

THE VERMONT DEPARTMENT OF HEALTH LABORATORY
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**INSTRUCTIONS FOR COLLECTION AND PACKAGING OF SOURCE WATER SAMPLES
FOR *E. coli* ANALYSIS (KIT LT)**

PLEASE READ INSTRUCTIONS CAREFULLY BEFORE COLLECTING SAMPLE

To comply with postal regulations and ensure the safety of laboratory personnel and those involved in the transport of sample and to maintain integrity of the sample, the VT Department of Health Laboratory will accept for testing only those samples that are packaged according to the instructions below.

Kits can be stored at room temperature until needed. The kit should contain:

- One labeled 100-milliliter sterile bottle with sodium thiosulfate preservative
- One cardboard sample container
- One "**Water Sample Collection Information**" form (Chem 202)
- One zip-lock bag to protect completed "**Water Sample Collection Information Form**" (Chem 202) and cardboard sample container from moisture.

Please note the expiration date of the sample collection bottle, which is stamped on the label affixed to the cover of the cardboard mailing container and the cover or side of the inner sample collection bottle. **DO NOT USE OUTDATED COLLECTION BOTTLES.** Expired kits and paperwork should be returned to the Vermont Department of Health Laboratory for free replacement. The paper seal on the sample collection bottle should be intact. If the label is not intact, please contact the Health Department Laboratory for a replacement bottle.

Instructions

Collection of Sample:

1. Public Water Systems, required to monitor their source water under the Long Term 2 Enhanced Surface Water Treatment (LT2) Rule, must meet specific requirements regarding where and when to sample. All *Cryptosporidium*, *E. coli*, and turbidity source water samples collected under LT2 Rule requirements must be collected prior to chemical treatment [40 CFR § 141.703(b)] and should be collected from the same location. Instructions on proper sampling locations can be obtained from the Vermont Department of Environmental Conservation, Water Supply Division at 802-241-3400.

2. Fill out the requisition form completely.

THE FOLLOWING INFORMATION IS REQUIRED TO ENSURE ACCURATE AND EFFICIENT PROCESSING OF THE SPECIMEN AND REPORTING OF TEST RESULTS.

- * Date and time (note a.m. or p.m.) of sample collection. Sample may be rejected if not provided.
- * Sampler name and day-time telephone number
- * Indicate Facility ID (ex. TPxxx) under **SAMPLE LOCATION:**
- * Indicate Sampling Point ID (ex. RWxxx) under **SAMPLE POINT ID:**

3. PRINT SAMPLER'S LAST NAME AND PHONE NUMBER ON THE SIDE LABEL OF THE BOTTLE. PRINT DATE AND TIME OF COLLECTION ON THE TOP OF THE PAPER LABEL.

4. Water taps used for sampling should be free of aerators, strainers, hose attachments, mixing type faucets, and purification devices. The service line should be cleared before sampling by maintaining a steady water flow for at least two minutes (until the water changes temperature). **Please note: Do not touch the mouth of the bottle. Do not pre-rinse or overfill the sample bottle as it contains a preservative.**

5. Adjust the flow of water out of the tap or hose so the water will not splash out when it is collected into the sample container. Using aseptic technique (i.e. do not touch the inside of the sample container, etc.), fill the bottle to just above the 100-milliliter (ml) line on the bottle. 100 ml of water is required for the test procedure.
6. If there is not an inline tap that allows for the sampling of source water prior to treatment, samples should be collected as close to the intake as possible from either land or boat. Source water samples should be collected close to the surface using a grab sampling technique. Samples may be collected manually by direct submersion of the bottle into the water or by using a grab sampling device, as simple as a metal pole with an adjustable clamp at one end that holds the sampling bottle in place. The mouth of the bottle should be directed toward the current, if present.
7. Immediately following sample collection, replace the screw cap on the bottle and tighten firmly to prevent leakage. Place the sample bottle and completed Water Sample Collection Form in the cardboard sample container, screw the cap on tightly, and place into zip lock bag. **Once collected, and until the sample is tested, the sample must be maintained at a temperature between 1°C and 10°C (but not frozen). Chill immediately in a refrigerator or cooler filled with ice or cold packs.**

Shipment of Specimen and Test Result Turnaround Time:

1. **Under LT2, *E. coli* samples must be analyzed within 30 hours of sample collection. If the sample holding time or temperature requirements are exceeded upon receipt at the laboratory, the sample will be rejected and will need to be re-collected.** Deliver samples to The Vermont Department of Health Laboratory within 30 hours of sample collection.
2. Use a reliable shipping service for overnight delivery.

SUGGESTED PACKAGING OF THE SAMPLE FOR SHIPPING:

- a. Insert two large plastic trash bags into a styrofoam shipping cooler creating a double liner to prevent leakage (shipping companies may delay sample shipments if leakage occurs).
 - b. Place 6 pounds of ice into 3 to 4 zippered plastic bags. (Gel packs or blue ice may also be used as long as the sample is maintained in the appropriate temperature range).
 - c. Place the bag containing sample into the shipping container. Cover sample bottle(s) with bubble wrap, to prevent freezing, and place ice or cold packs around the sample bag. Seal liner bags by twisting top of bag and tying in a knot.
 - d. Close the cooler lid, seal the horizontal joints with strapping tape, and secure the lid with tape by taping the cooler at each end, perpendicular to the seal.
2. Samples must be received by 4 p.m. on regular workdays for testing to begin the same day. Results for samples received by 4 p.m. are available after 3 p.m. the following workday.
 3. Test results for samples received Friday will not be routinely available until the following Monday.

The specimen may be rejected if:

- * Sample is greater than 30 hours old
- * Samples received at >10°C or frozen
- * Date and time of sample collection is missing on the specimen and form
- * Sampler name is missing on the form
- * Sample collection bottle has expired (see date on bottle label)
- * Sample volume is less than 100 ml.
- * Sample is submitted in a bottle other than the bottle supplied with the VDHL Kit LT

If you have any comments or questions regarding these instructions, please call one of the telephone numbers listed on the front of this form. Thank you.