REF 918 51

Test 1-51 05.15
NANOCOLOR® Cobalt

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Method:
Photometric determination with 4-[5-Chloro-2-pyridylazo]-1,3-phenylenediamine

Cuvette:	**50 mm**	**20 mm**	**10 mm**
Range (**mg/L Co^{2+}**):	**0.002–0.300**	**0.01–0.35**	**0.02–0.70**
Factor:	**0.197**	**00.49**	**00.97**
Wavelength (HW = 5–12 nm):	**540 nm**		
Reaction time:	**5 min (300 s)**		
Reaction temperature:	**20–25 °C**		

Contents of reagent set:
100 mL Cobalt R1
100 mL Cobalt R2
100 mL Cobalt R3

Hazard warning:
Reagent R2 contains ethanol 90–98 %, reagent R3 contains hydrochloric acid 10–25 %.
For further information ask for safety data sheets.

Interferences:
The total cobalt can be determined with *NANOCOLOR*® *NanOx* Metal (REF 918 978) or Crack Set (REF 918 08).
The following ions will not interfere: ≤ 1 mg/L Cu, Cr(III); ≤ 5 mg/L Al, Cr(VI), Zn; ≤ 25 mg/L Fe, Mn, Ni.

The method can also be applied for the analysis of sea water.

Procedure:
Requisite accessories: volumetric flasks 25 mL, piston pipette with tips

Pour into two separate volumetric flasks:

Test sample	**Blank value**
20 mL test sample *(the pH value of the sample must be between pH 4 and 10)*	**20 mL** distilled water
1 mL R1, mix	**1 mL** R1, mix
1 mL R2, mix	**1 mL** R2, mix
1 mL R3, mix	**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 1-51.

Measurement when samples are colored or turbid:
For all *NANOCOLOR*® photometers see manual, use key for correction value.

Photometers of other manufacturers:
Verify factors for each type of instrument by measuring standard solutions.

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 919 50).

Disposal:
The contents of cuvettes and flasks can be washed into drain with plenty of water.

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