

## Overview

The test is suitable for the photometric determination of  $\text{NH}_4^+$ . The test is in accordance with APHA 4500- $\text{NH}_3$  F, ISO 7150-1, DIN 38406-E5 and EPA 350.1.

The test is suitable for surface water, ground and drinking water.

Results are highly reproducible in water with low levels of pollutants.

- Measuring range:
- 30–160 mg/L  $\text{NH}_4\text{-N}$  (method 0061)
- 40–200 mg/L  $\text{NH}_4^+ / \text{NH}_3$  (method 0062 / 0063)
- Number of tests: 20
- Wavelength for photometric determination: 585 nm
- Shelf life: 12 months
- Reaction time: 15 minutes
- Storage temperature: 15–25 °C
- Storage conditions: upright

## Method

Photometric determination of a blue indophenol dye based on a reaction with hypochlorite and salicylate at a pH of 12.6 in the presence of sodium nitroprusside.

## Interferences

Heavy pollution results in errors and requires prior distillation.

The method can be applied for analyzing seawater.

Turbidities cause higher measurement values.

## Reagents and accessories

Contents of reagents set:

- 20 test tubes R0
- 1 NANOFIX R2

Required devices:

- MACHEREY-NAGEL photometer
- Digital piston pipette 50–200  $\mu\text{L}$  (REF 916914) with pipette tips (REF 916915)
- Tweezers for sampling NANOFIX capsules (REF 916114)

## Standards

- NANOCNTROL Multistandard Sewage (REF 925013)

## Sampling and preparation

See DIN EN ISO 5667-3-A 21.

Adjust to pH 1–13 prior to analysis.

## Quality control

The measurement of a blank value and a standard is recommended before every measuring series as quality control measure.

## Quality data:

The following data were determined during production according to ISO 8466-1 and DIN 38402-A51:

- Number of LOTs: 27
- Standard deviation of the method:  $\pm 2$  mg/L  $\text{NH}_4\text{-N}$
- Coefficient of variation of the process:  $\pm 1.89$  %
- Confidence interval:  $\pm 4$  mg/L  $\text{NH}_4\text{-N}$
- Specified data for procedure:
- Sensitivity (absorbance of 0.010 A corresponds to): 1 mg/L  $\text{NH}_4\text{-N}$
- Accuracy of a measurement value:  $\pm 6$  mg/L  $\text{NH}_4\text{-N}$

LOT-specific certificates are available at [www.mn-net.com](http://www.mn-net.com).

## Procedure

1. Open test tube
2. Pipette 0.2 mL of sample into test tube
3. Add 1 NANOFIX R2
4. Seal test tube and shake vigorously
5. Wait 15 min
6. Clean outside of test tube
7. Measure

## Notes

When using other photometers, make sure measurements are possible in test tubes (16 mm OD) and calibrate the method.

Correction value e. g. for colored or turbid samples possible (see photometer manual).

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).

08/2020