

REF 91895

Test 1-95 06.21

NANOCOLOR® Zinc

Method:

Photometric determination with zincon

Cuvette:	50 mm	10 mm
Range (mg/L Zn ²⁺):	0.02–1.50	0.1–3.0
Wavelength (HW = 5–12 nm):	620 nm	
Reaction time:	1 min (60 s)	
Reaction temperature:	20–25 °C	

Contents of reagent set:

100 mL Zinc R1
 100 mL Zinc R2
 100 mL Zinc 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:

Acidic, basic and buffered test samples should be adjusted to pH 11 after addition of R2. If turbidity occurs after addition of R2, the precipitate has to be removed by centrifugation or membrane filtration (REF 91650).

Only Zn(II) ions are determined. The total zinc can be determined with NANOCOLOR® NanOx Metal (REF 918978) or Crack set (REF 91808).

Low results are caused if the chromium(III) concentration exceeds the zinc concentration. Oxidation to chromium(VI) with NANOCOLOR® NanOx Metal is necessary.

The following quantities of ions do not interfere:

< 1000 mg/L Ca²⁺, Cl⁻, SO₄²⁻; < 500 mg/L Cr(VI); < 200 mg/L Mg²⁺; < 50 mg/L Ni²⁺; < 10 mg/L PO₄³⁻;
 < 5 mg/L Al³⁺, Cu²⁺; < 1 mg/L Cd²⁺, Fe³⁺; < 0.1 mg/L Mn²⁺

For higher manganese concentrations or for the determination of zinc, if a great amount of calcium is present, contact MACHEREY-NAGEL for special working instructions.

The method can be applied also for the analysis of sea water after dilution (1+9).

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 3 and 10)	20 mL distilled water
1 mL R1, mix	1 mL R1, mix
1 mL R2, mix	1 mL R2, mix
check pH (10.5–11.5)	
wait 2 min	wait 2 min
1 mL R3, do not mix	1 mL R3, do not mix

Fill up sample and blank value to 25 mL mark with distilled water and mix again. After 1 min pour into cuvettes and measure.

Measurement:

For MACHEREY-NAGEL photometers see manual, test 1-95.

Measurement when samples are colored or turbid:

For all MACHEREY-NAGEL 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 1 (REF 925015)

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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