



WHITE WATER
ASSOCIATES, INC.

LEAD IN DRINKING WATER

Web: <http://white-water-associates.com>

Phone: (906) 822-7889, Fax: -7977



LEAD

- **A common metal found throughout the environment in lead-based paint, air, soil, household dust, food, and water**
- **Elevated levels can contribute to:**
 - **Damage to the brain, red blood cells, and kidneys**
- **Enters the drinking water system as a result of:**
 - **Corrosion or wearing away of lead containing components**
- **Factors which contribute to the concentration of lead in your water:**
 - **Plumbing system, temperature, pH, and usage**



LEAD PLUMBING

- **1986 - Homes built before 1986 likely to have lead plumbing, specifically in the solder**
 - **After 1986 “Lead Free” pipes still contained lead up to 8%**
- **Jan 1, 2014 – New requirement set limit at 0.25%**
 - **All newly installed faucets, fixtures, pipes, and fittings must meet this**
- **However...**
 - **That doesn’t apply to existing fixtures that are found in many older homes and public water suppliers**
 - **Imported plumbing components for sale in the US are not “Lead Free” and can contain significant amounts of lead**



COMMON CAUSES OF ELEVATED LEVELS

- **Lead pipes** – the major contributor
- **Lead solder** – used in the past to join copper pipes - illegal since 1986
- **Brass components** in faucets, coolers, and valves
 - Brass is a copper/zinc alloy, but can contain up to 8% lead
 - Brass can dissolve lead into the water, especially during the first few months of use
 - If you have new components, flush water before drinking
 - **Lead packers in wells** – before 1995 submersible pumps contained lead packers to seal above the well screen and leaded brass components.



WATER TESTING

- **Testing your water is the only way to determine the lead levels in it.**
- **It may require one or more water samples, depending on how much you want to learn about your situation.**
- **A 1 liter bottle is required for lead and copper analysis. This volume will give you a representative sample of what has been sitting in your water lines overnight.**
- **Warm or hot water can have much higher lead levels than cold water. Don't use hot water tap for taking the sample or for making baby formula.**



TAKING A SAMPLE

- **Sample the first water out of the tap in the morning from your most common cold water tap used.**
 - **Water in the lines needs to sit overnight to see how much lead dissolves.**
- **If the results indicate that levels are below 15 ppb, a short morning flush should remove low lead levels.**
- **If levels are above 15 ppb, flush the faucet for a minute or two and collect another sample for testing. This test result will show if the flushing was long enough to reduce the lead levels.**



WATER TREATMENT

- **Point-of-Use Systems**

- **Reverse Osmosis (RO) devices – Uses a membrane with tiny pores to screen out contaminants**
- **Distillation unit – Boils the water and condenses the steam in another container leaving the lead behind**
 - **WARNING! – Boiling the water in a pan will not purify the water, it will only concentrate the amount of lead in your water.**
- **With any type of system, regular maintenance is essential. Failure to properly maintain will reduce its effectiveness and, in some cases, make the water quality worse.**



ORDER A LEAD SAMPLE KIT

- **Lead in drinking water can be tested at White Water Associates laboratory**
- **A test kit includes a one liter plastic bottle, mailer envelope, sampling instructions and chain of custody form**
- **Order bottles by emailing or calling (906) 822-7889**
- **Cost for analysis of lead is \$15 per sample**



REFERENCES

- <http://www.health.state.mn.us/divs/eh/wells/waterquality/lead.html>
- <http://www.cdc.gov/healthywater/drinking/private/wells/disease/lead.html>
- <http://www.cnn.com/2016/01/21/health/lead-testing-home-drinking-water/index.html>
- http://michigan.gov/documents/deq/FS_6_Lead_Copper_2012_429692_7.pdf
- <http://white-water-associates.com/>