

Frequently Asked Questions, Charleston County School District Voluntary Drinking Water Sampling for Lead  
October 2019

Introduction

Charleston County School District (CCSD) will begin voluntary testing for lead in drinking water in our schools starting October 5, 2019. The information below is intended to provide background information and details of applicable laws, regulations, and the CCSD sampling plan. Much of the text below is borrowed or copied from numerous sources.

1. Question: How does lead get into drinking water? According to EPA and the American Water Works Association (AWWA), lead may enter tap water through corrosion of plumbing materials by the tap water itself in its contact with those plumbing materials. Lead levels in the water within the plumbing system of schools, residences or any facilities can vary due to the different parts of the plumbing system (i.e. lead solder, brass fixtures, water usage, and age of materials). The amount of time the water is in contact with the various components of the plumbing system may have an effect on the concentrations found as well.
2. Question: Why is lead a concern in school drinking water systems? CCSD has no reason to doubt the quality of the source water from our utility providers, but the “on-again, off-again” water use patterns of most schools, and many other types of facilities, can result in elevated lead levels in drinking water.
3. Question: Is testing for lead in drinking water required in schools in the United States? In the introduction to their guidance document 3Ts for Reducing Lead in Drinking Water in Schools, (Training, Testing, Telling) EPA says, “There is no federal law requiring testing of drinking water in schools, except for schools that have their own water supply and are thus regulated under the Safe Drinking Water Act (SDWA). Some states, tribes, and local jurisdictions have established their own laws, regulations, or guidance for testing drinking water lead levels in schools and/or child care facilities. School and child care facilities should reach out to their state to find out what laws or regulations may apply to them. EPA suggests that school and child care facilities implement programs for reducing lead in drinking water as part of their overall plan for maintaining healthy learning environments. Safe and healthy environments foster healthy children and may improve student performance.”
4. Question: Does South Carolina require testing for lead in drinking water in schools? Unless governed by specific regulations governing drinking water from groundwater well systems, testing of drinking water provided by public utilities to schools in South Carolina is not required by law or regulation. The South Carolina Department of Education has recommended guidance for managers of school facilities; see <https://ed.sc.gov/newsroom/school-district-memoranda-archive/drinking-water/drinking-water-memo/> and they reference EPA best management practices at

[https://www.in.gov/idem/files/lead\\_epa\\_schools\\_pws.pdf](https://www.in.gov/idem/files/lead_epa_schools_pws.pdf) which are being used by CCSD Facilities Management.

5. Question: Why is CCSD testing for lead in drinking water in CCSD schools? CCSD is voluntarily testing for lead in drinking water in CCSD schools because it is recommended and encouraged by the EPA, by South Carolina Department of Health and Environmental Control (DHEC), and by drinking water professionals.
6. Question: Are children more susceptible to lead exposure? Children are especially susceptible to lead exposure because their bodies absorb metals at higher rates than the average adult. Children younger than six years old are most at risk due to their rapid rate of growth. Exposure to high levels of lead can cause damage to the brain, nervous system, red blood cells, and kidneys. Exposure to low levels of lead have the potential to cause lower IQ's, hearing impairments, reduced attention span, hyperactivity, developmental delays, and poor classroom performance.
7. Question: How did CCSD develop a sampling plan? CCSD Facilities Management (FM) has created plumbing profiles (surveys) of all schools, as recommended by the EPA and the American Water Works Association. These profiles, in conjunction with guidance and support from EPA, DHEC, Charleston Water System (CWS) and Mount Pleasant Waterworks, guided the development of the water sampling plan. The sampling plan includes all CCSD schools.
8. Question: What does the CCSD sampling plan include? Per the CCSD sampling plan, 250 milliliter (mL) first draw samples will be collected and analyzed by labs certified for lead analysis of drinking water. Remedial action will occur if water is found to contain lead levels greater than 15 parts-per-billion (15 ppb, or 0.015 milligrams/liter).
9. Question: What is a first draw sample? A first draw sample is the first quantity of water captured from a water source, after the source has been unused for a period of time.
10. Question: What water taps or sources will be tested? CCSD will be sampling all outlets typically used or known to be used for consumption or cooking.
11. Question: What is the cost for CCSD drinking water sampling for lead? The cost of the sampling, including analysis, is roughly \$300,000.
12. Question: Will sampling results be available? Sampling results will be available at [CCSD Facilities Management](#).
13. Question: Why is greater than 15 ppb the trigger for remedial action? During a meeting hosted by CCSD with EPA, DHEC, Charleston Water System, and Mount Pleasant Water Works representatives, these professionals suggested that 15 ppb should be

used because it matches the action level currently used for testing of water distribution systems across the state and nation.

