

REF 985 094

en

Test 0-94 08.10
NANOCOLOR® TOC 60

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:	10 - 60 mg/L C
Factor:	0041. (-)
Wavelength (HW = 5-12 nm):	585 nm
Decomposition time:	2 h
Decomposition temperature:	120 °C

Content of reagent set:

10 test tubes TOC 60	1 test tube with blank value „NULL“
1 test tube with 6 mL TOC R0	2 thermo caps
1 brown glass bottle with 1 g TOC R2	10 round stickers
1 measuring spoon 70 mm	

Hazard warning:

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

Interferences:

The following quantities will not interfere: $\leq 1000 \text{ mg/L Cl}^-$; $\leq 500 \text{ mg/L TIC}$

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 stirr 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 stirr 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

4.0 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 coloured solution in the photometer.

Measurement:

For **NANOCOLOR®** photometers and PF-10/PF-11/PF-12 see manual test 0-94.

If the method is not programmed in your photometer, proceed as follows:

NANOCOLOR® photometer and PF-12: Programme test 0-94 yourself (see data table on the left) or call up factor method.

PF-10/PF-11: Call up extinction method, adjust filter wheel to **5** and measure. Multiply read-off value by **-59** to get mg/L C.

For measurements of lower TOC concentrations, we recommend test 0-93 **NANOCOLOR®** TOC 25 (2.0 - 25.0 mg/L C, REF 985 093).

Note:

NANOCOLOR® thermo caps for TOC decomposition are reusable. After measurement replace the thermo cap by the black 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 160 (REF 925 26): $40 \pm 5 \text{ mg/L C}$

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