

Nitrate-Rapid test PSIMA®-N



METHOD AND SCOPE

Nitrate components in inorganic liquids are determined photometrically without dilution steps up to a concentration of 15 g/l $\text{NO}_3\text{-N}$ as total nitrate nitrogen.

Typical applications are process waters containing nitrates, e.g. in the chemical and metal-processing industries, but also in the wastewater treatment. A special feature of this rapid test is that even proportions of fluoride do not significantly interfere with the measurement result. Some examples for the application of the rapid test are:

- spray and press waters from pickling processes
- nitrate-containing waste water from catalyst production
- waste water from the explosives industry
- municipal waste water treatment (inlet control)

The result of the rapid test is already available after approx. 1 minute.

MEASURING RANGE AND INFLUENCE OF FOREIGN SUBSTANCES

The measuring range of the rapid test PSIMA®-N is between 250 and 15.000 mg/l $\text{NO}_3\text{-N}$

Matrix components such as F^- , SO_4^{2-} , Fe^{2+} , Cr^{3+} , Cr^{6+} , Ni^{2+} and other metals do not interfere with the determination in smaller concentrations. The total metal content of the sample to be tested should not exceed 5 g/l and the pH value should not be below pH 2. Traces of organic components and solids also have no influence on the measurement.

It is nevertheless recommended to test the suitability of the rapid test before use. Adaptation of the methodology to the application is possible.

REAGENTS AND AUXILIARIES

Observe the hazardous substance labelling on the individual components of the pack.

When stored closed at +15 to +25 °C, the test reagents can be used up to the date stated on the package.

Package contents:

- reaction syringes with sealing plugs
- syringe filters 0,45 µm
- disposable cuvettes

IMPLEMENTATION

- photometric determination
- fill empty cuvette with deionised water activate zero adjustment on the photometer
- remove sealing plug from reaction syringe
- fill reaction syringe with approx. 4-5 ml sample liquid
- draw in some air
- place the syringe filter on the reaction syringe and shake for approx. 30 seconds
- fill the empty cuvette to approx. $\frac{3}{4}$ of its capacity
- place the filled cuvette with the transparent side in the beam path of the photometer
- low NO₃-N levels can be read directly on the photometer, higher levels on the measurement computer

ANALYTICAL QUALITY ASSURANCE

For quality assurance, a zero adjustment of the photometer with deionised water should be carried out after approx. 25 measurements and a standard

NOTES

Wear closed work clothes as well as protection gloves and goggles when performing the rapid test.

After filling the cuvette from the reaction syringe, carry out the measurement immediately, otherwise precipitation may occur.