

Nitrate

**Test kit for performing colorimetric tests
on nitrate ions in surface water and sewage**

Method:

Nitrate ions are reduced to nitrite ions in an acidic medium. Combined with a suitable aromatic amine, these form an orange-yellow azo dye.

Measurement range:

1–120 mg/L NO₃⁻

Contents of test kit (*refill pack):

sufficient for 110 tests

- 30 mL NO₃-1*
- 5 g NO₃-2*
- 1 measuring spoon 70 mm*
- 2 screw-plug measuring glasses
- 1 slide comparator
- 1 color chart
- 1 plastic syringe 5 mL
- 1 instructions for use*

Hazard warning:

This test does not contain any hazardous substances which must be specially labelled as hazardous.

Instructions for use:

also refer to the pictogram on the back of the color chart

1. Pour a **5 mL water sample** into each of the measuring glasses using the plastic syringe.
Place a measuring glass on position A in the comparator.

Only add the reagent to measuring glass B.

2. Add **5 drops of NO₃-1**, seal the glass and mix.
3. Add **1 level measuring spoonful of NO₃-2**, seal the glass and **immediately shake the mixture well for 1 min.**
4. Open the glass after **5 min** and place it on position B in the comparator.
5. Slide the comparator until the colours match in the inspection hole on top. Check the measurement reading in the recess on the comparator reed. Mid-values can be estimated.
6. After use, rinse out both measuring glasses thoroughly and seal them.

The reagents can be used for the **photometric evaluation** with photometer PF-12.

This technique can be used also for analyzing sea water (see „Conversion table“).

Disposing of the samples:

The used analysis specimens can be flushed down the drain with tap water and channelled off to the local sewage treatment works.

Interferences:

Depending on their concentration, oxidizing substances may reduce the measurement reading or suppress the reaction totally. Chlorine ≤10 mg/L does not interfere.

Nitrite interferes (same reaction). This can be circumvented by addition of amido sulphonic acid (REF 918 973).

The water sample should be between 18 and 30 °C. At lower temperatures the reaction takes place at a significantly slower rate, and the results are limited.

Conversion table:

mg/L NO ₃ ⁻	mg/L NO ₃ -N (Nitrate nitrogen)	mmol/m ³	mg/L NO ₃ ⁻ in sea water
1	0.2	16	1
3	0.7	48	3
5	1.1	81	5
10	2.3	160	12
20	4.5	320	25
30	6.8	480	40
50	11	810	65
70	16	1130	95
90	20	1450	120
120	27	1940	160

Storage:

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

Product data and ordering information

REF	931 041 (931 241)
Type	colorimetric test kit (refill pack)
Range	0 · 1 · 3 · 5 · 10 · 20 · 30 · 50 · 70 · 90 · 120 mg/l (ppm) NO₃⁻
Sufficient for	110 determinations
Shelf life	at least 1.5 years
Sea water suitability	yes
Detectable with PF-12	yes