

Lead Awareness & Drinking Water Safety

The unfortunate circumstances that happened in Flint, Michigan and other communities across the country have created a growing concern among consumers regarding the safety of their tap water. The potential presence of lead in drinking water is a very serious health concern. This article will help provide information and education regarding to lead safety, and what residents can do to reduce their potential lead exposure from tap water.

What is Lead?

Lead is a bluish-gray, silvery metal, which has been commonly used for thousands of years because it is naturally occurring metal found throughout the environment, easy to extract, and easy to work with. Metallic lead beads have been dating back to 7000–6500 BCE. Lead is a highly poisonous metal and harmful neurotoxin, when ingested or inhaled can cause long term health effects. Yet mankind has used lead for a variety of purposes and applications such as cosmetics, jewelry, ammunition, paint, plumbing, plastics production and as a gasoline additive. Throughout the years the significant health hazards associated with lead have been recognized and its use progressively banned in the US since the 1970s.

How Is Lead In Drinking Water Regulated?

In 1991, the US EPA published the Lead and Copper Rule. This regulation sets “action levels” for lead and copper in water. Action levels are not health standards but are set to limit the amount of lead and copper in drinking water. This rule requires that all public drinking water systems regularly test a sample of high-risk homes for lead at the tap. If more than 10 percent of homes tested have lead concentrations higher than the US EPA “action level” of 15 parts per billion, the city would be required to notify area residents via newspapers, radio, TV, and other means. If the lead level remains consistently above the action level, the city must take additional steps to reduce lead in water.

The USEPA lead and Copper Rule can be found at:

<https://www.epa.gov/dwreginfo/lead-and-copper-rule>

The City of Wilmington’s drinking water fully complies with the standards set in the Federal Lead and Copper Rule. The City of Wilmington Water Treatment Plant reduces corrosion through the process of lime softening. The Wilmington Water Plant staff continuously monitors and regulates the hardness, alkalinity and pH of our finished water multiple times throughout each day seven days a week to insure proper corrosive preventive measures are being taken, This in turns reduces the potential amount of lead that can leech into the consumer's tap water from the existing service lines and or plumbing.

The City of wilmington lead and copper result can be found at:

http://water.epa.state.il.us/dww/JSP/LeadAndCopperSampleSummaryResults.jsp?tinwsys_is_number=718079&tinwsys_st_code=IL&begin_date=&end_date=&counter=0

How does lead get into drinking water?

Lead is rarely found in source water, however lead enters drinking water primarily as a result of corrosion or wearing away of materials in the water distribution system, household plumbing fixtures, lead piping, and or copper piping with lead solder. This can permit lead to leach into the home's water supply when water is left standing in the pipes for several hours. Homes built before 1930 are more likely to have lead plumbing systems. Homes built before January 1986 more likely to have lead pipes, fixtures, and or solder. Properties built after January 1986 most likely contain copper piping.

(Individual property owners are responsible for any repairs or replacements to the section of private service line that runs from the meter to the shutoff valve located near the street.)

What Are The Health Effects of Lead?

Exposure to lead can cause serious health problems if too much enters your body, whether it is from drinking water or from other sources. It can cause damage to the brain and kidneys, and can interfere with the production of red blood cells that carry oxygen to all parts of your body. Scientists have linked the effects of lead on the brain with lowered IQ in children. The primary sources of lead exposure for most children are deteriorating lead-based paint, lead- contaminated dust, and lead-contaminated residential soil. The greatest risk of lead exposure is to infants whose growing bodies tend to absorb more lead than the average adult could. Especially if formula is prepared with water containing elevated levels of lead. Adults with kidney problems and high blood pressure can be affected by low levels of lead more than healthy adults. Lead is stored in the bones, and it can be released later in life. During pregnancy, the child receives lead from the mother's bones, which may affect brain development.

How Can I Reduce The Exposure to Lead in Drinking Water?

1. **Flush your pipes prior to using water for drinking or cooking.** If water hasn't been used for several hours, run water from your kitchen tap or whatever tap you use for drinking, cooking, and preparing baby formula for at least 3 minutes. The more time water has been sitting in your home's pipes, the more lead it may contain. Conserve water by using the flushed water to watering plants or to wash clothes. After flushing the tap line, you can also fill and refrigerate additional containers for drinking or cooking for later use.
2. **Use cold water** for drinking, cooking, and preparing baby formula. **Do not boil water** to remove lead. Boiling water will not reduce lead. Do not cook, drink, or make baby formula from the hot water tap;
3. Bottled drinking water should be used by pregnant women, breastfeeding women, young children, and formula-fed infants at homes where lead has been detected at levels greater than 15 ppb.
4. **Use water filters or treatment devices.** There are an increasing number of cartridge-type water filtering devices that remove lead from drinking water. See Water filter and treatment devices for additional information.
5. **Remove and clean faucet aerators.** Lead particles and sediment can collect in the aerator screen located at the tip of your faucet. Aerators should be cleaned several times per year and replaced annually.
6. **Remove older plumbing fixtures and replace with lead-free fixtures.** Install fixtures and fittings that contain 0.25 percent lead or less.
7. **Replace lead service lines (pipes).** Replace your lead service line with copper pipe. See Water service Lines and Piping for additional information.

