

TOC Testing at Q Laboratories



TOC Test Selection

Please note: It is imperative that the correct test is selected so that Q Laboratories' analysts can analyze the sample appropriately without causing damage or downtime to our instruments. Cleaning validation samples must be diluted by the analyst prior to analysis to ensure they are within the working range of the instrument detector to achieve accurate results.

TOC <643> - Cleaning Validation - USP:

- This test should be selected if the expected result of the sample is above (1) ppm TOC or if the expected result is unknown.
- It is also used for TOC samples and swabs taken from manufacturing equipment that has been cleaned, rinsed, and now needs to be determined if there is any residual product or cleaning agent.

TOC <643> - Water System Testing/Validation - USP:

- This test should be selected if the expected result of the sample is at or below 500 ppb. It is also used for TOC samples taken from a water system that is in the process of validation or is already validated.

Sampling Supplies

TOC Vial



TOC Swab



Sampling Instructions

Please note: Technique is critical when sampling for TOC. Water should only be collected in appropriate TOC vials. Similarly, equipment should only be swabbed using appropriate low TOC swabs and then placed into TOC vials.

These supplies can be purchased from Q Laboratories by contacting office@qlaboratories.com.

Sampling From Water Ports:

1. Clean ports using 30% hydrogen peroxide before sampling. *Do not clean with any other solvent, such as ethanol and isopropyl alcohol, as these contain carbon and will result in a false high result. These solvents can also cause damage to the instrument's detector if present in large quantities, resulting in downtime for maintenance and delays in testing.*
2. Once cleaned, allow the port to flush for one (1) minute before sampling.
3. Place the vial under the stream and allow the vial to fill to the point of overflowing and cap immediately. *Overfilling the vial minimizes the headspace above the water, which could lead to increased microbe growth, resulting in increased TOC.*
4. Store and ship these vials under cold conditions to prevent inaccurate results. Samples are placed in refrigerated conditions upon receipt and tested within 3 business days.

Sampling From Equipment Using Swabs:

1. Make sure the swab is either snapped or cut to the perforated line so it fits entirely within the TOC vial with the lid closed. *Do not add any water to these vials, as accurate results depend on using our in-house water.*
2. Store and ship vials under cold conditions to prevent inaccurate results. *Samples are placed in refrigerated conditions upon receipt and tested within 3 business days.*



Swab Unsnapped



Swab Snapped



Swab In Vial

For questions related to TOC Testing, please contact our main office at office@qlaboratories.com or (513) 471-1300.

Sampling Guidance Disclaimer: *The sampling guidance and tips provided by Q Laboratories are intended for general informational purposes only and do not constitute project-specific instructions, professional advice, or a substitute for site-specific procedures or regulatory requirements. Sampling conditions, objectives, and regulatory obligations vary, and this guidance may not be applicable to all situations. Users are solely responsible for determining the suitability of any sampling method for their specific application and for ensuring compliance with all applicable laws, regulations, standards, and contractual obligations. Q Laboratories makes no representations or warranties, express or implied, regarding the accuracy or completeness of this information and assumes no responsibility or liability for outcomes resulting from its use or reliance. For project-specific guidance, users should consult applicable regulations or qualified professionals.*

