

Nitrate LR2 TT

M266

0.2 - 15 mg/L N

2,6-Dimethylphenole

Instrument specific information

The test can be performed on the following devices. In addition, the required cuvette and the absorption range of the photometer are indicated.

Instrument Type	Cuvette	λ	Measuring Range
SpectroDirect, XD 7000, XD 7500	ø 16 mm	340 nm	0.2 - 15 mg/L N

Material

Required material (partly optional):

Reagents	Packaging Unit	Part Number
Nitrate-DMP LR2 / 25	25 pc.	2423330
ValidCheck WW Effluent Multistandard NH ₄ -N/COD/TOC/NO ₃ -N/PO ₄ -P/TP	1 pc.	48399612
ValidCheck WW Influent Multistandard NH ₄ -N/COD/TOC/NO ₃ -N/PO ₄ -P/TP	1 pc.	48399712

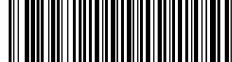
The following accessories are required.

Accessories	Packaging Unit	Part Number
Pipette, 200 µl	1 pc.	365042
Pipette Tips	1 pc.	365032
Pipette, 1000 µl	1 pc.	365045
Pipette tips, 0,1-1 ml (blue), 1000 pc.	1 pc.	419073

Application List

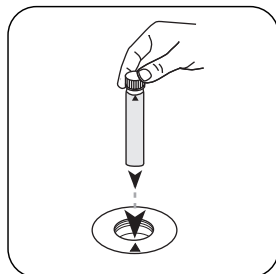
- Waste Water Treatment
- Drinking Water Treatment
- Raw Water Treatment



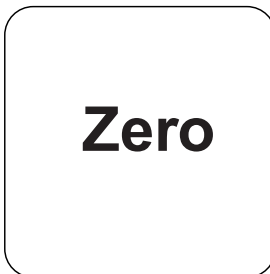


Determination of Nitrate LR2 with Vial Test

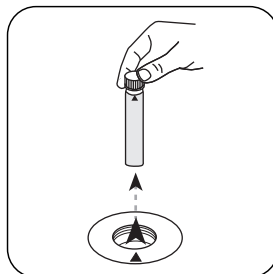
Select the method on the device.



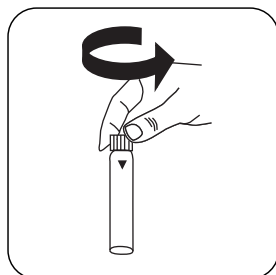
Place **blank** in the sample chamber. • Pay attention to the positioning.



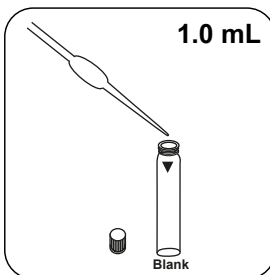
Press the **ZERO** button.



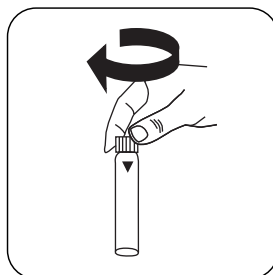
Remove **vial** from the sample chamber.



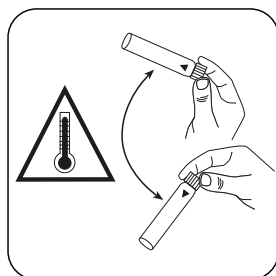
Open a **digestion vial**.



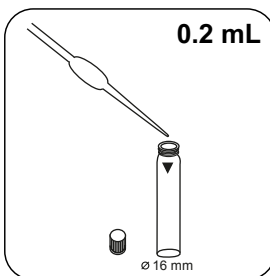
Put **1.0 mL sample** in the vial.



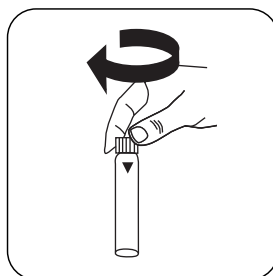
Close vial(s).



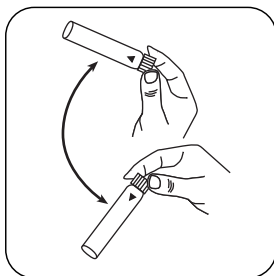
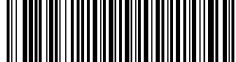
Carefully invert several times to mix the contents.
Note: Will get hot!



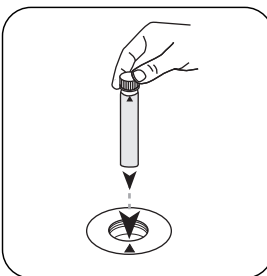
Add **0.2 mL Nitrate-111**.



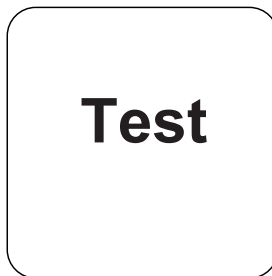
Close vial(s).



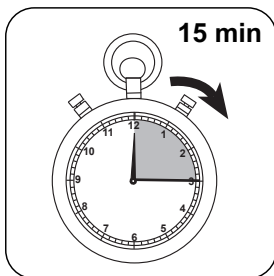
Invert several times to mix the contents.



Place **sample vial** in the sample chamber. • Pay attention to the positioning.

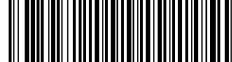


Press the **TEST** (XD: **START**) button.



Wait for **15 minute(s)** reaction time.

Once the reaction period is finished, the measurement takes place automatically. The result in mg/L $\text{NO}_3\text{-N}$ or NO_3 appears on the display.



Analyses

The following table identifies the output values can be converted into other citation forms.

Unit	Cite form	Scale Factor
mg/l	N	1
mg/l	NO ₃	4.4268

Chemical Method

2,6-Dimethylphenole

Appendix

Calibration function for 3rd-party photometers

$$\text{Conc.} = a + b \cdot \text{Abs} + c \cdot \text{Abs}^2 + d \cdot \text{Abs}^3 + e \cdot \text{Abs}^4 + f \cdot \text{Abs}^5$$

	ø 16 mm
a	$2.4531 \cdot 10^{-2}$
b	$1.34256 \cdot 10^{-1}$
c	
d	
e	
f	

Interferences

Persistent Interferences

1. Nitrite concentrations above 2 mg/L result in higher results.
2. High levels of oxidisable organic substances (COD) lead to higher results.

Interference	from / [mg/L]
Cr ⁶⁺	2
Fe ²⁺	25
Sn ²⁺	25
Ca ²⁺	50
Co ²⁺	50
Cu ²⁺	50

Interference	from / [mg/L]
Fe ³⁺	50
Ni ²⁺	50
Pb ²⁺	50
Zn ²⁺	50
Cd ²⁺	100
K ⁺	250
NO ₂ ⁻	1
Cl ⁻	250

Method Validation

Limit of Detection	0.06 mg/L
Limit of Quantification	0.17 mg/L
End of Measuring Range	15.0 mg/L
Sensitivity	13.19 mg/L / Abs
Confidence Intervall	0.063 mg/L
Standard Deviation	0.026 mg/L
Variation Coefficient	0.71 %

Bibliography

Photometrische Analyseverfahren, Schwedt, Wissenschaftliche Verlagsgesellschaft mbH, Stuttgart 1989

Derived from

ISO 7890-1-1986

DIN 38405 D9