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## Fluoride in Drinking Water and Groundwater

### What is fluoride?

Fluoride is a naturally occurring mineral. Fluoride is fairly common in Montana's groundwater. High concentrations are often found around mountainous areas, near hot springs and volcanic rock. Naturally occurring fluoride dissolves out of certain rock formations. Ongoing testing for fluoride is an important strategy for private well owners to safeguard the health and well being of their family. Fluoride in water is colorless, odorless and tasteless. Food and water are the major sources of fluoride for the majority of US citizens.

### How much fluoride is safe?

The US Environmental Protection Agency (EPA) has set the Maximum Contaminant Level (MCL) for fluoride to 4 mg/L. The World Health Organization (WHO) has set a guideline level for fluoride at 1.5 mg/L, with an optimal level of 1 mg/L. This means that ideally drinking water should contain fluoride at 1 mg/L.

### What are the symptoms of excessive fluoride?

Excessive fluoride consumption can cause yellow or brown staining of the teeth. The staining can cause mottling of the enamel, in serious cases leading to black staining or pitting of the tooth enamel. These conditions are called dental fluorosis. In addition, high fluoride intake can increase the risk of bone fractures, osteoporosis, and bone deformations, and in severe cases cause crippling skeletal fluorosis. Whether someone will develop any of these conditions depends on the amount of fluoride consumed and the length of the exposure.

### Is my private well at risk?

Like many contaminants in drinking water, fluoride is potentially hazardous at levels or concentrations that do not impart a noticeable taste, odor, or appearance to the water. Your best course of action is to get your water tested and compile as much information as possible about your water supply source, well construction, surrounding land-use, and local geology. **Note: We recommend testing your water for more than just fluoride because there may be other contaminants in your water. At the bare minimum, the EPA recommends that private well owners test their water annually for coliform bacteria, nitrate, pH, and specific conductance.** Montana Environmental Laboratory suggests that all private well owners test for the EPA's bare minimum, and add on arsenic and fluoride.

### If I have high levels of fluoride in my water, what do I do?

If you do have a fluoride problem, there are water treatment technologies available that can reduce or even remove fluoride from your drinking water. The most common are reverse osmosis or fluoride specific removal media. Be sure to use only an NSF certified product and sample your water annually to check that your removal system is working correctly.

For more information go to: [www.fluorideinfo.org](http://www.fluorideinfo.org) , [www.ama-assn.org/ama/noindex/category/11760.html](http://www.ama-assn.org/ama/noindex/category/11760.html) , [www.who.int/water\\_sanitation\\_health/publications/fluoride\\_drinking\\_water\\_full.pdf](http://www.who.int/water_sanitation_health/publications/fluoride_drinking_water_full.pdf) , or [www.epa.gov/safewater](http://www.epa.gov/safewater)