

REF 985078

en

Test 0-78 03.19
NANOCOLOR[®] TOC 300

Total Organic Carbon

Method:

TOC determination is carried out in two steps:

1. Removal of all inorganic carbon (**TIC**)
2. Digestion of total organic carbon (**TOC**) and detection of the resulting carbon dioxide by means of an indicator.

Range:	20–300 mg/L
Wavelength:	436 nm
Digestion time:	1 h
Digestion temperature:	100 °C

Contents of reagent set:**Box 1:** 20 tubes "1"

1 tube with NULL solution

Box 2: 20 tubes "2"

20 pipette tips

10 venting needles

Box 3: 20 test tubes "3"

20 threaded couplings

10 venting needles

Interferences:The following quantities of ions will not interfere: $\text{Cl}^- \leq 7500 \text{ mg/L}$; $\text{TIC} \leq 5000 \text{ mg/L}$.

The method can not be applied for the analysis of sea water.

Procedure:Requisite accessories: piston pipette with tips, **NANOCOLOR[®] TIC-Ex**, **NANOCOLOR[®]** heating block**1. Removal of all inorganic carbon (TIC):**

Open tube "1" and add

0.5 mL of sample solution (*the pH value must be between pH 1 and 12*).Insert **open** cuvette into **TIC-Ex** and start removal process.After **5 min**, the removal of all inorganic carbon is completed. Then blow out the fluid residues in the **tips by briefly actuating the TIC-Ex**. Close the cuvette and mix sample well by shaking. Proceed **immediately** to step 2.**2. Digestion:****1 h / 100 °C**

Open tube "2" and add

4.0 mL of pre-treated sample from cuvette "1". Close cuvette and shake for 10 sec.Open cuvette "3" and **immediately** close it with the threaded coupling (*note marking on coupling!*). Then **immediately** screw cuvette "2" **hand-tight** to cuvette "3". Hold cuvette combination vertically and **do not** shake it. Pierce**1 venting needle** through the rubber septum and leave it there during the digestion process.Insert cuvette combination into the heating block (blue indicator solution on top), set heating block to **100 °C** and **1 hour**, and start.After **1 hour**, **remove** cuvette combination from the **heating block**, **immediately** pull out venting needle and let cool cuvette down to room temperature for **1 hour**.

Zero the photometer with NULL solution. Before measurement, seal the rubber septum using the included label. Clean the outside of cuvette "3", invert the cuvette combination and measure the colored solution in the photometer. Use corresponding cuvette slot cover (REF 916996).

Measurement:

For MACHEREY-NAGEL photometers see manual, test 0-78.

Photometers of other manufacturers:

For other photometers check whether measurement of round glass tubes is possible. The calibration curve must be established for each type of instrument by measurement of standard solutions.

Analytical quality control:**NANOCONTROL[®]** TOC 300 (REF 92578): $100 \pm 10 \text{ mg/L C}$.