

New York State Department of Health Lead Testing in School Drinking Water Program Guidance Manual



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Purpose of this Guidance Manual

10 NYCRR Subpart 67-4 requires all school districts and boards of cooperative educational services (schools) in New York State to test potable water for lead contamination and to develop and implement a lead remediation plan where applicable. This guidance manual provides information that schools can use for developing and implementing their plans to fulfill compliance requirements. This guidance manual also provides examples of best management practices to minimize the potential for exposure to lead in school drinking water. Additional resources, including suggested templates, can be found on the Department's website at [Lead Testing of School Drinking Water](#).

Background

Lead is a common metal found in the environment which is toxic and harmful to human health. The greatest risk of harm from lead exposure is to infants, young children, and pregnant women. Children and adults can be exposed to lead from lead paint, lead in products and toys, lead in drinking water from plumbing materials, and other sources.

Plumbing materials, including pipes, new brass faucets, fittings, and valves, including those advertised as *lead-free*, may contribute lead to drinking water.¹ The “on-again, off-again” nature of water use at most schools can raise lead levels in school drinking water. Water that remains in pipes overnight, over a weekend, or over vacation periods stays in contact with lead pipes and/or lead solder and may accumulate and contain higher levels of lead. It is important to identify and address elevated levels of lead in drinking water in schools as part of reducing a child's overall exposure to lead in the environment.

On September 6, 2016, Chapter 296 of the Laws of 2016, was signed into law adding section 1110 to Public Health Law (PHL § 1110). The new law required all public school districts and Boards of Cooperative Educational Services (BOCES) (referred to as “schools” herein) in New York State (NYS) to test drinking water for lead and to take remedial action if lead exceeded the actionable threshold. Only those public schools and BOCES buildings with internal plumbing meeting the definition of lead-free as defined by the federal Reduction of Lead in Drinking Water Act were exempt

All outlets used, or that could potentially be used, for drinking or cooking must be tested for lead per Subpart 67-4.

¹ Lead pipes and lead solder used on non-lead pipes were common in construction until their use was banned in 1986. Since then, the federal government required that only “lead-free” materials be used in new plumbing and plumbing fixtures. The Federal Law, however, still allowed pipes and certain fixtures with up to eight percent lead to be labeled as “lead-free.” In 2011, the Reduction of Lead in Drinking Water Act, an amendment to the federal Safe Drinking Water Act, re-defined “lead-free” to mean no more than a weighted average of 0.25 percent lead for wetted surfaces of plumbing products and retained a 0.20% lead limit for solder and flux (effective January 4, 2014). The Act also created exemptions from the lead-free requirements for plumbing products used exclusively for non-potable services as well as for other specified products.

from testing (changes to this provision discussed below; see 2022 Revisions to Public Health Law (PHL)).

The NYS Department of Health (NYS DOH) issued regulations, Subpart 67-4 of Title 10 of the Codes, Rules, and Regulations of the State of New York to conform with PHL §1110.

All buildings owned or leased by a public school district or BOCES must be assessed for compliance with Subpart 67-4. While private and Native American schools are not required to conduct lead testing under this regulation, the NYS DOH encourages these schools and all daycare facilities to voluntarily test outlets used for drinking or cooking and take appropriate action where necessary to reduce lead exposure.

2022 Revisions to Public Health Law (PHL)

Revisions to PHL §1110 were finalized on March 4, 2022, with an effective date of December 22, 2022. The key revisions to the law include:

1. Lead action level in drinking water has been reduced from 15 parts per billion (ppb) to 5 ppb.
2. School buildings previously deemed “lead-free” are no longer exempt from testing requirements. All buildings, to which PHL §1110 applies, that house or provide instructional services to students are required to test for lead in drinking water.
3. Should it be necessary to provide potable water to school occupants following an outlet being taken out of service due to an action level exceedance, the potable water must be provided free of charge.
4. Copies of lead results including lab reports and any lead remediation plans must be made available to the public and posted on the school's website.
5. Compliance testing will occur on a triennial (every 3 years) schedule.

The first compliance testing period is 2023-2025 under the revised PHL. Schools must conduct first-draw tap testing at all applicable outlets between January 1, 2023, and December 31, 2025. Schools shall continue to collect compliance samples at least every 3 years thereafter or at an earlier time as determined by the Commissioner.

Sampling at outlets from past compliance testing (prior to December 22, 2022) with results that exceed 5 ppb should be a priority. First-draw tap testing at these outlets shall be completed as soon as practicable, and appropriate remedial actions commenced where levels are detected above the new action level of 5 ppb.

Planning Your Sampling Program

Review Records

Before a school develops a sampling plan, review records from past sampling and remedial activities. If current staff are not familiar with past program activities, or records are incomplete or absent, consider contacting individuals who may have been involved in the sampling and/or

remediation. This information may help inform future efforts.

