

# Sulfate & PRIVATE WELLS

## What is sulfate?

Sulfate is a form of sulfur, a natural element. Sulfate is found in rocks deep underground, mineral deposits and soil. Sulfate is found in the environment joined to other elements like sodium, calcium and magnesium. These form sulfate salts or sulfates.

Sulfates are used to produce fertilizers, chemicals, dyes, glass, paper, soaps, textiles, pesticides, and some medical supplies. Sulfates are also used in mining, metal industries, sewage and drinking water treatment.

## How do sulfate get in my private well water?

Sulfate can enter your private well water from erosion of rocks and minerals underground. Rain may wash sulfate from soil on the surface to groundwater. Sulfate can also enter groundwater from industrial practices.

## How can sulfate affect my health?

Sulfate is not an essential element, meaning your body does not need it. You can't smell or see sulfate. Sulfate may have a detectable salty taste. Drinking high levels of sulfate can have a laxative effect.



## What level of sulfate 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.

## How do I test for sulfate in my private well?

Use a certified lab or purchase test kits at your local home improvement store to measure sulfate in your well water. 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.

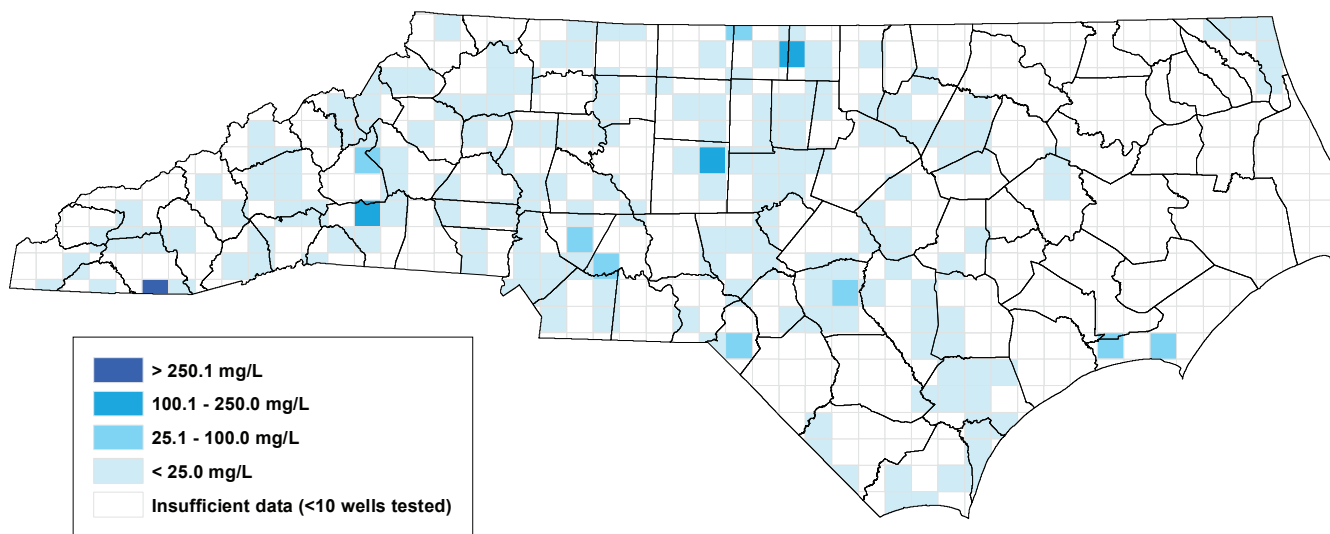
## What if my sulfate levels are high?

If you are concerned about possible laxative effect or the taste of your well water, you can install a treatment system. Treatment systems that reduce the levels of sulfate 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 Sulfate, 2011-2013



### Where is sulfate found in NC?

Sulfate varies across NC (5 -1,800 mg/L), see map for areas with elevated sulfate (>250 mg/L).

### Where can I find more information about sulfate 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
- Sulfate 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?

**US Environmental Protection Agency:** [www.epa.gov/sites/production/files/2014-09/documents/support\\_cc1\\_sulfate\\_healtheffects.pdf](http://www.epa.gov/sites/production/files/2014-09/documents/support_cc1_sulfate_healtheffects.pdf)

**World Health Organization:** [www.who.int/water\\_sanitation\\_health/dwq/chemicals/sulfate.pdf](http://www.who.int/water_sanitation_health/dwq/chemicals/sulfate.pdf)

**National Sanitation Foundation:** [www.nsf.org/consumer-resources/what-is-nsf-certification/water-filters-treatment-certification/contaminant-reduction-claims-guide](http://www.nsf.org/consumer-resources/what-is-nsf-certification/water-filters-treatment-certification/contaminant-reduction-claims-guide)

