

REF 963029

en

Test 0-29

06.21

NANOCOLOR® COD 1500 Hg-free

Chemical Oxygen Demand

Method:

Photometric determination of chromium(III) concentration after oxidation with potassium dichromate / sulfuric acid

Range:	100–1500 mg/L O ₂
Wavelength (HW = 5–12 nm):	595 / 605 / 620 nm
Reaction time:	2 h
Reaction temperature:	148 °C
Short time COD:	30 min at 160 °C*

Contents of reagent set:

20 test tubes COD 1500 Hg-free

Hazard warning:

Information regarding safety can be found on the box' label and in the safety data sheet. You can download the SDS from www.mn-net.com/SDS.

Interferences:

Chloride interferes: 100 mg/L Cl⁻ \triangleq approx. 22 mg/L COD. Samples containing more than 1000 mg/L Cl⁻ should be diluted prior to determining the COD. Moreover, chloride contents up to 2000 mg/L can be eliminated using NANOCOLOR® cartridges for chloride elimination (REF 963911). For determination of the concentration of chlorides we recommend a preliminary test with QUANTOFIX® Chloride (REF 91321).

The method cannot be applied for the analysis of sea water.

Procedure:

Requisite accessories: NANOCOLOR® heating block, piston pipette with tips

Decomposition at 148 °C

Open test tube, hold it **diagonally** and **slowly** add

- 2.0 mL test sample to contents **without** mixing so that two separate layers are formed; screw cap securely on to test tube, hold tube by the cap, place tube into the safety bottle and shake (*Caution, test tube becomes hot*), then place tube into the heating block.
After 2 h remove test tube from heating block, after about 10 min (*test tube is still warm*) shake once and allow to cool to room temperature.
Clean outside of test tube and measure.

Short time COD at 160 °C

Open test tube, hold it **diagonally** and **slowly** add

- 2.0 mL test sample to contents **without** mixing so that two separate layers are formed; screw cap securely on to test tube, hold tube by the cap, place tube into the safety bottle and shake (*Caution, test tube becomes hot*), then place tube into the heating block.
After 30 min remove test tube from heating block, after about 10 min (*test tube is still warm*) shake once and allow to cool to room temperature.
Clean outside of test tube and measure.

* In contrast to the digestion at 148 °C, the short time COD is characterized by a higher digestion temperature and reduced reaction time. Therefore we recommend to compare the results of the short time COD from time to time ($150 \pm 5 \text{ °C} / 2 \text{ h} \pm 10 \text{ min}$).

Measurement:

For MACHEREY-NAGEL photometers see manual, test 0-29.

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 1500 (REF 92529)

Disposal:

Information regarding disposal can be found in the safety data sheet. You can download the SDS from www.mn-net.com/SDS.

Storage:

Store the test kit in a cool and dry place. Avoid exposing the test kit to sunlight.