

RISK COMMUNIQUÉ

Lead in Water - Schools

The lead crisis in Flint, Michigan, created a heightened awareness regarding the potential for lead in water. Resulting lead tests have shown exposure in public schools as well. For instance, water tests in about 300 public school buildings in Massachusetts in 2016, show that more than half had at least one sample with lead levels above regulatory limits (Anderson, 2016). This Communique will discuss the risk of lead exposure, areas that should be tested, and steps schools can take to reduce lead exposure.

Lead Exposure

Children can be exposed to lead in many ways, including: drinking water, paint chips, international toy products, and clothing (from those exposed in the workplace). Lead poisoning occurs when too much lead is absorbed through breathing or swallowing a substance that contains lead.

Young children are particularly vulnerable because they absorb 4–5 times as much ingested lead as adults from a given source (www.who.int, 2016). No safe blood lead level in children has been identified. Even low levels of lead in blood have been shown to affect IQ, ability to pay attention, and academic achievement. Effects of lead exposure cannot be corrected (CDC, 2017).

Lead Sampling

Some states require schools to test their potable water for lead. Glatfelter Public Practice recommends water testing in any school that was built prior to the EPA's Safe Drinking Water Act Amendments of June 19, 1986. Section 1417 amended the Safe Water Drinking Act in the following ways:

- Prohibition on the use of pipe, solder, or flux in public water systems that is not "lead free";
- Special public notice requirements for lead;
- State enforcement of the prohibition and special public notice for lead; and
- Definition of "lead free" materials.

Information on the EPA's lead ban can be found [here](#).

The EPA provided the following guidance to schools for lead sampling:

Any outlet for potable water is a potential source of drinking water. Some outlets are regularly used by students and staff for drinking, cooking, or making coffee. Others, like a mop sink in a utility closet, may rarely be used for consumption.

With limited funds, prioritize sampling sites based on potential use and risk. Also, consider that actual use can change over time. For example, few may drink from an art room sink, but that room's use may change.

This is a sample guideline furnished to you by Glatfelter Public Practice. Your organization should review it and make the necessary modifications to meet the needs of your organization. The intent of this guideline is to assist you in reducing risk exposure to the public, personnel and property. For additional information on this topic, you may contact your GPP Risk Control Representative. www.glatfelterpublicpractice.com

RISK COMMUNIQUÉ

The EPA recommends the following testing sites (Environmental Protection Agency, 2016):

High priority:

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

Never use hot water for drinking or cooking. Lead leaches more easily into hot water than into cold water. The water may also sit in contact with lead components in hot water tanks. Consider conducting educational outreach to food preparation staff and appropriate teachers.

Medium priority:

- Classroom sinks (potential for cups used for drinking, classroom cooking projects);
- Bathroom faucets (children may drink from these).

Low priority:

- Utility sinks and hose attachments, unless used to fill water jugs (for example, for sports team practice);
- Hot water outlets.

Testing Results

The EPA's recommended action level for lead in drinking water is 20 parts per billion (ppb). Transparency is the key to an effective lead sampling program. This means that all results are shared with the public, regardless of the results. Solutions to any lead problems need to be made on a short-term and a long term basis (Environmental Protection Agency, 2016). The EPA recommends that the following guideline is used to address any high lead samples:

Routine Practices:

- Clean debris from accessible screens (aerators) frequently. Clean and inspect periodically.
- Thoroughly flush holding tanks to remove sediment.
- Use only cold water for food and beverage preparation in kitchens and cooking classes.
- Placard bathroom sinks with notices that water should not be consumed. Use pictures if there are small children using the bathroom.

Short-term measures:

- Flush the pipes: Let the water run to bring in fresh water that has not been standing in the pipes. Do this over a night or weekend. Flushing times can vary based on the plumbing configuration. It also depends on

This is a sample guideline furnished to you by Glatfelter Public Practice. Your organization should review it and make the necessary modifications to meet the needs of your organization. The intent of this guideline is to assist you in reducing risk exposure to the public, personnel and property. For additional information on this topic, you may contact your GPP Risk Control Representative. www.glatfelterpublicpractice.com

RISK COMMUNIQUÉ

whether or not your facility has lead service lines. If you are unsure of the appropriate flushing time, contact your water utility.

- Provide bottled water. Confirm that the source of bottled water is lead-free.

Permanent remedies:

First obtain an understanding of your water supply, including water characteristics. Also understand the lead conditions in the facility as a result of testing. Then examine permanent remedies and select the most appropriate to the situation.

- Install corrosion control devices for individual buildings, known as point-of-entry devices.
- Install point-of-use devices that control lead at the tap.
- Find alternate grounding for electrical wires that are grounded to water pipes.
- Replace lead service line and other lead pipes.
- Replace outlets where there is localized contamination with new, certified components. EPA recognizes NSF Standard 61, Section 9 as a performance standard. It limits leaching of lead into the drinking water. The standard regulates devices that dispense water for human ingestion.
- In California, Proposition 65 established "safe harbor levels." It established maximum allowable daily levels for chemicals that cause reproductive toxicity, including lead.

Conclusion

The lead problem that our schools face is real. We can no longer ignore our aging infrastructure and aging plumbing in buildings. Water sampling is the first step toward understanding whether a school has a lead exposure. Public transparency and swift action with regards to the testing results is the cornerstone of an effective sampling plan. For more information, please go to: <https://www.epa.gov/dwreginfo/lead-drinking-water-schools-permanent-remedies-additional-documents>.

References

1. Anderson, R. A. (2016). *High Lead Levels Found in More than 160 School Buildings in Mass.* Boston: Boston Globe.
2. CDC. (2017). *Lead*. Washington, DC: N/A.
3. Environmental Protection Agency. (2016). *3Ts for Reducing Lead in Drinking Water*. Washington, DC: EPA.
4. www.who.int. (2016). *Lead Poisoning and Health*. Retrieved from <http://www.who.int/mediacentre/factsheets/fs379/en/>

This is a sample guideline furnished to you by Glatfelter Public Practice. Your organization should review it and make the necessary modifications to meet the needs of your organization. The intent of this guideline is to assist you in reducing risk exposure to the public, personnel and property. For additional information on this topic, you may contact your GPP Risk Control Representative. www.glatfelterpublicpractice.com