Safe Well Water RI

Trusted, expert information

Tip Sheet 14

Sodium and Chloride in Drinking Water Wells

"Tip sheets helped us learn about our well water."

Get Tip Sheets at www.riwelltesting.org:

- 14 Tip Sheets about harmful substances
- 10 Tip Sheets about treatment choices
- 3 Tip Sheets about other topics of concern

Well water is groundwater, meaning that it comes from the water stored in the earth and rocks below ground. Even though groundwater is *under* the surface, substances *on* the surface, such as gas from a lawnmower or animal waste, can seep down and pollute it. Some natural substances stored in rocks and soil can also affect the smell, taste, color, and safety of well water.

Sodium and chloride: Substances natural in groundwater at low levels. They are commonly known as salt, or 'table salt'

Sodium and chloride are substances that occur naturally in groundwater, the source of well water. They are also substances used by the human body to help it work well. But, certain human activities, such as salting roads, can increase levels in well water so that water taste or quality are impacted.

What problems can too much sodium or chloride cause?

High sodium level in drinking water: A problem mostly for people on low-salt or limited-salt diets.

Most of the salt we eat is in food, so drinking water plays a small role in total daily amounts. But, for people with medical conditions such as high blood pressure, certain heart diseases, or kidney or liver diseases, sodium in water is a more serious concern.

High sodium levels can also ruin certain house plants, and together with chloride, increase corrosion (wearing away) of plumbing.

High chloride level: Can cause plumbing corrosion problems — the wearing away of pipes, pumps, hot water heaters, and fixtures. High chloride may also mean possible pollution of well water from sewage sources. Time to test for bacteria!

How will I know if I have too much sodium or chloride in my well water?

Salty taste may suggest high levels of chloride. Testing your water may be the only way to be sure.

Use a State-certified lab to test your water. Find a list here: www.health.ri.gov/find/labs/drinkingwater.

Compare the numbers and letters on your lab test results with the standards (limits) set by the United States Environmental Protection Agency (EPA).

- **Sodium:** EPA sets no standards for sodium in water. If you are on a low sodium diet, test the water for sodium and talk with you doctor.
- **Chloride:** The EPA standard for chloride is a Secondary Maximum Contaminant Level (SMCL). SMCL is a water quality standard for *nuisance* substances, not a *health* concern.

  EPA limit (SMCL) for chloride:
  250 mg/L (milligrams per liter)
  250 ppm (parts per million)

How do sodium and chloride get into well water?

From nature: These substances occur naturally in Rhode Island groundwater in small amounts. So they can seep into well water. In coastal areas, saltwater can seep into groundwater and affect well water.

From human activities: High levels of these substances in well water may result from:

- 'Run-off' from road salt, fertilizers, industry waste, or sewage
- Ion exchange water treatment systems used in households to 'soften' the water

What can I do about too much sodium or chloride in my well water?

High sodium: If sodium levels are over 100 mg/L (milligrams per liter), consider installing a small treatment unit at the kitchen tap for drinking and cooking. This is also called a point-of-use treatment system.

High chloride: If you test your water on a schedule and find that chloride levels increase over time, it's best to find the source and correct it. The best long-term solution may be a new well.

Treatment systems for both sodium and chloride:

- Distillation—Tip Sheet 20
- Reverse osmosis—Tip Sheet 24

Important: Before you install a treatment system, call us for expert advice. *Before* you buy a system, ask how it will be installed and whether this costs extra. Get at least 3 price quotes. Learn the questions to ask. See Tip Sheet 16. *After* you buy a system, be sure to:

1. Keep all the paperwork and directions.
2. Learn what you must do to maintain the system and do it.

Learn more

Get Tip Sheets about choosing and buying water treatment systems at www.riwelltesting.org.

Call us! University of Rhode Island Water Quality Program (401) 874-5398
Rhode Island Department of Health (401) 222-6867

UPDATED 2022