

1.08025.0001

# MQuant® Nitrite Test

NO<sub>2</sub><sup>-</sup>

## 1. Method

**Colorimetric determination with color card and sliding comparator**  
In acidic solution nitrite ions react with sulfanilic acid to form a diazonium salt, which in turn reacts with N-(1-naphthyl)ethylenediamine dihydrochloride to form a red-violet azo dye. The nitrite concentration is measured **semiquantitatively** by visual comparison of the color of the measurement solution with the color fields of a color card.

## 2. Measuring range and number of determinations

Measuring range / color-scale graduation <sup>1)</sup>	Number of determinations
0.025 - 0.050 - 0.075 - 0.10 - 0.15 - 0.2 - 0.3 - 0.5 mg/l NO <sub>2</sub> <sup>-</sup>	200
0.0076-0.015-0.023-0.030-0.046-0.06-0.09-0.15 mg/l NO <sub>2</sub> -N	

<sup>1)</sup> for conversion factors see section 7

## 3. Applications

### Sample material:

Groundwater and surface water, seawater  
Drinking water and mineral water  
Aquarium water (freshwater and seawater), waters from aquaculture  
Food after appropriate sample pretreatment  
Soils and fertilizers after appropriate sample pretreatment  
Boiler and boiler feed water, cooling water  
Wastewater  
Electroplating wastewater

## 4. Reagents and auxiliaries

### Please note the warnings on the packaging materials!

The reagents in the test are stable up to the date stated on the pack when stored closed at +15 to +25 °C.

### Package contents:

2 bottles of reagent NO<sub>2</sub>-1  
1 bottle of reagent NO<sub>2</sub>-2  
1 graduated 5-ml plastic syringe  
2 test tubes with screw caps  
1 sliding comparator  
1 color card

### Other reagents and accessories:

MQuant® Universal indicator strips pH 0 - 14, Cat. No. 1.09535  
Sodium hydroxide solution 1 mol/l Titripur®, Cat. No. 1.09137  
Sulfuric acid 0.5 mol/l Titripur®, Cat. No. 1.09072  
Nitrite standard solution Certipur®, 1000 mg/l NO<sub>2</sub><sup>-</sup>, Cat. No. 1.19899

MQuant® Flat-bottomed tubes with screw caps for titrimetric and colorimetric MQuant® tests (12 pcs), Cat. No. 1.14902

## 5. Preparation

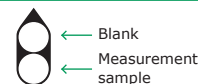
- **The pH must be within the range 2 - 10.**  
Adjust, if necessary, with sodium hydroxide solution or sulfuric acid.
- Filter turbid samples.

## 6. Procedure

Rinse both test tubes several times with the pretreated sample.

	Measurement sample	Blank	
Pretreated sample (15 - 25 °C)	5 ml	5 ml	Inject into the test tube with the syringe.
Reagent NO <sub>2</sub> -1	5 drops <sup>1)</sup>	-	Add, close the tube, and mix.
Reagent NO <sub>2</sub> -2	1 level grey microspoon (in the cap of the NO <sub>2</sub> -2 bottle)	-	Add, close the tube, and shake <b>vigorously until the reagent is completely dissolved.</b>

Insert the test tubes into the sliding comparator as shown in the diagram and place the comparator on the color card as indicated by the latter.



Leave to stand for 1 min.

Slide the comparator along the color scale until the closest possible color match is achieved between the two open tubes when viewed from above. Read off the result in mg/l NO<sub>2</sub><sup>-</sup> or NO<sub>2</sub>-N from the color card indicated by the pointed end of the sliding comparator.

<sup>1)</sup> Hold the bottle vertically while adding the reagent!

### Note on the measurement:

If the color of the measurement solution 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 0.5 mg/l NO<sub>2</sub><sup>-</sup> is obtained.

Concerning the result of the analysis, the dilution must be taken into account:

$$\text{Result of analysis} = \text{measurement value} \times \text{dilution factor}$$

## 7. 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

## 8. Method control

To check test reagents, measurement device, and handling:  
Dilute the nitrite standard solution with distilled water to 0.2 mg/l NO<sub>2</sub><sup>-</sup> and analyze as described in section 6.  
Additional notes see under **www.qa-test-kits.com**.

## 9. Notes

- Reclose the reagent bottles immediately after use.
- Rinse the test tubes and the syringe **with distilled water only**.
- **Information on disposal can be obtained at [www.disposal-test-kits.com](http://www.disposal-test-kits.com).**

