

Special Announcement



National Aeronautics and
Space Administration

Goddard Space Flight Center
Wallops Flight Facility
Wallops Island, Virginia 23337

No. 18-04

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Subject: IMPORTANT INFORMATION ABOUT YOUR DRINKING WATER

Consumer Notice of Tap Water Results Wallops Flight Facility Main Base

NASA Wallops Flight Facility operates a water system that provides drinking water at the Main Base and Wallops Mainland/Island. WFF ensures that the drinking water provided meets state and federal standards. Water is routinely sampled and analyzed for bacteria and metal concentrations. WFF recently completed the 2016 - 2018 triennial monitoring for Copper and Lead in Drinking Water as defined in the Virginia Regulations. All samples were collected from taps without water filters. The results of this testing are as follows:

Sample Location	Sample Date	Copper (mg/l)
E-104	8/4/2018	0.0203
F-20	8/4/2018	0.115
Q-29	8/7/2018	0.166
F-16	8/4/2018	0.174
F-4	8/4/2018	0.200
R-20	8/4/2018	0.212
E-2	8/4/2018	0.214
F-160	8/4/2018	0.229
D-1	8/4/2018	0.392
F-3	8/4/2018	0.938
Cu	Action Level	1.300

Sample Location	Sample Date	Lead (mg/l)
E-104	8/4/2018	<0.002
F-4	8/4/2018	<0.002
F-20	8/4/2018	<0.002
E-2	8/4/2018	0.00252
Q-29	8/7/2018	0.00623
F-16	8/4/2018	0.00765
F-160	8/4/2018	0.0144
D-1	8/4/2018	0.0378
F-3	8/4/2018	0.0598
R-20	8/4/2018	0.0802
Pb	Action Level	0.015

The 90th percentile sample is shown shaded in the tables above.

The < symbol indicates that the concentration was at or below the detection capability of the analytical instrument.

What Does This Mean?

Under the authority of the Safe Drinking Water Act, the Environmental Protection Agency (EPA) set the action levels for copper and lead in drinking water at 1.300 and 0.015 milligrams per liter (mg/L), respectively. The action level is the concentration of a parameter which, if exceeded, triggers treatment, additional sampling, or other requirements.

EPA and Virginia regulations also require that copper and lead concentrations in the 90th percentile sample do not exceed the action levels. Since ten samples were collected, the 90th percentile sample is the sample with the 9th highest concentration (shown shaded in the above table).

The 90th percentile copper concentration for the samples was 0.392 mg/L, which is below the action level of 1.300 mg/L. The 90th percentile lead concentration was 0.0598 mg/L, which is above the action level of 0.015 mg/L. As shown in the above table, lead exceeded the action level in three of the 10 sampled building locations.

The EPA has also set Maximum Contaminant Level Goals (MCLGs) for parameters in drinking water. MCLGs are the maximum levels in drinking water in which there are no known or expected health risks. MCLGs are conservative levels that account for long-term exposure and allow for a margin of safety. Because lead may pose serious health risks, the EPA set the lead MCLG at zero. The MCLG for copper is 1.3 mg/L (same as the action level). WFF water samples tested below the MCLG for copper.

WFF has conducted eight sampling events for lead in the past decade; this is the second time that the WFF Main Base waterworks has exceeded the lead action level over this period. The 90th percentile values over this period have been very low (non-detect to 0.003 mg/L). WFF is investigating the cause of the increased lead concentrations in the sample locations as well as corrective measures to reduce the concentrations.

What Do We Do at NASA Wallops Flight Facility?

Elevated individual site lead levels may be due to conditions unique to the building, such as the presence of lead solder or brass faucets, fittings, and valves that contain lead. WFF waterworks strives to keep the pH of our drinking water moderated (since acidic water can cause metals to leach from plumbing materials that contain it). Additionally, there are actions you, the user, can take to reduce your exposure. We strongly urge you to review the enclosed Consumer Notice and take the steps listed to reduce your exposure to lead in drinking water.