Identifying Key Stakeholders

Key stakeholders are critical to ensuring that your lead testing in school drinking water program (hereafter referred to as the program) is successful. Key stakeholders may include, but are not limited to:

- **Superintendent/Principal:** These individuals provide oversight of the program.
- **Custodial and facilities staff:** These individuals will have in-depth knowledge about plumbing and building history and may assist with implementing the program.
- **School board:** These individuals are responsible for developing budgets and recommending district-wide initiatives.
- **School nurse:** This individual may assist with or support reporting test results in the NYSDOH electronic reporting system.
- **Cafeteria staff:** These individuals are aware of water use for food preparation. They can identify the faucets that are regularly used in food or drink preparation, as well as any unused faucets.
- **Athletics staff:** These individuals will know the sources of water used to fill water jugs or those used when teams are practicing or playing games.
- **Students:** The students should be informed and educated on drinking water and know whom to go to if they notice an issue (lack of access to water or removal of signage).
- **Teachers:** Teachers can assist with the program as they are aware of the faucets used for drinking and can assist with enforcing institutional controls as part of remediation including ensuring students are not drinking from faucets with “Do Not Drink” signs.
- **Parents:** Parents should be made aware of the sampling, the test results, and remedial actions.
- **Parent Teacher Associations (PTAs):** These individuals can be a conduit of information between the school and the parents/guardians. They can share parent/guardian concerns with the school representatives and provide information and education to respond to those concerns.
- **Local plumbing and construction contractors, or environmental consultants.**

Assigning Roles

Identify specific program roles and responsibilities and assign them to individuals as appropriate. When assigning roles, ask the following questions:

- Who will be the main contact for the program?
- Who will create the sampling plan?

- Who will collect the samples?
- Who will coordinate with the laboratory and manage the test results?
- Who will perform remediation?
- Who will communicate the results to the public?
- Who will report the data and information to the local health department and enter it into the NYS DOH reporting application (HERDS)?
- Who will keep records?

A *Template for Assigning Roles*, which is useful for documenting roles and responsibilities, can be found at [Lead Testing of School Drinking Water](#).

Developing a Sampling Plan

To develop a sampling plan, schools must identify all outlets that are or may be used for drinking or cooking; these will be targeted for sampling. The school must then understand how water flows through the building to develop a stepwise outlet-by-outlet and floor-by-floor sampling plan. The comprehensive list below provides various infrastructure features and considerations that schools should explore when developing the sampling plan.

- Review records from past sampling and remedial activities as described in the [Review Records section](#).
- Conduct a walkthrough of the building and create an inventory of outlets. Take note of all outlets (sinks, fountains, bubblers, filling stations, etc.) that are used, or may potentially be used for drinking or cooking. Also, take note of those outlets not used for drinking or cooking. It may be helpful to take pictures when conducting the walkthrough.
- Understand how water enters and flows through the building. Note the areas of the building that receive water first, and which areas receive water last.
- Determine if the building has a lead service line. A service line is the piping that connects the water main to the building inlet.
- Create a map or diagram of the school building and note the location of all outlets and the direction/flow of water through the building. This could assist with understanding future analysis of lead sample results. Assign each outlet that will be sampled with a unique sample identifier and record the information on the map or diagram.
- Document whether faucets have mixing valves, aerators, filters, or other notable features.
- Identify any outlet/water fountain noted as having lead-lined storage tanks or lead parts listed in US Environmental Protection Agency's (EPA) 3Ts. These should be removed from service immediately. A list of lead water coolers banned in 1988 can be found in Module 4 of the EPA 3Ts for Reducing Lead in Drinking Water Toolkit at: [Module 4: Developing a Sampling Plan - Leaded Water Coolers Banned in 1988 \(epa.gov\)](#)

- Note the locations of any tanks and any available information about the tank (e.g., manufacturer, date of installation, maintenance schedule, inspection history, etc.). Some older tanks may contain coatings that are high in lead content. Tanks may accumulate sediment that could be flushed back into the plumbing system under certain circumstances. Schools should consider contacting the tank supplier or manufacturer to obtain information about coatings and hiring a plumber or tank service contractor to inspect the tanks for sediment accumulation and integrity of internal coatings, especially gravity storage tanks that are located outside of the building.
- Look for other potential sources of lead and note their locations including copper pipes; high-lead solder and flux²; brass fittings, faucets, and valves; and plastic pipes (especially those manufactured abroad).

Did you know? Copper pipes are red-brown in color and corroded portions may show green deposits. Copper pipe joints were typically joined together with lead solders until the lead-free requirements of the 1986 Safe Drinking Water Act Amendments.

Did you know? Brass fittings, faucets, and valves are golden yellow in color, similar to copper in appearance, or are plated with chrome. Most faucets contain brass, an alloy that contains varying percentages of copper, zinc, and lead.

