

REF 985 033

en

Test 0-33

09.10

NANOCOLOR® COD 300

Chemical Oxygen Demand

Method:

Photometric determination of decrease in chromate concentration after two hours and oxidation with potassium dichromate / sulphuric acid / silver sulphate at 148 °C

Range:	50 - 300 mg/L COD	50 - 300 mg/L COD
Factor:	0296.	0284.
Wavelength (HW = 5-12 nm):	436 nm	445 nm
Reaction time:	2 h	
Reaction temperature:	148 °C	

Contents of reagent set:

20 test tubes COD 300

Hazard warning:

Test tubes contain sulphuric acid 80% and mercury(II) sulphate < 0.5% Hg. R20/21/22 Harmful by inhalation, in contact with skin and if swallowed. R33 Danger of cumulative effects. R35 Causes severe burns. R52/53 Harmful to aquatic organisms, may cause long-term adverse effects in aquatic environment. S13 Keep away from food, drink and animal feedingstuffs. S26/28 In case of contact with the eyes or skin, rinse immediately with plenty of water and seek medical advice. S60 The test tubes must be disposed of as hazardous waste. S61 Avoid release into the environment. Refer to special instructions/safety data sheets. When shaking COD test tubes use safety bottle (REF 916 37).

Interferences:

For **chloride contents above 1500 mg/L** the test sample must be diluted with distilled water or use Chloride complexing agent (REF 918 911). For determination of the concentration of chlorides we recommend a preliminary test with **QUANTOFIX®** Chloride (REF 913 21).

Turbidity in the COD test tube after reaction in the heating block will result in COD readings which are too low. Wait until turbidities caused by precipitation of mercury sulphate have deposited.

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

Procedure:

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

Note: For samples with high chloride concentrations it is important to shake the test tube **before** the water sample is added in order to suspend the deposit.

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 / Contents become turbid until heated*), then place tube into the heating block.

After 2 h remove test tube from heating block, after 10 min (*test tube is still warm*) shake once and allow to cool to room temperature.

Clean outside of the test tube and measure.

Measurement:

For **NANOCOLOR®** photometers and PF-10/PF-11/PF-12 see manual, test 0-33.

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) or Multistandard Sewage outflow 1 (REF 925 011)

Storage:

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

References:

German standard methods for the examination of water, waste water and sludge (DIN 38 409 - H41-1)

British standard: Field and on-site test methods for the analysis of water (BS 1427)