



Barium in Drinking Water

Barium is a naturally occurring alkaline earth metal that can contaminate drinking water supplies. Some barium compounds are toxic. Most barium compounds found in drinking water have no taste or smell, making identification of contamination only possible with testing.

What are the sources of barium?

- Naturally occurring in groundwater due to weathering of rock and soil
- Oil and gas drilling muds
- Paint and pigment manufacturing

What are the health effects of barium?

Absorption of barium depends on the type of chemical compound in which the metal is present. Inhalation or ingestion from food and/or drinking water are considered more important route of exposure than dermal (skin) absorption for the general population.

Long-term (chronic) exposure can damage the kidneys and potentially affect the nervous and cardiovascular systems. Gastrointestinal disturbances and muscular weakness have also been reported.

What are the drinking water guidelines for barium?

The Safe Drinking Water Act sets protective standards, called Maximum Contaminant Levels (MCLs), for more than 90 contaminants that can potentially be found in drinking water. MCLs are practical treatment levels calculated to be protective of human health

The U.S. Environmental Protection Agency (EPA) sets the MCL for barium at 2 parts per million (ppm).

What actions can well owners take to reduce the risks associated with barium?

Residents who use a private well as a drinking water source should have the well water tested for barium contamination upon move in; every 5-10 years; or as needed. Testing results will help determine if well owners need to take steps to limit barium exposure from well water, such as installing a treatment system. Boiling water does not remove barium.

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