

LEAD IN SCHOOLS AND CHILD CARE FACILITIES

INFORMATION ABOUT TESTING FOR LEAD IN SCHOOLS

There is no federal law requiring testing of drinking water in schools, except for schools that have their own water system and are thus regulated under the Safe Drinking Water Act (SDWA). The vast majority of public water suppliers do not include schools in their sampling plans because regulations (specifically the Lead and Copper Rule) require sampling of single family dwellings. EPA suggests that schools implement programs for reducing lead in drinking water as part of the school's overall plan for reducing environmental threats. Safe and healthy school environments foster healthy children, and may improve students' general performance.

Lead most frequently gets into drinking water by leaching from plumbing materials and fixtures as water moves through your school's distribution system. Even though the drinking water you receive from your water supplier meets federal and state standards for lead, your facility may have elevated lead levels due to plumbing materials and water use patterns. Because lead concentrations can change as water moves through the distribution system, the best way to know if a school might have elevated levels of lead in its drinking water is by testing the water in that school. Testing facilitates and evaluating the plumbing helps target remediation. It is a key step in understanding the problem, if there is one, and designing an appropriate response.

BEFORE YOU SAMPLE

Review EPA's *3T's for Reducing Lead in Drinking Water in Schools* guidance (<http://tiny.cc/3Ts>). This guidance manual is intended for use by school officials responsible for the maintenance and/or safety of school facilities to help minimize their students' and staff's exposure to lead in drinking water.

Contact your public water system to discuss plans to sample in your school and ask about the lead levels in the water distribution system. School sampling will not be counted for the public water systems compliance with the lead and copper rule.



Scan QR code for
3T's manual

Please remember that this guidance is for schools **served** by a public water system. This testing is **not** for schools that are public water systems.

WHERE TO SAMPLE

Identify possible sources of lead using the 3T's guidelines, At a minimum, every outlet that is regularly used for cooking and drinking should be sampled. Sample sites that are most likely to have lead contamination include:

- Areas containing lead pipes or lead solder
- Areas of recent construction and repair in which materials containing lead were used
- Areas where the plumbing is used to ground electrical circuits
- Areas of low flow and/or infrequent use
- Areas containing brass fittings and fixtures
- Water coolers identified by EPA (p. 87 of 3T's manual) as having lead-lined storage tanks or lead parts. These should be removed.

EPA recommends the following sites as high priority sites:

- Drinking fountains, both bubbler and water cooler style
- Kitchen Sinks
- Home economic rooms sinks
- Teacher's lounge sink
- Nurse's office sink
- Classroom sinks in special education classrooms
- Classroom combination sinks and drinking fountains
- Any sink known to be or visibly used for consumption (for example, coffee maker or cups are nearby)

OBTAIN SAMPLE BOTTLES

Contact a laboratory accredited to perform lead analysis. The lab will supply you with bottles for lead analysis as well as instructions regarding the storage and transportation of the samples. EPA recommends using 250 mL sample bottles for lead testing in schools as opposed to the 1 Liter sample bottles that public water systems use. Please ask for 250 mL sample bottles from your lab.

Utah Public Health Laboratory

4431 S 2700 W
Taylorsville, UT 84129
801-965-2400
<http://health.utah.gov/lab/chemistry/>

Weber Basin Water Quality Lab

2837 East Highway 193
Layton, UT 84040
801-771-4362

Southern Utah University Water Lab

351 W Center Street
Science Building, Room 2016
Cedar City, UT 84720
435-586-7914
www.suu.edu/cose/waterlab/

American West Analytical Lab, Inc

3440 South 700 West
Salt Lake City, UT 84119
801-263-8686
www.awal.labs.com

Chemtech-Ford Lab

9632 S 500 W
Sandy, UT 84070
801-262-7299
www.chemtechford.com

Timpview Analytical Laboratories

1165 North Geneva Road (1600 West)
Vineyard, UT 84057
801-229-2282
www.timpviewlabs.com/water

CONDUCT INITIAL FIRST-DRAW SAMPLES

Select drinking water fixtures in the building. Prioritize fixtures based on how likely and how frequently someone could drink from them. For example, people are more likely to drink from water fountains or kitchen faucets than bathroom sinks. The more fixtures you sample, the better you will understand lead levels in your building.

Pick a day to sample when school is in session. DO NOT sample the morning after a weekend, vacation, or holiday because this doesn't represent normal use.

Get "first-draw" samples. First-draw water must sit in the plumbing system at least 8 hours, but no more than 18 hours. The fixture should not be used during that time. It is easiest to collect samples first thing in the morning before school starts.