Identifying Sampling Locations

Samples must be collected at all outlets used or potentially used for drinking or cooking.

Outlets may be located anywhere in or around the school building, including external outlets (hose bibs) if the outlet may be used for drinking. Superintendents, or their designees, have the responsibility to identify which outlets meet the regulation requirements for testing (“applicable outlets”). If a Superintendent or their designee determines that a school has outlets that fall outside the scope of the regulation (outlets not used or potentially used for drinking or cooking (“nonapplicable outlets”), the school should account for these outlets in their Remedial Action Plan, including details on how those outlets will not be accessed and utilized for drinking or cooking purposes.

Additional Guidance on Sampling Locations:

- **Combination bottle fill station and drinking fountain/combination sink and drinking fountains:** A sample - must be collected from both fixtures if they are used or have the potential to be used for drinking or cooking. The fixture that is most frequently used should

² The 1986 Safe Drinking Water Act Amendments banned plumbing components that contained high levels of lead. It is likely that high-lead solder and fluxes continued to be used even later. The local plumbing code authority or building inspector may be able to provide guidance regarding when high-lead solder was last used on a regular basis in the area. Note that the Reduction of Lead in Drinking Water Act did not revise the lead-free definition for solder and flux.

be sampled first.

- **Ice machines:** The ice made in an ice machine must be sampled for lead. Follow these instructions to collect a sample from an ice machine:

Collecting Samples from Ice Making Machines

- Fill a suitable container (250 mL [or larger with a line denoting 250 mL], wide-mouthed bottle, or other container) provided by the laboratory at least three-quarters full of ice.
 - Do not touch the ice with your hands.
 - Use a non-metal scoop or disposable plastic gloves (provided by the laboratory) to place the ice in the container.
- **Dishwashing outlets:** If an outlet is designated for dishwashing only and involves no opportunity for drinking or cooking including food preparation, the outlet does not require sampling. Any outlet excluded from sampling should be documented in the Remedial Action Plan (and consider additional controls such as signs and education). If the outlet may be used for drinking or cooking, the outlet must be sampled.
- **Food washing outlets:** Food washing faucets must be sampled as they are used for food preparation and potentially for drinking. Only the cold water should be turned on for sampling.
- **Lavatory Sinks:** Toilet rooms and bathrooms are building environments that can present unique challenges to water potability. These challenges are reflected in various code provisions that prohibit the installation of drinking facilities, drinking fountains, water coolers, and water dispensers within toilet rooms and bathrooms. NYS DOH would not object to designating these outlets nonapplicable where controls (e.g., education and signage) exist to prevent the consumption of water. The school should include these outlets in the Remedial Action Plan with details on how their potential use will be mitigated.
- **Classroom sinks:** If the outlet is used for drinking and/or cooking, it must be sampled. However, if the school has controls in place to prevent the consumption of water, Superintendents or their designees have the discretion to exclude these outlets from sampling and include them in the Remedial Action Plan.
- **Tempered water outlets:** The EPA and NYS DOH recommend that hot or tempered water not be used for drinking or cooking as hot or warm water increases the leaching of lead into the water. As such, tempered water outlets do not require sampling. The National Plumbing Code defines tempered water as water having a temperature range between 85 degrees Fahrenheit and 110 degrees Fahrenheit, and hot water as water at a temperature greater than or equal to 110 degrees Fahrenheit. Cold water is considered water at the temperature at which it is delivered to the service connection. For the purpose of this program, tempered outlets are any outlets that convey water that is heated for the purpose of providing water that is warmer than what is supplied at the service connection, but not hot water. This is typically achieved through the use of mixing valves to blend water from both hot and cold-water supply lines, in accordance with applicable plumbing standards. However, tempered outlet configurations that allow for easy temperature adjustment at the

point of use to provide water, which is supplied solely from the cold-water line, are an exception and should be sampled. Tempered water outlets that are not subject to sampling should be clearly posted with signs (“Do Not Drink” or equivalent), education should be provided to the students and staff to ensure awareness that they should refrain from using the outlets for consumption, and the outlets should be documented in the Remedial Action Plan.

- **Science/Art room outlets:** If the outlet may be used for drinking or cooking, the outlet must be sampled. However, some schools have controls in place including restrictions on food or drink consumption in science classrooms and laboratories and teacher supervision. In such cases, the Superintendent or their designee has the discretion to exclude these outlets from sampling and include them in the Remedial Action Plan.
- **Custodial closet outlets:** If the outlet is only used for custodial purposes and not for drinking, then the outlet does not need to be sampled. Any outlet excluded from sampling should be documented in the Remedial Action Plan (and consider additional controls such as locks, signs, and education).
- **Point of entry:** The location where water enters the building (point of entry) from the distribution system of a public water system does not require sampling under Subpart 67-4.
- **Bus garage:** Outlets in bus garage buildings do not require sampling unless the building is occupied by students (e.g., BOCES classes).

