visocolor® ECO

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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 NO_3^-

Contents of test kit (*refill pack):
sufficient for 110 tests

30	mL NO_3-1*
5	g NO_3-2*
1	measuring spoon 70 mm*
2	screw-plug measuring glasses
1	slide comparator
1	colour chart
1	plastic syringe 5 mL
1	instructions for use*

Hazard warning:
Reagent NO_3-1 contains citric acid 10–20 %.
For further information ask for a safety data sheet.

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 NO_3-1**, seal the glass and mix.
3. Add **1 level measuring spoonful of NO_3-2**, 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-11 / PF-12.

This technique can be used also for analysing 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.

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