

REF 918 53

en

Test 1-53

01.14

NANOCOLOR® Copper**Method:**

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

| | | | |
|---------------------------------|----------------|-----------|----------|
| Cuvette rectangular: | 50 mm | 20 mm | 10 mm |
| Range (mg/L Cu ²⁺): | 0.01–2.00 | 0.05–5.00 | 0.1–10.0 |
| Factor: | 00.99 | 02.45 | 004.9 |
| 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 918 978) or with cracking set (REF 918 08).

The following quantities of ions will not interfere:

< 10 mg/L Cr(VI), Fe, Mn, Zn; < 50 mg/L Co, CO₃²⁻, PO₄³⁻; < 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 925 016)

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 919 50).

Disposal:

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

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