

Overview

Samples collected for bacteriological contaminants require the utmost care to ensure a clean and representative sample. Samples can easily be contaminated by the environment or by the sampler who fails to follow proper aseptic technique in the collection process. Samples **MUST** be collected in sterilized containers supplied by the laboratory (or purchased specifically for the purpose). The use of non-sterilized, common containers can produce erroneous results that are representative of the source being tested. Laboratory supplied containers are sterilized and sealed to ensure cleanliness and include a special chemical to neutralize any residual chlorine disinfectant present in the sample. Non-sterilized containers can result in false positive for your samples and the presence of residual chlorine will result in the invalidation of your test results.

Sample Containers

100mL sterilized polystyrene (or similar) bottle with powdered sodium thiosulfate ($\text{Na}_2\text{S}_2\text{O}_3$)

Sample Collection Procedures

1. Remove any attachments on sampling port where applicable (i.e. aerators, hoses, backflow prevention devices if possible).
2. Ensure surrounding area is clear, free of debris, protected from wind and rain.
3. Flush system for 5-10 minutes to clear standing water.
4. Disinfect the sampling port with an appropriate technique.
 - Gas Torch – Use on metallic sampling ports, do not overheat
 - Chlorine bleach solution (10-50%) – Use on PVC sampling ports, will slowly tarnish metal ports
 - Alcohol (Ethanol, Isopropyl alcohol) – May not be effective on some bacterial species
 - Other recommended bacteriological sampling, collection, and handling procedures
5. Open the port gently and allow water to flow an additional 2-3 minutes (especially if using chlorine).
6. Reduce flow to a small stream, roughly the diameter of a pencil.
7. Break seal on sample container, being careful not to touch inside of bottle or cap.
8. Fill the bottle up to at least the 100mL mark. When in doubt, overfill as the method requires 100mLs.
9. Immediately cap the container.
10. Keep samples cool ($<10^\circ\text{C}$ or 50°F) and deliver to the laboratory as soon as possible, no later than 24 hours after sample collection.