



OKLAHOMA DRINKING WATER

LEAD TESTING

IN PUBLIC SCHOOLS & CHILD CARE FACILITIES

How to Understand Test Results and Create an Action Plan

Lead Testing in Public Schools and Child Care Facilities (LWSC) Program

A Program of the Oklahoma Department of Environmental Quality (DEQ)

If at any point while reviewing this guide or creating your action plan you would like support from the program team, please contact the program helpline via phone: (405) 440-3180 or email: info@okeadtesting.org. Helpline hours are 8 AM – 4 PM CT.

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Introduction

You've enrolled in the Lead Testing in Drinking Water in Schools and Child Care Facilities (LWSC) program, completed sample collection, and received your results. Now it is time to **Take Action** to reduce lead in drinking water at your school or child care center and complete the LWSC Program.



This guide outlines different steps that can be taken to reduce sources of lead in drinking water. The best **control measures** for a building or a drinking water outlet where lead was detected may depend on several factors. Understanding the test results is the first step in creating an action plan.

How to Interpret Results

Parts per billion (or "ppb") is a measure of the concentration of lead in water. Each sample that is collected as part of the program has a corresponding lead concentration in ppb. If the concentration is < 1ppb, it means that lead was not detected in the sample at or above 1 ppb.

The **Outlet ID** is a combination of "Program ID - Outlet Number." The Outlet ID helps to identify where a drinking water outlet is located.

A **first draw sample** is collected after water has been sitting unused for 8 to 18 hours. This may indicate if lead is detected in the drinking water from a specific water outlet (drinking fountain, kitchen/classroom sink, etc.).

A **flush sample** is collected when water has run for 30 seconds. Flush samples have an "F" at the end of the Outlet ID. If the flush result exceeds 5 ppb, the source of lead may be from plumbing upstream.

When Should I Take Action?

At minimum, if a test result is 10 ppb or higher, the outlet should not be used for drinking or cooking until the source of lead is corrected. Facilities may also choose to take action on drinking water outlets with lead detections below 10 ppb, as there is no known safe level of lead for children.

- Shutting off outlets can be a permanent solution if the outlet is not used regularly or needed for drinking or cooking.
- Posting clear signage can notify people that the outlet should only be for handwashing or cleaning purposes and NOT drinking or food prep.
- Template signs are available in this guide.



