

Nitrate in Private Well Water

Drinking water with high levels of nitrate is unsafe for everyone.

Babies and women who are or may become pregnant women are especially sensitive to nitrate. Immediate action should be taken if levels are high. High levels of nitrate can cause methemoglobinemia (blue baby syndrome) in babies less than 6 months old and increase the risk for certain types of birth defects in pregnant women.

Recent studies have shown that high levels of nitrate may cause thyroid problems and increase the risk of certain types of cancers in **everyone**.

Test your well for nitrate every year.

Because **you cannot smell, taste, or see nitrate in your water**, we recommend that you [test for nitrate](#) at least once a year.

Test more often if:

Babies or pregnant women use the water.
You notice a change in color, taste, or smell of the water.

Test right away

A new well is constructed.
You have not tested your well in the past five years.

Test twice a year
(6 months apart)

Nitrate has been found in wells in every county in Wisconsin.

Nitrate naturally occurs in plants and animals.

Nitrate can enter groundwater from fertilizers and animal and human waste (poop).

Take action if nitrate levels are high!

If your nitrate-nitrogen level is:

Less than 10 mg/L



You can use the water for all activities including drinking, brushing teeth, preparing food, handwashing, and bathing.



10 mg/L or greater



Women who are or may become pregnant and babies should immediately stop using the water for drinking and preparing foods that use a lot of water like infant formula, soup, and rice.



Everyone should avoid long-term use of water for these purposes.



Everyone can use the water for other activities like handwashing, brushing teeth, and bathing.

Take steps to fix your well.

As a well owner, you are responsible for your own water. Your [local health department](#) can help explain your test results and options for fixing and improving your well. **The next page has options for keeping you and your family safe.**

WISCONSIN DEPARTMENT OF HEALTH SERVICES

Division of Public Health | Bureau of Environmental and Occupational Health

www.dhs.wisconsin.gov/eh | dhsenvhealth@wi.gov

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Steps to take if your well has high nitrate:

1. Retest your well to confirm results.

- Collect a second sample (called a “confirmation sample”) to determine if the first result is accurate.
- Consider [testing for pesticides](#) as they can be found in wells with high nitrate.

2. Inspect and protect your well.

- Inspect the seal on the well cap and the above-ground casing for holes or other signs that surface contaminants may be entering the well.
- Consider having the well inspected by a [licensed well driller or pump installer](#).
- Reduce your fertilizer use.
- Make sure your septic system is well maintained and pumped regularly to prevent overflow.

3. Use a safe water source.

- Use bottled water or water from a well without a nitrate problem for drinking and preparing food until you find a long-term solution.
- Do not boil the water from your well as this does not remove the nitrate.

4. Find a long-term solution.

The following are long-term solutions to find a way to drink safe water.

\$\$ Install a water treatment system

- Work with a water treatment professional to select a [certified treatment device](#).
DNR approval may be required before installing a water treatment system.
- These systems require regular maintenance and testing to ensure they are working properly.
- **Point-of-use (POU)** systems treat water coming from one faucet like a kitchen sink, but can use a lot of water and are not as effective with high levels.
- **Point-of-entry (POE)** systems treat all water coming into the house and provide safe drinking water throughout the house.

\$\$\$ Drill a new well

- A new well is often a permanent solution, although there is no guarantee that it will be free from contaminants. It is always important to work with a [licensed well driller or pump installer](#).
- Financial help may be available in limited situations. Check out [DNR’s Well Compensation Grant Program](#) for more information.

\$\$\$ Connect to a public water supply or community well

- Connecting to a public water supply can provide a permanent safe water supply; however, annexation may be required. Contact your local government with questions.
- Connecting to a community well can also provide a permanent safe water supply where costs for maintaining and testing the well are shared by multiple families.

Web Links and Additional Resources

The links in this document can be found at dhs.wisconsin.gov/water/nitrate.htm.

To learn about other common health concerns for private wells, visit dhs.wisconsin.gov/water/hazards.htm.