

REF 91805

Test 1-05

01.22

**NANOCOLOR® Ammonium**

en

**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 $\text{NH}_4^+$ ):	0.01–0.50	0.05–1.25	0.1–2.5
Range (mg/L $\text{NH}_4\text{-N}$ ):	0.01–0.40	0.05–1.00	0.1–2.0
Range (mg/L $\text{NH}_3$ ):	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:**

Information regarding safety can be found on the box' label and in the safety data sheet. You can download the SDS from [www.mn-net.com/SDS](http://www.mn-net.com/SDS).

**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  $\text{NH}_4^+$ , REF 91315) or with VISOCOLOR® ECO Ammonium 15 (0.5–15 mg/L  $\text{NH}_4^+$ , REF 931010) 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  $\mu\text{m}$ , REF 91650). 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 add	1 mL R1, mix fill up to 25 mL mark with distilled water add
1 NANOFIX R2, close, mix (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 MACHEREY-NAGEL photometers see manual, test 1-05.

**Measurement when samples are colored or turbid:**

For all MACHEREY-NAGEL 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 925018)

**Storage:**

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

**Disposal:**

Information regarding disposal can be found in the safety data sheet. You can download the SDS from [www.mn-net.com/SDS](http://www.mn-net.com/SDS).

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