Creating an Action Plan

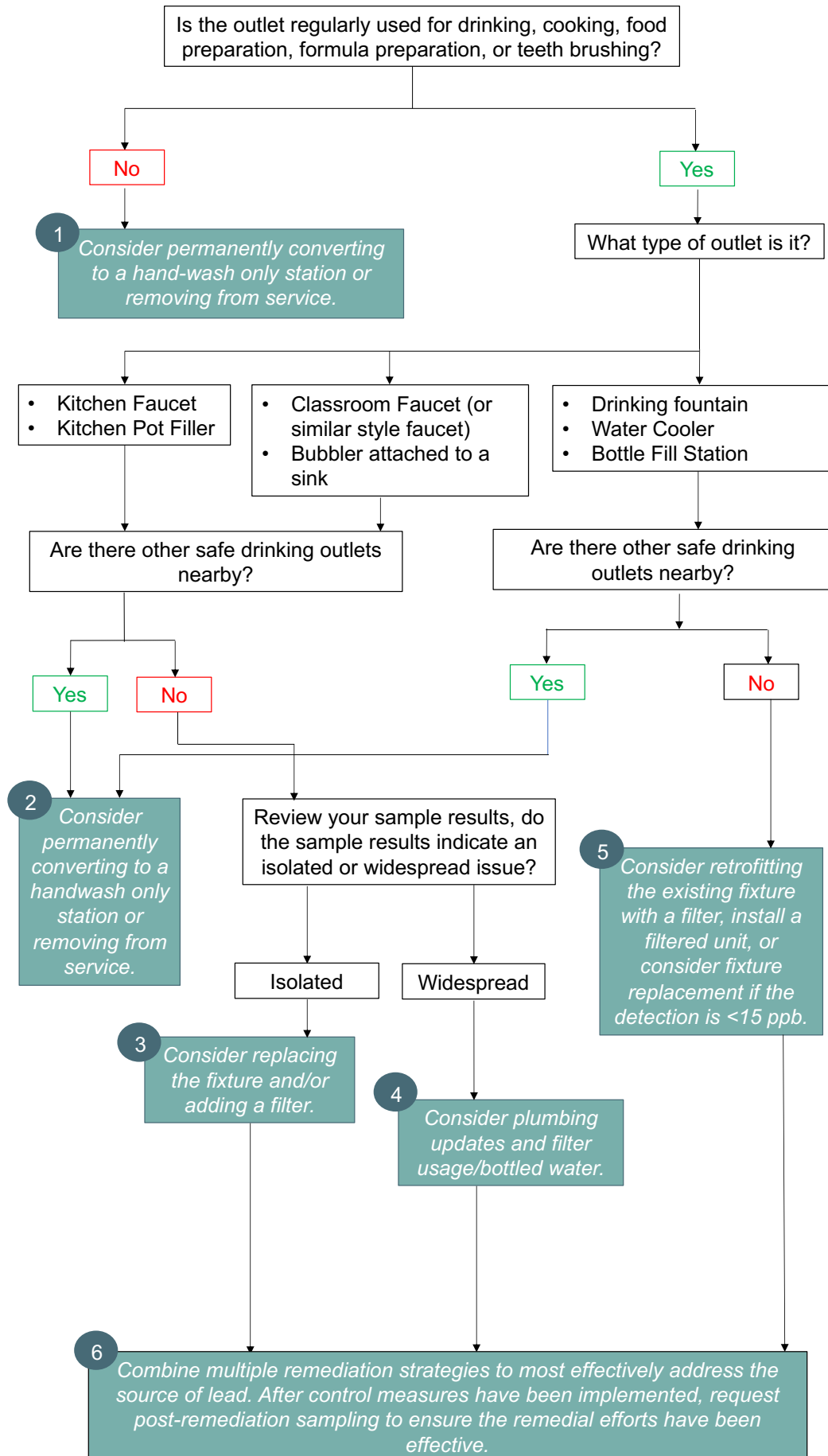
The best control measure is unique to each situation. There are several options to correct an outlet with an elevated lead test result. You can decide what works best for your facility. These are many factors to consider, including:

- Outlet type
- Intended use of outlet
- Age of building
- Age of fixture
- Test results at an outlet
- Test results across a building
- Funding availability

Reviewing test results on a “building level” may indicate whether the issue is isolated to a wing or outlet within the building, or if it may be more widespread.

- If the results indicate the issue may be isolated to a single outlet, then some types of actions, such as replacing a fixture, may be effective.
- If the issue appears more widespread, strategies that address lead on a building-level may be more effective.

Control Measure Decision Tree



1-2 Converting to a “hand-wash only” station or removing from service

- Consider turning outlets not commonly used for drinking (e.g. bathroom faucets, classroom faucets, art sinks, science sinks) into hand-wash only stations with appropriate signage.
- Hand washing is not a concern for lead exposure. According to the EPA, human skin does not absorb lead in water. However, the EPA also recognizes that there is no safe level of lead, and that negative health effects of lead can occur in children with low levels of exposure.
- To permanently remove a faucet or fixture, consider proper disposal techniques.

3 Fixture replacement and filters

Replacing a fixture that contains lead with a certified “lead-free” version may be a viable option. It is important to note that there could be other plumbing components that may contribute lead to a single outlet.

- Adding a point-of-use (POU) filtration unit to the outlet (either alone or in combination with a fixture replacement) may help mitigate other sources of lead.
- The National Sanitation Foundation (NSF) and the Water Quality Association (WQA) are two organizations that provide certified water filters. Filters also require routine maintenance (e.g., regular replacement) to remain effective.
- POU filters are not effective for outlets with test results above 150 ppb.

4 Plumbing updates and filters

If the flush results from an outlet come back at or above 5 ppb OR sampling indicates a building-level issue, lead may be present in the premise plumbing. A plumber may be helpful to check for signs of corrosion.

- Install new plumbing fixtures or redirect water used for drinking or cooking. Ongoing building renovations may provide an opportunity to install these.
- Add filters to your drinking water sources as an alternative to extensive plumbing repairs. You may also choose to block access temporarily or permanently to outlets with elevated lead levels.