Selecting a Laboratory

All water samples must be analyzed by an environmental laboratory certified by the NYS DOH Environmental Laboratory Approval Program (ELAP) to conduct lead testing in drinking water.

A list of ELAP-approved laboratories can be found at:

<https://apps.health.ny.gov/pubdoh/applinks/wc/elappublicweb/>

1. From the link above, follow these directions:
 - Check the box: “I am not a robot”
 - State: select “New York” from the drop-down
 - County: select the county of interest
 - Type: select “Commercial”
2. In the “Advanced Search” box:
 - Category: select “Potable Water”
 - Analyte: select “Lead, Total”
3. Click on “View Results”

Search NY Accredited Environmental Laboratories

Main Search

LAB NAME

STATE COUNTRY

COUNTY TYPE

Must select a County in NY.

Advanced Search

CATEGORY

ANALYTE

METHOD

When choosing a laboratory, consider the following:

- **Do you want the laboratory to conduct the sampling in addition to the analyses?** If yes, let the laboratory know that samples will likely need to be collected between 5:30 a.m. and 7:30 a.m. Sampling services outside of business hours may influence the cost.
- **What is the cost of the laboratory's services, and what is included in that cost?** Costs will vary between laboratories and depending upon the extent of the services needed. Some laboratories may offer bulk analysis rates for handling a large number of samples.
- **What is the laboratory's turnaround time for providing sample results?**

Once a laboratory is selected, schools are advised to establish a written agreement or contract with the laboratory for the services to be provided.

Sampling Protocol

Sample Containers

The required sample volume for analysis of lead in school drinking water is 250 milliliters (mL). NYS DOH recommends the use of wide-mouth 250 mL plastic containers for this program.

Samples collected using 1-liter sample containers (as used for the Lead and Copper Rule testing) do NOT meet the requirements of Subpart 67-4. Schools should contact their ELAP-approved laboratory to obtain the appropriate 250 mL plastic bottles for sampling and the laboratory chain of custody forms.

Nitric Acid preservative

Some laboratories may add nitric acid, a sample preservative, to sample containers prior to container shipment. Avoid direct contact with nitric acid as it can burn skin and damage clothing. As a safety precaution, schools may request their laboratory send sample containers without nitric acid and request that the laboratory add the nitric acid upon receipt of the samples. In such cases, schools must ship the samples as soon as possible so the laboratory can add nitric acid in time.

Prior to container shipment, schools should contact their laboratory to discuss such options and costs.

Sample Requirements

All samples collected for lead testing as part of Subpart 67-4 must be “first-draw” samples. A “first-draw” sample is a water sample collected from an outlet early in the morning before any water is used from that outlet. The water shall be motionless in the pipes for a minimum of 8 hours, but not more than 18 hours, prior to first-draw sample collection.

Sample Collector Requirement

Any individual who understands the Subpart 67-4 requirements and is familiar with first-draw sampling protocols may collect samples. This includes, but is not limited to, a school staff member, a laboratory representative, or a consultant. The individual collecting the samples must be able to maintain quality assurance and control over the sampling and assure the chain of custody of the water samples is maintained during the sampling process.

Sampling Instructions

Recommended Sampling Instructions:

1. Ensure all items needed to collect the samples are available. This includes the appropriate number and size (250 mL) of sample bottles, labels, waterproof pens for labeling the sample bottles, and the laboratory chain of custody form.
2. Do not open any sample container until you are ready to collect the sample. Do not touch the interior surfaces of the bottle or cap. Keep food and drink away from the sampling area.
3. First-draw samples should be collected early in the morning before any water has been used in the building (this includes water for janitorial sinks, toilets, outside hoses, and irrigation systems (unless the irrigation system is served by its own service line)). Water must be motionless between 8 and 18 hours prior to sampling. To ensure water is not used, schools may secure outlets or hang “Do Not Use” signs.
 - a. Avoid collecting samples in the mornings after vacations, weekends, or holidays unless specifically directed to do so.
 - b. If a school has instituted a formal routine flushing program as part of their Remedial Action Plan to address lead levels in water, the school should contact the NYS DOH or their local health department for guidance on when to perform the sampling.
4. On the morning of the sampling, perform a quick walk-through of the facility to ensure no outlets were left running overnight.
5. Make sure no water has been drawn from the outlet before you collect the sample.
6. Follow the sampling plan. Begin sampling at the outlet closest to the Point of Entry (where the water enters the building) and continue to progress toward the outlet farthest from the point of entry. If there are multiple floors, it is typically recommended to sample from the

bottom floor and continue up.

