

Operational Guideline for Manitoba Water Suppliers

Monitoring for Lead at the Tap

Purpose

This guideline has been established to ensure public and semi-public drinking water suppliers throughout the Province of Manitoba meet their regulatory requirements with regard to monitoring for lead exposure at the tap.

Guidelines for Canadian Drinking Water Quality

Health Canada established a new guideline for lead in drinking water in March 2019. The maximum acceptable concentration (MAC) for total lead in drinking water is 0.005 mg/L (5 µg/L) based on a sample of water taken at the consumers tap using the appropriate sampling protocol for the type of building being sampled.

Legislation

Section 3 of The Drinking Water Safety Act states that every public and semi-public water supplier must comply with the drinking water quality standards specified in the regulations.

The Drinking Water Quality Standards Regulation (MR 41/2007) requires that all water supplies meet the standards specified in the operating licence for the water system.

Operating Licence

Table 2 - Monitoring Requirements, which outlines monitoring requirements for all public water systems in operating licenses, states that the monitoring requirement for lead is ***as per the instructions of the Drinking Water Officer (DWO)***.

Lead in Manitoba Water Supplies

Lead is not natural to Manitoba source waters nor is it found in water entering distribution systems. Lead is introduced into drinking water through corrosion of lead-bearing materials in service lines to homes and other buildings, and in plumbing systems and fixtures.

When the water supply is corrosive or aggressive, leaching of lead from premise plumbing systems increases. The impact of corrosive water cannot be determined without tap water quality monitoring. As such, the Health Canada guideline for lead in

drinking water clearly identifies the monitoring point for lead as the consumer's tap.

Lead Sampling Requirement

Public and semi-public water supplies should continue to follow current practices, testing for lead in the raw source water, the treated water at the entrance to distribution, and within the distribution system as directed by the regional Drinking Water Officer.

Monitoring for lead at the tap will be phased in. Your regional Drinking Water Officer will advise you when you are required to implement tap water quality monitoring. Initial priority will be given to older, larger water systems with known or suspected lead services and surface water sources, and water systems planning process changes with potential to increase corrosivity. Water systems can voluntarily test in advance of being directed to do so in accordance with the guidelines below. Advise your regional Drinking Water Officer if you think your water system may be at increased risk for elevated lead or if you plan to begin testing for lead at the tap.

Health Canada also recommends that all schools, child care centres, and home-based child care providers sample for lead at the tap. Where feasible, communication and coordination between water suppliers and schools and child care facilities is recommended. Some of these facilities may be willing to participate in a community-based tap water quality monitoring program. Information for home and building owners, tenants, schools, and child care facility owners is available on the Office of Drinking Water website at:

manitoba.ca/sd/water/drinking-water/lead/

Reduced sampling may be considered once two consecutive rounds of annual monitoring have been completed.

Lead Monitoring Program

Components of the monitoring plan may vary depending on the size of the water system.

Priority Sampling Locations

Water suppliers are to identify priority sampling locations, focusing on:

- 1) homes with known or suspected lead service lines, including partial lead service lines;
- 2) homes providing services to infants, pregnant women or young children less than 6 years old, such as home-based child care facilities;
- 3) homes built prior to 1990.

Sampling locations may be divided into zones supplied by different water sources or separate pressure zones. Large water suppliers serving more than 50,000 people should identify representative zones where tap water quality is expected to be similar. A zone should have no more than 50,000 people.

Sampling Plan

Once your priority sampling locations and zones have been established, a written sampling plan should be developed to ensure a representative number of routine samples are collected from each zone as per Table 1 at the end of this document.

Water samples should be collected throughout the year, with at least two thirds of the samples collected between June and October.

Samples can be collected by water system operators or owner representatives, or water systems owners can develop a voluntary program where homeowners collect the samples themselves. The sample collection protocol is simple, making homeowner sample collection programs a viable option.

Communication Plan

Water system owners should contact their regional Drinking Water Officer prior to sampling, and should work with the Office of Drinking Water and Manitoba Public Health to develop a communication plan prior to sampling. The communication plan should include a plan for communicating results back to homes tested, a strategy for retesting homes with elevated results, and a plan for communicating information to the broader community, or to targeted areas with similar risks to homes tested.

Laboratory

Once you have your sampling and communication plan in place and you know how many samples you will be collecting, contact a laboratory directly for cost estimates or to obtain sample bottles, sample submission forms, and additional information on sampling.

Health Canada updated the copper guideline in June 2019. Water system owners may want to consider testing for copper at the same time as lead. Let the laboratory know if you are interested in testing other parameters.

There are three laboratories in Manitoba accredited to test for lead in drinking water that have committed to following recommendations in the updated national guideline.

ALS Environmental

12-1329 Niakwa Road East, Winnipeg, Manitoba R2J 3T4

Phone: 204-255-9720 (Toll Free: 1-800-607-7555);
Fax: 204-255-9721

Website: alsglobal.com/en/Our-Company/Global-Locations

Horizon Lab LTD

4055 Portage Avenue, Winnipeg, Manitoba R3K 2E8

Phone: 204-488-2035
Fax: 204-488-4772

horizonlab.ca

Bureau Veritas Canada (2019) Inc.

