

WATER SAMPLE COLLECTION

Legionella Field Guide

Culture (ISO 11731) · IDEXX Legiolert · Cooling towers, potable and hot water systems

KIT CHECK BEFORE YOU LEAVE

- [] Sterile bottles, sodium thiosulfate
- [] Sterile swabs (if biofilm scoped)
- [] Separate cup for temp / pH
- [] Halogen residual test kit
- [] Gloves, eye and respiratory PPE
- [] Cooler, gel packs, CoC, courier label

01 Confirm which method the rule requires

- New York State and New York City cooling towers require Legionella culture performed by an ELAP-certified laboratory. Legiolert detects *L. pneumophila* only and does not substitute for that requirement.
- ASHRAE 188 sets no numeric limits. Your Water Management Program defines the method, the sampling points, and the control limits.
- If you are unsure which applies, call the laboratory before you sample. Re-sampling costs more than a phone call.

02 Cooling towers

- Sample the basin or sump where water is moving, away from the biocide injection point.
- Collect a swab of the basin wall or fill at the waterline if biofilm is in scope. Ship the swab with the water.
- Record tower ID, exact sampling point, water temperature, pH, free and total halogen residual, and when biocide was last dosed.
- Aerosol hazard: wear PPE per your site plan and stand upwind of drift.

03 Potable and hot water

- First draw. Do NOT flush and do NOT remove the aerator or showerhead. Legionella lives in the fixture and its biofilm; flushing washes away the finding.
- Sample at the point of use: showerhead, faucet, hot water return, tank drain.
- Mark pre-flush or post-flush on the chain of custody. If the WMP asks for both, label each clearly.
- Swab the aerator or showerhead interior separately if scoped.

04 Fill, preserve, and ship

- Use a sodium thiosulfate bottle on any chlorinated or treated system. Without it the residual keeps working in transit and you get a false negative.
- Leave 1-2 cm of headspace. The bench has to mix the sample.
- Do not rinse the bottle. Do not touch the inside of the cap or the bottle neck.
- Keep cool, do not freeze, and keep gel packs off direct contact with the bottles. Ship same day, overnight. Target analysis within 48 hours of collection and confirm the hold time on your CoC.

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Quick reference · What to avoid, what the numbers mean, what to expect

ALWAYS

- + Use a thiosulfate bottle on treated water.
- + Take first-draw samples for potable Legionella.
- + Record time, temperature, pH and residual on the CoC.
- + Leave headspace in every bottle.
- + Note recent biocide dosing or shock treatment.
- + Ship the same day you collect.

NEVER

- ✗ Never flush before a potable Legionella sample.
- ✗ Never put a thermometer or pH probe into the sample bottle.
- ✗ Never use a bottle without thiosulfate on a treated system.
- ✗ Never fill a bottle to the brim.
- ✗ Never freeze a sample.
- ✗ Never report a post-shock tower sample as routine monitoring.
- ✗ Never ship Friday without confirming weekend receipt.

COOLING TOWER RESPONSE THRESHOLDS (10 NYCRR PART 4, APP. 4-A)**At or above 20 CFU/mL**

Review the treatment program, perform immediate online disinfection, retest in 3 to 7 days, and keep retesting until the result falls below 20 CFU/mL.

Above 1,000 CFU/mL

Notify the local health department within 24 hours of receiving the result, then disinfect and verify per the maintenance program and plan.

ASHRAE 188

Sets no numeric limit. It is a process standard: the control limits are written into your own Water Management Program and are yours to defend.

CDC toolkit figures

Interpretive control indicators, not regulatory limits. The potable and cooling tower scales differ by a factor of ten. Never quote one for the other.

METHODS AND TURNAROUND**Culture, ISO 11731**

Total Legionella species, reported in CFU/mL. Required where a rule says Legionella culture. Report in 10 to 14 days. Serogroup typing available as a priced add-on.

IDEXX Legiolert

L. pneumophila only, reported in MPN/100 mL. 7-day incubation, report in 8 to 10 days. Suits WMP verification and post-remediation checks.

Watch the units

1 CFU/mL equals 100 CFU/100 mL. Regulatory thresholds are written in CFU/mL; Legiolert reports per 100 mL. Convert before you compare.

BEFORE YOU SAMPLE

Confirm that the analysis you are ordering is on the laboratory's accreditation scope for your jurisdiction and matrix. An unaccredited result is not a compliance result, no matter how good the number looks. Questions: call the laboratory before the sampling window opens.