7. If a drinking water fountain is being sampled, angle the container's mouth in a way that it will capture the entire flow of water from the bubbler.
8. If the outlet is a motion-sensor or metered faucet, collect the sample as you would under normal use conditions.
9. Do not remove aerators or screens prior to sampling. Potential sources of lead may be missed if aerators are removed since debris trapped in the aerator screen could be contributing to the lead in drinking water.
10. Place the container under the outlet that is being sampled and turn on the cold water tap at the same rate that would be used under normal use for filling a glass of water, taking precautions to not allow any water to run down the drain.
11. Securely cap the container and follow the instructions provided by the certified laboratory.
12. Label the sample bottle with the same information (unique sample identifier, date, time, location, etc.) as on the Chain of Custody form.
13. Record any observations that may impact the samples' results (e.g., leaking outlets, discolored water, or low water pressure) on the chain of custody form.
14. Prepare the container for shipping according to the certified laboratory's instructions.
15. Ship the sample according to the certified laboratory's instructions and within the time frame recommended by the laboratory.

Interpreting Laboratory Results

Lead Action Level

The action level for lead in school drinking water is **5 micrograms per liter (mcg/L) or parts per billion (ppb)**, which is also equivalent to 0.005 milligrams per liter (mg/L) or parts per million (ppm).

For the purposes of comparing laboratory test results to the lead action level under Subpart 67-4, the following applies:

- Lead results equal to or less than 5 mcg/L (≤ 5 ppb) do *not* exceed the lead action level and, therefore, do not require further sampling or remediation.
- Lead results greater than 5 mcg/L (> 5 ppb) *exceed* the lead action level and, therefore, require the outlet to be taken out of service and a Remedial Action Plan to be implemented.

Response to an Action Level Exceedance

Immediate Response

If the lead test result for an outlet exceeds the action level (5 mcg/L, or ppb), the school must do the following:

1. Prohibit the use of the outlet (remove from service) until:
 - a. A Remedial Action Plan is implemented to mitigate the lead level at the outlet, and
 - b. Post-remediation test results indicate that the lead levels are at or below the action level;
2. Provide building occupants with an adequate supply of water **free of charge** for drinking and cooking until post-remediation lead test results are at or below the action level;
3. Report the test results to the local health department as soon as practicable, but no more than one **(1) business day after** the school received the laboratory report; and
4. Notify all staff and all persons in parental relation to students of the test results, in writing, as soon as practicable but no more than **10 business days** after the school received the laboratory report.

Refer to the [Reporting Requirements of All Test Results](#) section for additional reporting details and more information concerning reporting deadlines.

Corrective Actions / Remediation

The school may choose to obtain professional services or utilize internal staff to support and perform remediation activities. Schools should consider the following remedial options for addressing outlets that exceed the action level:

- **Permanent outlet removal.** If the outlet is seldom used, it may be disconnected or removed from the water supply line. Prior to removing the outlet, verify that the outlet is not required for compliance with the local building code or NYS Education Department requirements for access to potable water within the building. To ensure that an outlet is permanently taken out of service, the NYS DOH recommends removing the outlet (fixture) and capping the supply line with plumbing materials that are lead-free.
- **Outlet and/or Pipe replacement** with lead-free plumbing materials. If the existing outlet and/or plumbing is suspected to be the source of the contamination, replace it with a new product that meets the Safe Drinking Water Act

Schools must ensure that students have adequate access to drinking water. If a school is contemplating permanent outlet removal, signage, and/or engineering controls, the school must evaluate whether alternate options to attain drinking water are readily accessible. If alternate options are not readily available, a school should consider other remedial options to ensure access to drinking water. Further, NYS codes, regulations, and standards prescribe minimum requirements for drinking fountains and outlets based on the date of building construction, number of occupants, number of floors, and other attributes that must be complied with.

