



# Lead and Drinking Water

## SCHOOLS AND LICENSED CHILD CARE CENTERS

Lead can enter drinking water through corrosion of lead-based plumbing materials. Corrosion is a process that dissolves or wears away metal, caused by a chemical reaction between water and lead-based plumbing materials. Buildings built before 1986 are more likely to have lead pipes, lead-containing fixtures, and/ or solder containing lead. Therefore, some fixtures may dispense water with detectable lead concentrations.

Federal, State, and local agencies that established a lead level threshold in drinking water, if exceeded, require a corrective action. The U.S. Environmental Protection Agency (EPA) regulates lead in drinking water under the Lead and Copper Rule (LCR). The LCR specifies lead monitoring in drinking water that considers vulnerable residences with a lead Action Level of 15 micrograms per liter ( $\mu\text{g}/\text{L}$ ), which is measured at customers' taps. The LCR Action Level refers to a lead concentration measured at the tap instead of the municipal water supply system because lead in drinking water typically comes from household plumbing.

### BASIC REQUIREMENTS IN AB 2370 CONCERNING LEAD IN DRINKING WATER FOR CCCs

California Assembly Bill (AB) 2370 requires Licensed Child Care Centers (CCC) operating in buildings constructed before January 1, 2010, to have their drinking water tested for lead levels by January 1, 2023, and then follow-up tests every 5 years after the date of the first lead test. This requirement applies to CCCs only, not to Family Child Care Homes. If the water lead levels exceed an Action Level of 5  $\mu\text{g}/\text{L}$ , CCCs are required to take further action, such as replace water fixtures. More information can be found on [California Department of Social Services \(CDSS\)](#) website or on their [CCCs frequently asked questions](#) document.

Per AB 2370, CCCs are required to have a certified water sampler collect samples and deliver them to an Environmental Laboratory Accreditation Program (ELAP) laboratory. View the [certified water samplers directory](#). SFPUC is not participating in the CDSS CCC sampling.

### SFPUC SAMPLING FOR SCHOOLS

From 2017 to 2019, there was lead testing of fixtures in all San Francisco Unified School District K-12 campus locations and sites. In addition, the program tested fixtures at several private, parochial and non-affiliated schools throughout San Francisco. Results are found at <https://sfpuc.org/accounts-services/water-quality/lead>.

The EPA is developing a new rule, the [Lead and Copper Rule Improvements \(LCRI\)](#), that will improve the LCR Revisions that require public water systems to offer lead sampling to schools. The California State Water Resources Control Board (SWRCB) directed water agencies to postpone sampling for K-12 schools until the EPA's LCRI is released by the EPA; therefore, the SFPUC has postponed participating in this program until the LCRI is released (anticipated in 2024).

### SWRCB FINANCIAL ASSISTANCE

Funding assistance for eligible CCCs is based on certain criteria, such as economic needs and age of the children served. More information can be found on [SWRCB's financial assistance program and eligibility requirements](#) page.

The following sections describe some measures to help reduce exposure to lead in tap water. They are typically utilized when the lead level at a fixture exceeds the threshold.

### PERMANENTLY SHUT DOWN THE FAUCET OR FOUNTAIN (TAP)

If feasible, the simplest approach is to permanently shut down or isolate a high-lead water tap.

### REPLACE PLUMBING COMPONENTS


If only temporary shutdown of the tap is feasible, high-lead plumbing components should be replaced. If a faucet tests high in lead (e.g., due to its age), it should be replaced immediately with a lead-free faucet that is available at hardware stores. The new lead-free faucet, once installed, should be flushed, and then be used for non-drinking or non-food preparation purposes until a lead test from the new tap is below the desired threshold value.


If faucet replacement fails to reduce lead levels, SFPUC will provide lead testing at the meter (influent line to the building). If lead levels are low at the meter, the source of lead must be from interior plumbing, between the meter and the new faucet. In this scenario, replacement of old plumbing on the property is recommended. The replacement costs for internal plumbing vary, and the property owner or facility operator should consult a licensed plumber for the cost estimate.

Make sure that the person who does the repair or replacement work on the internal plumbing system uses only “lead-free” solder and materials. The U.S. Safe Drinking Water Act and California regulations require that only “lead-free” materials be used in new plumbing and plumbing repairs.

## INSTALL A WATER FILTER

You can install an NSF certified water filter to remove lead. These filters come in different configurations and can be installed in different locations, such as mounted at the outlet of a tap or installed in the supply line under the sink. Cost of lead-removal filters vary and the price information for the desired filter can be obtained from suppliers or vendor websites.

 **Be careful,** not all filters will remove lead. NSF International, an independent, third-party certification organization, has developed a standard for testing and certifying the performance of treatment devices for lead removal (NSF Standard 53 and NSF Standard 58). Before purchasing any device, ask the manufacturer or vendor for proof of NSF certification and the Performance Data Sheet, or check by visiting the NSF website.

 **Be careful,** follow all the manufacturer’s installation and maintenance instructions diligently if a filter is used for lead removal. Timely filter replacement is important.

## CONDUCT DAILY FLUSHING

If other options are not viable, then a temporary option is to conduct daily flushing until a permanent corrective action can be implemented. The contact time of water with lead-based plumbing components contributes to the elevated lead levels in water. Flushing out stagnant water regularly helps keep lead levels low. A daily flushing program may be used to clear the pipes and fixtures where lead levels are high in the property. Flushing involves opening high lead taps every morning before any water usage to flush out the water that has been standing in the interior pipes and/or the fixtures since their last significant use. Flushing should also be conducted whenever a high-lead tap has not been used for

more than six hours. The flushing time varies by the type and location of the fixture being cleared. A quick and simple way to assess sufficient flushing is an appreciable water temperature change. While this flushing protocol is generally recommended for single-family properties, a large property such as a school, daycare center, or a campus with multiple buildings may need to establish its own flushing program that contains the following tasks:

### TESTING TO ESTABLISH NEEDED FLUSHING TIMES

Before any water uses in the morning, flush the high-lead taps:

- a. Locate the tap furthest away from the service line on each wing and floor of the building where high-lead levels have been detected. Fully open the taps for a high flow rate, and let the water run for 10 minutes. The 10-minute time frame is generally adequate for most buildings. Then flush the specific taps to be tested as specified in b, c or d as appropriate.
- b. For kitchen taps (and other taps where water will be used for drinking and/or cooking), open the taps and let the water run for 1 minute, or until cold.
- c. For drinking water fountains without refrigeration units, let the water run for about 1 minute, or until cold.
- d. For drinking water fountains with refrigeration units, let the water run for 15 minutes (to flush out all the water that has been sitting in the refrigeration unit).

### DAILY FLUSHING AND RECORDKEEPING

1. Carry out the established flushing program each day; repeat when you want to use a tap that has not been used for more than 6 hours to keep the water fresh in the pipe.
2. Facility maintenance staff are recommended to record all flushing activities in a log that is submitted daily to the person in charge of the flushing program.

Flushing is only a short-term, temporary remedy; the long-term solution is to replace all lead-containing components in the plumbing system, including the water taps. If changes are made to the plumbing, the need for and required extent of flushing should be re-evaluated.

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