5 Replacing or retrofitting drinking fountains

- Consider adding filter(s) that remove lead to drinking fountains, as they can reduce the risk of exposure to lead. Make sure that any filters purchased are NSF or WQA certified to remove lead. Filters also require routine maintenance (e.g., regular replacement) to remain effective.
- You could consider adding a new filtered unit and removing the existing drinking fountain. There are several commercially available options ranging from standalone water dispensers to wall-mounted bottle fill stations. Prices can range from a few hundred dollars to several thousand.
- To permanently remove a faucet or fixture, consider proper disposal techniques.

Recording Your Action Plan

After reviewing the decision tree and selecting the appropriate control measures, it's important to document how you plan to address each outlet with detectable lead. Keeping a clear, organized record ensures the information is easily accessible, shareable, and can help guide future steps.

You received a document in your results email that contains a table of outlet-level results. This table shows which outlets are recommended to be remediated. An example of this table is shown below. **You can make note of the remediation action taken for each outlet in the column titled “Remediation Action Taken”.** Examples of actions you could list include:

- Posting “do-not-use” or “handwash only” signs
- Making plumbing updates as needed
- Maintaining filters regularly
- “Flushing” water to avoid long stagnation periods
- Replacing the fixture or removing the fixture from service
- Completing additional sampling at corrected outlets

#	Outlet ID	Room # / Room Name	Outlet Type Code	Initial First Draw Result Final (ppb)	Initial Flush Draw Result Final (ppb)	Initial Sample Date(s)	Action Needed?	Remediation Action Taken <i>Fill this column out and return to DEQ</i>
1	123-1	Kitchen back wall	KF	1.97 ppb	10.6 ppb	9/1/25	Remediation Strongly Suggested	Example: Removed fixture from service
2	123-2	Classroom 2	CF	2.34 ppb	6.92 ppb	9/1/25	Remediation Recommended	Example: Plumbing updates underway
3	123-3	Classroom 3	CF	10.33 ppb	< 1 ppb	9/1/25	Remediation Recommended	Example: Posted a handwash only sign
4	123-4	Kitchen pot filler	KPF	< 1 ppb	< 1 ppb	9/1/25	No Action Needed	N/A

Upon filling out this table (digitally, or by printing a copy out and hand-writing information), please return a copy of your Remediation Plan to the Department of Environmental Quality (DEQ) at info@okleadtesting.org.

Routine Practices

Establishing routine practices can improve overall drinking water quality. While some of these practices may be effective in reducing lead exposure, they will not remove the source of lead exposure altogether.

Temperature Control

- Use only cold water for food and beverage preparation. Hot water dissolves lead more quickly than cold water and may contain increased lead levels.
- If hot water is needed, it should be taken from the cold-water faucet and heated.
- ***Boiling water does not remove lead from water.***

Filter Maintenance

- If a drinking water fountain or other fixture has a filter, it is important to make sure they are regularly replaced.
- Filters (point of use) may be attached to faucet, inside a fountain, or under a sink.
- Consider setting a reminder on the calendar when it is time to change a filter.
- A filter inventory is useful for larger facilities. An inventory helps make sure filters are properly maintained to improve drinking water quality.

Flushing

“Flushing” is the act of opening taps and letting water run. This helps remove water standing in interior pipes and/or outlets to decrease the time water is in contact with plumbing/fixtures that may contain lead. Flushing is especially useful after weekends, long vacations, and summer breaks; however, flushing is not recommended as a long-term control measure. Flushing instructions include:

- Locate sinks used for drinking or cooking; open faucets wide and let the water run for at least one minute at each tap.
- Do not to flush too many outlets at once. This could dislodge sediments adding to a lead problem or reduce pressure in the system below safe levels.

Posting Signs

Posting signs around the building is an easy way to provide important information to staff and students. Consider posting signs that remind staff and students:

- To only use cold water when preparing food and beverages; and
- To not use bathroom, custodial, cleaning, or handwash only sinks for drinking or food preparation.

NOTICE

HAND WASH ONLY



DO NOT DRINK



OKLAHOMA
Environmental
Quality

NOTICE

HANDWASH ONLY



DO NOT DRINK



NOTICE

HANDWASH ONLY



DO NOT DRINK



Consumer Tool for Identifying Point-of-Use and Pitcher Filters Certified to Reduce Lead in Drinking Water

Point-of-Use Filters

Point-of-use, or POU, water filters remove impurities from drinking water at the point that it is actually being used. Although there are others, the POU filters covered in this document are those used in filtration systems that are attached directly to water faucets or those inserted into refrigerators for water and ice dispensers.