Section 1417 (a)(4) definition of lead-free (effective January 4, 2014).³

- For an increased level of confidence, consider purchasing products that have received National Sanitation Foundation Standard (NSF)/American National Standards Institute (ANSI) 61 (for leaching of contaminants) and ANSI 372 (for the weighted average of lead on wetted surfaces) certification from an ANSI accredited third-party certification body. As such, consider including a copy of the NSF/ANSI 61, 372 certificates as a requirement on the purchase orders. The distributor or manufacturer can provide a list of certified products.
 - See EPA's 2015 guidance, [How to Identify Lead-Free Certification Marks for Drinking Water System & Plumbing Products](#) for additional information.
- **Flushing.** Schools may consider developing a systematic flushing program to implement routinely (at a specified frequency). Flushing is generally used as a short-term measure and paired with permanent remediation like replacement or removal of an outlet. See the EPA's [3Ts Flushing Best Practices](#) factsheet for additional information.
- **Point of Use (POU) Filters.** POU filters are filters installed at individual outlets. They are commercially available and can be effective in removing lead. Schools may choose to use certified lead-reducing filters as a long-term or permanent control measure with proper maintenance. To select a lead-reducing POU filter, check with the manufacturer or a third-party website (such as www.nsf.org or www.wqa.org) to verify the product was tested and certified against NSF/ANSI Standard 53 (for lead removal). For additional protection for particulate lead, look for a POU filter that is also certified against NSF/ANSI Standard 42 (for class I particulate reduction, 0.5 µm to <1 µm). Filters require routine maintenance (e.g., cartridge filter units need to be replaced periodically) to remain effective. Be sure to follow the filter manufacturer's instructions for maintenance and replacement. If POU filters are being considered, be sure to factor in the cost of the filters and long-term maintenance and replacement costs.
- **"Do Not Drink" Signage.** In general, posting "Do Not Drink" or equivalent signs at outlets is considered a temporary measure. However, some outlets (e.g., science laboratories and lavatory sink outlets) may have signs posted long-term if the school has also instituted other controls including supervision and education to ensure the outlets are not used for consumption. Example signage can be found on NYS DOH's website at:
- https://www.health.ny.gov/environmental/water/drinking/lead/docs/donotdrinksigns_lead
- Schools may develop their own signs and consideration should be given to the age of the children, as pictures may be more appropriate for younger children.
 - Signs must be clearly visible and in **close proximity** to the affected outlets. Placing a sign at a room entrance (e.g., a lavatory entrance) is not acceptable.
- **Supervision of Outlet Use as a Control Measure:** In areas where supervision is present and there are policies to prevent the use of water for consumption purposes (e.g., no

³ Safe Drinking Water Act Section 1417 (a) (4) defines lead-free as not containing more than 0.2 percent lead when used with respect to solder and flux and not more than a weighted average of 0.25 percent lead when used with respect to the wetted surfaces of pipes, pipe fittings, plumbing fittings, and fixtures.

drinking or eating in science laboratory classrooms), supervision may be used as a remedial action. Supervision should be used in combination with other controls.

- **Engineering controls.** Engineering controls may be implemented to prevent the consumption of water from specific outlets. Engineering controls include locked doors to janitor's closets, special keys to operate an outside hose bib, and other controls. Engineering controls should be combined with continued education of reminding staff and students not to consume water from these outlets and with signs as needed.
- **Education.** Educate the school community (students, parents, teachers, and staff) to reinforce understanding and compliance with engineering controls, supervision controls, and signage.

Post-remediation Testing

Only those outlets that exceeded the action level need to be resampled following remediation, including outlet or pipe replacement, filter installation, implementation of a flushing program, or other measures. Post-remediation samples must be collected, and the test results must be at or below the lead action level before an outlet may be returned to service. Schools should adhere to the following when preparing for or performing post-remediation sampling:

- All remediated outlets should be flushed following remediation and in advance of sampling. Remediation can introduce lead particulates into the drinking water that should be removed through flushing. The duration of the flushing varies depending on the type and extent of remediation performed. Large-scale pipe replacement should be flushed longer than a single outlet replacement. Schools should follow manufacturer/industry recommendations or consult with a professional (e.g., plumber or engineer) for additional guidance as needed.
- Following flushing, water shall remain motionless in the pipes for a minimum of 8 hours, but not more than 18 hours, prior to sample collection. Post-remediation samples must be "first-draw" samples. It is important to note that "first-draw" sampling is designed to provide information on the contribution of lead from an outlet. Schools may choose to perform additional sampling (e.g., 30-second flush samples) to determine the contribution of lead from plumbing that provides water to an outlet to guide remediation decisions. In addition, several **rounds** of post-remediation sampling may be necessary prior to obtaining results that meet the action level requirement. Additional flushing may be performed between sampling rounds. A school that has performed repeated efforts to remediate an outlet(s) but cannot achieve the lead action level is encouraged to contact the NYS DOH or its local health department.

Remedial Action Plan

A Remedial Action Plan is a detailed summary of the actions implemented to mitigate sources of lead that had exceeded the action level and to minimize exposure to lead in drinking water. The Remedial Action Plan should be updated anytime conditions change – including when new test results become available, additional remediation is planned or completed, engineering controls are modified, or when other related actions occur.

The Remedial Action Plan should include the following:

1. A summary of all outlets that exceeded the lead action level and the remedial actions that were/are implemented.
2. A summary of any outlet that is not used for drinking or cooking (e.g., locked custodial closet/outlet) determined to be outside the scope of the regulation. This summary should include a description of the controls in place to ensure the outlet is not used for drinking or cooking.

The Remedial Action Plan should be retained in a central repository at the school and made available for review upon request. *A Template for Documenting and Tracking Remedial Actions* can be found at [Lead Testing of School Drinking Water](#).

