

1.14764.0001

# Spectroquant® Nitrate Cell Test



## 1. Method

In sulfuric and phosphoric solution nitrate ions react with 2,6-dimethylphenol (DMP) to form 4-nitro-2,6-dimethylphenol that is determined photometrically. The method is analogous to DIN 38405-9.

## 2. Measuring range and number of determinations

Measuring range	Number of determinations
1.0 - 50.0 mg/l NO <sub>3</sub> -N	25
4 - 221 mg/l NO <sub>3</sub> <sup>-</sup>	

For programming data for selected photometers / spectrophotometers see the [www.service-test-kits.com](http://www.service-test-kits.com).

## 3. Applications

This test is not suited for the determination in waters with chloride contents exceeding 2000 mg/l and COD values exceeding 1000 mg/l.

### Sample material:

Groundwater, drinking water, and surface water  
Spring water and well water  
Mineral water  
Wastewater and industrial water  
Nutrient solutions for fertilization  
Soils after appropriate sample pretreatment  
This test is **not suited** for seawater.

## 4. Influence of foreign substances

This was checked in solutions containing 25 and 0 mg/l NO<sub>3</sub>-N. 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 %					
Al <sup>3+</sup>	1000	Mg <sup>2+</sup>	1000	EDTA	1000
Ca <sup>2+</sup>	1000	Mn <sup>2+</sup>	1000	Surfactants <sup>2)</sup>	1000
Cd <sup>2+</sup>	500	NH <sub>4</sub> <sup>+</sup>	1000	<b>COD (K-hydrogen phthalate)</b>	<b>1000</b>
Cl <sup>-</sup>	<b>2000</b>	Ni <sup>2+</sup>	1000	<b>Organic substances (glucose)</b>	<b>1000</b>
CN <sup>-</sup>	100	NO <sub>2</sub> <sup>-</sup>	10 <sup>1)</sup>	Na-acetate	20 %
C <sup>3+</sup>	1000	Pb <sup>2+</sup>	250	NaCl	0.5 %
Cr <sub>2</sub> O <sub>7</sub> <sup>2-</sup>	<b>100</b>	PO <sub>4</sub> <sup>3-</sup>	1000	Na <sub>2</sub> SO <sub>4</sub>	20 %
Cu <sup>2+</sup>	1000	SiO <sub>3</sub> <sup>2-</sup>	500		
F <sup>-</sup>	1000	SO <sub>3</sub> <sup>2-</sup>	100		
Fe <sup>3+</sup>	250	Zn <sup>2+</sup>	1000		
Hg <sup>2+</sup>	250				

<sup>1)</sup> In cases of higher concentrations, eliminate nitrite ions acc. to section 6.

<sup>2)</sup> tested with nonionic, cationic, and anionic surfactants

## 5. Reagents and auxiliaries

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

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

### Package contents:

1 bottle of reagent NO<sub>3</sub>-1K  
25 reaction cells  
1 sheet of round stickers for numbering the cells

### Other reagents and accessories:

Pipettes for pipetting volumes of 0.50 and 1.0 ml

## 6. Procedure

Pretreated sample (5 - 25 °C)	0.50 ml	Pipette into a reaction cell. <b>Do not mix contents!</b>
Reagent NO <sub>3</sub> -1K	1.0 ml	<b>Add with pipette (Wear eye protection! The cell becomes hot!). Close the cell tightly and mix. The cell must be held only by the screw cap!</b>
<b>Leave the hot cell to stand for 10 min (reaction time). Do not cool with cold water!</b> Measure the sample in the photometer.		

### Notes on the measurement:

- For photometric measurement the cells must be clean. Wipe, if necessary, with a clean dry cloth.
- Measurement of turbid solutions yields false-high readings.
- The color of the measurement solution remains stable for 30 min after the end of the reaction time stated above. (After 60 min the measurement value would have increased by 5 %.)

## 7. Notes

- Reclose the reagent bottle immediately after use.
- **Information on disposal can be obtained at [www.disposal-test-kits.com](http://www.disposal-test-kits.com).**

