

Sodium & PRIVATE WELLS



What is sodium?

Sodium is a natural element found in soil, water, and rocks deep underground. Sodium is found in the environment as salts bound to chloride, carbonate, hypochlorite, and silicate.

Sodium is used in water softener treatment systems, disinfectants, and pH adjustment to produce industrial chemicals. Sodium salts are used in snow/ice control and production of paper, glass, soap, pharmaceuticals, chemical and food.

Along the coast, seawater can influence the amount of sodium in groundwater. This is known as saltwater intrusion.

How does sodium get in my private well water?

Sodium can enter your private well water from erosion of rocks underground. Rain may wash sodium from de-icing salts and industrial activities on the surface to groundwater. Water softener treatment systems increase the amount of sodium in water.

How can sodium affect my health?

Sodium is an essential element, meaning your body needs it in small amounts. It helps with regulation of osmolarity and fluids within the body. However, drinking high levels of sodium may cause adverse health effects. You can't see or smell sodium. Sodium may have a detectable taste.

Drinking high levels of sodium over short periods can lead to hypertension.

Higher levels of sodium can cause:

- Vomiting
- Nausea
- Gastrointestinal issues
- Muscular twitch
- Convulsions

Drinking high levels of sodium over long periods may lead to death.

What level of sodium should I be concerned about?

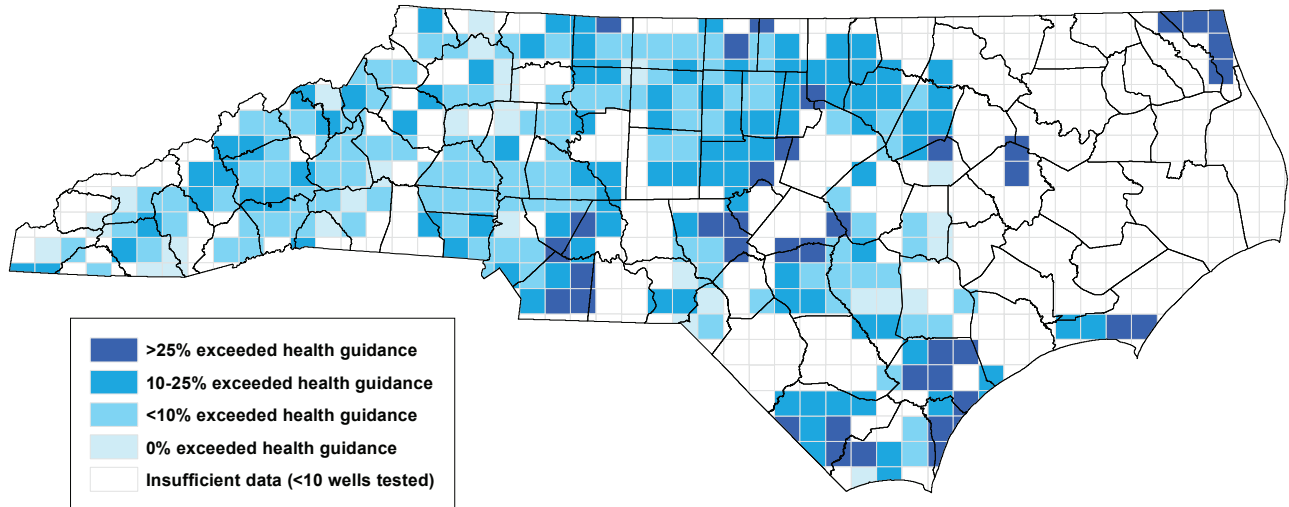
The **US Environmental Protection Agency** developed a health advisory of **20 milligrams of sodium per liter of water (mg/L)**. Health advisories are non-enforceable guidance levels developed to protect public health. This advisory level was developed to protect the development of hypertension for people on restricted sodium in 2003.

In addition, the **US Environmental Protection Agency** developed an aesthetic standard of **30-60 mg/L**. This standard was developed to prevent a salty taste.

How do I test for sodium in my private well?

Use a certified lab to test your well water for sodium every two years, as part of the inorganic panel screen. Contact the private well program at your county health department to assist you with getting your water tested. Pricing of testing varies from county to county.

Percent of Private Wells Tested Exceeding Federal Guidance for Sodium, 2011-2013



Where is sodium found in NC?

Sodium is found at varying levels (1-3,900 mg/L) throughout NC. **About 14%** of wells sampled for sodium in NC from 2011 to 2013 exceeded the federal advisory level (20 mg/L). Yet, there are several areas in NC with more than 25% of wells exceeding the federal guidance. See map for areas with elevated sodium.

What if my sodium levels are high?

If you are concerned about the taste of your well water or have a preexisting condition, you can install a treatment system to reduce the levels of sodium in your private well. Treatment systems that reduce the levels of sodium in your well water include:

- Distillation
- Reverse osmosis

You can also reduce your exposure by using bottled water or connecting to public water supply, if possible.

Where can I find more information about sodium and my well?

Visit the NC Division of Public Health's Private Well and Health Program website: <http://epi.publichealth.nc.gov/oeep/programs/wellwater.html>.

There you can find:

- Contacts for your county private well program
- Sodium in well water maps
- A guide for selecting a treatment system
- Other private well resources

You can also call the Private Well and Health Program at 919-707-5900.

Where did this information come from?

World Health Organization: www.who.int/water_sanitation_health/dwq/chemicals/sodium.pdf

US Environmental Protection Agency: www.epa.gov/sites/production/files/2014-09/documents/support_cc1_sodium_dwreport.pdf

US Geological Survey: <http://water.usgs.gov/ogw/gwrp/saltwater/salt.html>

