

Practices for the Collection and Handling of Water Samples (Microbiology Testing Only)

1. Containers

Collect water samples for microbiological examination in sterile water containers supplied by the AFL.

2. Dechlorination

The bottles available at the AFL for sampling water samples are pre-charged with a dechlorination agent, sodium thiosulfate ($\text{Na}_2\text{S}_2\text{O}_3$), in the amount of 10mg of active $\text{Na}_2\text{S}_2\text{O}_3$ per 250mL sample bottle. For sampling chlorinated wastewater effluents add sufficient $\text{Na}_2\text{S}_2\text{O}_3$ to a sample bottle to give a concentration of 100mg/L in the sample.

3. 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 tablet. While the sample is collected, leave ample air space in the bottle (at least 2.5 cm) to facilitate mixing by shaking, before examination.

- **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 (non-potable, wastewaters)**

- Make sure the samples are representative and taken aseptically; use sampling devices if necessary.

4. Size of Sample

The volume of sample should be sufficient to carry out all tests required, preferably **not less than 200 ml per test.**

5. Identifying Samples

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

6. Transport Conditions

Ice or refrigerate water samples to **maintain their 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 analysis. **Samples will not be tested if older than 48 hours.**

Use insulated containers to assure proper maintenance of storage temperature. Do not pack samples 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 to arrange for testing outside of normal hours.
- For **Regulatory Drinking Water Samples** taken from your Drinking Water System (as directed by your Public Health Unit) please complete a “**Regulatory Water Chain of Custody Submission Form**” for each submission.
- For **Non-Regulatory Water Samples** please complete a “**General Sample Submission Form**” for each submission.

8. Reference:

Standard Methods for the Examination of Water and Wastewater. 22nd Edition. APHA 2012.
Practices for the Collection and Handling of Drinking Water Samples. Ministry of Environment
Laboratory Services Branch. Version 2.0, April 1, 2009.

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