

REF 963029

en

Test 0-29 09.17

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 COD
Wavelength (HW = 5–12 nm):	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:

Test tubes contain sulfuric acid 80–98 % and potassium dichromate 0.38–1.26 %.

H314, H317, H340, H350, H360Df Causes severe skin burns and eye damage. May cause an allergic skin reaction. May cause genetic defects. May cause cancer. May damage the unborn child. Suspected of damaging fertility.

P201, P260sh, P280sh, P303+361+353, P305+351+338, P310, P405 Obtain special instructions before use. Do not breathe dust / vapors. Wear protective gloves / eye protection. IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water [or shower]. IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Immediately call a POISON CENTER / doctor. Store locked up. Store locked up. For further information ask for a safety data sheet. When shaking COD test tubes use safety bottle (REF 91637).

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).

Substances that are difficult to oxidize can result in low test values.

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.

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)

Storage:

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