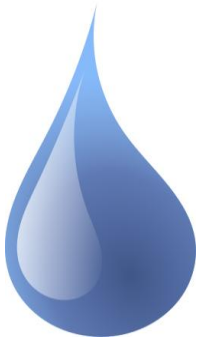

Testing well water for lead and EPA "action limits"

It is important to have your well water tested if a problem is suspected. Contact the Frederick County Health Department to ask about testing your well water for lead. The EPA's "action limit" for lead in drinking water is 15 parts per billion of lead.

Testing should consist of two samples. The first sample should be the first draw after water has been sitting in the pipes overnight. This first sample will show a combination between lead in the ground water and lead due to pipes. The second sample should be taken after the system has been flushed for about 30 minutes, like after a morning routine. This second sample will show the amount of lead that is present in the ground water, since the pipes in the house have been flushed.

Frederick County Health Department

Environmental Health
350 Montevue Lane
Frederick, MD 21702
301-600-1717

♦♦For questions or concerns about water quality or test results

There are two Maryland State Certified Water Laboratories in Frederick County. For additional information concerning pricing and types of testing, you may contact each laboratory at the following:

Catoctin Labs, Inc.
8609 Apples Church Rd.
Thurmont, MD 21788
(P): 301-663-5323 or
(P): 800-426-5227

Fredericktowne Labs, Inc.
3020C Ventrie Ct.
Myersville, MD 21773
(P): 301-293-3340 or
(P): 301-694-7133

September 2012

Lead in Well Water

Prevent, Promote, Protect

Frederick County Health Department

Tel: 301-600-1717

Lead in Well Water

Lead is a bluish-gray metal that is naturally occurring in small amounts in the ground but it can be found in all parts of the environment. Human activities (burning fossil fuels, mining and manufacturing) contribute to a large portion of the lead in the environment.
Lead has many uses in products that people encounter daily; batteries, ammunition, metal products (pipes & solder) and x-ray shields. However, due to health concerns, lead has been removed from several products; paint, ceramic products, caulking, pipe solder and gasoline.

What happens to lead when it enters the environment?

Lead can be naturally occurring in the soil and rocks or introduced into nature from a pollutant. Lead is a stable element and does not break down but lead compounds are changed by air, water and sunlight. Lead can travel long distance though the air before settling to the ground. Once on the ground, the lead will form compounds with particles in the soil. The movement of these lead compounds through the soil to ground water depends on the type of lead compound and soil characteristics.

Where and how does lead get into drinking water?

Lead can enter drinking water from two points; ground water or distribution system. The most common of these is the distribution system which consists of well pump, lead "packers" above the well screen, pipes in the house, lead solder and other components (faucets, valves or fittings). Water with low pH can erode the above components causing lead to leach into the drinking water. Lead in drinking water is rarely from the ground water, due to lead forming stable compounds in the soil.

How can lead effects human health?

Almost every organ and system in the body can be affected by lead; however, the nervous system is the main target of lead toxicity. The effect of the lead on the nervous systems varies depending on the age; health of the person; the level, length, and frequency of exposure. Children, who are exposed to high lead levels over time, can experience brain damage and physical growth delays; while high levels of lead in pregnant women can cause miscarriages. Healthy adults exposed to high levels of lead can have a decrease in the function of their nervous system and weakness in fingers, wrists and ankles.

How to remove lead from well water?

It is important to know where the lead is coming from; plumbing or ground water. If the lead is coming from the plumbing then let water run for 2 -3 minutes to flush the pipes before consuming the water. Boiling the water will not remove the lead and will concentrate the lead. Never use hot tap water for cooking or preparing baby bottles. Removal of the lead pipes is an option to remove lead from your water system. If the lead is in non-accessible pipes or in the ground water, then a lead removal system can be installed.

Additional Information about Lead in Well Water

- http://epi.publichealth.nc.gov/oii/pdf/Lead_WellWaterFactSt.pdf
- http://www.health.state.mn.us/divs/eh/wells/waterquality/lead.html
- http://www.cdc.gov/healthywater/drinking/private/wells/disease/lead.html
- http://water.epa.gov/drink/info/lead/lead1.cfm
- http://www.atsdr.cdc.gov/tfacts13.pdf