

Name of SOP	Water Sampling Procedure - Lead
Effective Date	October 2022
Author	Environmental and Occupational Health Support Services (EOHSS)
Reason for SOP	<p>Check All that Apply:</p> <p><input type="checkbox"/> Procedure/Process could cause critical injury.</p> <p><input type="checkbox"/> Procedure/Process could cause occupational illness.</p> <p><input type="checkbox"/> Procedure/Process could cause environmental impairment.</p> <p><input type="checkbox"/> Procedure/Process could damage University property.</p> <p><input checked="" type="checkbox"/> Supervisor's discretion.</p> <p>Provide Details:</p> <p>Facilitate the collection of water samples and arrange for testing to ensure lead levels are below the maximum acceptable concentration for lead in drinking water as per the O. Reg. 169/03: Ontario Drinking Water Quality Standards at all filtered water locations on campus for health and safety of campus community.</p>
Approved by (supervisor)	EOHSS manager Dane DeMan and Facility Services manager John Hemmer
Date reviewed by JHSC	October 2022

Definitions

Terms	<p>Elkay- Water filter company</p> <p>ezH2O Bottle Filling Station- Water fountain model found in academic buildings on campus</p> <p>Retrofitted Water Taps- Filtered water taps found in residences and some campus kitchenettes</p> <p>Sample Bottle - Bottle that is filled with water to be tested</p> <p>Stand Sample- Sample taken from water filling location from the tap</p> <p>Flush Sample- Sample taken from water filling locations after running the tap and letting the water sit</p>
Acronyms	<p>RMM – Risk Management Manual</p> <p>JHSC - Joint Health and Safety Committee</p> <p>EOHSS - Environmental and Occupational Health Support Services</p> <p>OHSA – Occupational Health and Safety Act</p>

Requirements

<p>Applicable OSHA regulations and / or codes of practice.</p> <ol style="list-style-type: none"> 1. RMM #100 – Workplace and Environmental Health and Safety Policy 2. RMM #101 - McMaster University Risk Management System 3. O.Reg. 169/03: Ontario Drinking Water Quality Standard
<p>Training and Competency</p> <ol style="list-style-type: none"> 1. Train workers on how to collect samples 2. Prepare samples for lab i.e., complete chain of custody

Description of the Task

Location and time of work	Months of May-August
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Individuals involved	EOHSS, Facility Services
Equipment and supplies required	Elkay Filters, Sample bottles
Personal protective equipment required	Nitrile disposable glove

Sequential Steps to Complete the Work Safely

Two types of samples are required to be taken from the water source for lead testing: a stand and a flush sample. The instructions below detail how to collect each type of sample.

- Samples are to be taken annually from filtered water locations in two locations within every main campus building
- Consult records of previous years to collect in locations that have not yet been tested in the building if possible

Stand Sample

1. Stand samples are always to be collected before flush samples
2. Label sample bottle with appropriate information: date (m/d/y), sample ID (building code, location, and sample type), project reference (Lead), and company (McMaster), take care to indicate this as the stand sample within the sample ID field
3. Unscrew the cap of the sample bottle and fill to the line taking care not to let it overflow
4. Screw the cap back on and label the bottle with the time

Flush Sample

1. Allow water to flush for 5 minutes by either opening tap or running fountain
2. Water source must then remain off and untouched for 30 minutes
3. Once 30 minutes has passed, label sample bottle with appropriate information as per stand sample, however, take care to indicate this as the flush sample within the sample ID field
4. Unscrew the cap of the bottle and fill to the line taking care not to let it overflow
5. Screw the cap back on and label the bottle with the time

Contingency Plan and Reporting

Accident / injury response

Skin/eye contact (2ml of 18% nitric acid in all sample bottles) - flush with water, if irritation persists seek medical attention

Complete incident/injury report form and submit to EOHSS

In the Case of Serious/Critical Injuries

Contact McMaster Security Services

Equipment Malfunction

N/A

Equipment shutdowns

N/A

Environmental Responsibility

Waste disposal procedures

Unused bottles can be returned to the lab or disposed of through RPR Environmental

Building air quality

N/A

References

1. OHSA/ regulations
2. RMM #100 McMaster University Environmental Health and Safety Policy
3. RMM #101 McMaster University Risk Management System
4. Safety Data Sheets (SDS)
5. RMM #300 Safety Orientation and Training Program
6. RMM #301 Standard Operating Procedures
7. O. Reg. 169/03: Ontario Drinking Water Quality Standard

Distribution

1. EOHSS (for review)
2. Facility Services