

Practices for the Collection and Handling of Water Samples for Microbiology

1. Containers

Collect water samples for microbiological examination in sterile water containers supplied by Laboratory Services.

2. Dechlorination

The bottles available at Laboratory Services for sampling drinking water samples are pre-charged with a dechlorination agent, sodium thiosulfate ($\text{Na}_2\text{S}_2\text{O}_3$). ALWAYS check for expiry date on water bottles.

3. Size of Sample

The volume of sample should be sufficient to carry out all tests required, not less than 200 mL per test. Leave ample air space in the bottle (at least 2 cm) to facilitate mixing by shaking.

4. Sampling Procedure

Collect samples that are representative of the water being tested, flush or disinfect sample ports, and use aseptic techniques to avoid sample contamination. Fill a sample container slowly to prevent overflowing when container has been pre-charged with sodium thiosulfate.

- Potable water from tap: open tap fully and let water run to waste for 2 – 3 min, or for a time sufficient to permit clearing the service line;
- From well with a pump: pump water to waste for about 5 – 10 min or until water temperature has stabilized before collecting sample;
- From well without a pump: collect sample directly by means of sterilized bottle fitted with a weight at the base; take care to avoid contaminating samples by any surface scum.
- Other types of water (nonpotable, wastewaters) make sure the samples are representative and taken aseptically; use sampling devices if necessary.

5. Identifying Samples

Identify samples adequately: write clearly including all necessary information about the sample i.e. date, time, location, number.

6. Transport Conditions

Ice or refrigerate water samples **at temperature below 10°C** (but do not freeze) after collection and during transit to the laboratory.

Deliver the samples to the laboratory as soon as possible to minimize the time between collection and analyses. **Samples will not be tested if older than 48 hours.**

Use insulated containers to assure proper maintenance of storage temperature. Do not pack samples directly in loose ice as it may contaminate the samples.

7. Sample Submission

Deliver water samples to the laboratory

- Monday to Wednesday: 7:30 am-6:00 pm
- Thursdays: 7:30 am-3:00 pm.
- **Samples will not be accepted on Fridays, weekends and on days preceding holidays.** Please contact the laboratory prior to sampling to arrange for testing outside of normal hours.
- For Regulatory Drinking Water Samples (as directed by Public Health Unit) please complete a “Regulatory Water Chain of Custody Form” for each submission.
- For Non-Regulatory Water Samples please complete a “Sample Submission Form” for each submission

8. References

Standard Methods for the Examination of Water and Wastewater, 23rd Edition. APHA 2017.

Practices for the Collection and Handling of Drinking Water Samples. Ministry of Environment Laboratory Services Branch. Version 2.0, April 1, 2009.

Contact:

Water Microbiology Laboratory

Tel: (519) 823-1268 x 57427

Client Services

E-mail: afinfo@uoguelph.ca

Tel: (519) 767-6299