

wellcare® information for you about

Lead in Drinking Water

What is Lead?

Lead is a highly toxic metal that was used for many years in products found in and around homes, including plumbing pipes and fittings.

Lead can get into your water after the water leaves your well and as it travels through your plumbing system. Leaching from lead pipe, lead-based solder pipe joints and brass alloy faucets is caused by corrosion, a reaction between water and the lead pipes or solder. Low pH (acidity), low mineral content, and high salt content in water are common causes of corrosion. All kinds of water may have high levels of lead. However, lead is rarely found in groundwater because lead binds in the soils.

What are the health effects of Lead?

At a minimum, The U.S. Environmental Protection Agency (EPA) reports that the health effects of lead are most severe for infants and children. Exposure to high levels of 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. Although the main sources of exposure to lead are ingesting lead paint chips and inhaling lead dust, EPA estimates that 10 to 20 percent of human exposure to lead may come from lead in drinking water. Infants who consume mostly mixed formula can receive 40 to 60 percent of their exposure to lead from drinking water.

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 15 parts per billion (ppb).

How do I test for Lead?

You should have your water tested for lead. Contact your local health department for a list of state certified laboratories in your area. Because you cannot see, taste or smell lead in water, testing is the only sure way to tell if there are harmful quantities of lead in your drinking water.

You should be concerned if your home has lead pipes (lead is a dull gray metal that is soft enough to be easily scratched with a house key), if you see signs of corrosion (frequent leaks, rust-colored water, or stained dishes or laundry), or if your non-plastic plumbing is less than five years old. Your plumber or water well professional may have useful information, including whether or not the connections used in your home or area contain lead.

What is the treatment for Lead in drinking water?

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

- Use only cold water for drinking and cooking.
- Run water for 15 to 30 seconds before drinking it, especially if you have not used your water for a few hours.
- Take steps to reduce the corrosivity of your household water.
- Consider point-of-use filters on household faucets in the kitchen and bath.
- Address the presence of lead in your household plumbing.

Refrain from consuming water that has been in contact with your home's plumbing for more than six hours, such as overnight or during your work day. 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.

Once you have flushed a tap, fill one or more bottles with water and put them in the refrigerator for use later in the day. 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.

Also, never cook with or consume water from the hot-water tap. Hot water dissolves more 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.

Well owners also can treat their water to make it less corrosive. Corrosion control devices include calcite filters and other devices. Calcite filters should be installed in the line between the well and any lead-soldered pipe. Contact your well professional for help finding these products.

There also are a number of water filtering devices available. These employ media, such as carbon, ion exchange resins or activated alumina to filter lead from water. Remember to replace the filter periodically, as specified by the manufacturer. The effectiveness of these devices to reduce lead exposure at the tap can vary greatly. Before purchasing a filter, verify the lead treatment claims made by the vendor by researching the product on the Water Quality Association website www.wqa.org and the NSF International website www.nsf.org.

How can I tell if Lead is in my household plumbing?

Lead-contaminated drinking water is most often a problem in houses that are either very old or very new. Up through the early 1900's, it was common practice in some areas of the country to use lead pipes for interior plumbing. Plumbing installed before 1930 is most likely to contain lead.

Copper pipes have replaced lead pipes in most residential plumbing. However, the use of lead solder with copper pipes was widespread. Experts regard this lead solder as the major cause of lead contamination of household water in U.S. homes today. Solder is a metallic compound used to seal joints in plumbing. Until 1986, most solder contained about 50 percent lead. New brass faucets and fittings can also leach lead, even though they are labeled “lead-free.”

The EPA’s scientific data indicate that the newer the home, the greater the risk of lead contamination. Lead levels decrease as a building ages. This is because, as time passes, mineral deposits form a coating on the inside of the pipes, if the water is not corrosive. This coating insulates the water from the solder. But during the first five years, before the coating forms, water is in direct contact with the lead.

New Laws Regarding Lead in Drinking Water

To help further reduce the risk of lead contamination in homes and drinking water across the U.S., effective January 4th, 2014, the new Federal Public Law 111-380-Jan. 4, 2011, an amendment to the Safe Drinking Water Act and commonly known as “Reduction of Lead in Drinking Water Act” states the maximum allowable lead content in “lead-free” pipes, pipe or plumbing fittings, fixtures, solder, or flux intended to convey or dispense water for human consumption through drinking or cooking is as follows:

- **Max 0.2 % lead in solder and flux;**
- **Max 0.25 % lead in wetted surfaces** of pipes, pipe fittings, plumbing fittings and fixtures, as determined by a weighted average.

For more information on the new lead regulations see our wellcare® information sheet on the *Reduction of Lead in Drinking Water Act*.

FOR MORE INFORMATION to help you maintain your well and protect your water supply



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 the 43 million people nationwide who depend on household wells for their water supply.

This publication is one in a series of wellcare® information sheets. There are more than 90 information sheets available FREE at www.watersystemscouncil.org.

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