

# LEAD & WELL WATER

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## What is Lead?

Lead is a highly toxic dull gray metal that is soft enough to be easily scratched with a house key. Lead can be in paint, dust, soil, air, food, and drinking water. EPA estimates that drinking water can make up 20 percent or more of a person's total exposure to lead. Infants who consume mostly mixed formula can receive 40 percent to 60 percent of their exposure to lead from drinking water.

Lead can get into your water as it flows through your plumbing system. Corrosion can cause lead to leach from lead pipes, lead-based solder pipe joints, and brass alloy faucets. Low pH (acidity), low mineral content, and high salt content in water are common causes of corrosion.

Lead pipes were used in water systems until the early 20th century. However, lead-containing solder, service lines, and plumbing components continued through the mid 1980's. In 1986, these were banned from new plumbing systems, but they remained in drinking water infrastructure and homes throughout much of the country.

To help further reduce the risk of lead contamination in homes and drinking water across the U.S., in 2011, Congress passed the Reduction of Lead in Drinking Water Act (RLDWA) revising the definition of lead free by lowering the maximum lead content of the wetted surfaces of plumbing products (such as pipes, pipe fittings, plumbing fittings and fixtures) from 8% to a weighted average of 0.25%, establishing a statutory method for the calculation of lead content and eliminating the requirement that lead free products be in compliance with voluntary standards established in accordance with SDWA 1417(e) for leaching of lead from new plumbing fittings and fixtures.

On September 1, 2020, the U.S. Environmental Protection Agency (EPA) published the final regulation, [\*Use of Lead Free Pipes, Fittings, Fixtures, Solder, and Flux for Drinking Water\*](#). The final rule requires that manufacturers or importers certify that their products meet the requirements using a consistent verification process within 3 years of the final rule publication date in the Federal Register.

For more information on the new lead regulations, refer to our [wellcare®](#) information sheet [Reduction of Lead in Drinking Water Act](#).

## What are the health effects of Lead?

The U.S. Environmental Protection Agency (EPA) reports that the health effects of lead are most severe for infants and children because the physical and behavioral effects of lead occur at lower exposure levels in children than in adults. Exposure to lead in drinking water can result in delays in physical or mental development. For adults, it can result in kidney problems or high blood pressure.

While EPA does not regulate lead in private household water systems, the agency requires public water systems to take action to reduce corrosivity of water if more than 10 percent of tap water samples exceed .015 parts per million (ppm). EPA also sets a Maximum Contaminant Level Goal (MCLG) for lead in drinking water at zero. MCLGs allow for a margin of safety and are non-enforceable public health goals. Well owners are encouraged to use this level as a guideline for when well water should be treated.

If you suspect contamination or experience illness, stop drinking or cooking with the water immediately, and do not resume use until testing has proven it to be safe. Always seek the advice of your medical doctor if you have any health concerns.

## How do I test for Lead?

You cannot see, taste, or smell lead in water. Testing is the only way to know if lead is in your drinking water. You should be concerned if your home was built before 1986, has non-plastic plumbing, or if you see signs of corrosion (frequent leaks, rust-colored water, or blue/green staining). Your licensed well contractor, plumber, or local health department may also have useful information, including whether the connections used in your home or area contain lead. Additional water tests may be recommended with the lead test like copper, hardness, pH, and salts.

To find out what to test for and to obtain a list of certified laboratories in your area contact the [wellcare®](#) Hotline at 1-888-395-1033, your local health department, county extension office, or use [our interactive map](#).

A few tips if you suspect lead in your drinking water or have a positive lead test:

- Do not consume water that has been in contact with your home's plumbing for more than six hours, such as overnight or during your workday. Before using water for drinking or cooking, "flush" the cold-water faucet by allowing the water to run until you can feel that the water has become as cold as it will get. You must do this for each drinking water tap. Taking a shower will not flush your kitchen tap. Flushing is important because the longer water is exposed to lead pipes or lead solder, the greater the possibility of lead contamination. The water that comes out after flushing will not have been in extended contact with lead pipes or lead solder.

**\*\*Don't waste the water that was flushed, usually one to two gallons. Use it for non-consumptive purposes, such as washing dishes or clothes or watering plants.\*\***

- Do not cook with or consume water from the hot water tap. Hot water dissolves lead more quickly than cold water. If you need hot water, draw water from the cold tap and heat it on the stove or in the microwave. Use only thoroughly flushed water from the cold tap for any consumption.

**\*\*Note: Boiling water will not remove copper and will only concentrate the contaminant in your water.\*\***

## What is the treatment for Lead in well water?

Well owners can treat their water to make it less corrosive. There are also several treatment devices available to reduce lead in drinking water such as activated alumina, carbon filtration, cation exchange, distillation, and reverse osmosis. Treatment systems should be certified by NSF or Water Quality Association (WQA) when available. To find treatment systems that are certified visit [NSF](#) or [WQA](#) websites. It is necessary to maintain treatment devices as specified by the manufacturer or your water treatment professional. You should also retest your water after treatment is installed and after maintenance to confirm the effectiveness of the device. Contact a certified water treatment professional for guidance. To locate a certified water treatment professional in your area, visit [WQA's](#) website.

The most effective, but also most expensive way to remove lead is by replacing plumbing and components with plastic. PEX and PVC are commonly used in household plumbing. Contact your licensed plumber to discuss options.

## For More Information on Lead & Well Water

Contact your licensed well contractor, local health department, state environmental agency, or the [wellcare®](#) Hotline.



## Information to help maintain and protect your water well system:

[wellcare®](#) is a program of the [Water Systems Council \(WSC\)](#). WSC is the only national organization solely focused on protecting the health and water supply of an estimated 23 million households nationwide who depend on private wells (according to the U.S. EPA).

This publication is one of more than 100 [wellcare®](#) information sheets available FREE at [www.watersystemscouncil.org](http://www.watersystemscouncil.org).

Well owners and others with questions about wells and well water can contact the [wellcare®](#) Hotline at 1-888-395-1033 or visit [www.wellcarehotline.org](http://www.wellcarehotline.org) to fill out a contact form or chat with us live!

## JOIN THE WELLCARE® WELL OWNERS NETWORK!

By joining the FREE [wellcare®](#) Well Owners Network, you will receive regular information on how to maintain your well and protect your well water.

Contact us at 1-888-395-1033 or visit [www.wellcarehotline.org](http://www.wellcarehotline.org) to join!