

REF 91860

Test 1-60

02.22

NANOCOLOR® Manganese**Method:**

Photometric determination of total manganese with formaldoxime

Cuvette rectangular:	50 mm	10 mm
Range (mg/L Mn):	0.01–2.00	0.1–10.0
Wavelength (HW = 5–12 nm):	470 nm	
Reaction time:	5 min (300 s)	
Reaction temperature:	20–25 °C	

Contents of reagent set:

- 100 mL Manganese R1
- 100 mL Manganese R2
- 100 mL Manganese R3

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:

The following quantities of ions will not interfere: < 1000 mg/L Mg^{2+} , Zn^{2+} , PO_4^{3-} ; < 500 mg/L Ca^{2+} ; < 100 mg/L Cu^{2+} ; < 20 mg/L Fe^{3+} , PO_4^{3-} when Ca^{2+} ions (10 mg/L) are present too; < 10 mg/L Ni^{2+} ; < 1 mg/L Co^{2+} ; < 0.1 mg/L Cr(III)

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

Notes:

- For the determination of lowest manganese concentrations (< 0.05 mg/L Mn), the sample or standard solution must be stabilized with hydrochloric acid.
- Please contact MACHEREY-NAGEL for special working instructions concerning a simplified procedure in a beaker (without filling up) an 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 (<i>the pH value of the sample must be between pH 1 and 13</i>)	20 mL test sample (<i>the pH value of the sample must be between pH 1 and 13</i>)
1 mL R1, mix	—
1 mL R2, mix, wait 1 min	—
1 mL R3, mix	—

Fill up sample and blank value to 25 mL mark with distilled water and mix again. After 5 min pour into cuvettes and measure.

Measurement:

For **NANOCOLOR®** photometers see manual, test 1-60.

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 Drinking Water (REF 925018)

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 + 0.4 mL R1 + 0.4 mL R2 + 0.4 mL R3, semi-micro cuvette (REF 91950).

Disposal:

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

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