

REF 985042

Test 0-42 03.23
NANOCOLOR® Zinc 6

Method:

For the determination of the zinc ion concentration, initially, all metal ions contained in the sample are complexed with cyanide. The addition of chloral hydrate selectively releases the zinc ions from their cyanide complexes. These ions form an orange complex with 4-(2-Pyridylazo)resorcinol (PAR), which color intensity is proportional to the zinc ion concentration.

Range:	0.20 – 6.00 mg/L Zn ²⁺
Wave length:	470 nm / 490 nm
Reaction time:	1 min (60 s) at 20–25 °C

Content of reagent set:

20 test tubes containing Zinc 6 R1
1 tube of 20 NANOFIX Zinc 6 R2
1 test tube containing 5 mL Zinc 6 R3

Hazard warning:

R3 contains chloral hydrate 10–20 %.
For further information ask for a safety data sheet.

Interferences:

The following ions will not interfere: < 0,1 mg/L Mn²⁺, < 0,5 mg/L Cd²⁺, < 3 mg/L Fe³⁺, < 5 mg/L Al³⁺, < 5 mg/L Cu²⁺, < 5 mg/L Pb²⁺, < 20 mg/L Co²⁺, < 25 mg/L Sn²⁺, < 50 mg/L Cr³⁺, < 50 mg/L Cr^{VI}, < 50 mg/L Ni²⁺, < 500 mg/L Mg²⁺, < 1000 mg/L Ca²⁺, < 1000 mg/L K⁺, < 1000 mg/L Na⁺, < 50 mg/L PO₄³⁻, < 250 mg/L CO₃²⁻, < 500 mg/L NO₃⁻, < 1000 mg/L Cl⁻, < 2000 mg/L SO₄²⁻.

*Note: For higher cadmium or manganese concentrations contact MACHEREY-NAGEL for special working instructions.

For the determination of total zinc use NANOCOLOR® NanOx Metal (REF 918978) or Crack Set (REF 91808) for sample pretreatment. Generally, the determination should be performed against a decomposed blank solution.

Procedure:

Required accessories: piston pipette with tips.

Open test tube, add

0.2 mL of the sample (the pH value has to be between pH 3 and 10),

1 NANOFIX R2 and

0.2 mL R3. Close the tube and shake vigorously for a few seconds until R2 is dissolved completely.

Clean the outside of the tube and measure after 1 min.

Measurement:

For MACHEREY-NAGEL photometers see manual, test 0-42.

Photometers of other manufacturers:

For other photometers check whether measurement of round glass tubes is possible. Verify factor for each type of instrument by measuring standard solutions.

Analytical quality control:

NANOCONTROL Multistandard Metals 1 (REF 925015) +NANOCOLOR® Cadmium compensation reagent for Zinc 6 (REF 918942)

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