

REF 918 77

en

Test 1-77

02.14

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

Photometric determination as phosphomolybdenum blue

Cuvette rectangular:	50 mm	20 mm	10 mm
Range (mg/L PO <sub>4</sub> <sup>3-</sup> ):	0.1–5.0	0.2–20.0	0.5–20.0
Factor:	06.48	016.2	032.5
Range (mg/L PO <sub>4</sub> -P):	0.04–1.70	0.1–5.0	0.2–6.5
Factor:	02.14	005.4	010.7
Wavelength (HW = 5–12 nm):	690 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 15–30 %, reagent R2 contains sodium disulfite 10–25 %.

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.

**Preliminary tests:**

If the order of magnitude of the concentration in a sample is not known, a preliminary test with QUANTOFIX® Phosphate 3–100 mg/L PO<sub>4</sub><sup>3-</sup> (REF 913 20) rapidly gives this information. From the order of magnitude the required dilution can be calculated and prepared directly.

**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:

≤ 1 mg/L Si; ≤ 10 mg/L Fe, Pb, Zn; ≤ 200 mg/L Ca, citrate, tartrate.

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

**Procedure:**

Requisite accessories: 25 mL volumetric flasks, 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 1 and 13</i> )	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 1-77.

**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.

**Analytical quality control:**

NANOCONTROL ortho-Phosphate (REF 925 76)

**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.

MACHEREY-NAGEL GmbH &amp; Co. KG · Neumann-Neander-Str. 6–8 · 52355 Düren · Germany

Tel.: +49 24 21 969-0 · Fax: +49 24 21 969-199 · info@mn-net.com · [www.mn-net.com](http://www.mn-net.com)

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