BIOSOLUTIONS, LLC. Cleaner water through applied chemistry and biology.
10180 Queens Way #6 • Chagrin Falls, OH 44023 • Phone: 440-708-2999 • Fax: 440-708-2988

Collection of Microbiological Drinking Water Samples: Total Coliform & *E.coli*

The prescribed procedures must be followed in detail for a valid laboratory analysis.

1. **Select the sampling tap**
   a. A tap, such as a 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. Aerated or screened nozzles may harbor bacteria. The aerator or screen must be removed before collection of the sample.
   d. Place all carbon filters, sediment filters, and water softeners on bypass unless operated by a public water system.
2. **Sanitize the nozzle of the tap with a chlorine solution.**
   a. Use a 6% sodium hypochlorite solution, such as household liquid bleach. **Do not use chlorine solutions with special scents.** To prepare a sanitizing solution, add one ounce of bleach to one gallon of water (or 1 tablespoon per half-gallon). The mixed solution can be stored in a tightly closed, screw-capped container for up to 6 months. Stronger solutions can be used, however, some faucet discoloration may result.
   b. Flush the sample tap to waste for 1 minute. Close the valve.
   c. Apply the sanitizing solution prepared in step (a) to the nozzle. This can be accomplished by either using a spray bottle or a plastic bag.
      (1). **Spray Bottle:** Using a spray bottle, saturate the tap opening with sanitizing solution and wait at least 2 minutes before proceeding;
      (2). **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.
3. **Flush the tap** - 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.
4. **Reduce the flow from the tap to the width of a pencil** - this will allow the sample bottle to filled without splashing.
5. **Remove cap from the sample bottle.**
   a. Grasp the bottom of the sample bottle.
   b. Remove the cap and hold the exterior of the cap between fingers while filling the sample bottle. Do not lay the cap down. Take care not to touch the mouth of the bottle or the inside of the cap with fingers or the sample could become contaminated.
   c. The bottle must be open only during the collection of the sample.
6. **Fill the sample bottle.**
   a. Do not rinse out the bottle before collecting the sample.
   b. Do not remove any pills or powder from the bottle. The bottle contains a small amount of sodium thiosulfate to neutralize any chlorine in the water.
   c. Do not touch the rim or mouth of bottle during collection of the sample.
   d. Fill the bottle above the 100ml line or 1/2" from top. Do not overfill the bottle.
7. **Immediately recap the sample bottle tightly.**
8. **If there is any question as to whether a sample or bottle has become contaminated during collection of the sample, discard the sample and collect a new sample in a new sample bottle.**
9. **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 and the laboratory risks loss of certification. It is recommended to keep samples cool after collection and during transport to the laboratory.
   a. Sample can be hand delivered to laboratory. For directions please call Biosolutions, LLC at 440-708-2999.
   b. Samples may be sent to laboratory via overnight delivery to ensure that they will arrive before they are over 30 hours old.
10. **Additional Information**
    a. Samples are accepted by Biosolutions, LLC, Monday through Thursday (except holidays) 9:00 am to 3:00 pm. Samples received after 3:00 pm may be processed the next day. All samples must be collected in laboratory approved bottles and be less than 24 hours old when received. Please do not attach labels or write on sample bottles. Do not sample prior to a holiday. Samples for weekend (Friday) analysis require prior approval and will be assessed an additional fee.
    b. A bacterial sample report form is supplied with each sample bottle. The left half of the form is to be filled out in a legible manner using indelible pen, rubber stamp, or typewriter. Do not use fountain pen or other pens having water-soluble ink.
    c. Samples must be collected in bottles supplied by the certified laboratory. Bottles may be used from other certified laboratories provided the sample bottle supplying laboratory furnishes records of sample bottle sterility tests.
    d. Samples must be accompanied by a properly completed bacterial sample report. Bacterial sample report forms that have not been properly completed as to name of water supply, address, date and time of collection and signature of collector will not be accepted for bacteriological examination.