

1.100057.0001

MQuant™ Nitrite Test

NO₂⁻

1. Method

In the presence of an acid buffer nitrite ions react with an aromatic amine to form a diazonium salt, which in turn reacts with N-(1-naphthyl)ethylenediamine to form a red-violet azo dye. The nitrite concentration is measured **semiquantitatively** by visual comparison of the reaction zone of the test strip with the fields of a color scale.

2. Measuring range and number of determinations

Measuring range / color-scale graduation ¹⁾	Number of determinations
0.5 - 1 - 2 - 5 - 10 mg/l NO ₂ ⁻	75
0.15 - 0.3 - 0.6 - 1.5 - 3.0 mg/l NO ₂ -N	

¹⁾ for conversion factors see section 8

3. Applications

Sample material:

Drinking water
Industrial water
Cooling water
Wastewater and percolating water
Aquarium water
Food after appropriate sample pretreatment
Cooling lubricants
This test is **only conditionally suited** for seawater (false-low readings).

4. Influence of foreign substances

This was checked in solutions with 5 and 0 mg/l NO₂⁻. The determination is not yet interfered with up to the concentrations of foreign substances given in the table.

Concentrations of foreign substances in mg/l or °e				
Cl ₂	1	Ni ²⁺	200	Total hardness 38 °e
Cu ²⁺	1000	NO ₃ ⁻	1000	
Fe ²⁺	200	S ²⁻	50	
Fe ³⁺	0.1	Sn ²⁺	100	

5. Reagents and auxiliaries

The test strips are stable up to the date stated on the pack when stored closed at +2 to +8 °C.

Package contents:

Tube containing 75 test strips

Other reagents:

MColorpHast™ Universal indicator strips pH 0 - 14, Cat. No. 109535
Sodium acetate anhydrous for analysis EMSURE®, Cat. No. 106268
L(+)-Tartaric acid for analysis EMSURE®, Cat. No. 100804
Nitrite standard solution CertiPUR®, 1000 mg/l NO₂⁻, Cat. No. 119899

6. Preparation

- Samples containing more than 10 mg/l NO₂⁻ must be diluted with distilled water.
- The pH must be within the range 2 - 12.
If the pH is lower than 2, buffer the sample with sodium acetate; if it is greater than 12, adjust to approx. 3 - 5 with tartaric acid.

7. Procedure

Immerse the reaction zone of the test strip in the pre-treated sample (15 - 30 °C) for 1 sec.

Shake off excess liquid from the strip and **after 30 sec** determine with which color field on the label the color of the reaction zone coincides most exactly.

Read off the corresponding result in mg/l NO₂⁻ or NO₂-N.

Notes on the measurement:

- The color of the reaction zone may continue to change after the specified reaction time has elapsed. This must not be considered in the measurement.
- If the color of the reaction zone is equal to or more intense than the darkest color on the scale, repeat the measurement using **fresh**, diluted samples until a value of less than 10 mg/l NO₂⁻ is obtained.

Concerning the result of the analysis, the dilution (see also section 6) must be taken into account:

Result of analysis = measurement value x dilution factor

8. Conversions

Units required	=	units given	x	conversion factor
mg/l NO ₂ -N		mg/l NO ₂ ⁻		0.304
mg/l NO ₂ ⁻		mg/l NO ₂ -N		3.28

9. Method control

To check test strips and handling:

Dilute the nitrite standard solution with distilled water to 2 mg/l NO₂⁻ and analyze as described in section 7.

Additional notes see under www.qa-test-kits.com.

10. Note

Reclose the tube containing the test strips immediately after use.

