

1.10022.0001

MQuant™ Nitrite Test

NO₂⁻

1. Method

Nitrite ions react with an aromatic amine to form an orange-red 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
0.1 - 0.3 - 0.6 - 1 - 2 - 3 g/l NO ₂ ⁻	100
0.03 - 0.09 - 0.18 - 0.3 - 0.6 - 0.9 g/l NO ₂ -N	

¹⁾ for conversion factors see section 8

3. Applications

Sample material:

Cooling water

Heat-transfer liquids, e. g. for solar collectors

4. Influence of foreign substances

This was checked in solutions with 1 and 0 g/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	K ⁺	500	EDTA 500
Al ³⁺	1000	Mg ²⁺	1000	
Ba ²⁺	1000	Mn ²⁺	1000	
Ca ²⁺	1000	MnO ₄ ⁻	500	
Cd ²⁺	1000	NH ₄ ⁺	1000	
Cl ⁻	1000	Ni ²⁺	1000	
CN ⁻	1000	NO ₃ ⁻	1000	
Co ²⁺	1000	Pb ²⁺	1000	
Cr ³⁺	1000	PO ₄ ³⁻	1000	
CrO ₄ ²⁻	500	S ²⁻	100	
Cu ²⁺	1000	Sn ²⁺	100	
Fe ²⁺	500	SO ₃ ²⁻	1000	
Fe ³⁺	500	SO ₄ ²⁻	1000	
Hg ⁺	500	S ₂ O ₃ ²⁻	500	
Hg ²⁺	500	Zn ²⁺	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 100 test strips

Other reagents:

MColorHast™ Universal indicator strips pH 0 - 14, Cat. No. 109535

Sodium hydroxide solution 1 mol/l TitriPUR®, Cat. No. 109137

Sulfuric acid 0.5 mol/l TitriPUR®, Cat. No. 109072

Nitrite standard solution CertiPUR®, 1000 mg/l NO₂⁻, Cat. No. 119899

6. Preparation

- Samples containing more than 3 g/l NO₂⁻ must be diluted with distilled water.
- **The pH must be within the range 2 - 11.**
Adjust, if necessary, with sodium hydroxide solution or sulfuric acid.

7. Procedure

Immerse the reaction zone of the test strip in the pre-treated sample (**15 - 25 °C**) for **1 sec.**

Shake off excess liquid from the strip and **after 1 min** determine with which color field on the label the color of the reaction zone coincides most exactly.

Read off the corresponding result in g/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 3 g/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
g/l NO ₂ -N		g/l NO ₂ ⁻		0.304
g/l NO ₂ ⁻		g/l NO ₂ -N		3.28

9. Method control

To check test strips and handling:

Analyze the nitrite standard solution 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

