

Thallium & PRIVATE WELLS



What is thallium?

Thallium is a natural element found in ores deep underground. In the environment, thallium is found joined with other elements such as bromine, chlorine, fluorine and iodine. Thallium is used in the production of electronics, glass, and pharmaceuticals.

How does thallium get in my private well water?

Thallium can enter your private well water from erosion of rocks underground. Thallium can also enter groundwater from smelting facilities and historical use of thallium-containing pesticides and rodenticides. Thallium can enter rainwater and ground water from the burning of coal from power plants.

How can thallium affect my health?

Thallium is not considered an essential element, meaning your body does not require it. You can't see, smell, or taste thallium. It is easily absorbed by the skin and gastrointestinal tract, and by inhalation.

Exposure to high levels of thallium over short periods can lead to:

- Weakness or tremors
- Numbness/tingling in hands and feet
- Diarrhea or constipation
- Vomiting
- Abdominal pain

Exposure to thallium over long periods may lead to damage of the liver, kidney, respiratory system, and cardiovascular system. A very common symptom of thallium exposure is hair loss (alopecia).

What level of thallium should I be concerned about?

The **U.S. Environmental Protection Agency** developed a public drinking water standard of **0.002 milligrams of thallium per liter of water (mg/L)**. Public drinking water standards are based on public health protection and cost of treatment/testing at large utilities.

How do I test for thallium in my private well?

Use a certified lab to test your well water for thallium. Contact the private well program at your county health department to assist you with getting your water tested. Pricing of testing varies from county to county.

Where is thallium found in NC?

There is limited data on the presence of thallium in the private wells of North Carolina. The only way to know is to get your well water tested.

What if my thallium levels are high?

The U.S. EPA has approved the following ways to remove thallium from water:

- Activated alumina
- Ion Exchange

You can also reduce your exposure by using bottled water or connecting to a public water supply, if possible.

Where can I find more information about thallium and my well?

Visit the NC Division of Public Health's Private Well and Health Program website to find:

- Contacts for your county private well program
- Other private well resources

<http://epi.publichealth.nc.gov/oeo/programs/wellwater.html>

You can also call the NC DPH's Private Well and Health Program at 919-707-5900.

Where did this information come from?

Agency for Toxic Substances & Disease Registry

www.atsdr.cdc.gov/toxprofiles/tp54.pdf

U.S. Environmental Protection Agency

https://cfpub.epa.gov/ncea/iris/iris_documents/documents/toxreviews/1012tr.pdf

<https://archive.epa.gov/water/archive/web/pdf/archived-consumer-fact-sheet-on-thallium.pdf>

National Sanitation Foundation

www.nsf.org/consumer-resources/articles/contaminant-reduction-claims-guide

