

1.10007.0001  
1.10007.0002MQuant™  
Nitrite TestNO<sub>2</sub><sup>-</sup>

## 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 <sup>1)</sup>	Number of determinations
2 - 5 - 10 - 20 - 40 - <b>80 mg/l NO<sub>2</sub><sup>-</sup></b>	25 (Cat.No.1.10007.0002) or
<b>0.6 - 1.5 - 3.0 - 6.0 - 12 - 24 mg/l NO<sub>2</sub>-N</b>	100 (Cat.No.1.10007.0001)

<sup>1)</sup> 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 NO<sub>2</sub><sup>-</sup>. 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 <sup>+</sup>	1000	Fe <sup>2+</sup>	1000	Pb <sup>2+</sup>	1000
Al <sup>3+</sup>	1000	Fe <sup>3+</sup>	100	PO <sub>4</sub> <sup>3-</sup>	1000
Ba <sup>2+</sup>	1000	[Fe(CN) <sub>6</sub> ] <sup>4-</sup>	100	S <sup>2-</sup>	25
Cd <sup>2+</sup>	1000	[Fe(CN) <sub>6</sub> ] <sup>3-</sup>	25	SCN <sup>-</sup>	100
Cl <sup>-</sup>	1000	K <sup>+</sup>	1000	SO <sub>3</sub> <sup>2-</sup>	500
CN <sup>-</sup>	1000	Mg <sup>2+</sup>	1000	SO <sub>4</sub> <sup>2-</sup>	1000
Co <sup>2+</sup>	1000	Mn <sup>2+</sup>	1000	S <sub>2</sub> O <sub>3</sub> <sup>2-</sup>	250
Cr <sup>3+</sup>	1000	MnO <sub>4</sub> <sup>-</sup>	5	Zn <sup>2+</sup>	1000
CrO <sub>4</sub> <sup>2-</sup>	10	Ni <sup>2+</sup>	1000		
Cu <sup>2+</sup>	1000	NO <sub>3</sub> <sup>-</sup>	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 NO<sub>2</sub><sup>-</sup>, Cat. No. 119899

## 6. Preparation

- Samples containing more than 80 mg/l NO<sub>2</sub><sup>-</sup> 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 NO<sub>2</sub><sup>-</sup> or NO<sub>2</sub>-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 NO<sub>2</sub><sup>-</sup> 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 <sub>2</sub> -N		mg/l NO <sub>2</sub> <sup>-</sup>		0.304
mg/l NO <sub>2</sub> <sup>-</sup>		mg/l NO <sub>2</sub> -N		3.28

## 9. Method control

To check test strips and handling:  
Dilute the nitrite standard solution with distilled water to 20 mg/l NO<sub>2</sub><sup>-</sup> and analyze as described in section 7.  
Additional notes see under [www.qa-test-kits.com](http://www.qa-test-kits.com).

## 10. Note

**Reclose the tube containing the test strips immediately after use.**

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