REF 918 05

Test 1-05 06.16

NANOCOLOR® Ammonium

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Method:
Photometric determination as indophenol: At a pH value of about 12.6 ammonium reacts with hypochlorite and salicylate in the presence of sodium nitroprusside as catalyst to form a blue indophenol.

Cuvette:	**50 mm**	**20 mm**	**10 mm**
Range (**mg/L NH_4^+**):	**0.01–0.50**	**0.05–1.25**	**0.1–2.5**
Range (**mg/L NH_4-N**):	**0.01–0.40**	**0.05–1.00**	**0.1–2.0**
Range (**mg/L NH_3**):	**0.01–0.50**	**0.05–1.25**	**0.1–2.5**
Wavelength (HW = 5–12 nm):	**690 nm**		
Reaction time:	**15 min (900 s)**		
Reaction temperature:	**20–25 °C**		

Contents of reagent set:
100 mL Ammonium R1
4 tubes *NANOFIX* Ammonium R2

Hazard warning:
Reagent R1 contains sodium hydroxide solution 2–5 %, reagent R2 contains sodium nitroprusside 5–33 % and dichloroisocyanuric acid sodium salt 10–20 %.
H314 Causes severe skin burns and eye damage.
P260, P280, P301+330+331, P303+361+353, P304+340, P305+351+338, P501 Do not breathe vapors. Wear protective gloves / eye protection. IF SWALLOWED: Rinse mouth. Do NOT induce vomiting. IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water / shower. IF INHALED: Remove person to fresh air and keep comfortable for breathing. IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Dispose of contents / container to regulated waste treatment. 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® Ammonium (10–400 mg/L NH_4^+, REF 913 15) or with *VISOCOLOR® ECO* Ammonium 15 (0.5–15 mg/L NH_4^+, REF 931 010) rapidly gives this information. From the order of magnitude the required dilution can be calculated and prepared directly.

Interferences:
Only repeatedly and thoroughly rinsed glassware should be used. The blank value must be **yellow**, otherwise repeat test in the same flasks after rinsing.
Turbid solutions should be filtered (membrane filter 0.45 µm, REF 916 50). To remove colorations and finely dispersed matter, add aluminium sulfate and sodium carbonate in the neutral pH range and wait until a deposit is formed.
Good reproducibility is obtained in weakly polluted waters. High pollution causes errors and requires distillation prior to analysis.

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 7 and 10)*	**20 mL** distilled water
1 mL R1, mix	
fill up to 25 mL mark with distilled water	**1 mL** R1, mix
add	fill up to 25 mL mark with distilled water
1 ***NANOFIX*** R2, close, mix	add
(Close NANOFIX tube immediately after use.)	**1** ***NANOFIX*** R2, close, mix
	(Close NANOFIX tube immediately after use.)

After 15 min pour sample and blank value into cuvettes and measure.

Note:
The reaction time is valid for temperatures between 20 °C and 25 °C of sample and reagents. At lower temperatures longer reaction times are needed.

Measurement:
For *NANOCOLOR*® photometers see manual, test 1-05.

Measurement when samples are colored or turbid:
For all *NANOCOLOR*® photometers see manual, use key for correction value.

Photometers of other manufacturers:
For other photometers verify factor for each type of instrument by measuring standard solutions.

Analytical quality control:
NANOCONTROL Multistandard Drinking water (REF 925 018)

Storage:
Store test kit in a cool (< 25 °C) and dry place.

Disposal:
The contents of cuvettes and flasks can be washed into drain with plenty of water. Put *NANOFIX* capsules to waste.

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