

REF 91860

en

Test 1-60 04.20

**NANOCOLOR® Manganese****Method:**

Photometric determination of total manganese with formaldoxime

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

**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](http://www.mn-net.com/SDS).

**Interferences:**

The following quantities of ions will not interfere: < 1000 mg/L Mg<sup>2+</sup>, Zn<sup>2+</sup>, PO<sub>4</sub><sup>3-</sup>; < 500 mg/L Ca<sup>2+</sup>; < 100 mg/L Cu<sup>2+</sup>; < 20 mg/L Fe<sup>3+</sup>, PO<sub>4</sub><sup>3-</sup> when Ca<sup>2+</sup> ions (10 mg/L) are present too; < 10 mg/L Ni<sup>2+</sup>; < 1 mg/L Co<sup>2+</sup>; < 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
<b>20 mL</b> test sample ( <i>the pH value of the sample must be between pH 1 and 13</i> )	<b>20 mL</b> test sample ( <i>the pH value of the sample must be between pH 1 and 13</i> )
<b>1 mL</b> R1, mix	–
<b>1 mL</b> R2, mix, wait <b>1 min</b>	–
<b>1 mL</b> 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](http://www.mn-net.com/SDS).