Water Filters and Treatment Devices

Today there are many options out there for at home water treatment devices. point-of-use filters such as faucet mounts and pitcher-style are less expensive and easier to maintain. Be sure that the water treatment device meets the National Sanitation Foundation (NSF) standards. For lead removal, filters must be certified to meet NSF Standard 53, and the filter package should specifically list the device as certified for removing the contaminant lead. Be sure to choose a type of filter that best suits your needs.

The NSF has a website specifically for water filters to remove lead. It can be found here:

http://info.nsf.org/Certified/DWTU/listings_leadreduction.asp?ProductFunction=053|Lead+Reduction&ProductFunction=058|Lead+Reduction&ProductType=&submit2=Search

Water Service Lines and Piping

The City of Wilmington strongly recommends that all residents remove any lead pipes and lead plumbing materials servicing their home. This may consist of the water service line running from the water main in the street into your home, interior plumbing pipes and fittings, and interior fixtures such as faucets. The water service pipe interior household plumbing is the exclusive responsibility of the property owner. Contact a certified plumber to inspect your residential service line and plumbing for lead.

A resident may be able to determine the type of material servicing their household by following the steps below. Most water service connection can be located in the basement, crawl space, utility room, or wherever the water meter may be located. Be sure to have a flathead screwdriver and a magnet.

1. Locate the water service pipe coming into your home. Typically, right after the water service line enters the resident, a shut-off valve and the water meter are installed.
2. Identify a test area on the pipe before the shut off valve or meter and after where it comes into the building. Make sure a small area of the metal pipe is exposed.
3. Use the flat edge of a screwdriver to scratch through any corrosion that might have built up on the outside of the pipe. If the scratched area is shiny and silver, and the magnet does not stick to the pipe, your service line may be lead

Other types of metal service lines include:

- Copper: has a color similar to that of a penny, and a magnet will not stick to a copper pipe.
- Galvanized Steel: has a dull grey color and the magnet will stick to the surface of the pipe.

How can you have your tested for lead?

A certified laboratory by the Illinois Environmental Protection Agency (IEPA) can be hired to perform an analysis of your home or business for lead. A list of certified laboratories is available from the IEPA Regional Office at (217) 557-8761.

ARRO Laboratory, Inc; Phone: (815) 727-5436; Email: info@arrolab.com;

Mail: ARRO Laboratory, Inc. P.O. Box 686 Joliet, IL 60434; 425 Caton Farm Road, Crest Hill, IL 60403 *Lead test cost around \$37.00*

Contact the laboratory prior to any sampling.

For additional Information on lead In drinking water

The City of Wilmington Water Department (815)-476-6732

Email: Darin Fowler at dgfowler@wilmington-il.com

Ryan Foster at rfoster@wilmington-il.com

Illinois Department of Public Health

Program Contact: Kert McAfee, Phone: 217-557-4519

Surveillance Contact: Eddie Simpson, Phone: 217-785-2366

Will County Health Department (815)-727-0561

Illinois Environmental Protection Agency

Jeri Long (217)-785-0561

The following websites contain additional information on lead in drinking water.

- [United States Environmental Protection Agency – Lead in Drinking Water](https://www.epa.gov/ground-water-and-drinking-water/basic-information-about-lead-drinking-water)
<https://www.epa.gov/ground-water-and-drinking-water/basic-information-about-lead-drinking-water>
- [Center for Disease Control – About Lead in Drinking Water](http://www.cdc.gov/nceh/lead/leadinwater/)
<http://www.cdc.gov/nceh/lead/leadinwater/>
- [AWWA – DrinkTap.org – Lead in Drinking Water](http://www.awwa.org/legislation-regulation/regulations/contaminants/lead-copper.aspx)
<http://www.awwa.org/legislation-regulation/regulations/contaminants/lead-copper.aspx>
- [USEPA – Federal Lead and Copper Rule](https://www.epa.gov/dwreginfo/lead-and-copper-rule)
<https://www.epa.gov/dwreginfo/lead-and-copper-rule>