Unit D, 675 Berry Street, Winnipeg Manitoba R3H 1A7

Phone: 204-772-7676 (Toll Free: 1-866-800-6208)
Fax: 204-277-2386

maxxam.ca/about-maxxam/contact-us/manitoba

Test Method

The national guideline suggests two sampling methods: Random Daytime (RDT) or 30-Minute Stagnation (30MS).

Manitoba water suppliers will use the RDT sampling method with a focus on residential dwellings for comparison to the new guideline.

Water samples are to be collected in wide-mouth sample bottles from the cold water tap in the kitchen

or other tap that is commonly used for drinking or preparing food.

RDT sampling instructions for residential dwellings, including home-based child care providers:

One 1-litre sample is collected randomly during the day from the drinking water tap.

No additional steps are needed prior to sample collection. Do not remove the tap aerator or screen. Do not run the water or flush the taps immediately prior to collecting the sample. Do not let the water sit or stagnate prior to collecting a sample.

Slightly different sampling provisions apply to large buildings, such as schools, child care facilities, or multi-family dwellings with more than 6 units. Water system owners should contact their regional Drinking Water Officer if they would like to include these types of buildings in their sampling plans.

Sample Results

Regardless of how high or low the results are, all sample results should be provided to the homeowner, tenant, or home-based child care providers that were sampled, following the communication plan developed previously.

If results are elevated, the homeowner should be provided with the following information on lead:

1. A copy of the provincial fact sheet for homeowners and home-based child care providers:
manitoba.ca/sd/pubs/water/drinking_water/rld_homechildcare.pdf
2. Information on purchasing NSF-certified point-of-use treatment devices in your community; and
3. Information on lead service line replacement programs in your community, if applicable.

Water system owners should communicate results to their regional Drinking Water Officers regularly as they come in. Your regional Drinking Water Officer will connect with Manitoba Public Health to facilitate community-wide or targeted communication to affected residents if needed.

Follow-up testing for elevated results

If the result exceeds the guideline level, it is recommended that a 30-minute stagnation test be performed.

This sampling method provides additional information to determine if flushing the tap (running the tap for 2 to 5 minutes) will reduce lead concentrations below the guideline limit or if additional actions are required. The results of the 30-minute stagnation test may inform the broader community communication strategy.

30MS sampling instructions: Prior to sampling, the tap should be flushed for 5 minutes, then allowed to stand for 30 minutes. No water should be drawn in the home during the stagnation period (including toilet flushing).

Collect two 1-litre samples immediately one after the other from the cold water tap in the kitchen at a medium-to-high flow rate. Do not remove the tap aerator or screen.

Reducing Lead at the Tap

Low-cost pitcher-type filters or point-of-use filters installed on the kitchen tap are available that are NSF-certified to reduce lead to acceptable levels. Residents may also choose to use bottled water for drinking.

Additional information is available in the fact sheet for Manitoba homeowners and home-based child care providers.

For older homes with lead service lines, the best option to permanently reduce lead concentrations at the tap is to replace the service line. Municipal water systems with known lead service lines in their distribution system should consider developing proactive lead service line replacement programs.

Lead Control at the Water Treatment Plant

Larger communities with extensive lead service lines throughout or test results that indicate elevated levels of lead throughout the community should consider developing a corrosion-control program.

Any lead-control method that incorporates chemical addition, including pH adjustments, should be designed, pilot-tested, and approved by the Office of Drinking Water prior to implementation.

Since water age can be a significant factor, flushing programs focusing on dead ends should be considered.

A comprehensive lead strategy includes programs to control corrosion, replace lead service lines, facilitate lead testing and installation of faucet filters where needed, and educate the public on reducing lead exposure.

Partnerships

Health Canada’s national guideline for lead in drinking water recommends testing of taps at schools and child care facilities. Fact sheets and information have been developed in collaboration with Manitoba Public Health to support this testing. Water suppliers should work with local school divisions, schools, and child care providers to coordinate testing and communication. Manitoba Public Health is working with the Office of Drinking Water and is available to help water systems with communicating lead risk to the public. Working together to provide a consistent message is essential to the success of your lead monitoring program.

Additional Information

For additional information, please see:

[Guidelines for Canadian Drinking Water Quality – National Guideline for Lead in Drinking Water](#)

[Guidance on Controlling Corrosion in Drinking Water Distribution Systems](#)

manitoba.ca/sd/water/drinking-water/lead/

Office of Drinking Water

Regional [Drinking Water Officers](#) are available for operational and monitoring advice and to provide technical assistance.

After hours, please call the Environmental Emergency Response line at 204-944-4888 and ask for the on-call Drinking Water Officer

For more information related to Manitoba’s drinking water and how it is regulated visit:

manitoba.ca/drinkingwater

Minimum Number of Random Daytime (RDT) Samples per System

System Size (Population Served)	Number of Sites (Annual Monitoring)	Number of Sites* (Reduced Monitoring)
> 50,000	40 sites per zone, 5 zones per year, where each zone serves a maximum of 50,000 people	20 sites per zone, 5 zones per year, where each zone serves a maximum of 50,000 people
10,001 – 50,000	40 sites per year	20 sites per year
5,001 – 10,000	30 sites per year	15 sites per year
501 – 5,000	20 sites per year	10 sites every two years
101 – 500	10 sites per year	5 sites every three year
≤ 100	5 sites per year	2 sites every three years

*Requires approval