



Basic Information on Lead in Drinking Water

Three Part Guide: How Lead Enters Drinking Water, Steps to Identify and Reduce Exposure, and Health Information

EPA Region 4 Drinking Water Section, October 2022

How Lead Enters Drinking Water:

- Lead can enter drinking water when corrosion occurs in plumbing materials that contain lead. Corrosion is the dissolving or wearing away of metal from the pipes and fixtures.
- The most common sources of lead in drinking water are lead pipes, faucets, and plumbing fixtures. Certain pipes that carry drinking water from the water source to the home (called a service line) may contain lead. Homes without lead service lines may still have brass or chrome-plated brass faucets, galvanized iron pipes, household plumbing fixtures, welding solder, and pipe fittings made prior to 1986, or other plumbing soldered with lead.
- Some drinking water fountains with lead-lined tanks and other plumbing fixtures not intended for drinking water (e.g., lab faucets, hoses, spigots, hand washing sinks) may also result in lead dissolving into the water.



Important Steps You Can Take to Reduce Lead in Drinking Water: If you are concerned about lead in water or know that your plumbing contains lead, you can take action to reduce the amount of lead in your drinking water and minimize your potential for exposure.

- **Find out if your tap water is contaminated with lead.** You cannot see, taste, or smell lead in drinking water. The best way to know your risk of exposure to lead in drinking water is to identify the potential sources of lead in your service line and household plumbing. Your local water authority is always your first source for testing and identifying lead contamination in your tap water. Ask your water provider if you have a lead service line providing water to your home. If you have a lead service line, ask if there are any programs to assist with removal of the lead service line going to your home. Understand that any work, such as water main or service line replacement, could increase exposure to lead while the work is ongoing and for up to six months after the work is completed. Ask to have your water tested. Many public water systems will test drinking water for residents upon request. There are also laboratories that are certified to test for lead in water. Understand that water sampling results can vary depending on the time of day, season, method of sampling, flow of water and other factors.
 - **Additional Guidance/Resources:** 1. Your Water Utility's Annual Water Quality Report (formally known as the Consumer Confidence Report); 2. "Protect Your Tap" EPA Guide (to determine if you have a lead service line) on the EPA website.



If you suspect a lead line, run water at a high volume tap. Everyone should run their kitchen tap to flush the line.



Consider using a water filter certified to remove lead. Know when to replace the filter.



Use only cold water for drinking, cooking and making baby formula. Boiling water does not remove lead.



Regularly clean your faucet's screen (also known as aerator).

- **Run your water.** When water stands in lead pipes or plumbing systems containing lead for several hours or more, the lead may dissolve into your drinking water. This means the first water drawn from the tap in the morning, or later in the afternoon if the water has not been used all day, may contain higher levels of lead. Before drinking, flush your home's pipes by running the tap, taking a shower, doing laundry, or doing a load of dishes. The amount of time to run the water will depend on whether your home has a lead service line or not, and the length of the lead service line. Residents should contact their water utility for recommendations about flushing times in their community.
- **Use cold water.** Use only cold water for drinking, cooking and making baby formula. Hot water can dissolve more lead more quickly than cold water. Remember, boiling water does not remove lead from water.
- **Clean your aerator.** Regularly clean your faucet's screen (also known as an aerator). Sediment, debris, and lead particles can collect in your aerator. If lead particles are caught in the aerator, lead can get into your water.
- **Use your filter properly.** If you use a filter, make sure you use a filter certified to remove lead. Read the directions to learn how to properly install and use your cartridge and when to replace it. Using the cartridge after it has expired can make it less effective at removing lead. Do not run hot water through the filter.
 - **Additional Guidance/Resource:** See EPA's guide to filter certification on the EPA website below.
- **Learn about construction in your neighborhood.** Be aware of any construction or maintenance work that could disturb your lead service line. Construction may cause more lead to be released from a lead service line.

Potential Health Effects of Lead in Drinking Water and What To Do If You Think Your Child Has Been Exposed:

- **Potential health effects from Lead in Water:** Because no safe blood level has been identified for young children, all sources of lead exposure for children should be controlled or eliminated. EPA has set the maximum contaminant level goal for lead in drinking water at zero because lead can be harmful to human health even at low exposure levels and can accumulate in the body over time. Risk will vary depending on the individual, the chemical conditions of the water, and the amount consumed. Infants who drink formula prepared with lead-contaminated tap water may be at a higher risk of exposure because of the large volume of water they consume relative to their body size. Bathing and showering should be safe for you and your children because human skin does not absorb lead in water.
- **Get Your Child Tested to Determine Lead Levels in Their Blood:** If you think that you or your child has been exposed to lead in water, contact your health care provider. Most children and adults who are exposed to lead have no symptoms. The best way to tell if you or your child has been exposed is with a blood lead test. Your health care provider can help you decide whether a blood lead test is needed and can also recommend appropriate follow-up actions if you or your child has been exposed. As levels of lead in the blood increase, adverse effects from lead may also increase.

Resources/Links to further information:

- EPA Website: www.epa.gov/ground-water-and-drinking-water/basic-information-about-lead-drinking-water
- EPA Protect Your Tap: <https://www.epa.gov/ground-water-and-drinking-water/protect-your-tap-quick-check-lead-0>
- CDC website:
- www.cdc.gov/nceh/lead/prevention/sources/water.htm?CDC_AA_refVal=https%3A%2F%2Fwww.cdc.gov%2Fnceh%2Flead%2Ftips%2Fwater.htm