14. Question: What will CCSD do if lead levels above 15 ppb are found at any source? In the event of findings, remediation will occur to achieve a lead level of 15 ppb or less. Possible remedial actions include the following, more than one of which might be employed at a single tap:
- Elimination of lead source through replacement of fixture and/or fittings
  - Elimination of lead source through replacement of water lines
  - Treatment at the tap through installation of point of use devices
  - Reconfiguration of plumbing to bypass sources of contamination
  - Implementation of a flushing program
  - Providing bottled water
  - Permanent shutdown of taps with unknown sources
15. Question: Do public water utilities recommend sampling? On June 15, 2005 EPA signed an MOU (Memorandum of Understanding on Reducing Lead Levels in Drinking Water in Schools and Child Care Facilities) along with several federal agencies, programs, and associations that represent water utilities to “promote voluntary efforts to reduce children’s lead exposure in schools and child care facilities.” The MOU, “represents an unprecedented partnership between EPA, Department of Education, the Centers for Disease Control and prevention, the American Water Works Association, the Association of Metropolitan Water Agencies, the National Association of Water Companies, the National Rural Water Association, and the Association of State Drinking Water Administrators to focus attention on testing for lead in drinking water for schools and child care facilities. The signatories have agreed to encourage schools and child care facilities to take steps such as testing drinking water for lead; disseminating results to parents, students, staff and other interested stakeholders; and taking appropriate and necessary actions to correct problems.”
16. Question: What is the Safe Drinking Water Act? Lead is regulated in public drinking water under the federal Safe Drinking Water Act (SDWA). This act was passed in 1974 and, in part, required EPA to establish regulations for known or potential contaminants in drinking water. The EPA regulations apply to public water systems (public utilities).
17. Question: Are schools directly subject to the Safe Drinking Water Act? Schools that are served by a public water system, like Charleston Water System, are not subject to the SDWA monitoring and treatment requirements, because these schools do not meet the definition of a public water system. CCSD school drinking water has not been sampled under this legislation since schools are not public water systems.
18. Question: What is the Lead Ban and what did it do to make drinking water systems lead free? As stated above, the most common cause of lead concentration in water is due to the corrosion of pipes and plumbing fixtures. In an effort to reduce this contamination,

EPA on June 19, 1986, amended the Safe Drinking Water Act (The Lead Ban P.L. 99-339) to mandate that all pipes, solder, fittings, and fixtures be lead free. "Lead Free" was defined as follows: solder and flux containing not more than 0.20% lead; pipe, pipe fittings, and fixtures containing not more than 8.0% lead.

19. Question: How is "lead free" defined now? In 2011, the Reduction of Lead in Drinking Water Act was signed into law and took effect January 4, 2014. This act reduces the allowable lead content in plumbing materials by modifying the SDWA "Lead Ban" definition of lead free. As of January 4, 2014, lead free is now defined as a weighted average of not more than 0.25%, wetted surface material only, for pipe, pipe and plumbing fittings and fixtures. It retains the 0.20% lead limit for solders and flux as implemented in the 1986 amendments. Plumbing fittings and fixtures must meet the NSF/ANSI (National Sanitation Foundation, renamed "NSF" in 1990/American National Standards Institute) Standard 61 and are marked accordingly.
20. Question: Are CCSD plumbing fixtures lead free? CCSD schools may contain fixtures and components that were standard industry products during original construction of the schools. CCSD Facilities Management is familiar with the required manufacturer markings used to designate plumbing components as lead free. New components are checked for certified lead-free markings before use on job sites both for construction and maintenance.
21. Question: What is the Lead Contamination Control Act and what did it do? The Lead Contamination Control Act (LCCA) was a further amendment to the SDWA. The primary goal of the LCCA is protecting children from exposure to lead from school drinking water coolers. The LCCA was signed into law October 31, 1988. This law required 1) a recall of drinking water coolers with lead-lined tanks; 2) prohibition of the sale and manufacturing of any drinking water coolers that were not "lead-free", 3) development of guidance for schools on sampling and testing protocols, and 4) public notification of the availability of lead testing results.
22. Question: Do CCSD schools have any of the prohibited water coolers? EPA published in the Federal Register on January 18, 1990 Drinking Water Coolers That Are Not Lead Free and the information contained therein has been repeated in guidance issued by EPA and the American Water Works Association, such as that shown in EPA Fact Sheet: Lead in Drinking Water Coolers. CCSD Facilities Management has copies of the Federal Register listing and the guidance. The CCSD Facilities Management (FM) staff has surveyed all facilities and will continuously be on the lookout for non-lead-free water coolers. None of these coolers have been found in a complete survey of all CCSD schools. Thus, it is believed that earlier generations of staff replaced these coolers.