

REF 91853

en

# Test 1-53 12.17

## NANOCOLOR® Copper

**Method:**

Photometric determination with cuprizone [oxalic acid bis (cyclohexylidene hydrazide)]

Cuvette rectangular:	50 mm	20 mm	10 mm
Range (mg/L Cu <sup>2+</sup> ):	0.01–2.00	0.05–5.00	0.1–10.0
Wavelength (HW = 5–12 nm):	585 nm		
Reaction time:	15 min (900 s)		
Reaction temperature:	20–25 °C		

**Contents of reagent set:**

2 x 100 mL Copper R1  
2 x 100 mL Copper R2

**Hazard warning:**

This test does not contain any harmful substances which must be specially labelled as hazardous.

**Interferences:**

Chromium(III) concentrations greater than the copper concentration interfere and cause falsely low results (oxidation with NANOCOLOR® NanOx Metal).

Only Cu(II) ions are determined. The total copper can be determined with NANOCOLOR® NanOx Metal (REF 918978) or with cracking set (REF 91808).

The following quantities of ions will not interfere:

< 10 mg/L Cr(VI), Fe, Mn, Zn; < 50 mg/L Co, CO<sub>3</sub><sup>2-</sup>, PO<sub>4</sub><sup>3-</sup>; < 100 mg/L Ca.

The method can be applied also for the analysis of sea water.

**Note:**  
Please contact MACHEREY-NAGEL for special working instructions concerning a simplified procedure in a beaker (without filling up) and evaluation in 50 mm cuvette.

**Procedure:**

Requisite accessories: volumetric flasks 25 mL, piston pipette with tips

Pour into two separate volumetric flasks 25 mL:

Test sample	Blank value
20 mL test sample (the pH value of the sample must be between pH 1 and 13)	20 mL test sample (the pH value of the sample must be between pH 1 and 13)
2 mL R1, mix The pH value has to be between pH 8.5 and 9.5, otherwise add more R1.	–
2 mL R2, mix	–

Fill up sample and blank value to 25 mL mark with distilled water and mix again. After 15 min pour into cuvettes and measure.

**Measurement:**

For NANOCOLOR® photometers see manual, test 1-53.

**Measurement when samples are colored or turbid:**

For all NANOCOLOR® photometers see manual, use key for correction value.

**Photometers of other manufacturers:**

Verify factor for each type of instrument by measuring standard solutions.

**Analytical quality control:**

NANOCONTROL Multistandard Metals 2 (REF 925016)

**Decreasing volume of analytical preparation:**

In order to increase the number of determinations, you can work with volumetric flasks of 10 mL: 8 mL test sample + 0.8 mL R1 + 0.8 mL R2, semi-micro cuvette (REF 91950).

**Disposal:**

The contents of tubes and flasks can be washed into drain with plenty of water.

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