

Lead

Lead is a poisonous metal that can cause long-term health and behavioral problems. The main way to come in contact with lead in Minnesota is through lead-based paint in homes built before 1978. There are also many other ways to come in contact with lead, including through drinking water.

There is no Safe Level of Lead

Exposure to lead can cause serious health problems for everyone. There is no safe level of lead. Minnesota Department of Health (MDH) recommends lead levels in water be as close to zero as possible.

Coming in contact with too much lead can damage the brain, kidneys, and nervous system. In children, lead can also slow development or cause learning, behavior, and hearing problems.

Babies, Children, and Pregnant Women are at Highest Risk

Babies, children under six years old, and pregnant women are at the highest risk of being affected by lead.

- Babies drink more water for their size than older children and adults.
- Babies' and children's developing brains and organs can be injured or damaged more easily and their bodies are not very good at getting rid of harmful substances.
- Some contaminants, such as lead, can pass from mother to baby during pregnancy.



Sources of Lead in Well Water Systems

- **Lead pipes** are typically the worst contributor to elevated lead levels.
- **Lead solder** was used in the past to join copper pipes, but has been illegal in Minnesota since 1985.
- **Brass components** such as faucets, coolers, and valves. Although brass usually contains low lead levels of 8 percent or less, it can still dissolve lead into the water, especially during the first few months of use. If you have new brass plumbing components installed in your plumbing system, be sure to flush the water before drinking. The federal Reduction of Lead in Drinking Water Act requires that most pipe, pipe and plumbing fittings, and fixtures installed in potable water-supply systems after January 2014 must contain no more than 0.25 percent lead.
- **Lead "packers"** above the well screen were commonly used in wells drilled before 1980. Lead "packers" were sometimes used in wells drilled until 1993 (when they were prohibited).
- Some **submersible pumps** manufactured before 1995 may contain leaded-brass components. Since January 1995, all submersible pump manufacturers in America have agreed not to use leaded-brass components in submersible pumps.

How Lead Gets Into Well Water Systems

Groundwater in Minnesota usually does not contain detectable levels of lead. However, the pipes and other components in the household well water system and plumbing may contain lead. If they do, lead may dissolve into the water. The longer the water stands idle in the plumbing pipes and components, the more lead can dissolve into the water.

Test for Lead at Least Once

You are responsible for keeping your well water safe and testing it as needed. MDH recommends you use an accredited laboratory to test your water. Contact an accredited laboratory to get sample containers and instructions, or ask your county environmental or public health services if they provide well testing services.

[Well Testing, Results, and Options](http://www.health.state.mn.us/welltesting)
(www.health.state.mn.us/welltesting)

Protect your health!
Test your well water for:



- Coliform Bacteria (Every year)
- Nitrate (Every other year)
- Arsenic (At least once)
- Lead (At least once)
- Manganese (Before a baby drinks the water)

Testing is even more important if young children drink the water.

MDH may recommend you test for additional contaminants based on where you live.

How to Protect Your Household

Visit the “Lead Poisoning Prevention” webpage to learn about how to reduce your contact with lead from sources other than your drinking water. Use the steps below to reduce your household’s exposure to lead in drinking water.

1. **Let the water run** for at least 1 minute before using it for drinking or cooking. The more time water has been sitting in your home’s pipes, the more lead it may contain. The only way to know if lead has been reduced by letting it run is to check with a test.
2. **Use cold water** for drinking, making food, and making baby formula. Hot water releases more lead from pipes than cold water.
3. **Test your water.** In most cases, letting the water run and using cold water for drinking and cooking should keep lead levels low in your drinking water. If you are still concerned about lead, arrange with a laboratory to test your water. Be sure to follow the laboratory’s instructions for collecting the sample.
 - *First draw sample* shows how much lead is in your water after the water sits in your plumbing system for at least 6 hours.
 - *Flushed samples* show how much lead is in your water after letting the water run for a minute or two.
4. **Treat your water** if a test shows your water has high levels of lead after you let the water run. Treatment options include:
 - Carbon Filters Certified to Remove Lead
 - Reverse Osmosis
 - Distillation

Learn more about these treatment options at the “Home Water Treatment” webpage.

Resources

Home Water Treatment

(www.health.state.mn.us/communities/environment/water/factsheet/hometreatment.html).

Lead Poisoning Prevention

(<https://www.health.state.mn.us/communities/environment/lead/home/index.html>).

Safe Drinking Water for Your Baby

(www.health.state.mn.us/communities/environment/water/wells/waterquality/safebaby.html).

Search for Accredited Laboratories

(www.health.state.mn.us/labsearch).

MDH District Offices

625 North Robert Street
P.O. Box 64975
St. Paul, Minnesota 55164-0975
651-201-4600 or 800-383-9808
health.wells@state.mn.us
www.health.state.mn.us/wells

705 Fifth Street Northwest
Bemidji, Minnesota 56601
218-308-2100

11 East Superior Street
Duluth, Minnesota 55802
218-302-6166

2312 College Way
Fergus Falls, Minnesota 56537
218-332-5150

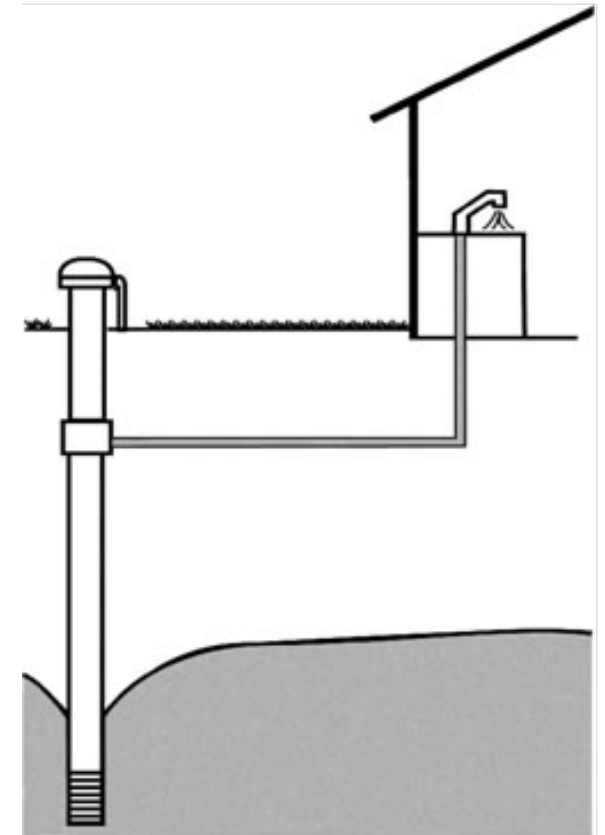
3333 West Division Street
St. Cloud, Minnesota 56301
320-223-7300

1400 East Lyon Street Marshall,
Minnesota 56258 507-476-4220

18 Wood Lake Drive Southeast
Rochester, Minnesota 55904
507-206-2700

To obtain this information in a different format, call 651-201-4600.
Printed on recycled paper.
Publications\Lead in Well Water Systems 06/15/2023R

Lead in Well Water Systems



mn DEPARTMENT
OF HEALTH
Well Management Section
Environmental Health Division