Only sample cold water. If you are testing fixtures that mix hot and cold water, make sure cold water is the last water to run through the tap before it sits overnight.

Do not remove the aerator from the fixture at any time during the sampling process.

First thing in the morning, place a sample bottle under the faucet and open the cold-water tap to a steady flow. Fill the bottle to the shoulder or the line marked on the bottle and then turn the water off. Cap the bottle tightly.

Fill out the laboratory form and bottle label. Be sure to include the:

- School or building name
- Sample type (first-draw)
- Collection date and time
- Name of the person collecting the sample
- Sample location (uniquely identify each fixture on the form and the label)
- Contact and billing information



Repeat this process for each fixture you test, and send the samples to the lab for analysis.

FOLLOW-UP MONITORING

Select fixtures for follow-up testing. We recommend “Follow-up” monitoring for all fixtures where initial first-draw sampling shows lead in excess of 20 micrograms per liter ($\mu\text{g/l}$) or 20 parts per billion (ppb) from a 250 mL sample bottle (*If a 1 L sample bottle was used, used 15 micrograms per liter ($\mu\text{g/l}$) or 15 parts per billion (ppb) as the standard. EPA recommends use of 250 mL sample bottles for schools*). Follow-up samples are flushed samples designed to show whether lead content is coming from the fixture or the plumbing behind the wall. The key difference between initial and follow-up sampling is allowing the water to run for 30 seconds before taking the sample.

Pick a weekday to sample. Remember, DO NOT sample the morning after a weekend, vacation, or holiday because this doesn't represent normal use.

Only sample cold water. Make sure cold water is the last water to run through the tap before it sits overnight.

If the fixture was shut off or taken out of service, turn the water back on and flush it using a moderate flow of water for at least 2 minutes the afternoon before sampling.

Sample first thing in the morning. Allow the water to sit at least 8 hours, but no more than 18 hours before collecting your follow-up samples.

Allow the cold water to run at a steady flow for 30 seconds before you take the sample. After 30 seconds place the sample bottle in the water stream and fill the bottle to the shoulder or the marked fill line. Cap the bottle tightly.

Fill out the lab form and bottle label. Include all of the information you included for first draw samples, except mark the sample type as “follow-up” or “flush”. Repeat this process for each fixture requiring follow-up testing, and send the samples to the laboratory for analysis.

MITIGATE AND CORRECT

Solutions to lead problems typically need to be made on a short-term and on a permanent basis.

Short Term:

- **Flush the piping system.** Refer to the 3T's guidance for best practices regarding flushing (p. 55)
- **Provide bottled water.** This might be warranted if you expect widespread contamination and flushing is not an option.
- **Shut off problem outlets.** If initial sample results from an outlet exceed the lead standard, the outlet can be shut off or disconnected until the problem is resolved.

Permanent:

- **Replacement of problematic plumbing fixtures**, focusing first on drinking fountains and sink faucets in food preparation areas
- **Begin to install point of use water filtration devices**, certified for the removal of lead from drinking water by the appropriate ANSI/NSF Standard, in locations where they may be most effective.
- **Check grounding wires**
- **Lead Pipe replacement** and use of lead-free materials
- **Reconfigure plumbing**

COMMUNICATE RESULTS

EPA recommends that schools conducting a lead-in-drinking-water sampling program comply with the public information components of the Lead Contamination Control Act. There are two components:

(1) Notify relevant parent, teacher, student, and employee organizations of the availability of your sampling program results.

(2) Make copies of the sampling results available in your administrative offices "for inspection by the public, including teachers, other school personnel, and parents."

PROVIDE THE STATE OF UTAH WITH TEST RESULTS

Mail:

PO Box 144830, Salt
Lake City, UT 84114

Fax:

801-536-4211

Email:

ddwreports@utah.gov

Please provide lead test results to the State of Utah. This data will not be used for compliance activities related to the school or the public water supply. It is our goal to develop a database of school/child care facility lead results to assess the risks related to lead and to plan for resources to mitigate any problems.

Test results can be sent to the State through either mail, fax, or email. The simplest way is to ask your lab to provide the results to the State. The labs already have the processes in place to streamline data delivery. Please be sure to include the school or building name and the sample location on the reports.

QUESTIONS?

The EPA's 3 T's Technical Guidance is the most recommended resource. For additional questions, **please contact the Utah Division of Drinking Water at 801-536-4200 (email: ddwreports@utah.gov), or the Utah Department of Health at 801-538-6191.** Experts are available to provide technical guidance to any questions you may have.