COLIFORM BACTERIA SAMPLING INSTRUCTIONS AND BEST PRACTICES

Sample Kit Contents

Each monitoring period the Wisconsin State Lab of Hygiene (WSLH) ships a coliform bacteria sample kit to public water system samplers that use the WSLH. Contact your DNR field representative if you do not receive a sample kit within the first couple of weeks of your monitoring period. Systems on an annual monitoring schedule may receive both bacteria and nitrate sample bottles in the nitrate mailer for shipping convenience. Individual coliform bacteria sample kits are shipped in plastic foam mailers for other monitoring schedules. Check your lab slip for your monitoring time frame, or contact your DNR representative.

Combined annual bacteria and nitrate sampler mailer contains the following:

- 1 bottle for the nitrate test
- 1 bottle for the coliform bacteria test
- 1 test form for nitrate
- 1 test form for coliform bacteria
- 2 small zip-close bags for sample bottles
- 2 large zip-close bags (one each for ice and form)

Individual coliform bacteria plastic foam mailer sampler contains the following:

- 1 bottle for the coliform bacteria test
- 1 test form for coliform bacteria
- 1 small zip-close bag for sample bottle
- 1 plastic foam shipper
- Elastic bands to strap and hold package
- Priority mail shipping materials

Note: If you receive a bottle with a white label strip and the bottle contains powder, do not rinse or attempt to remove the powder. The powder binds with chlorine if it is present in the water sample. The powder does not effect a sample result when chlorine is absent. However, touching the inside of the bottle to remove the powder could contaminate a sample.

SAMPLE SITE SELECTION PROCESS

Collect the sample from an approved sample site. Sample site plans for public water systems are developed and reviewed during sanitary surveys.

If you have any questions on sample locations, contact your county or DNR staff field representative.

Dedicated sampling faucets may be installed if concerns arise that existing sample sites do not provide reliable water samples. A bad sample site or poor sampling technique can contribute to the presence of coliform bacteria in a sample, even if there isn't a problem with the source water. Additional sampling is required when coliform is found in routine distribution samples.

Characteristics of a good sampling site

- Sample site should be clean
- The faucet is in an easily accessible location
- The faucet is flushed regularly
- The faucet is made of metal and may be flamed for disinfection
- The faucet does not leak
- The faucet has a downturned spout
- The faucet has ample space to put a bucket/ sample bottle under it or drain to flush the faucet
- The faucet has all attachments removed (i.e. backflow protection devices, gaskets, aerators, splitters)
- Stationary faucets are better than swivel faucets
- Shorter faucets are better than long-necked faucets
- A smooth-ended faucet is preferred
- Cold water faucets are preferred over faucets with mixing valves

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Sample Collection Procedure

1. Wash hands thoroughly with soap and water.

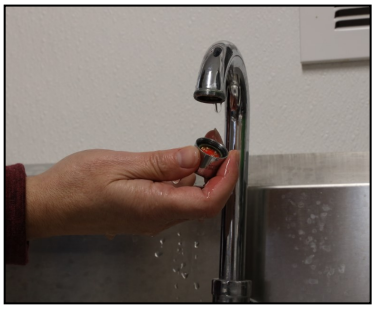
2. Write the label of the system on the bottle with waterproof ink.

3. Remove the shrink wrap plastic or twist the breakaway cap to loosen the cap. For twist cap bottles the bottom strip will remain on the bottle. Leave the cap on the bottle.

Set aside the bottle in a clean place until the sample tap is prepared.

Please note: It is appropriate to flush seldom used fixtures or water systems prior to beginning sampling procedures steps 4-10.

4. Remove the faucet's aerator, gasket and any other attachments.



5. Sterilize the faucet with a butane or propane torch for at least 15 seconds in a slow and continuous motion around the bottom rim of the faucet.

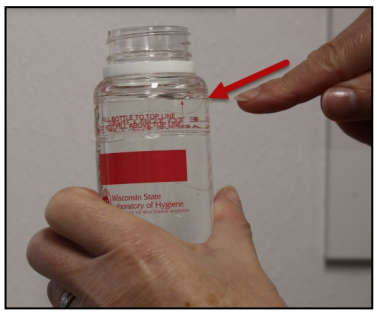
Please note: Plastic or chrome faucets will melt.

6. Flush the faucet and piping for a minimum of 5-30 minutes. Longer flushing times may be useful for longer lengths of piping or long-neck faucets. Do not touch, wipe or wash the faucet after preparing the tap for sample collection.

7. Adjust the water flow to a steady, thin stream. Do not change the flow rate or move the faucet as you move on to the next step in the collection process.

8. Carefully remove the cover of the sample bottle. Do not let your fingers touch the mouth of the bottle or the inside of the cap. You may continue holding the cap on the outside rim. Do not rinse the bottle. Proceed to fill the bottle.

9. Fill the bottle to the <u>fill line</u>. The lab cannot analyze the sample with less water, and overfilling the bottle adds more time for the lab staff to prepare the sample.



10. Replace the cap, and close tightly.

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Checklist for Sample Packaging

1. Place the bottle in a small, zip-close bag and seal.

2. Complete section two of the public coliform bacteria lab slip with a ballpoint pen or waterproof ink.

<u>The sample cannot be processed without a collection time and date.</u>

3. The coliform sample bottle may be shipped in a separate coliform sample plastic-foam mailer or with the annual nitrate sample in the large nitrate cooler mailer. Place the zip-close bag with the water sample in the mailer you have available.

If you are sending the nitrate mailer, place both of the bagged sample bottles into one of the large zip-close bags filled at least <u>three quarters full with ice</u> and then seal. Place the sealed bag in the cooler.

4. Enclose the completed DNR public lab slip in the kit prepared for the sample.

The nitrate mailer includes a zip-close bag to enclose the lap slips. The lab slips notify the lab of the correct procedure to use for analysis and reporting.

The WSLH and labs that are Safe Drinking Water-certified will submit the sample results electronically to the DNR and provide you with the results of the test if the public lab slip is used.

TIMING IS IMPORTANT

Samples analyzed for Safe Drinking Water Act compliance MUST be set up for analysis within 30 HOURS of the sample's collection.

If a water sample is greater than 30 hours old when received by the lab, the sample will not be analyzed.

If shipping your sample, check with your provider to determine the best mailing option.

Following sampling best practices helps prevent coliform-positive samples caused by bad collection technique.