Maintenance and Monitoring Schedules and Documentation

For outlets, which exceeded the lead action level but are not permanently removed from service or replaced with an outlet that achieved the lead action level, the Remedial Action Plan should describe the maintenance efforts to be performed to ensure the remedial actions are effective for each outlet. This may be captured in a Maintenance and Monitoring Schedules and Documentation (“Maintenance and Monitoring”) section of the Remedial Action Plan. Outlets may be grouped if the controls instituted are the same. For example:

- If signs and supervision are instituted as a control, the Maintenance and Monitoring section should describe the controls, their location, the frequency of inspection, and the individual(s) responsible for inspection.
- If filters are installed, the Maintenance and Monitoring section should describe the minimum requirements prescribed by the manufacturer, the inspection schedule, and the individual(s) responsible.
- If a flushing program is instituted, the Maintenance and Monitoring section should describe the flushing plan including the flushing frequency (day/time), duration, and the individual(s) responsible.

All remedial measures employed should be described in the Remedial Action Plan. *A Template for Maintenance Recordkeeping* can be found at [Lead Testing of School Drinking Water](#)

Reporting Requirements for All Test Results

Schools must report the following information per Subpart 67-4:

- **Within 1 business day of receipt of laboratory reports:** Report any exceedances (lead result greater than 5 ppb) to the local health department.
- **Within 10 business days of receipt of laboratory reports:**
 - Report any exceedances (lead results greater than 5 ppb) to all staff, parents, and guardians in writing. Physical written notification should be distributed to all staff and persons in parental relation to the child. *A Template Parent Letter* for communicating the test results to parents/guardians can be found at [Lead Testing of School Drinking Water](#). Posting the information on the school website or through

social media does not constitute written notification.

- Report *current* test results (including post-remediation results) and other required information in the NYS DOH's electronic reporting application, HERDS.
- **Within 6 weeks of receipt of laboratory reports:** Post numeric test results of all lead testing, including lab reports, and information about remedial actions taken on the school's website. Schools should provide a narrative describing the test results to help parents and guardians understand the results. The posting should be readily visible on the school's website and must remain posted for the duration of the compliance period. For example, test results for the 2020 compliance period should remain on the school's website until the 2023 - 2025 compliance results are available, at which time the 2020 results may be removed. A *Template for Posting Lead Results on School Website* can be found at [Lead Testing of School Drinking Water](#).

Recordkeeping Guidance and Templates

The school must retain all records of lead test results, remediation actions, and historical determinations that a building is lead-free (if applicable) for ten years following the creation of such documentation, in accordance with Subpart 67-4. Copies of such documentation shall be available to provide immediately to the NYS DOH, NYS Education Department, and applicable local health department, upon request.

It is recommended that all such records be kept on-site in a centrally accessible repository, for each school. The following are examples of those records:

- Names and contact information for all the program partners
- Map or diagram of the building identifying all outlets
- Sampling plan
- Copies of laboratory reports
- Copies of all communication records with staff, parents, and guardians
- Remedial Action Plan

Electronic Reporting Requirements

Schools must report the required information using the NYS DOH's statewide electronic reporting application, HERDS, accessed through the NYS Health Commerce System (HCS). The Health Commerce System is a secure online communications system. *Health Commerce System Account Management and Access Information*, as well as *How to Access the 2023-2025 HERDS Reporting Form on Health Commerce System Information*, can be found at [Lead Testing of School Drinking Water](#).

The information provided on the HERDS reporting form is made available to the public on Health Data NY ([State of New York | Open Data Health | State of New York](#)). The data displayed on

Health Data NY is updated regularly.

Establishing Routine Practices

Schools can promote compliance and take steps to further reduce the potential for exposures to lead and other environmental hazards such as bacteria in drinking water by implementing various routine practices. Schools are encouraged to adopt one or more of the following practices as part of the school's overall watermanagement program. Please note, **these practices should not be conducted immediately prior to collecting water samples as part of Subpart 67-4**. If a school has questions about when to perform water sampling in relation to performing one or more of the practices below, they may contact the NYS DOH or their local health department for guidance.

Clean Drinking Water Fountains

- Clean drinking water fountains regularly, including the aerator(faucet screen) and water fountain strainer.
- Create a cleaning schedule for drinking water fountains and establish a record to document when the fountains are cleaned.
- Consider posting the cleaning record by the drinking waterfountains to allow the cleaning dates/times to be recorded.

Did you know? The aerator also known as the faucet screen can act as a filter, catching small particles of dirt and other debris, which may contain lead that can leach into the drinking water.

Aerator Cleaning

Clean outlet aerators regularly. If debris buildup is observed, more frequent cleaning is recommended.

Temperature Control

- Use only cold water for food and beverage preparation.
- Consider replacing tempered outlets with non-tempered outlets.

