REF 985092

en

Test 0-92 05.17
NANOCOLOR® total Nitrogen TN_b 60

Method:
Oxidative decomposition in the heating block with subsequent interference compensation and photometric determination with 2,6-dimethylphenol in sulfuric acid / phosphoric acid mixture

Range:	**3–60 mg/L N**	**3–60 mg/L N**
Wavelength (HW = 5–12 nm):	**345 / 350 / 365 nm**	
Decomposition:	**30 min** at 120 °C / **60 min** at 100 °C	
Reaction time:	**10 min (600 s)** at 20–25 °C	

Content of reagent set:
Box A: 20 decomposition tubes A
4 g decomposition reagent
1 tube *NANOFIX* compensation reagent
1 measuring spoon 85 mm orange

Box B: 20 test tubes total Nitrogen TN_b 60
1 test tube with 11 mL NO_3 / N R2

Hazard warning:
The decomposition reagent contains potassium peroxodisulfate 20–100 % and sodium carbonate 20–100 %, the compensation reagent contains sodium sulfite 20–100 %, test tubes contain sulfuric acid 51–80 % and phosphoric acid 25–50 %, reagent R2 contains 2-propanol 20–50 %.
H314, H317, H334 Causes severe skin burns and eye damage. May cause an allergic skin reaction. May cause allergy or asthma symptoms or breathing difficulties if inhaled.
P260sh, P280sh, P303+361+353, P305+351+338, P310, P342+311 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. If experiencing respiratory symptoms: Call a POISON CENTER/doctor. For further information ask for a safety data sheet.

Interferences:
The following ions will not interfere: < 5000 mg/L Cl^-.

The method cannot be applied for the analysis of sea water.

Note:
The pH value of the sample to be decomposed must be between pH 5 and 9, if necessary adjust with sodium hydroxide solution or sulfuric acid. Nitrogen concentrations above the double measuring range can simulate results within the measuring range and thus cause a wrong evaluation. Dilute the sample until the measured value is within the measuring range. For waters of unknown concentrations we recommend that you perform the test with very different dilutions (e.g. 1+9, 1+99) until the last dilution confirms the previous value. For samples which consume large amounts of oxidizing substances (e.g. for COD values above 5000 mg/L O_2), decomposition can be incomplete. In such cases repeat the decomposition with a diluted sample solution.

Procedure:
Requisite accessories: *NANOCOLOR*® heating block, piston pipette with tips

A) Decomposition (Box A)

Open **decomposition tube A**, add
1.0 mL test sample *(the pH value of the sample must be between pH 5 and 9)* and
1 level spoon decomposition reagent, close and shake vigorously.
Place decomposition tube into the heating block and heat at 120 °C for 30 min or at 100 °C for 1 h.
Remove tube from heating block, shake gently and leave it to cool.
Open decomposition tube again, add
1 *NANOFIX* compensation reagent, close and shake vigorously.
→ decomposed solution

B) Analysis (Box B)

Open **test tube total Nitrogen TN_b 60**, add
0.5 mL decomposed solution and
0.5 mL R2, close and mix by shaking gently.
Clean outside of test tube and measure after 10 min.

Measurement:
For MACHEREY-NAGEL photometers see manual, test 0-92.
For exact measurements in the low range, the determination should be performed against a decomposed blank solution (use distilled water instead of the test sample).

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 Sewage outflow 1 (REF 925011)

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