

REF 918 02

en

# Test 1-02 04.14

## NANOCOLOR® Aluminium

**Method:**

Photometric determination with eriochrome cyanine R

Cuvette rectangular:	50 mm	20 mm	10 mm
Range (mg/L Al <sup>3+</sup> ):	not	0.01–0.50	0.01–1.00
Factor:	applicable	00.27	00.52
Wavelength (HW = 5–12 nm):	540 nm		
Reaction time:	5 min (300 s)		
Reaction temperature:	20–25 °C		

**Contents of reagent set:**

- 20 mL Aluminium R1
- 20 g Aluminium R2
- 2 x 100 mL Aluminium R3
- 2 x 100 mL Aluminium R4
- 1 measuring spoon 85 mm

**Hazard warning:**

This test does not contain any harmful substances which must be specially labelled as hazardous.

**Interferences:**

Clouded samples are to be filtered (membrane filter 0.45 µm, REF 916 50).

The total aluminium can be determined with NANOCOLOR® NanOx Metal (REF 918 978) and microwave decomposition.

Fluoride interferes.

The following quantities of ions will not interfere:

≤ 1 mg/L Co; ≤ 5 mg/L Cr(III), Cd; ≤ 10 mg/L Cu, Mn, Ni, Zn; ≤ 20 mg/L Fe.

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 25 mL:

Test sample	Blank value
20 mL test sample ( <i>the pH value of the sample must be between pH 3 and 5</i> )	20 mL distilled water
200 µL (= 0.2 mL) R1, mix	200 µL (= 0.2 mL) R1, mix
1 spoon R2, mix	1 spoon R2, mix
2 mL R3, mix	2 mL R3, mix
2 mL R4, mix	2 mL R4, mix
<i>The pH value has to be between 6.0 and 6.5, otherwise add more R4.</i>	

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

**Measurement:**

For NANOCOLOR® photometers see manual, test 1-02.

**Measurement when samples are colored or turbid:**

For all NANOCOLOR® photometers see manual, use key for correction value.

**Photometers of other manufacturers:**

For other photometers verify factor for each type of instrument by measuring standard solutions. The factor depends strongly on the wavelength.

**Analytical quality control:**

NANOCONTROL Multistandard Drinking Water (REF 925 018)

**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 + 80 µL R1 + ½ spoon R2 + 0.8 mL R3 + 0.8 mL R4.

**Disposal:**

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