

# Lead & PRIVATE WELLS



## What is lead?

Lead is a natural element found in rocks deep underground and soil. Most of the lead found in the environment is due to human activities including burning fossil fuels, mining, and industrial activities.

Lead compounds are used to make batteries, cable sheathing, pigments, rust inhibitors, ammunition, and plastic stabilizers. Lead is also used to make solder and brass fittings used in all components and home plumbing.

## How does lead get in my private well water?

Lead compounds can enter your private well water from erosion of rocks underground or leaching from well components or home plumbing. Lead can also enter groundwater from industrial practices.

Acidic water (water with low pH) can make lead compounds more soluble.

## How can lead affect my health?

Lead is not an essential element, meaning your body does not need it. You can't see, smell, or taste lead.

Drinking high levels of lead over short periods of time can lead to:

- Changes in mood
- Stomach cramps
- Muscle tremors
- Weakness in finger, wrist, or ankles

Higher levels of lead can cause kidney and brain damage. Drinking lead over long periods of time may cause reduced nervous system function affecting memory, behavior, and attention span.

## What level of lead should I be concerned about?

The **US Environmental Protection Agency** developed a public drinking water standard of **0.015 milligrams of lead per liter of water (mg/L)**. Public drinking water standards are based on public health protection and cost of treatment/testing at large utilities. This standard was developed with consideration of best treatment technology for a public water system in 1991 and was validated in 2017.

The **NC Department of Environmental Quality** adopted the same level in 2013.

There are no other standards for lead, however the **US Environmental Protection Agency** and **US Center for Disease Control and Prevention** state that no lead level is safe.

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

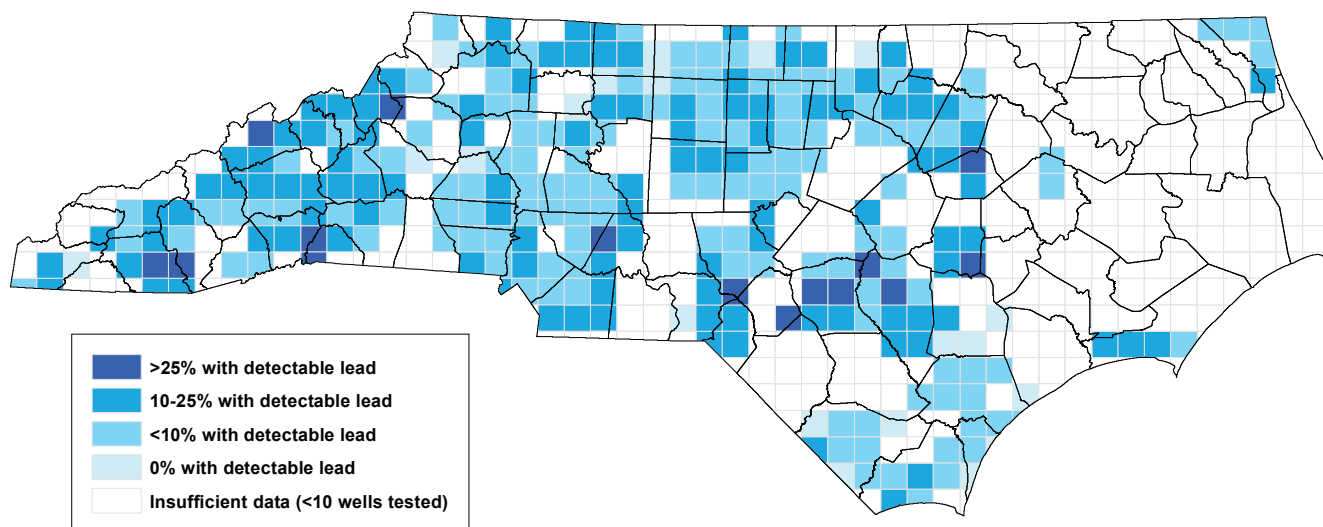
Use a certified lab to test your well water for lead every two years, as part of the inorganic panel screen. Contact the private well program at your county health department to assist you with getting your water tested. Pricing of testing varies from county to county.

## What if my lead levels are high?

You can install a treatment system to reduce the levels of lead in your private well. Treatment systems that reduce the levels of lead in your well water include:

- Activated carbon filtration
- Distillation
- Reverse osmosis

## Private Wells with Detectable Lead, 2011-2013



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

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

### Where is lead found in NC?

Lead is found at low levels (0.005-0.701 mg/L) throughout NC. **About 3%** of wells sampled for lead in NC from 2011 to 2013 exceeded the federal/state standard (0.015 mg/L). Yet, there are several areas in NC where at least 10% of wells sampled had detectable lead. See map for areas with detectable levels of lead.

### Where can I find more information about lead 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
- Lead in well water maps
- A guide for selecting a treatment system
- Other private well resources

### Where did this information come from?

**Center for Disease Control and Prevention:**

[www.cdc.gov/nceh/lead/](http://www.cdc.gov/nceh/lead/)

**Agency for Toxic Substances & Disease Registry:**

[www.atsdr.cdc.gov/toxfaqs/tfacts13.pdf](http://www.atsdr.cdc.gov/toxfaqs/tfacts13.pdf)

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

**Water Quality Association:** [www.wqa.org/Portals/0/Technical/Technical%20Fact%20Sheets/2016\\_Lead.pdf](http://www.wqa.org/Portals/0/Technical/Technical%20Fact%20Sheets/2016_Lead.pdf)

