

1.10007.0001
1.10007.0002

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
2 - 5 - 10 - 20 - 40 - 80 mg/l NO₂⁻	25 (Cat.No. 1.10007.0002) or
0.6 - 1.5 - 3.0 - 6.0 - 12 - 24 mg/l NO₂⁻-N	100 (Cat.No. 1.10007.0001)

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 10 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					
Ag ⁺	1000	Fe ²⁺	1000	Pb ²⁺	1000
Al ³⁺	1000	Fe ³⁺	100	PO ₄ ³⁻	1000
Ba ²⁺	1000	[Fe(CN) ₆] ⁴⁻	100	S ²⁻	25
Cd ²⁺	1000	[Fe(CN) ₆] ³⁻	25	SCN ⁻	100
Cl ⁻	1000	K ⁺	1000	SO ₃ ²⁻	500
CN ⁻	1000	Mg ²⁺	1000	SO ₄ ²⁻	1000
Co ²⁺	1000	Mn ²⁺	1000	S ₂ O ₃ ²⁻	250
Cr ³⁺	1000	MnO₄⁻	5	Zn ²⁺	1000
CrO₄²⁻	10	Ni ²⁺	1000		
Cu ²⁺	1000	NO ₃ ⁻	1000		

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 25 test strips (Cat. No. 1.10007.0002)
or
containing 100 test strips (Cat. No. 1.10007.0001)

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 80 mg/l NO₂⁻ must be diluted with distilled water.
- **The pH must be within the range 1 - 13.**
If the pH is lower than 1, buffer the sample with sodium acetate; if it is greater than 13, 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 15 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 80 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 NO₂⁻		0.304
mg/l NO₂⁻		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 20 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.

Merck KGaA, 64271 Darmstadt, Germany,
Tel. +49(0)6151 72-2440
www.analytical-test-kits.com

EMD Millipore Corporation, 290 Concord Road,
Billerica, MA 01821, USA, Tel. +1-978-715-1335

