

REF 985037

en

Test 0-37 06.17

NANOCOLOR® Iron 3

Method:

Photometric determination with diphenylpyridyl triazine

	Tube test	50 mm semi-micro cuvette
Range:	0.10–3.00 mg/L Fe	0.02–1.00 mg/L Fe
Wavelength (HW = 5–12 nm):	540 nm	
Reaction time:	5 min (300 s)	
Reaction temperature:	20–25 °C	

Contents of reagent set:

20 test tubes Iron 3
1 tube NANOFIX Iron 3 R2

Hazard warning:

Test tubes contain acetic acid 25–50 %.

H314 Causes severe skin burns and eye damage.

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. 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® Total iron 100 (2–100 mg/L Fe, REF 91344) rapidly gives this information. From the order of magnitude the required dilution can be calculated and prepared directly.

Interferences:

Complex iron compounds are not determined by this test. Please refer to NANOCOLOR® NanOx Metal (REF 918978) for sample pretreatment. Oxidizing reagents interfere with the determination.

The following quantities of ions will not interfere: ≤ 1 mg/L Co, Cu; ≤ 10 mg/L Cr, Mn, Ni, Zn.

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

Procedure:

Requisite accessories: piston pipette with tips

Open test tube, add

4.0 mL test sample (the pH value of the sample must be between pH 2 and 12) and

1 NANOFIX R2, close and mix.

(Close NANOFIX tube immediately after use.)

Clean outside of test tube and measure after 5 min.

Lower iron concentrations (0.02–1.00 mg/L Fe) can be determined by using 50 mm semi-micro cuvettes (REF 91950):

Test sample	Blank value
Open test tube, add 4.0 mL test sample (the pH value of the sample must be between pH 2 and 12) and 1 NANOFIX R2, close and mix. (Close NANOFIX tube immediately after use.)	Open test tube, add 4.0 mL distilled water and 1 NANOFIX R2, close and mix. (Close NANOFIX tube immediately after use.)

Pour the contents of test tubes into 50 mm semi-micro cuvettes and measure after 5 min [method 1371].

Measurement:

For MACHEREY-NAGEL photometers see manual, test 0-37.

Note:

Only dissolved iron and easily soluble iron compounds can be determined with the procedure described above.

We recommend the following methods to distinguish between total iron and dissolved iron:

- determination of the dissolved iron after filtration through a 0.45 µm membrane filter (REF 91650)
- determination of total iron after decomposition with NANOCOLOR® NanOx Metal (REF 918978) or with Crack Set (REF 91808)

Photometers of other manufacturers:

For other photometers check whether measurement of round glass tubes is possible. Verify factor for each type of instrument by measuring standard solutions.

Analytical quality control:

NANOCONTROL Multistandard Metals 1 (REF 925015)