

WATER SAMPLING INSTRUCTIONS

READ and UNDERSTAND all instructions BEFORE COLLECTING samples

Additional information is available on our website, waterlab.opsu.edu

Note the following general sampling instructions

1. Make sure you have the appropriate container for the intended sample type.
2. Try to select a faucet that is indoors, without obvious contamination, not connected to a softener or other filtering device, without swivel head and without hot and cold water mixing in the same valve. Sample from a cold water faucet.
3. Remove any aeration device on the outlet.
4. Label all sample containers clearly and unambiguously. Use an indelible marker or attach labels that are water proof and will not detach from the container.
5. Complete the sample submission form where indicated. Date and time of collection and sampler identification are required.
6. Where required, properly preserve the sample and deliver it to the lab within the required time limit.

Samples ARE REJECTED at the laboratory for ANY of the following reasons.

1. **Incomplete documentation** including collection date and time, sample location or type, sampler's name, and if applicable, PWSID number and chlorine residual.
2. Sample is **not in approved bottle**.
3. Bottle does **not contain proper sample volume**.
4. Sample is not at the **proper temperature**. All frozen samples are rejected. See specific temperature requirements.
5. Sample contains incorrect or inappropriate preservative.
6. Sample is outside of the allowed maximum holding time when received at the laboratory.

SPECIAL INSTRUCTIONS for BAC-T

Step 1 PREPARE SAMPLE POINT

1. Ideally, select an indoor faucet, without obvious contamination, not connected to a softener or other filtering device, without swivel head and without hot and cold water mixing in the same valve. Sample from a cold water faucet.
2. Remove any aeration device on the outlet.
3. Clean sample source point inside and outside with 5% bleach solution or alcohol. This can be done with a swab or a spray bottle.
4. Allow the disinfectant to remain on the outlet 1-2 minutes before going to Step 2.

Step 2 PURGE SAMPLE

Open valve and allow water to run freely for 3-5 minutes, then partly close the valve so that only a small stream flows.

Step 3 CHLORINE

- If the sample is from a chlorinated system, measure the chlorine content of the water. Record the value on the Chain-of-Custody form.
- If the system is non-chlorinated, indicate that on the form.

Step 4 OPEN COLLECTION CONTAINER

1. Depending on bottle type, either remove and discard the lid protection tape or twist the lid to break the sealing tape.
2. Unscrew the lid.
 - Do **NOT touch inside** of the lid or bottle.
 - Do **NOT set the lid down**.
 - Do **NOT dump out white powder or solid tablet** from the bottle. This is sodium thiosulfate, it neutralizes chlorine and is required in the test. If before use, the container reaches 118°F (as might occur in a vehicle in the summer time), the chemical may melt and appear as a small liquid droplet in the bottle. This is not a problem and does not change its effectiveness in neutralizing chlorine.

Step 5 SAMPLE COLLECTION

1. Collect sample water directly into the bottle using the faucet valve as needed for flow control.
 - See volume lines embossed on the bottle: 100mL and 120mL
 - The collected volume **MUST BE between the two lines** to be a valid sample.
 - Do **Not overflow** the bottle as this will wash out the chlorine-neutralizing chemical.
2. Screw the lid firmly onto the bottle.
3. Label the bottle with clear identification that matches the Chain-of-Custody form.

HANDLING

- Keep the sample as cool as possible. Transporting on ice is preferred.
- Do not allow the sample to freeze, become hot, or set in the sun.
- Sample **must be analyzed within 30 hours after collection**.

TEMPERATURE RULES

- **TCR samples** – It is **recommended** that the sample be cooled to < 10°C (50°F).
- **GWR samples** – It is **required** that the sample be cooled to < 10°C (50°F).

SPECIAL INSTRUCTIONS for the IOC Group

This sample group is collected in 2 plastic bottles: 1 L for the metals, 125 or 250 mL for Fluoride.

