

## **Low Hazard Confirmatory Step Only**

### **Sampling Procedure for Total Coliform/*E. coli* Bacteria**

#### **Sample Containers**

Although different sizes and types of sampling containers may be used for collecting coliform samples, most laboratories supply 125 mL sterilized, plastic bottles. Some laboratories will wrap the bottles in paper to protect them from contamination. Glass-stoppered bottles sometimes have foil covering the top for protection. A few laboratories may furnish single-service, sterilized bottles. Do not sample with any bottles that appear to have been tampered with.



*Typical sampling containers and equipment used for coliform sampling.*

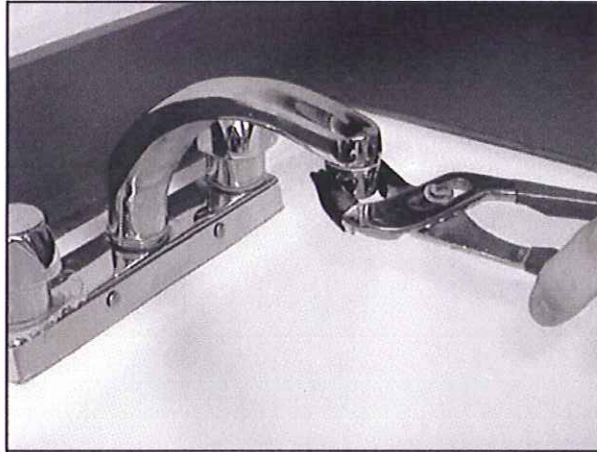
## Procedure

The laboratory that supplies the sampling containers normally provides instructions with the kit for the type of monitoring being done. Refer to those instructions when provided.

The following instructions and photos illustrate the general sampling procedures for collecting coliform and *E. coli* samples.

1. Assemble all of the sampling supplies before beginning. The proper preservatives will be added to the sampling containers by the laboratory before you receive them. A dechlorinating agent is used when sampling chlorinated waters (such as those found in the distribution system). Handle the containers carefully as they are sterilized. Do not rinse out or dispose of any liquids, powders, or tablets inside the containers. This material is the preservative.
2. Go to the sampling location(s) specified in the sampling plan. Each representative sampling location is usually located in the distribution system and is accessible during the day. Examples include hospitals, city buildings, pump stations, restaurants, and dedicated sampling stations. The tap should be clean, free of attachments (hoses, etc.), and in good repair (no leaks). If possible, avoid single lever, mixing-valve faucets and drinking fountains.

3. *If possible, remove any aerator, strainer, or hose that is present, as any of these may harbor bacteria.*



**Removing aerator from faucet before starting to sample**

4. *Optional Step: Spray tap with chlorine solution or wipe it with alcohol. (This step is optional since many people believe this practice does not kill attached bacteria and is not necessary if the sampling tap is selected carefully.)*
5. *Turn on the cold-water tap and run the water until the water temperature has stabilized as determined by a thermometer. This typically takes 4-5 minutes. Then reduce the flow so that the stream is no greater than  $\frac{1}{4}$  inch in diameter.*

*While the water is running fill out the labels, tags, and laboratory forms in waterproof ink and apply the labels to the containers. Do not change the water flow once the sampling has started as that could dislodge microbial growth.*
6. *Remove the bottle cap. Be careful not to contaminate the sample by touching the inside of the cap or the inside of the sample container with your fingers. Then position the bottle 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!*
7. *Fill the bottle to the shoulder or to about  $\frac{1}{4}$  inch from the top. Many bottles have a 100 mL fill line.*

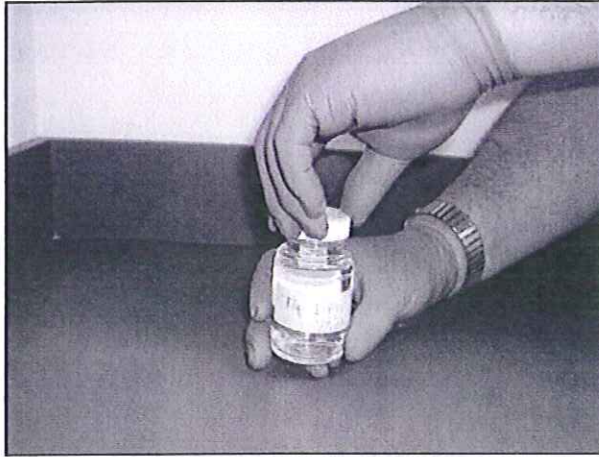


*Holding the bottle under the water flow with cap in other hand.*



*Bottle filled to the shoulder.*

8. *Place the cap on the bottle and close it tightly. Samples should be cooled immediately.*
9. *Turn the tap off. Replace the aerator, strainer, or hose.*
10. *Check that the information on the label is correct (or check the laboratory form and attach it to the bottle with a rubber band).*



*Tightening the cap on plastic bottle.*

- 11. Complete any additional laboratory forms that came with the sample bottle, including chain-of-custody form (if required by the state).*

*The samples must reach the laboratory and the analysis must begin within 30 hours of collection. It is recommended that all samples be refrigerated or cooled to 4° to 10°C (39° to 50°F). If the laboratory is nearby, refrigerate with freezer packs, and deliver the samples there directly. If not, send the samples overnight by U.S. mail or by an overnight courier.*