

REF 985 093

en

Test 0-93

08.11

**NANOCOLOR® TOC 25**

Total organic carbon

**Method:**

The determination of TOC is carried out in two steps:

1. Disposing of the inorganic carbon (**TIC**)
2. Decomposition of the organic carbon (**TOC**) and detection of the carbon dioxide formed by means of an indicator

Range:	2.0–25.0 mg/L C
Factor:	030.2 (-)
Wavelength (HW = 5–12 nm):	585 nm
Decomposition time:	2 h
Decomposition temperature:	120 °C

**Content of reagent set:**

- 10 test tubes TOC 25
- 1 test tube with 6 mL TOC R0
- 1 brown glass bottle with 1 g TOC R2
- 1 measuring spoon 70 mm
- 1 test tube with blank value „NULL“
- 2 thermo caps
- 10 round stickers

**Hazard warning:**

Reagent TOC R0 and reagent TOC R2 contain hazards which are not labelled with &lt;Xi&gt; or &lt;Xn&gt; (certificate of exemption for small quantities), see safety data sheet.

**Interferences:**The following quantities will not interfere: ≤ 1000 mg/L Cl<sup>-</sup>; ≤ 500 mg/L TIC

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

**Procedure:**

Requisite accessories: piston pipettes with tips, glass beaker 100 mL, magnetic stirring unit, minimagnet, NANOCOLOR® heating block

Recommended accessories for disposing of TIC:

NANOCOLOR® accessory set for the determination of TOC (small), content:

1 magnetic stirrer (1 stirr position), 2 beakers 100 mL, 2 magnetic stir bars 35 mm (REF 916 990)

NANOCOLOR® accessory set for the determination of TOC (big), content:

1 magnetic stirrer (15 stirr positions), 6 beakers 100 mL, 6 magnetic stir bars 35 mm (REF 916 991)

NANOCOLOR® beaker 100 mL with magnetic stir bar 35 mm, pack of 2 (REF 916 992)

**1. Disposing of inorganic carbon (TIC)**

Fill

**10.0 mL** test sample (*the pH value of the sample must be between pH 1 and 12*) and  
**0.5 mL** R0 into a glass beaker 100 mL with a mini-magnet and stir for **10 min** at maximum speed.

**2. Decomposition****2 h / 120 °C**

Open test tube, add

**5.0 mL** of the sample solution from step 1 and**1 measuring spoon** R2, close with **thermo cap** and mix.Place test tube **standing on its head** (*thermo cap at the bottom*) into the heating block with the blue indicator solution on top.

Set heating block to 120 °C and 2 h and press start.

After 2 h remove test tube from the heating block and leave the tube **standing on its head to cool down for 60 min** (*do not cool with cold water!*).

After 60 min turn test tube upside down, clean outside of tube and measure the colored solution in the photometer.

**Measurement:**

For NANOCOLOR® photometers and PF-12 see manual, test 0-93. Adjust photometer to zero by using blank value „NULL“.

**Note:**

NANOCOLOR® thermo caps for TOC decomposition are reusable. After measurement replace the thermo cap by the screw cap. Clean thermo cap with distilled water, dry and use for further determinations.

**Photometers of other manufacturers:**

For other photometers check whether measurement of round glass tubes is possible. Verify factor for each type of instrument by measuring standard solutions.

**Analytical quality control:**

NANOCONTROL COD 60 (REF 925 22): 12.0 ± 2.0 mg/L C; decomposition of the standard without disposing and without addition of R0.

MACHEREY-NAGEL GmbH &amp; Co. KG · Neumann-Neander-Str. 6–8 · 52355 Düren · Germany

Tel.: +49 24 21 969-0 · Fax: +49 24 21 969-199 · info@mn-net.com · [www.mn-net.com](http://www.mn-net.com)