

REF 91848

Test 1-48

11.21

NANOCOLOR® Silica (silicic acid)**Method:**

Photometric determination as silico-molybdenum blue

Cuvette rectangular:	50 mm	20 mm	10 mm
Range (mg/L SiO ₂):	0.02–3.00	0.1–8.0	0.1–10.0
Range (mg/L Si):	0.01–1.40	0.03–2.50	0.05–5.00
Wavelength (HW = 5–12 nm):	690 nm		
Reaction time:	15 min (900 s)		
Reaction temperature:	20–25 °C		
Cuvette rectangular:	50 mm		
Range (mg/L SiO ₂):	0.005–0.200		
Range (mg/L Si):	0.002–0.100		
Wavelength (HW = 5–12 nm):	800 nm		
Reaction time:	15 min (900 s)		
Reaction temperature:	20–25 °C		

Contents of reagent set:

100 mL Silica R1
 100 mL Silica R2
 100 mL Silica 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:

The following quantities of ions will not interfere: < 10 mg/L Fe, Al; < 30 mg/L PO₄³⁻; < 100 mg/L Ca.

Please make certain, that the distilled water which is used for filling up or dilution, is free of silica (REF 918912).

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

Note:

Please contact MACHEREY-NAGEL for special working instructions concerning a simplified procedure in a beaker (without filling up) and evaluation in 50 mm cuvette.

Procedure:

We recommend to use all analytical accessories made from plastic.

Requisite accessories: volumetric flasks 25 mL, piston pipette with tips, silica-free water (REF 918912)

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 mL R1, mix, wait 3 min	–
1 mL R2, mix, wait 1 min	–
1 mL R3	–

For exact measurements in the low range, it is recommendable using a real blank value:

Test sample (< 0.2 mg/L SiO ₂)	Blank value
20 mL test sample (the pH value of the sample must be between pH 6 and 8)	20 mL silica-free water
1 mL R1, mix, wait 3 min	1 mL R1, mix, wait 3 min
1 mL R2, mix, wait 1 min	1 mL R2, mix, wait 1 min
1 mL R3	1 mL R3

Fill up sample and blank value to 25 mL mark with silica-free water and mix again. After 15 min pour into cuvettes and measure.

Measurement:

For NANOCOLOR® photometers see manual, test 1-48.

Measurement when samples are coloured or turbid:

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

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 + 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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