Faucet Filter Device



Refrigerator Filter



Pitcher Filters

Pitcher water filters remove impurities from drinking water and are those that are inserted into water pitchers and bottles.

Pitcher With Filter



Bottle With Filter



Why is certification important for water filters?

Consumers can increase their level of confidence by purchasing POU and pitcher filters that have been evaluated by an accredited third-party certification body or bodies for drinking water lead reduction to 5 parts per billion (ppb) or less and particulate reduction (Class I) capabilities.

How do I know if a filter is certified to reduce lead?

There are several American National Standards Institute (ANSI) accredited third-party certification bodies that evaluate POU and pitcher filters for lead reduction in drinking water. They each have unique certification marks (registered trademarks) that are used on certified products.

Certification bodies require their mark and a statement indicating testing against **NSF/ANSI Standard 53 along with a claim of lead reduction.**

It is recommended that you also look for filters tested against **NSF/ANSI Standard 42 for particulate reduction (Class I).**

Certification Marks

Below are the ANSI accredited third-party certification bodies' approved certification marks and the text that indicates a filter has been evaluated for lead reduction capabilities. Some filters can be certified by more than one certification body and have multiple certification marks.

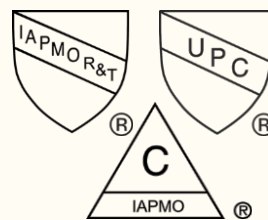
See page 2 for information on where to find marks and claims of reduction.



NSF product
listing directory info.nsf.org/Certified/DWTU/



WQA product
listing directory find.wqa.org/find-products/#/



IAPMO R&T
product listing
directory pld.iapmo.org



UL Solutions
product listing
directory productiq.ulprospector.com/en



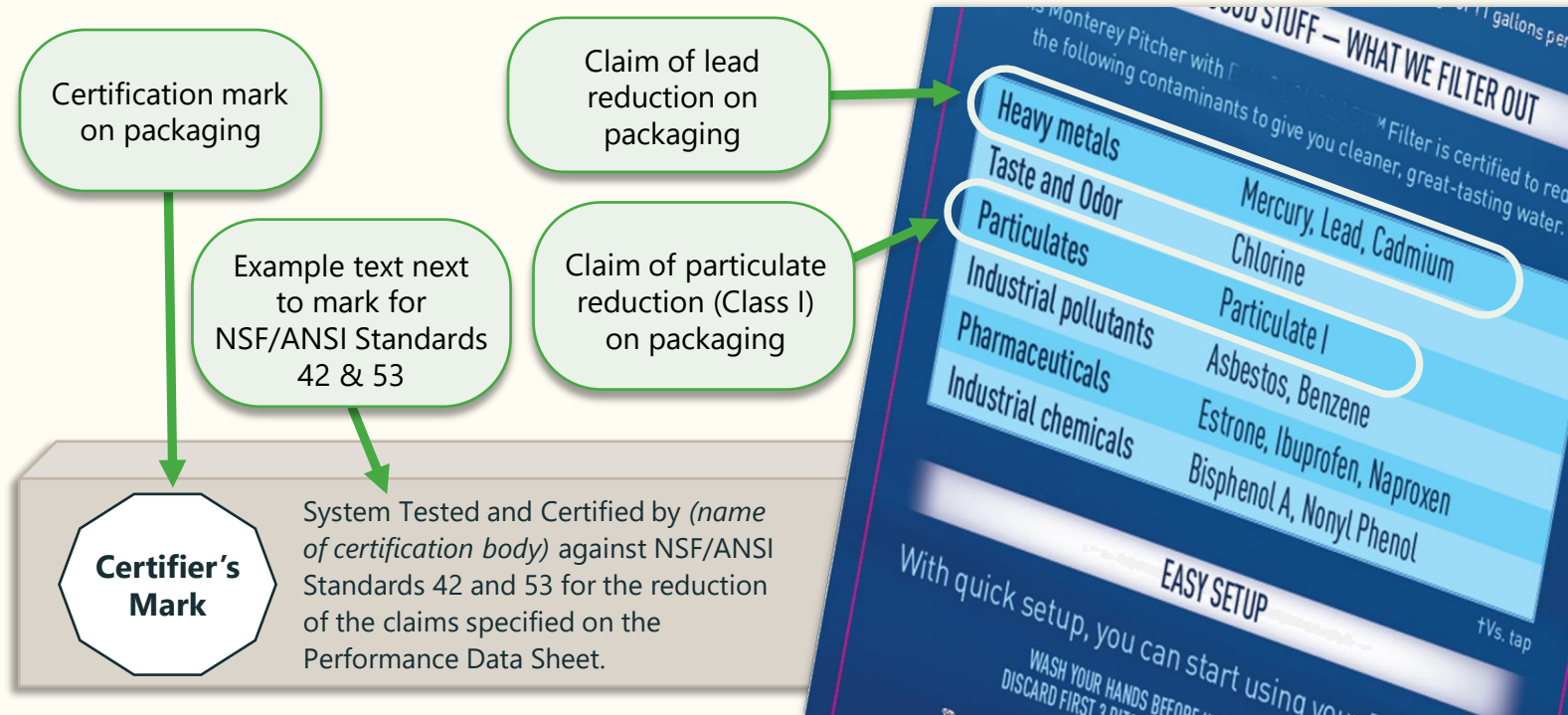
CSA product
listing directory csagroup.org/testing-certification/product-listing

