

Contaminant Type	Summary	Potential Health Impacts	Indications of Contamination	Maximum Contaminant Level*	Testing Frequency	Contaminant Sources	Treatment / Next Steps
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Total Coliform Bacteria (Including E. Coli)	Not all bacteria found in water are unsafe. Pathogens are bacteria that cause disease and are unsafe for humans. The bacteria E. Coli is used to test for contamination of harmful bacteria.	Diarrhea, cramps, nausea, dehydration, urinary tract infections (UTIs), respiratory illness	No change in appearance, smell or taste of water	5% (present in <5% of tests in water systems that test 40+ times per month)	Test Annually AND - after heavy rain or storms resulting in flooding - continued illness in household that doesn't go away	Animal waste, leaking septic systems, floods or storm runoff, direct contamination from animals	- Examine the well for potential sources of contamination (well location and construction); - Remove or limit contamination source - Shock chlorination treatment - Boil untreated water
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Nitrate / Nitrite	Two naturally occurring forms of nitrogen. Nitrate is one of the most commonly found contaminants in Nebraska groundwater.	Methemoglobinemia - 'Blue baby syndrome', increased risk of cancers, birth defects, premature birth, respiratory issues	No change in appearance, smell or taste of water	Nitrate: 10 mg/L Nitrite: 1 mg/L	Test Annually AND -Any time an infant, pregnant women, nursing mother, or elderly person begins drinking the water	Fertilizers, pesticides, animal waste, septic systems, sewage disposal; Can be transported by storm run-off and flood waters	Nitrate/Nitrite Treatments: - Reverse Osmosis - Ion exchange - Distillation Or use bottled water, particularly for infant formula/consumption
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Lead	A naturally occurring metal toxic to humans, particularly young children and babies. Most lead exposure occurs from lead-based paint chips, however certain plumbing materials can cause exposure.	In children - brain damage, anemia, behavioral issues, hyperactivity, learning disabilities, slow growth, hearing problems In adults - kidney damage, cardiovascular effects, reproductive issues	No change in appearance, smell or taste of water	0.010 mg/L	Test if lead water contamination is suspected OR Consider testing at least once if: - living in an older home - children or pregnant women drink from the water source	Lead pipes or other plumbing materials, occasionally soil contamination	- Site investigation (identify sources of lead) - Replacement or removal of the lead source - If the lead source cannot be removed, consider: use only cold water, bottled water or reverse osmosis treatment
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Manganese	A naturally occurring element that can alter the color, taste, and smell of water. Contamination is generally most common in eastern Nebraska.	Neurological effects (relating to the brain or nervous systems), particularly harmful to infants.	Strange odors or taste. Dark colored sludge when used for beverages or in appliances. Dark stains on laundry or dishes. Decreased water from mineral build-up	No official level >300ug/L is considered toxic to infants >1000 ug/L is considered toxic to all ages	Test for manganese and iron* if experiencing the indicators of contamination. *Iron can cause similar effects but is not considered a health risk	Groundrock or soil	Treatment options: - Reverse Osmosis - Carbon Filtration - Distillation
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Arsenic	A naturally occurring mineral found in certain rock and soil formations in Nebraska.	Increased risk of cancers including skin, bladder, lung, kidney, liver and prostate. Effects on the cardiovascular, respiratory or immune systems. Increased risk of diabetes.	No change in appearance, smell or taste of water	0.010 mg/L	Consider testing your water at least once to determine arsenic levels of your well	Groundrock or soil and occasionally from pollution of certain industrial processes	- Consider bottled water - Treatment options that may reduce arsenic include reverse osmosis, distillation, and ion exchange (consult a water treatment professional)
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Uranium

A radioactive mineral naturally occurring in certain rock and soil formations in Nebraska.

Increased risk of cancer, kidney toxicity

No change in appearance, smell or taste of water

0.030 mg/L

Consider testing your well water for Uranium if the well is located in the Republican River, North Platte River, or Platte River flood plains or nearby current or past streams.

Groundrock or soil

-Reverse osmosis may help remove some uranium (consult a water treatment professional)

**Maximum Contaminant Level (MCL): The level of a contaminant in drinking water below which there is no known or expected risk to health. Determined by the Environmental Protection Agency and enforceable to public water systems.*

Sources and further guidance:

UNL: <https://water.unl.edu/article/drinking-water-wells/water-quality/>

EPA: <https://www.epa.gov/ground-water-and-drinking-water/national-primary-drinking-water-regulations>