
Lead and Your Drinking Water

The water you drink may have high lead concentrations.

Why is lead a problem?

Lead exposure can be very dangerous. **Children** are especially susceptible to lead contamination because their bodies are still growing and developing. They absorb and retain more lead in their bodies than adults. Lead can cause reduced I.Q. levels, impaired learning and language skills, loss of hearing, reduced attention spans, and poor classroom performance in children even at low levels of exposure. At higher levels of exposure, lead can damage a child's brain and central nervous system, interfering with both learning and growth.

Women of child-bearing age are also at risk. Lead can harm fetus development and cause premature births and reduced birth rates. Lead can also cause fertility problems and miscarriages. **Men** may risk increased blood pressure from over-exposure to lead.

How does lead get into drinking water?

Lead found in drinking water usually comes from plumbing or plumbing fixtures. Lead levels in drinking water are highest if your home has lead pipes, copper pipes with lead solder, or brass faucets. If your home has pipes with lead solder, lead levels will be higher in your water if:

-  The house is less than five years old,
-  You have soft water (water that lathers soap easily, like rain water), or
-  If water sits in the pipes for several hours.

Homes with cisterns may be at risk if their roofs were coated with Hypolon, which contains lead salt as a preservative. This preservative becomes chalky with age and can wash into cisterns. Hypolon is no longer used in the Virgin Islands, but if your roof was coated in the past 10 to 15 years, you should have your water tested.

The most common cause of lead in drinking water is corrosion of pipes or certain types of brass faucets. A reaction can occur between water and lead pipes, solder or brass. If electrical equipment is grounded to water pipes, the electric current traveling through the ground wire increases the rate of lead corrosion from pipes or solder. (However, **do not remove** wires from pipes unless a qualified electrician installs an adequate alternative grounding system.)

How can you tell if there is too much lead in your water?

You cannot see, taste, or smell lead that is dissolved in water. The only way of telling whether or not there are harmful levels of lead in your water is by having it tested. You should be particularly suspicious if your home:

-  Has lead pipes (lead is a soft, dull-gray metal that can be easily scratched with a house key).
-  If you see signs of corrosion (frequent leaks, rust-colored water, stained dishes or laundry).
-  If your non-plastic plumbing is less than five years old.

The V.I. Water and Power Authority (WAPA) can provide you with information about the kinds of pipes that commonly have been or are currently used in the Virgin Islands.

How can you get your water tested?

Water samples from your tap will have to be collected and sent to a qualified laboratory to be analyzed. Contact WAPA for information and assistance. They may either test your tap water for you or refer you to a qualified laboratory. Water testing companies can also be found listed in the yellow-pages under "Laboratories." Make sure that the lab you use to test your water has been approved by DPNR or EPA to analyze drinking water samples for lead contamination. To find out which labs are qualified, contact DPNR.

What can you do to reduce the amount of lead you are exposed to?

1 Do not drink water that has been in contact with your home's plumbing for more than six hours (either overnight or during the work day). Before using water for drinking or cooking, "flush" the cold water faucet by running the water for at least two minutes. This should be done for each drinking water faucet. Letting the water run an extra 15 seconds should also flush out the service connector. **Flushing is important because the longer the water sits in the lead pipes or solder, the greater the possible contamination.** Once you have flushed the tap you can fill one or more bottles with water and put them in the refrigerator for later use. The water that you flushed out of the pipes should be saved to use for other purposes like washing dishes or clothes or watering plants – it does not have to be wasted!

2 **Never cook with or drink water from the hot-water tap.** Hot water dissolves more lead more quickly than cold water. Do not use water taken from the hot tap for cooking or drinking and **especially not for making baby formula.** Use only thoroughly flushed water from the **cold** tap.

What other things can you do?

1. If you are served by WAPA or a private water supplier, contact them and ask whether or not the supply system contains lead piping and whether your water is corrosive. If either answer is yes, ask what steps the supplier is taking to deal with the problem of lead contamination.
2. If you own a cistern or well, you can treat your water to make it less corrosive by installing a calcite filter. Calcite filters should be installed in the line between the water source and any lead service connections or lead-soldered pipes. Contact DPNR, WAPA, or the Cooperative Extension Service for assistance in finding these commercially-available products.
3. You **can** reduce the amount of lead in your home's tap water. Point-of-use treatment devices (activated carbon filters, reverse osmosis devices, distillation units) are commercially available. However, they can be expensive and their effectiveness can vary. Always check out the device's capabilities and actual lead-reducing performance before purchasing. Since these devices also soften water, they should be installed only at the faucet. The January 1990 issue of **Consumer Reports**™ has detailed information on water filters that can remove lead.
4. You can also purchase bottled water for home and office consumption. There are many brands of bottled water available in the Virgin Islands. Contact your preferred water supplier or DPNR to find out about how the supplier tests their water for lead and other pollutants.

What type of treatment devices **WILL NOT** reduce lead in your drinking water?

1. Carbon filters, sand filters, and cartridge filters. These devices do filter out some water contaminants, but they do not remove lead, and they do not prevent corrosion.
2. Water softeners. While a water softener can reduce lead in the water entering your home, it can also contribute to the corrosiveness of the water, and, therefore, to potential lead contamination. In homes where lead is a problem, water softeners should not be connected to pipes leading to drinking water taps.

Where can you get more information?

You should direct any questions to:

- Your water supplier (WAPA: 774-3552 on St. Thomas or 773-2250 on St. Croix, or any of the private water suppliers on-island);
- DPNR (774-3320 on St. Thomas or 773-0565 on St. Croix); or
- The Cooperative Extension Service (693-1080 on St. Thomas or 692-4080 on St. Croix).



Printed on Recycled Paper with Soy Ink



Cooperative Extension Service
University of the Virgin Islands
#2 John Brewers Bay
St. Thomas, VI 00802-9990
(340) 693-1080
Reprinted September 2001

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