



MDEQ Quick Guide for Drinking Water Sampling for Lead and Copper at Schools and Child Care Providers on Community Water Supplies

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Introduction:

Please note that the recommendations in this document are not required by state or federal law. There are a number of legislative efforts currently underway with respect to lead and therefore the guidance contained within this document is subject to change.

The following guide has been developed by the Michigan Department of Environmental Quality (MDEQ), Office of Drinking Water and Municipal Assistance, for schools, child care providers, and other public building administrators to use in determining if a lead or copper risk is present in the drinking water at their facility. This document provides information on how to collect a drinking water sample, interpret the results, how to take action, and implement good water management practices. This guide is specifically for those facilities (hereinafter collectively referred to as “schools”) that are on community water and are interested in performing investigatory sampling.

Schools or buildings that are not on community water supplies and are subject to the Lead and Copper Rule (LCR), because they are on their own water supply, still must follow all the requirements specified in the LCR.

What is the source of lead in school’s drinking water?

Drinking fountains, kitchen taps, classroom faucets, and plumbing materials often contain some detectable level of lead. The definition of lead-free for drinking water fixtures and components changed in 2014. The most common source of lead is the brass faucets and fixtures. Plumbing components or the solder used to connect sections of the plumbing also can be a source of lead. Schools should identify whether their buildings have a lead service line as this can be a source of lead in the drinking water.

Collecting Water Samples

1. Prioritize and determine which locations are used for drinking and food preparation.
2. For each fixture to be tested, obtain a 250 ml (milliliter) collection bottle from the MDEQ Drinking Water Laboratory or a certified drinking water laboratory.
3. The samples must be collected only after the water has been stagnant in the system for at least 8 hours, typically overnight (*it is recommended to not exceed 24 hours*). It is important that no water is used in the building until the sampling is completed.
4. Fill the sample bottle to the neck with the ‘first draw’ of cold water.
5. Cap and label the bottle to correspond with the laboratory request sheet.
6. Submit the samples and paperwork to the laboratory as soon as possible, at least within 5 business days.

What do the results mean?

Young children under the age of six are the most susceptible to the health impacts of lead and all sources of lead should be controlled or eliminated. The Environmental Protection Agency (EPA) has established regulatory action levels of 15 parts per billion (ppb) for lead and 1,300 ppb for copper. The lead action level is not a health standard, and the MDEQ recommends taking action if the lead concentration is above **5 ppb**. Unlike lead, the EPA action level for copper is a health protective standard, therefore MDEQ recommends using the action level for copper when evaluating the results.

Actions to take to reduce lead and copper

MDEQ recommends several options when the results are greater than 5 ppb of lead and 1300 ppb of copper. An elevated lead result is usually from the fixture. Replacing the fixture and connecting plumbing components with lead-free materials is recommended. Other options include implementing a formal flushing protocol that keeps the water refreshed in the building and fixtures; adding filters (confirm that they are certified for lead and or copper removal); taking a fixture out of service, and conducting follow-up testing. If a flushing protocol is used, testing may need to be done to determine if the water is being run for an adequate amount of time.

What are the best water management practices schools should follow?

Water can sit stagnant in the plumbing for long periods of time over winter break, extended snow days, spring break, and during the summer. Regardless of the age of the plumbing fixtures and components, all schools should run the water at each fixture for at least 5 minutes after long periods of stagnation. Since the plumbing in schools can vary greatly, schools should give consideration regarding an appropriate flush time based on the plumbing in each individual building. Refreshing the water in the building and at each fixture will reduce the concentration of lead and reduce water age. Children and staff also should be encouraged to routinely run the water until it is cold before drinking or using water in food preparation. Schools should develop a maintenance plan for their fixtures and plumbing, such as yearly inspection and cleaning of faucet aerators and screens.

Where to find more information?

Contact the staff at the MDEQ, Office of Drinking Water and Municipal Assistance or consult the [website](http://www.michigan.gov/drinkingwater) (<http://www.michigan.gov/drinkingwater>).

EPA website "[Ground Water and Drinking Water – Basic Information about lead in drinking water](https://www.epa.gov/ground-water-and-drinking-water/basic-information-about-lead-drinking-water)" (<https://www.epa.gov/ground-water-and-drinking-water/basic-information-about-lead-drinking-water>) (last updated 3/17/2016)

Centers for Disease Control and Prevention (CDC), "[About Lead in Drinking Water](http://www.cdc.gov/nceh/lead/leadinwater/default.htm)" (www.cdc.gov/nceh/lead/leadinwater/default.htm) (last updated 12/1/2015)

[How to Identify Lead Free Plumbing](http://nepis.epa.gov/Exe/ZyPDF.cgi?Dockey=P100GRDZ.txt) website (<http://nepis.epa.gov/Exe/ZyPDF.cgi?Dockey=P100GRDZ.txt>)