

REF 91863

en

Test 1-63

05.18

NANOCOLOR® Nitrate Z**Method:**

Photometric determination after reduction to nitrite with sulfanilic acid and 1-naphthylamine

Cuvette:	50 mm	10 mm
Range (mg/L NO ₃ ⁻):	0.1–2.0	0.5–5.0
Range (mg/L NO ₃ -N):	0.02–0.45	0.1–1.0
Wavelength (HW = 5–12 nm):	520 nm	
Reaction time:	10 min (600 s)	
Reaction temperature:	20–25 °C	

Contents of reagent set:

2 x 100 mL Nitrate Z R1
 2 x 15 g Nitrate Z R2
 1 measuring spoon 85 mm

Hazard warning:

Reagent R1 contains acetic acid 25–50 %, reagent R2 contains sulfanilic acid 80–100 %.
 H314, H317 Causes severe skin burns and eye damage. May cause an allergic skin reaction.
 P260sh, P280sh, P303+361+353, P305+351+338, P310 Do not breathe dust / vapors. Wear protective gloves / eye protection. IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water [or shower]. 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.

Preliminary tests:

If the order of magnitude of the concentration in a sample is not known, a preliminary test with QUANTOFIX® Nitrate/Nitrite (10–500 mg/L NO₃⁻, REF 91313) rapidly gives this information. From the order of magnitude the required dilution can be calculated and prepared directly. In the same check it is possible to proof the interferences of nitrite.

Interferences:

Nitrite interferes (same reaction). This can be circumvented by addition of amidosulfonic acid (REF 918973) before nitrate determination.
 Organic colloids, humic acids, heavy metals, oxidizing and reducing substances interfere.
 The following quantities of ions will not interfere: ≤ 1 mg/L Cr(VI); ≤ 5 mg/L Cl⁻, Fe, Zn; ≤ 50 mg/L Al, Ca; ≤ 100 mg/L PO₄³⁻, SO₄²⁻.

The method cannot 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:

Test sample	Blank value
20 mL test sample (the pH value of the sample must be between pH 4 and 7)	20 mL distilled water
1 mL R1, mix	1 mL R1, mix
1 spoon of R2, shake for 15–30 s	1 spoon of R2, shake for 15–30 s

Fill up sample and wwblank value to 25 mL mark with distilled water and mix again. After 10 min pour into cuvettes (Nitrate Z R2 will not completely dissolve and forms a deposit) and measure.

Measurement:

For NANOCOLOR® photometers see manual, test 1-63.

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 + ½ microspoon R2, semi-micro cuvette (REF 91950).

Disposal:

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