

1.5–30.0 mg/L C Low Range

TNTplus®—Method 10267

**Scope and application:** For wastewater, drinking water, surface water and process water analyses.



## Test preparation

### Reagent storage

Storage temperature: 2–8 °C (35–46 °F)

Store package in an upright position.

### pH/Temperature

The pH of the water sample must be between pH 3–10.

The temperature of the water sample and reagents must be between 15–25 °C (59–77 °F).

### Before starting

Never leave the blue indicator vials open, as CO<sub>2</sub> in the air can cause high-bias results.

**Expulsion of TIC:** The TOC-X5 shaker must be used.

Be sure to digest samples at **100°C (212 °F)**. Higher temperatures may cause the vials to break apart.

Handle the vial combination **with care** after the reaction is completed. Pressure is built up in the vial during the digestion and may shatter under strong stress or if dropped.

Place the combined vials back in the blister pack after analysis. Do not disconnect the vials.

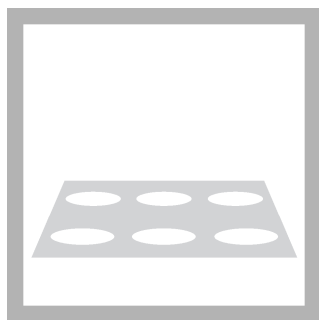
**If the sample contains particles the manufacturer recommends diluting the sample before analysis.**

Review safety information and expiration date on the package.

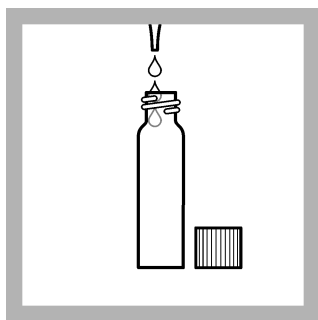
Review the Safety Data Sheets (MSDS/SDS) for the chemicals that are used. Use the recommended personal protective equipment.

Dispose of reacted solutions according to local, state and federal regulations. Refer to the Safety Data Sheets for disposal information for unused reagents. Refer to the environmental, health and safety staff for your facility and/or local regulatory agencies for further disposal information.

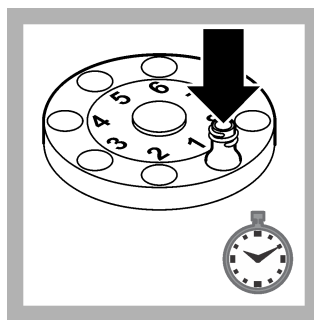
## Procedure



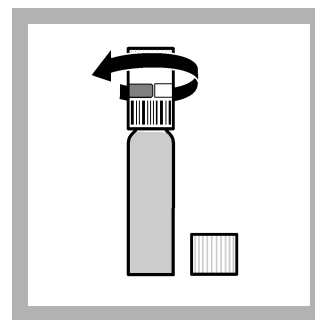
1. Preheat the reactor to **100 °C (212 °F)**.



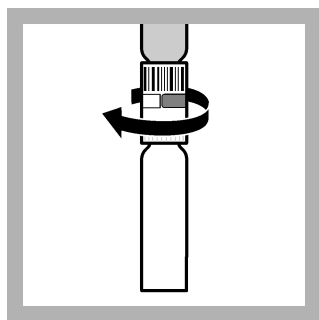
2. Pipet **2.0 mL sample** into the digestion vial.



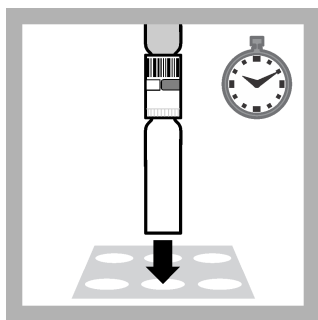
3. Insert the **open** digestion vial in the TOC-X5 shaker, pushing it down **as far** as possible. Position the fan cover over the vial. Switch on the instrument. After **5 minutes** an acoustic signal is emitted.



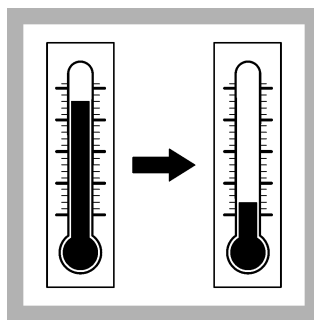
4. When the sample preparation is complete, open the **blue** indicator vial and **immediately** screw on the membrane double cap tightly. (The barcode label must point **towards the indicator vial**).



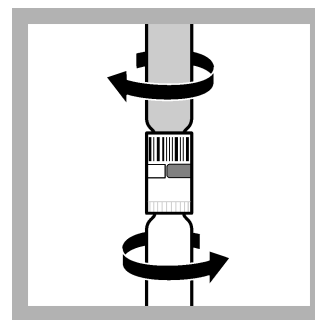
5. **Immediately** close the digestion vial **tightly** with the prepared indicator vial. Hold vial combination vertically. **Do not invert**.



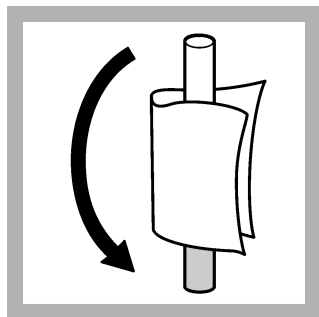
6. Heat in the reactor **2 hours at 100 °C (212 °F)** (**blue** indicator vial **upwards**).



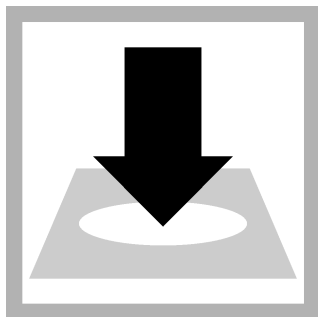
7. Allow to **cool** to room temperature.



8. Tighten the vial combination again **before** inverting it.



9. Invert the vial combination, thoroughly clean the outside of the indicator vial and evaluate.



10. Insert the vial combination into the cell holder (**blue** indicator vial **downwards**).  
DR 1900: Go to LCK/TNTplus methods. Select the test, push **READ**.

## Interferences

The ions listed in the table have been individually checked against the given concentrations and do not cause interference. The cumulative effects and the influence of other ions have not been determined.

The measurement results must be subjected to plausibility checks (dilute and/or spike the sample). Use only carbon-free water to dilute the sample.

Interference level	Interfering substance
2000 mg/L	Ca <sup>2+</sup> , Mg <sup>2+</sup>
1000 mg/L	Cl <sup>-</sup>
250 mg/L	TIC
200 mg/L	NH <sub>3</sub> -N

## Summary of method

In a two-stage process, the total inorganic carbon (TIC) is first expelled with the help of the TOC-X5 shaker, then the total organic carbon (TOC) is oxidized to carbon dioxide (CO<sub>2</sub>).

The CO<sub>2</sub> passes through a membrane into the indicator cuvette, where it causes a color change to occur, which is evaluated with a photometer.

**TNT**  **plus**<sup>®</sup>



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