Chloride & PRIVATE WELLS

What is chloride?

Chloride is a form of chlorine gas, a natural element. In the environment, chloride is found as salts bound to sodium, potassium, or calcium. Chloride is found in rocks deep underground, soil, and water.

Chloride is used to produce industrial chemicals. Chloride salts are used in fertilizers and snow/ice control.

How does chloride get in my private well water?

Chloride can enter your private well water from erosion of rocks underground and septic tank seepage. Rain may wash chloride from de-icing salts and industrial activities on the surface to groundwater. Chloride may be present after chlorination of your well, a procedure used to disinfect wells.

How can chloride affect my health?

Chloride is an essential element, meaning your body needs it in small amounts. It helps with regulation of fluids within the body as well as many protein functions like energy production, skin pigmentation, and connective tissue maintenance and repair. You can't see or smell chloride. Chloride may have a detectable taste.

Only people with preexisting conditions, like kidney damage, may be affected by drinking high levels of chloride as it may cause edema, the buildup of fluids within the body and worsen kidney disease.

What level of chloride should I be concerned about?

The **US Environmental Protection Agency** and **NC Department of Environmental Quality** developed an aesthetic standard of **250 mg/L**. This standard was developed to prevent a salty taste in water.

How do I test for chloride in my private well?

Use a certified lab to test your well water for chloride. Contact the private well program at your county health department to assist you with getting your water tested. Chloride can be measured as part of the inorganic panel screen. Pricing of testing varies from county to county.

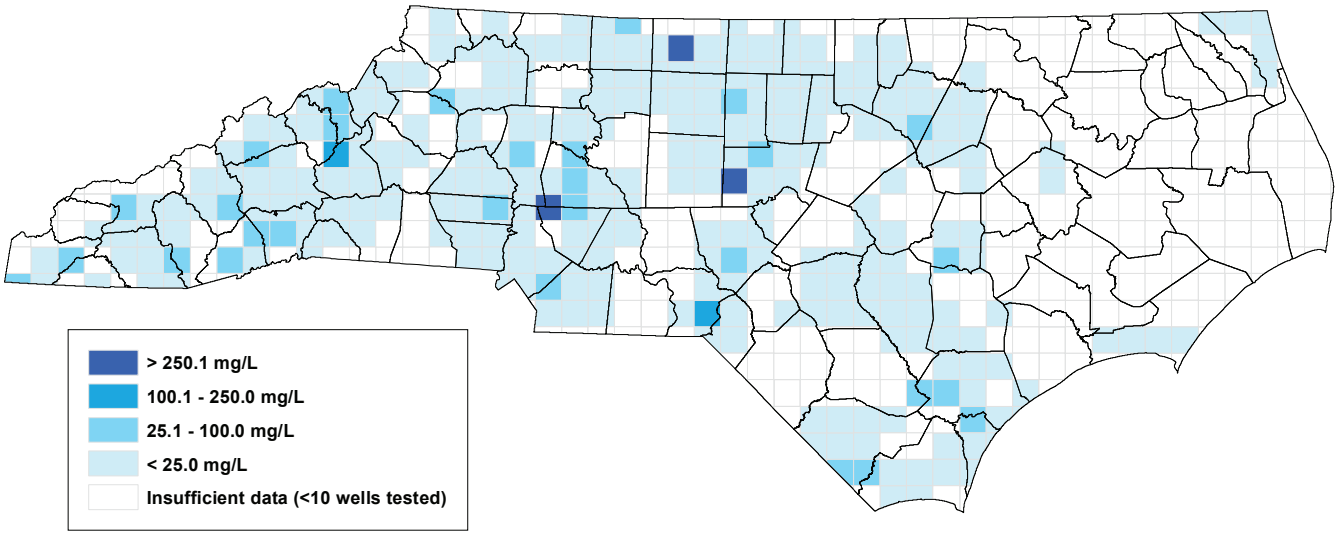
What if my chloride levels are high?

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 chloride in your private well. Treatment systems that reduce the levels of chloride 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.

Private Well Median Concentration of Chloride, 2011-2013



Where is chloride found in NC?

Chloride varies across NC (5-6,000 mg/L), see map for areas with elevated chloride (> 250 mg/L).

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

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

There you can find:

- Contacts for your county private well program
- Chloride 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/chloride.pdf

National Sanitation Foundation: www.nsf.org/consumer-resources/what-is-nsf-certification/water-filters-treatment-certification/contaminant-reduction-claims-guide

Glenn T. Nagami, University of California- Los Angeles *Hyperchloremia – Why and How* 2016: https://doi.org/10.1016/j.nefro.2016.04.001