

Coliform Sample Collection Technique (from EPA 816-R-01-017A)



Sample Containers

Many sizes and types of containers may be used for collecting coliform samples, but *Colorado Primary Drinking Water Regulations* require a minimum 100-mL sample for analysis. Bottles should be obtained from labs only, and most labs supply a 125-mL sterilized, plastic bottle. A few labs may even furnish a single-service, sterilized, polyethylene bag or bottle containing sodium liquid or powdered thiosulfate. **Do not rinse contents from the container!** The sodium thiosulfate ($\text{Na}_2\text{S}_2\text{O}_3$) is a dechlorinating agent that stops the disinfection action of chlorine during the sample's transit to the laboratory, thus providing a more representative picture of the sample's microbial content when the sample was taken. Remember, you are sampling the water to determine what the water is like coming out of your tap at the time you took the sample – not what it is like during transit.

Sample Procedure

The lab supplying the containers normally provides instructions for the type of monitoring you are doing. Refer to those instructions when provided. The following instructions and photos illustrate **general** sampling procedures for collecting coliform analysis monitoring samples. **Do not contaminate the sterile bottle or permit the faucet to touch the inside of the bottle or bag.**

1. Assemble all of the sampling supplies before you begin. A dechlorinating agent is needed and may need to be furnished (if not already supplied with the containers) when sampling chlorinated waters (such as those found in the distribution system). The containers are sterilized, so handle them carefully. **Wash your hands thoroughly before handling supplies.**

2. Go to the sampling location(s) specified in the sampling plan. The tap should be clean, free of attachments (hoses, etc.), and in good repair (no leaks). If possible, avoid faucets that have swivel necks.

3. If possible, remove any aerators, strainers, or hoses that are present because they may harbor bacteria. (You may not be able to remove the aerator or find a non-swivel faucet.)



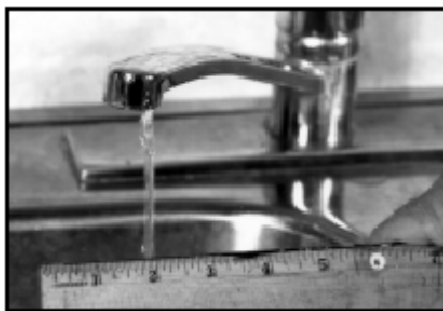
4. Open the cold water tap for two to three minutes before collecting the sample. Clearing the service line until the water temperature stabilizes helps ensure the sample is representative of water in the distribution system.

Do not rinse the bottle or bag before collecting the sample!

5. Fill out the label, tag, and lab form in waterproof ink. Make sure the label is dry before writing on it.



6. Adjust the flow to about the width of a pencil. Check for steady flow. Do not change the flow once you have started sampling. This could dislodge microbial growth.



7. Remove the bottle cap (stopper, etc.), or open the plastic bag. Be careful not to touch the inside with your fingers. Position the bottle or bag under the water flow. Hold the bottle in one hand and the cap in the other. **Do not lay the cap down or put it in your pocket!**



8. Fill the bottle to the shoulder or to about 1/4" from the top. If using a plastic bag sampling container, fill it to the marked fill line.



9. Place the cap on the bottle and screw it down tightly. If using a plastic bag, pull the wire tabs and whirl the bag three times for a tight seal. Samples should be iced immediately, if possible.



10. Turn off the tap. Replace the strainer, aerator, or hose.

11. Check that the information on the label is correct.

12. Complete any additional lab forms that came with the sample bottle, including the chain of custody form.

13. The samples must reach the laboratory within 30 hours of collection. It is recommended that all samples be refrigerated or iced using "blue" ice (cooled between 4°C and 10°C).

