Test Your Drinking Water for Lead – Advanced Sampling Method

Applicable building types:

All building types only after results from Random Daytime Sampling for the building/facility showed multiple or the majority of fixtures had higher lead levels.

Overnight Stagnation Sampling (First Draw or Pre-Flush Sampling):

- Estimates worst-case scenario of exposure after water sits overnight in the plumbing system for a minimum of 8 hours.
- Stagnation can cause lead to leach from the plumbing system and/or its components into the water.
- It is not recommended that this method be used as a first step or on its own without using the 30-Minute Stagnation Sampling method.
- It is unlikely that any person is exposed to these levels of lead during regular use. This test result is used to help identify where the lead is coming from in the system.

30-Minute Stagnation Sampling (Post-Flush Sampling):

- Helps identify if the lead is coming from fixtures or from within the plumbing system.
- The results of this shorter stagnation, following flushing of the plumbing system, will identify if the lead is coming from the tap(s)/fixture(s).
- It is not recommended that this method be used as a first step or on its own without using the Overnight Stagnation Sampling method.

Step 1: Plan for Testing

Make a list of taps/fixtures used for drinking or food preparation/cooking. Ensure you use the same unique identifier(s) you used during the Random Daytime Sampling.

- Calculate the total number of taps/fixtures that you need to test based on previous sampling.

Step 2: Contact the Lab and Get Sample Bottles

- Some labs may require two small bottle samples for each tap/fixture or one large bottle sample for each tap/fixture.
- It is recommended that a total of three samples be taken for each fixture/tap.
- Let the lab know whether you will be shipping or dropping off the samples and ask if a preservative is needed.
- As per your total tap/fixture location, request the correct number of sampling bottles from an accredited lab.
- Other items you will need
    - Sample containers from the lab
    - Cooler
    - Frozen ice packs
    - Permanent marker
    - Timer or stopwatch (watch or cellphone)
    - Chain-of-custody form from the lab

Step 3: Label Your Sampling Bottles Taps/Fixtures

- Label your sampling bottles as per your established unique identifier(s).
- Do not open the bottles or tamper with them before sampling.
- Keep bottles away from any heat or anything that can damage the bottles.

Step 4: Collect your samples

- Post signage to alert others not to run water at least 8 hours before and during sampling – signs should be posted at all points of water use, including but not limited to taps/sinks, toilets, showers, dishwashers, laundry machines, and utility sinks. Sample during the day from Monday to Thursday. This will ensure the lab is open and available to receive your samples when you are ready to submit.
- Let water sit undisturbed in your pipes for at least **8 hours** (overnight).
- Water must not be used at all during this stagnation time.
  Start collecting samples before the building is occupied, if possible.
- Gather supplies: labelled sample bottles, permanent marker, notebook, cooler, ice packs, chain-of-custody form.
- Use cold water taps only. For single-handed faucets, use the cold water setting only.
- **Do not remove aerators or screens.**

Step 4a: Overnight Stagnation Sampling (First Draw or Pre Flush):

- Do not use water to wash your hands.
- Be careful not to touch the inside of the lid or the mouth of the bottles.
- Do not rinse the sampling bottles.
  Start sampling at the tap/fixture that is closest to the water main connection
- Turn on the cold water of the tap at a medium steady flow. Take the sample immediately when the tap is turned on. Do not let the water run before taking the sample.
- Fill the bottle completely with water.
- Cap the bottle and set aside.
- Record observations (leaks, discoloration, pressure changes).
- Repeat for all selected taps/fixtures, moving along the distribution system in order, with your last sample taken from the tap/fixture furthest away from the water main connection.
- If the lab has provided you with preservatives, add them to the sample as directed by the lab
- Store samples in a refrigerator or cooler with frozen ice packs. Do not allow the samples to freeze.

Step 4b: 30-Minute Stagnation Sampling (Post-Flush Sampling):

- After all Overnight Stagnation sample(s) have been taken, turn on the cold water of all the taps/fixtures let the water for **5 minutes**. Use a timer or stopwatch (cellphone or watch) to keep track of the time once all the taps/fixtures are running. Flush the toilets to ensure a full system flush.
- Ideally, follow the plumbing system from the main waterline to branches. If you do not know your plumbing system, a simple 5-minute flushing of water is acceptable.
- If the water is not running cold by the end of the 5-minute flush, continue flushing until running water is cold at all taps/fixtures.
- After the 5-minute flush, turn off all taps/fixtures and let the water sit for 30 minutes without using any taps or toilets. Use a timer or stopwatch (cellphone or watch) to keep track of the time.
- Take the second set of sample(s) after the 30-minute stagnation period, following the same steps listed under "**Step 4a: Overnight Stagnation Sampling (First Draw or Pre Flush)”**. Taps/fixtures should be sampled in the same order as previously sampled.
- Remove signage from fixtures.
- If the lab has provided you with preservatives, add them to the sample as directed by the lab.

- Store samples in a refrigerator or cooler with frozen ice packs. Do not allow the samples to freeze.
- Deliver or ship samples to the lab with the chain-of-custody form. Check with the lab to confirm that they are available to receive the sample(s).

Step 5: Submit to the Lab on Time

- Drop off or ship samples to the lab the same day that you sample.
- If you do not have an accredited lab in your community:
  - Keep samples refrigerated or in a cooler with ice packs. Do not allow the samples to freeze.
  - If the lab has provided you with preservatives, remember to add them to the sample(s) as directed by the lab.
  - Ship the samples to the lab following their instructions.
  - Generally, samples should arrive within 24-28 hours to remain valid.
  - Fill out and include the chain-of-custody form.

Step 6: Receive Results

- Depending on the number of samples, your location and the lab, the results may take a week or more time to be finalized and sent to you.

Step 7: Understand Your Risk

- Contact the Office of the Chief Public Health Officer to request help with interpreting your results.
- Review your results against the Health Canada guideline value of 0.005 mg/L (5 µg/L). Make sure you pay close attention to the reporting units and compare them based on milligrams (mg) or micrograms (µg).
- If results are above this level, it is recommended that you do not drink or cook with the water from those specific tap(s)/fixture(s) “as is” and that you take certain steps to limit your exposure.
  Depending on the building and the use of the building, you may be required to use or provide an alternative water source, and you may be required to take remediation actions.

Step 8: Remediation

- If your results show a lead over Health Canada’s recommended Maximum Acceptable Concentration of 0.005 mg/L (5 µg/L) you will need to take action:

- Use a water filter that is certified to remove lead. Look for certification to NSF/ANSI Standard 53 with a claim of lead reduction, or
- Use an alternate source of water, such as pre-packaged bottled water.
- You may need to:
  - Replace your taps/fixtures, and/or
  - Replace plumbing components if the issue is located within pipes.

Contact your condo management representative or building owner(s), as applicable. Note: A professional plumber may be able to assist you in remediation plans and actions.

Step 9: Re-testing

- It is recommended that, following any renovations and remediation for lead removal, repeat testing be carried out to confirm lead removal from water.
- Depending on your results, it may be recommended to resample annually to ensure lead levels remain below Health Canada's recommended Maximum Acceptable Concentration of 0.005 mg/L (5 µg/L).