To collect field samples:

- > Run water tap fast for at least 5 minutes.
- > Reduce the water flow to a moderate, steady stream. For each bottle, remove the cap and collect directly into the bottle.
- > For the 1 L metals bottle, fill until the water level is between the top shoulder and the neck of the bottle. This will leave appropriate space for acid addition at the lab. DO NOT FILL to the brim. DO NOT completely fill.
- > No additional chemical or temperature preservation is needed.

SPECIAL INSTRUCTIONS for Arsenic and for Sodium

To collect field samples:

- > Run water tap fast for at least 5 minutes.
- > Reduce the water flow to a moderate, steady stream. For each bottle, remove the cap and collect directly into the bottle.
- > For each of these sample types, fill the bottle until the water level is between the top shoulder and the neck of the bottle. This will leave appropriate space for acid addition at the lab. DO NOT FILL to the brim. DO NOT completely fill.
- > No additional chemical or temperature preservation is needed.

SPECIAL INSTRUCTIONS for VOLATILES (VOCN Group)

Handle trip blank sample vial just as samples, however do not open, keep cold, and protect from light.

To collect field samples

- > Run water tap fast for at least 5 minutes.
- > Adjust flow down to a very slow, steady rate.
- > Open the vial, taking care not to dump out the powder inside. Do not touch inside the vial or cap.
- > Angle the vial slightly so that water flows down the inside. Minimize water turbulence while filling the vial. Fill until the vial is almost completely full.
- > Using the glass dropping pipet, add 3 drops of 50% hydrochloric acid solution from the small vial in the sample kit. ***CAUTION ***ACID BURN***
- > IMPORTANT: If the sample foams vigorously when the hydrochloric acid is added, do not add acid to the remaining vial and contact the lab immediately.
- > Attach the cap and very carefully and slowly invert the vial ONE time to mix the acid. Do NOT shake.
- > Remove the cap and collect from the sample source a small amount of water into the cap, and carefully pour it into the vial so that the vial is now completely full to almost overflowing with the water level (meniscus) curved up over the top of the rim.
- > Carefully put the cap directly down over the vial and tighten into place. A small amount of water may run out from under the cap as it is screwed down.
- > The vial should be liquid-full. Invert the vial and check for air bubbles. If necessary, add more sample water using the cap.
- > Samples with air bubbles or pH >2 are invalid.
- > Collect 2 vials from each sample location.
- > Immediately place the vials in a zip-lock baggie and into ice. Samples that will be on ice for an extended period should have paper or an extra plastic layer to separate the vials from the ice to prevent freezing and breakage.
- > Samples received at the laboratory **must be on solid ice** and **must have a temperature ≤ 6°C**.

SPECIAL INSTRUCTIONS for LEAD and COPPER

Prior to sample collection, the water source must be unused (no water flow) for at least 6 hours. This includes turning off the refrigerator icemaker to begin the 6 hours. Also do not flush toilets or draw any water from anywhere in the system before collecting the sample.

DO NOT PURGE the tap prior to sampling. Run no water from the tap before collecting the sample.

To collect field samples:

- > Remove the cap and place the bottle under the tap.
- > Turn on the cold water only. Slowly fill until the water level is between the top shoulder and the neck of the bottle. This will leave appropriate space for acid addition at the lab.
- > DO NOT FILL to the brim. DO NOT completely fill. DO NOT overflow.
- > No additional chemical preservation or cooling is needed.
- > Laboratory receipt must be within 14 days.

SPECIAL INSTRUCTIONS for NITRATE – NITRITE and for PHOSPHATE

To collect field samples:

- > Run the water tap fast for at least 5 minutes.
- > Reduce the water flow to a moderate, steady stream. Remove the cap and collect directly into the bottle.
- > No additional chemical preservation is needed. However the sample must be cool and shipped on ice.
- > Samples received at the laboratory **must be received within 48 hours after collection**, **must be on solid ice** and **must have a temperature ≤ 6°C**.