**NOTE: Please fill the container to the TOP of the shoulder; DO NOT flush out the chlorine neutralizer.**

# Collection of Drinking Water Samples for Total Coliform Bacteria Analysis

## Introduction

The following is the OEPA approved / provided procedure for the collection of drinking water samples for analysis of total coliform, as detailed in the methods approved in Ohio Administrative Code rule 3745-81-27. The following procedure should be followed **in detail** to ensure a valid laboratory analysis.

## Procedure

1. **Select the sampling tap**.
    a. A tap, such as faucet or small valve, is preferable. Do not sample from hoses or drinking water fountains.
    b. Avoid taps with a leak at the stem or taps with a swivel joint.
    c. It is recommended to use/install a smooth nosed sample tap.
2. **Place all carbon filters, sediment filters and water softeners on bypass unless operated by the public water system.** For example, a public water system includes a single building that has 3 sample taps. One of the sample taps has a carbon filter under the sink. If the total coliform sample will be collected from this faucet, then the carbon filter must be put on bypass during sample collection because the filter is not used by the entire water system.
3. **Prepare a chlorine solution.**
    a. Use a 6% sodium hypochlorite solution, such as household liquid bleach. **Do not use chlorine solutions with special scents**.
    b. To prepare a sanitizing solution, add one ounce of bleach to one gallon of water (or 1 tablespoon per half-gallon).
    c. Store the mixed solution in a tightly closed, screw-capped container.
    d. The solution should be discarded and remade 6 months after preparation.
    e. Stronger solutions can be used; however, some faucet discoloration may result.
4. **Remove the Aerator.** The aerator or screen must be removed before collection of the sample. Aerated or screened nozzles may harbor bacteria.
5. **Flush the sample tap to waste for 1 minute, then close the valve.**
6. **Apply the sanitizing solution (prepared in step 3) to the nozzle.** This can be accomplished by either using a spray bottle or a plastic bag.
    a. **Spray bottle:** Using a spray bottle, saturate the tap opening with sanitizing solution then wait at least 2 minutes before proceeding; or
    b. **Plastic bag:** Place a bag over the nozzle and hold the top of the bag tightly on the tap. Alternately squeeze and release the bag to flush the solution in and out of the tap. Do this for 2 minutes. A fresh solution and bag must be used to sanitize each tap.
7. **Flush the tap for 3-5 minutes.** The sample to be collected is intended to be representative of the water in the main. The tap must be opened fully and the water run to waste for at least 3-5 minutes to allow for adequate flushing of the piping between the tap and water main.
8. **Reduce the flow from the tap to the width of a pencil** to allow the sample bottle to be filled without splashing.
9. **Open the sample bottle.**
    a. Grasp the bottom of the same bottle.
    b. Remove the cap and hold the exterior of the cap between your fingers while filling the sample bottle. Do not lay the cap down. Take care to not touch the mouth of the sample bottle or the inside of the cap with fingers as the sample could become contaminated.
    c. The sample bottle must be open only during the collection of the sample.
10. **Fill the sample bottle to within ½" to 1" of the top or to the indicator line on the sample bottle.**
    a. Do not rinse out the sample bottle before collecting the sample.

*** Continued on the back ***

b. Do not remove any pills, powder, or liquid from the sample bottle. The sample bottle contains a small amount of sodium thiosulfate to neutralize any chlorine in the water.
c. Do not touch the rim or mouth of the sample bottle during collection of the sample.
d. Do not overfill the sample bottle.

11. **Immediately recap the sample bottle tightly.**
12. **If there is any question as to whether a sample has become contaminated during collection, discard the sample and collect a new one in a new sample bottle.**
13. **Deliver the sample to the laboratory as soon as possible.** The laboratory must receive the sample so that analysis can be initiated within 30 hours after collection. Certified laboratories will not test samples greater than 30 hours old because the results will be invalid. It is recommended to keep samples cool after collection and during transport to the laboratory.

## Additional Information

- A bacteriological sample report form is supplied with each sample bottle. The top half of the form is to be filled out in a legible manner using an indelible pen, rubber stamp, or typewriter. Do not use a fountain pen or other pens having water soluble ink.
- Samples must be collected in sample bottles supplied by the certified laboratory.
- Bacteriological sample report forms that have not been properly completed, including the name of the water system, PWS ID#, address, date and time of collection, sample type and location (specific tap) and signature of collector will not be accepted for bacteriological examination.

## Contact

For more information, contact your inspector in the appropriate District Office:

**Northwest:** 419-352-8461
**Northeast:** 330-963-1200
**Central:** 614-728-3778
**Southwest:** 937-285-6357
**Southeast:** 740-385-8501

Sampling instructions provided by: Ohio Environmental Protection Agency