Text for NSF/ANSI Standards 42 & 53 next to certification marks:

- Example text on packaging: *Tested and Certified by (certification body) against NSF/ANSI Standards 42 and 53 for the claims specified on the Performance Data Sheet.*
- Some companies may indicate lead removal in the text or may simply state NSF/ANSI 53 or NSF/ANSI 42 above or below the mark.

Certification Marks, Standards Text, and Claims of Reduction on Filter Packaging

Certification marks (page 1) can be found on the filter packaging, the filter, or on the smallest container in which the filter is packaged. Examples of certification marks, NSF/ANSI Standards 42 and 53 text, and claims of lead reduction and particulate reduction (Class I) as found on product packaging are shown below.



Claims of Reduction on Performance Data Sheets

Claims of lead reduction to 5 parts per billion (ppb) or less and particulate reduction (Class I) not included on the filter packaging can typically be found on the performance data sheet (example below) located inside the filter packaging, in the certifier's online product listing directory (see page 1), or on the manufacturer's website.

SUBSTANCE	Overall Percent Reduction	Influent Challenge Concentration	U.S. EPA Level*/NSF Maximum Permissible Product Water Concentration
NSF/ANSI Standard 53 – Health Effects			
Lead pH 6.5	99.5%	150±15 ppb	5 ppb
Lead pH 8.5	99.6%	150±15 ppb	5 ppb
Mercury pH 6.5	95.5%	6±0.6 ppb	2 ppb
Mercury pH 8.5	95.9%	6±0.6 ppb	2 ppb
Cadmium pH 6.5	97.4%	30±3 ppb	5 ppb
Cadmium pH 8.5	99.2%	30±3 ppb	5 ppb
Benzene	93.5%	15±1.5 ppb	5 ppb
Asbestos	>99%	55000000±45000000 Fibers/L	99%*
NSF/ANSI Standard 401 – Emerging Compounds/Incidental Contaminants			
Bisphenol A†	95.5%	2000±400 ppt	300 ppt
Estrone†	96.4%	140±28 ppt	20 ppt
Ibuprofen†	94.9%	400±80 ppt	60 ppt
Naproxen†	96.4%	140±28 ppt	20 ppt
Nonyl phenol†	93.5%	1400±280 ppt	200 ppt
NSF/ANSI Standard 42 – Aesthetic Effects			
Chlorine	97.4%	2.0±0.2 ppb	50%*
Particulate Reduction Class I	99.6%	>10000 particles/mL	85%*

NSF/ANSI Standard 53 claim of lead reduction

NSF/ANSI Standard 42 claim of particulate reduction (Class I)



EPA's Lead in Drinking Water Website

epa.gov/ground-water-and-drinking-water/basic-information-about-lead-drinking-water

Questions?

- About a filter: Refer to the certifier's product listing directory on page 1 or contact the manufacturer.
- About this document: Send an email to latham.michelle@epa.gov and tully.jennifer@epa.gov.