

REF 91830

en

Test 1-30

01.18

NANOCOLOR® Cyanide

**Method:**

Photometric determination with barbituric acid / pyridine

Cuvette:	50 mm	10 mm
Range (mg/L CN <sup>-</sup> ):	0.001–0.100	0.01–0.50
Wavelength (HW = 5–12 nm):	585 nm	
Reaction time:	5 min (300 s)	
Reaction temperature:	20–25 °C	

**Contents of reagent set:**

7 g Cyanide R1                      1 small measuring spoon 70 mm  
 12 g Cyanide R2                    1 large measuring spoon 85 mm  
 2 x 100 mL Cyanide R3

**Hazard warning:**

Reagent R1 contains chloramine T 45–60 %, reagent R3 contains pyridine 44–60 %.

H314, H334 Causes severe skin burns and eye damage. May cause allergy or asthma symptoms or breathing difficulties if inhaled.

P260sh, P280sh, P303+361+353, P304+340, P305+351+338, P310

Do not breathe dust / vapours. Wear protective gloves / eye protection. IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water [or shower]. IF INHALED: Remove person to fresh air and keep comfortable for breathing. IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Immediately call a POISON CENTER / doctor. For further information ask for a safety data sheet.

**Interferences:**

Thiocyanate interferes by reacting the same way as cyanide (determination with test 0-91 NANOCOLOR® Thiocyanate 50).

Only free cyanide and cyanide complexes which can be decomposed by chlorine are determined.

When interfering substances, such as heavy metal complexes, thiocyanate, sulfide, dyes or aromatic amines are present, cyanide must be separated by distillation before determination (see „Note“).

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

**Note:**

For the determination of readily liberated cyanide and total cyanide please contact MACHEREY-NAGEL for special working instructions.

**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 6 and 8)	20 mL test sample (the pH value of the sample must be between pH 6 and 8)
1 level small spoon R1, dissolve wait 1 min	–
1 level large spoon R2, mix thoroughly (some grains remain undissolved)	–
2 mL R3, mix	–

Test sample (< 0.02 mg/L CN <sup>-</sup> )	Blank value
20 mL test sample (the pH value of the sample must be between pH 6 and 8)	20 mL distilled water
1 level small spoon R1, dissolve wait 1 min	1 level small spoon R1, dissolve wait 1 min
1 level large spoon R2, mix thoroughly (some grains remain undissolved)	1 level large spoon R2, mix thoroughly (some grains remain undissolved)
2 mL R3, mix	2 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 MACHEREY-NAGEL photometers see manual, test 1-30.

**Photometers of other manufacturers:**

Verify factor 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 + ½ level spoon R1 + ½ level spoon R2 + 0.8 mL R3, semi-micro cuvette (REF 91950).

**Disposal:**

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

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