.

The Bottom Line

Through the health consultation process, ATSDR and NYSDOH have determined that current and potential future exposures to arsenic in shallow residential soil on the Arsenic Mine Site is an **urgent public health hazard**. ATSDR issued a public health advisory urging the U.S. Environmental Protection Agency (USEPA) to take immediate action to permanently prevent harmful exposures to arsenic. The major conclusions of the health consultation were:

- Children who reside or access residential properties with the highest arsenic levels in shallow soils can have short-term ingestion and long-term ingestion and dermal exposures to arsenic that can harm their health.
- Adults can also have long-term ingestion and dermal exposures that can harm their health.
- Ingestion and dermal exposures to arsenic contaminated soils at this site significantly increases the risk for cancer and non-cancer effects in both adults and children.

What did ATSDR evaluate?

At the request of the USEPA, ATSDR and NYSDOH evaluated soil samples collected by USEPA in 2017 and 2018 at ten residential properties to assess the public health implications of exposures to arsenic in shallow soil (zero to six inches).

ATSDR and NYSDOH did not evaluate other possible sources of arsenic exposure such as inhalation of arsenic contaminated soil or dust, consumption of untreated drinking water, consumption of home-raised animal products, or consumption of fruits and vegetables grown in contaminated soil. Consideration of these additional exposures may likely support and strengthen the conclusions established in the health consultation report.

What are the short- and long-term health effects of high-level arsenic exposure?

Short-term health effects:

May include nausea, vomiting, headaches, stomach cramps, diarrhea, chills, sore throat, nasal discharge, and facial swelling, especially around the eyes. These effects are typically temporary and should subside when arsenic exposure stops.

Long-term health effects:

Arsenic is known to cause cancer of the skin, lung, and bladder in humans. Long-term human exposure to high levels of arsenic may also cause skin hyperpigmentation and keratosis, or a darkening and thickening of the skin on the hands and feet, as well as other adverse health effects.

What steps can I take to reduce my exposure to arsenic?

- Minimize direct and repeated contact with bare soils.
- Maintain a grass or mulch cover wherever possible to help prevent direct contact with the soil.
- Wipe shoes on doormat or remove shoes before entering the home. Apply general good housekeeping practices by periodically damp mopping floors, vacuuming (using a HEPA filter if available), and cleaning furniture to help reduce exposure to outdoor soil that might be tracked indoors. Avoid the use of brooms.
- Avoid unnecessary digging in the dirt.



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- Wash hands after outdoor activities to help reduce the potential for exposure.
- Wash children's toys regularly.
- Refrain from landscaping activities that increase exposure to soil and create bare areas of soil.
- Refrain from eating food or smoking when working in the yard.
- Refrain from eating home-raised fruits, vegetables, and animal products. If residents choose to garden, they should grow crops in raised bed gardens and containers with clean soil imported from a non-contaminated area or bagged soil bought commercially instead of the existing soil. Residents should wear gloves when gardening and dispose of or wash gloves thoroughly after each use.
- Regularly wash pets that may go outdoors and contact the soil.
- Properly maintain water treatment systems in accordance with the manufacturer's specification.

Community Health Education

ATSDR will coordinate with state and federal partners to provide additional community health education to advise residents on how to reduce exposures to arsenic-contaminated soil.

Physician Education

ATSDR will advise area health care providers, particularly pediatricians and family care practitioners, of the advisory and health consultation findings. ATSDR will make available materials related to arsenic exposure and health effects.

Next Steps

ATSDR is committed to respond to additional requests involving the Arsenic Mine Site.

NYSDOH and ATSDR will review additional USEPA-collected data (e.g., drinking water and other contaminants of concerns in soil), evaluate the public health implications of additional sampling results, and recommend public health actions to reduce exposure, as needed.



Federal, State, and County Coordination

ATSDR and NYSDOH will continue to coordinate with the USEPA, New York State Department of Environmental Conservation, and the Putnam County Health Department, to implement the recommendations contained in the health consultation and provide health education to affected residents.



For More Information

To review copies of the report, visit the Kent Public Library, 17 Sybils Crossing, Carmel Hamlet, NY 10512 during regular business hours, or see:

- Health Consultation: https://www.atsdr.cdc.gov/HAC/pha/ArsenicMineSite/Arsenic_Mine_HC-508.pdf
- Public Health Advisory: https://www.atsdr.cdc.gov/HAC/pha/ArsenicMineSite/Arsenic_Mine_Advisory-508.pdf

For other Arsenic information, see:

- Arsenic Information for Health Care Providers: <https://www.atsdr.cdc.gov/csem/csem.asp?csem=1&po=0>
- ToxFAQs for Arsenic: <https://www.atsdr.cdc.gov/toxfaqs/faq.asp?id=19&tid=3>
- ToxZine for Arsenic: https://www.atsdr.cdc.gov/sites/toxzine/arsenic_toxzine.html

ATSDR

For questions regarding the public health advisory call:

- Elena Vaouli, Environmental Health Scientist, at (732) 321-4465
- Luis Rivera, Toxicologist, at (732) 906-6933

NYSDOH

For questions regarding the health consultation call:

- Fay Navratil, Public Health Specialist, at (518) 402-7860

USEPA

For questions regarding the residential soil data or potential remedial actions call:

- Sandra Richards, On-Scene Coordinator, at (732) 452-6402
- Cecilia Echols, Community Involvement Coordinator, at (212) 637-3678