

REF 918 78

en

Test 1-78

08.13

NANOCOLOR[®] ortho-Phosphate**Method:**

Photometric determination of the yellow phosphate-molybdate-vanadate complex in acidic solution

Cuvette:	50 mm	20 mm	10 mm
Range (mg/L PO ₄ ³⁻):	0.5–20.0	1–25	2–50
Factor:	022.1	0054.	0108.
Range (mg/L PO ₄ -P):	0.2–6.6	0.5–8.0	1–17
Factor:	007.2	017.8	0035.
Wavelength (HW = 5–12 nm):	436 nm		
Reaction time:	10 min (600 s)		
Reaction temperature:	20–25 °C		
Cuvette:	50 mm	20 mm	10 mm
Range (mg/L PO ₄ ³⁻):	0.5–20.0	1–25	2–50
Factor:	025.2	0063.	0126.
Range (mg/L PO ₄ -P):	0.2–6.6	0.5–8.0	1–17
Factor:	008.3	021.0	0042.
Wavelength (HW = 5–12 nm):	445 nm		
Reaction time:	10 min (600 s)		
Reaction temperature:	20–25 °C		

Contents of reagent set:

2 x 100 mL o-Phosphate R1

2 x 100 mL o-Phosphate R2

Hazard warning:

Reagent R1 contains sulfuric acid 30–51 %, reagent R2 contains sulfuric acid 15–30 %.

H314 Causes severe skin burns and eye damage.

P260, P280, P301+330+331, P303+361+353, P304+340, P305+351+338 Do not breathe vapors. Wear protective gloves/eye protection. IF SWALLOWED: rinse mouth. Do NOT induce vomiting. IF ON SKIN (or hair): Remove / Take off immediately all contaminated clothing. Rinse skin with water / shower. IF INHALED: Remove to fresh air and keep at rest in a position comfortable for breathing. IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. For further information ask for a safety data sheet.

Interferences:

For the determination of total phosphorus use tests 0-55, 0-76, 0-79, 0-80 or 0-81.

The following quantities of ions will not interfere: ≤ 10 mg/L Fe, ≤ 1000 mg/L Si.

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:

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 (the pH value of the sample must be between pH 1 and 13)	20 mL distilled water
1 mL R1, mix	1 mL R1, mix
1 mL R2, mix	1 mL R2, mix

Fill up sample and blank value to 25 mL mark with distilled water and mix again. After 10 min pour into cuvettes and measure.

Measurement:For NANOCOLOR[®] photometers see manual, test 1-78.**Measurement when samples are colored 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, semi-micro cuvette (REF 919 50).

Disposal:

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