Did you know? Hot water dissolves lead more quickly than cold water and may contain higher lead levels.

Routine Flushing Practices

- Regularly flush all water outlets used for drinking or food preparation, particularly after weekends and long vacations when water may have been stagnant for a long period of time.
- To flush, open valves and faucets and let the water run to remove standing water in the interior pipes and/or the outlets. Flushing time varies depending on plumbing configuration such as the length and diameter of pipes and the type of outlet.
- Be careful not to flush too many outlets at once. This could dislodge sediments that might create further lead problems, or it could reduce pressure. If the flow from outlets is reduced noticeably during flushing, too many outlets have likely been turned on at once.

- For additional information about EPA's Best Flush Practices (Module 6), refer to [3Ts for Reducing Lead in Drinking Water | US EPA](#).

Education

Educate the students and staff about ways they can reduce their exposure to lead in drinking water both at school and at home, including:

- ***Use only cold water for drinking and food preparation.*** If hot water is needed, it should be taken from the cold water faucet and heated on a stove or in a microwave. Consider creating notices that can be posted near outlets used for drinking water or in food preparation areas to advise students and staff to use cold water for consumption.
- ***Let it run before use.*** Running water at a tap, prior to using it for drinking or food preparation, will typically help reduce lead in the water. This works by removing the water that has been in the longest contact with the plumbing materials. Let the water run for 30-60 seconds or until the water feels cold before using it for drinking or cooking.

Other Routine Maintenance

- Use only NSF/ANSI 61 certified lead-free materials when performing plumbing work.
- If the school has any treatment system installed, e.g., a softener or filter, follow the manufacturer's instructions for routine maintenance.

Lead and Copper Rule for Public Water Systems

[NYS drinking water regulations, Subpart 5-1](#), establishes an action level of 15 mcg/L (or 15 ppb) for lead in drinking water for public water supplies. This action level does not apply to outlet-specific lead result, but rather is applied to a 90th percentile calculation using results from multiple samples taken from within a public water system's distribution system.

Schools that serve as a public water system (schools with private wells serving 25 or more students and staff) are required to comply with the requirements of Subpart 5-1 as well as with Subpart 67-4. Subpart 5-1 and Subpart 67-4 are two distinct regulatory programs with different sampling requirements and action levels. Results for compliance with Subpart 5-1 should be reported to the NYS DOH per the local health department's reporting requirements, while results for Subpart 67-4 must be reported through the NYS DOH's electronic reporting application, HERDS on the Health Commerce System.

More Resources

NYS DOH Lead Testing in School Drinking Water website: [Lead Testing of School Drinking Water \(ny.gov\)](#)

EPA's 2018 3Ts for Reducing Lead in Drinking Water in Schools and Child Care Facilities, Revised Manual: [3Ts for Reducing Lead in Drinking Water | US EPA](#)

Reduction of Lead in Drinking Water Act: [Use of Lead-Free Pipes, Fittings, Fixtures, Solder.](#)

[and Flux for Drinking Water | US EPA](#)

How to Identify Lead-Free Certification Marks for Drinking Water System & Plumbing Products. Latham, M., M. Schock, AND E. Nauman. US EPA Office of Research and Development, Washington, DC, EPA/600/F-13/153c, 2015. This publication provides information to identify lead-free certified products. [How to Identify Lead Free Certification Marks for Drinking Water System & Plumbing Products | Science Inventory | US EPA](#)

3Ts Flushing Best Practices. US EPA Office of Water, EPA 815-F-18-027, 2018: [Module 6: Remediation and Establishing Routine Practices - Flushing Best Practices Factsheet \(epa.gov\)](#)

The Lead Contamination and Control Act (LCCA) Text - H.R.4939 - 100th Congress (1987-1988): Lead Contamination Control Act of 1988 | Congress.gov | Library of Congress

Public Law 100-572 was passed in 1988 and applies to all schools. The intent of the LCCA is to identify and reduce lead in drinking water at schools and relies on voluntary compliance by individual schools and school districts. It focuses on certain models of watercoolers, while also addressing lead risk reduction generally. Although compliance with the LCCA is voluntary, schools are encouraged to review its recommendations and consider implementation where appropriate. <https://www.epa.gov/sites/production/files/2015-09/documents/epalccapamphlet1989.pdf>

For a list of water coolers banned in 1988, water coolers with lead components, and lead-lined tanks, go to EPA's 3Ts for Reducing Lead in Drinking Water Toolkit, Module 4, at: [Module 4: Developing a Sampling Plan - Leaded Water Coolers Banned in 1988 \(epa.gov\)](#)

Consumer Tool for Identifying Point of Use (POU) Drinking Water Filters Certified to Reduce Lead: [A Consumer Tool for Identifying Point of Use \(POU\) Drinking Water Filters Certified to Reduce Lead \(epa.gov\)](#)