

Drinking Water and Lead Contamination

How Lead Can Get Into Tap Water

Measures taken during the last two decades have greatly reduced exposures to lead in tap water. These measures include actions taken under the requirements of the 1986 and 1996 amendments to the Safe Drinking Water Act and the U.S. Environmental Protection Agency's (EPA's) Lead and Copper Rule.



Even so, lead still can be found in some metal water taps, interior water pipes, or pipes connecting a house to the main water pipe in the street. Lead found in tap water usually comes from the corrosion of older fixtures or from the solder that connects pipes. When water sits in leaded pipes for several hours, lead can leach into the water supply.

Health Effects

High levels of lead in tap water can cause health effects if the lead in the water enters the bloodstream and causes an elevated blood lead level. Most studies show that exposure to lead-contaminated water alone would not be likely to elevate blood lead levels in most adults, even with exposure to water with a lead content close to the EPA action level of 15 parts per billion (ppb). Risk will vary, however, depending on the individual, the circumstances, and the amount of water consumed. For example, ***infants who drink formula prepared with lead-contaminated water may be at a higher risk because of the large volume of water they consume relative to their body size.*** See the St. Clair County Health Department's "Lead Poisoning" Fact Sheet

How to Know if Tap Water is Contaminated With Lead

The only way to know whether tap water contains lead is to have it tested. ***Lead cannot be seen, tasted, or smelled in water.*** For homes served by public water systems, data on lead in tap water may be available on the Internet from local drinking water providers. If water provider does not post this information, call and find out.

Steps to Take to Reduce or Eliminate Lead in Tap Water

1. Does water have lead in it above EPA's action level of 15 parts per billion (ppb)?

-*If the answer is **no**, no action is needed.

-*If the answer is **yes**, ask the next question:

2. Does the service pipe at the street (header pipe) have lead in it?

This information is very important. It determines which of the next two actions (A or B) should be followed to protect the household's health.

- A) If the pipe in the street (header pipe) does NOT have lead, the lead in the tap water may be coming from fixtures, pipes, or elsewhere inside the home.

Until the source is eliminated, take the following steps any time tap water is used for drinking or cooking, especially when the water has been off and sitting in the pipes for **more than 6 hours**:

✓ **Before** using any tap water for drinking or cooking, flush water system by running the kitchen tap (or any other tap drinking or cooking water is taken from) on **COLD** for **1–2 minutes**;

✓ Then, fill a clean container(s) with water from this tap. This water will be suitable for drinking, cooking, preparation of baby formula, or other consumption.

B) If the pipe at the street (header pipe) **DOES** contain lead, lead in the tap water may be coming from that pipe or connected pipes (*it may also be coming from sources inside the home*).

Until the lead source is eliminated, take the following steps any time tap water is used for drinking or cooking, especially when the water has been off and sitting in the pipes for **more than 6 hours**. Please note that **additional flushing is necessary**:

✓ **Before** using any tap water for drinking or cooking, run high-volume taps (such as a shower) on **COLD** for 5 minutes or more;

✓ Then, run the kitchen tap on **COLD** for **1–2 additional minutes**;

✓ Fill a clean container(s) with water from this tap. This water will be suitable for drinking, cooking, preparation of baby formula, or other consumption.

3. In all situations, drink or cook only with water that comes out of the tap cold. Water that comes out of the tap **warm or hot can contain much higher levels of lead**. Boiling this water will NOT reduce the amount of lead in your water.

4. **Children and pregnant women are especially vulnerable to the effects of lead exposure**. Therefore, for homes with children or pregnant women and with water lead levels exceeding EPA's action level of 15 ppb, CDC recommends using bottled water or water from a filtration system that has been certified by an independent testing organization to reduce or eliminate lead for cooking, drinking, and baby formula preparation. Because most bottled water does not contain fluoride, a fluoride supplement may be necessary.

Bathing or Showering in Water with High Lead Levels

Bathing and showering should be safe for adults and children, even if the water contains lead over EPA's action level. Human skin does not absorb lead in water.

This information applies to most situations and to a large majority of the population, but individual circumstances may vary. Some situations, such as cases involving highly corrosive water, may require additional recommendations or more stringent actions. The local water authority is always the first source for testing and identifying lead contamination in tap water. Many public water authorities have websites that include data on drinking water quality, including results of lead testing.

Safe Water Practices After Plumbing Work in Housing With Lead Water Lines or Lead Solder

These practices include

1. Testing water after plumbing work in older housing. Please contact the health department or drinking water supplier for information about water testing in the area.

2. Inspecting the aerator on the end of the faucet and removing any debris such as metal particles.
3. Flushing water lines before using the water for drinking or cooking.
4. Homeowners may consider full replacement of lead water lines by removing the private lines running from the water meter into the home. Contact the drinking water authority for information about replacing water service lines.
5. Make sure that repairs to copper pipes do not use lead solder.

Resources

EPA Safe Drinking Water Act <http://www.epa.gov/sdwa>

U.S. EPA Lead/Copper Rule <http://www.epa.gov/dwreginfo/lead-and-copper-rule>.

Links to local water quality data can be found on the EPA website: <http://www.epa.gov/ccr>

MDHHS Keep Michigan Healthy – Lead www.michigan.gov/mdhhs

St. Clair County Health Department Fact Sheet: “Lead Poisoning” www.scchealth.co



For more sources of information on this topic visit:

ST. CLAIR COUNTY HEALTH DEPARTMENT www.scchealth.co

MICHIGAN DEPARTMENT OF HEALTH AND HUMAN SERVICES www.michigan.gov/mdhhs

CENTERS FOR DISEASE CONTROL AND PREVENTION www.cdc.gov/lead