



Private Wells

- Many residents and businesses rely on wells for drinking water. However, private wells in Montana may contain harmful substances such as arsenic, manganese, nitrates, pesticides, and bacteria.
- Private wells are not regulated under federal and state laws to maintain water quality standards. The homeowner or business owner has the responsibility to ensure the water is safe to drink.
- It is very important to have your well water tested to know if it contains any harmful substances.

Environmental Hazard

Health Effect

Arsenic	Arsenic is naturally occurring in Montana and can cause health effects such as skin disorders, cardiovascular disease, liver and kidney damage, and an increased risk for lung cancer, bladder cancer, and skin cancer.
Lead	Lead in drinking water usually comes from nearby hazardous waste sites or corrosion in plumbing. Lead causes irreversible damage to the brain in children resulting in delayed growth, learning disabilities, and behavioral problems.
Manganese	Manganese is naturally occurring in groundwater. Elevated levels may cause memory and attention problems and symptoms similar to Parkinson's disease such as trembling, stiffness, and slow motor movement.
Nitrates	Nitrates can be naturally occurring or from agricultural sources. The main health effect of nitrates is decreased ability of blood to carry oxygen and a resulting condition called methemoglobinemia (also known as Blue Baby Syndrome in infants).



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Environmental Hazard

Health Effect

Copper	Elevated levels of copper in drinking water is usually due to corrosion in plumbing. At high levels, copper can cause nausea, vomiting, diarrhea, stomach cramps, and liver and kidney damage.
Selenium	Even though naturally occurring in rocks, selenium contamination in drinking water is often due to discharge from petroleum refineries and mines. Selenium poisoning is rare and symptoms may include brittle hair and deformed nails, and a loss of feeling and control in limbs.
Radionuclides	Common naturally occurring radioactive substances in Montana are uranium and radon (a radioactive gas released from the decay of uranium). Long-term exposure can cause kidney damage for uranium and cancer for both substances.
Pesticides	Pesticides can cause a wide range of health effects depending on the type of pesticide. Acute pesticide poisoning symptoms may include headaches, dizziness, gastrointestinal discomfort, spasm, and convulsions. Exposures to some pesticides have been linked to increased risk of cancer.
Bacteria (Total coliform and <i>E.coli</i>)	Disease-causing bacteria in drinking water may cause diarrheas, vomiting, dysentery, cramps, nausea, headaches, fever, fatigue, hepatitis, and even death.

Resources



DPHHS Toxicology and
Environmental Public
Health Section



Montana Department of
Environmental Quality
Private Well Resources



Montana State University
Well Educated Program