Historically, activated carbon filters are installed and maintained on water fountains and kitchen sinks. A filter maintenance program is used to ensure the filters are effective. After filtration at the tap, WFF's water has proven to be of the same quality as bottled water. Additionally, the WFF Facilities Management Branch uses a corrosion control plan which includes the addition of Zinc-Orthophosphate to drinking water to further reduce the pre-filter Lead levels in WFF's drinking water. WFF responded to the sampling results recently by increasing the dosage of zinc orthophosphate injected into the waterworks. Operations and maintenance personnel routinely flush water mains and interior building taps to further reduce any lead.

You can call the "HELP" desk (x4357) to request that the activated carbon filters in your area be examined and replaced as necessary.

What Are The Health Effects of Lead?

Lead can cause serious health problems if too much enters your body from drinking water or 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 the body. The greatest risk of lead exposure is to infants, young children, and pregnant women. Scientists have linked the effects of lead on the brain with lowered IQ in children. 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.

What Are The Sources of Lead?

Lead is a common metal that has been in many consumer products but is now known to be harmful to human health if ingested or inhaled. It can be found in lead-based paint, air, soil, household dust, food, some types of pottery, and drinking water. EPA estimates that 10 to 20 percent of a person's potential exposure to lead over a lifetime may come from drinking water. Infants who consume mostly formula mixed with lead-containing water can receive 40 to 60 percent of their exposure to lead from drinking water. Lead is rarely found in natural sources of water such as rivers, lakes, wells, or springs.

What Can I Do To Reduce Exposure to Lead in Drinking Water?

Lead may work its way into drinking water after the water enters the distribution system and is on its way to consumer's taps. This usually happens through the corrosion of materials containing lead in household plumbing. These materials include brass faucets, lead solder on copper pipes, lead pipes, or lead service lines connecting the water main to the inside plumbing. Lead pipes are no longer installed for service lines or in household plumbing, and lead solder has been outlawed in Virginia since 1985.

There are several steps to take to reduce your exposure to lead in drinking water. These include:

- 1. Run your water to flush out lead.** If water hasn't been used for several hours, allow the water to run at the tap for 30 seconds up to 2 minutes before using it for drinking or cooking. This action flushes the lead-containing water from the pipes. The water you run from drinking water taps does not have to be wasted. You can use this water for cleaning purposes or for watering plants. You may want to keep a container of drinking water in your refrigerator, so you don't have to run water every time need it.
- 2. Use cold water for cooking and preparing baby formula.** Do not cook with or drink water from the hot water tap, as lead dissolves more easily in hot water. Do not use water from the hot water tap to make baby formula.
- 3. Do not boil water to remove lead.** Boiling water will not reduce lead.
- 4. Look for alternative sources or treatment of water.** You may want to consider purchasing bottled water or a water filter. Read the package to be sure the filter is approved for reducing lead, or contact the National Sanitation Foundation at 800-NSF-8010 or www.nsf.org for information on performance standards for water filters. If you choose to install a lead removal filter, be sure to maintain and replace the filter device in accordance with the manufacturer's instructions.

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5. **Get your child tested.** Contact your local health department or healthcare provider to find out how you can get your child tested for lead, if you are concerned about exposure.
6. **Identify any plumbing fixtures containing lead.** Brass faucets, fittings, and valves manufactured before January 4, 2014, may contribute lead to drinking water, including those advertised as "lead free." Under current law, "lead free" means no more than 0.2 percent lead in solder and flux, and 0.25 percent lead for pipe, pipe fittings, and components. Visit the National Sanitation Foundation Web site at www.nsf.org to learn more about lead-containing plumbing fixtures.

For More Information

Call NASA WFF's Environmental Office at 757-824-1987. For more information on reducing lead exposure around your home, and the health effects of lead, visit EPA's web site at www.epa.gov/lead, call the National Lead Information Center at 800-424-LEAD, or contact your personal health care provider.



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