



## Information: New Hampshire Water Well Association

*Information in this document is provided in good faith to inform the public about groundwater and water wells. Well owners should ensure that their well contractor has obtained permits (if required) and has referred to local codes, rules, regulations and laws for site selection, construction, maintenance and operation of water wells and water system equipment.*

# MIGHT THERE BE LEAD IN MY WELL WATER?

The quick answer is that it is most unlikely that the groundwater supplying wells in New Hampshire contains any lead. However, lead in drinking water is not good news. It is easy to test for lead, and not difficult to solve problems from lead in drinking water. A water well contractor will be able to advise you on water treatment options and/or will be able to refer you to a laboratory or water conditioning specialist.

There are very few places in New Hampshire where the natural geological occurrence of lead has an impact on groundwater. If there are occurrences of lead detected in a water supply the real culprit is much more likely to be old plumbing fittings. Historically, lead was used extensively in the manufacture of water pipes, as a component of solder, in brass plumbing fittings, and in some types of faucets and fixtures. Plumbing installed in homes prior to 1930 typically contained some lead. Lead-based solder was often used with copper pipes prior to 1987 when its use was banned. The term "lead free" means that solders and flux may not contain more than 0.2 percent lead, and that pipes and pipe fittings may not contain more than 8.0 percent lead.

There is clear medical evidence that lead is harmful. Children under the age of six are most sensitive to lead in drinking water and lead exposure can result in physical and mental developmental issues. For adults, high lead concentrations in drinking water can result in high blood pressure or kidney problems. Lead is also classified as a probable human carcinogen. Most household danger from lead results from breathing in dust particles from old lead based paint. The principal health concern related to lead in drinking water arises when water comes in contact with old lead pipes or with plumbing that has lead-based solder to join pipes. The drinking water health risk problem in homes may occur when water is acidic, (pH below 7) and can dissolve small quantities of lead. Homeowners should check the pH of their well water, especially houses built before 1987 (when lead solder was banned). Over time, mineral deposits in home plumbing will often form a coating on the inside of the pipes and so will help protect the pipe from corrosion.

The amount of lead that may be leached from plumbing also depends on the types and amounts of minerals in the water, how long the water stays in the pipes, the amount of wear in the pipes, the water's acidity and its temperature. The hot water pipes are more likely to leach lead than the cold water pipes. Controlling the pH of your water is usually less expensive than replacing your plumbing system. Keeping your water at or around a pH of 7 can be achieved by using water conditioning equipment that increases the alkalinity of water by passing it through granular lime or calcium carbonate particles. Carbon filters can remove lead from water. Before resorting to an expensive treatment solution do a repeat water test for lead and pH.

Many hardware stores sell do-it-yourself lead testing kits although a certified water-testing laboratory will provide a more accurate lead test. Lead tests should be taken in the kitchen first thing in the morning. You want to sample the water that has been in contact with the pipes overnight. DON'T run the tap before taking a water sample for a lead test. If the water sample test result shows a level of lead above the EPA action limit of 15 parts per billion you should seek advice.

Because you cannot see, taste, or smell lead dissolved in water, testing is the only sure way of telling whether there may be harmful quantities of lead in your drinking water.

©AGWT 2013

**A licensed water well contractor – your best source for information**