**Nitrate LR TT****M267****0.5 - 14 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 | $\lambda$ | Measuring Range |
|---------------------------------|---------|-----------|-----------------|
| SpectroDirect, XD 7000, XD 7500 | ø 16 mm | 340 nm    | 0.5 - 14 mg/L N |

## Material

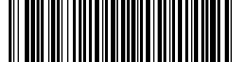
Required material (partly optional):

| Reagents            | Packaging Unit | Part Number |
|---------------------|----------------|-------------|
| Nitrate-DMP LR / 25 | 25 pc.         | 2423340     |

## Application List

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

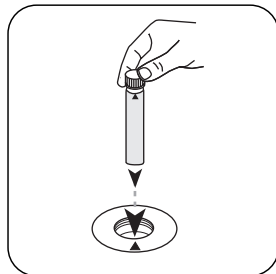




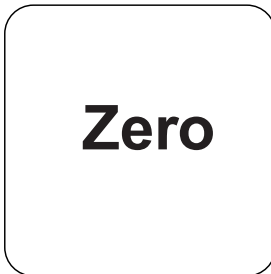
## Determination of Nitrate LR with Vial Test

Select the method on the device.

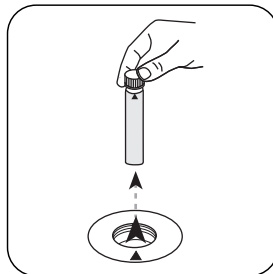
For this method, a ZERO measurement does not have to be carried out every time on the following devices: XD 7000, XD 7500



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

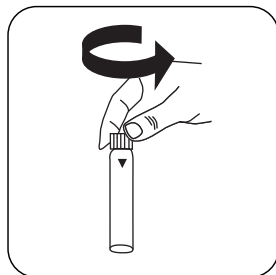


Press the **ZERO** button.

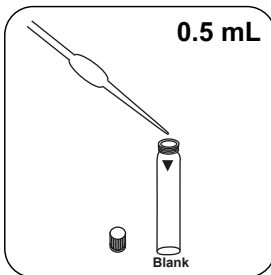


Remove **vial** from the sample chamber.

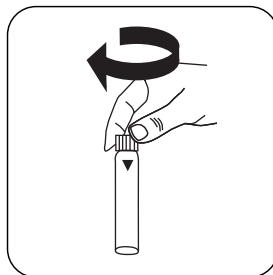
For devices that require **no ZERO measurement**, start here.



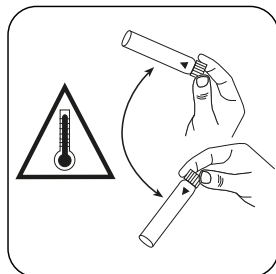
Open a **digestion vial**.



Put **0.5 mL sample** in the vial.

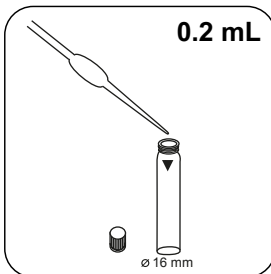


Close vial(s).

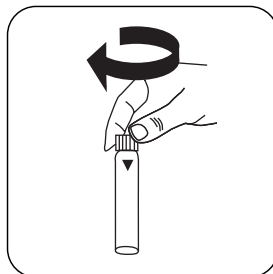


Carefully invert several times to mix the contents.

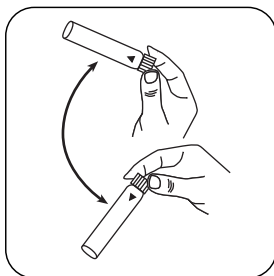
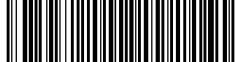
**Note: Will get hot!**



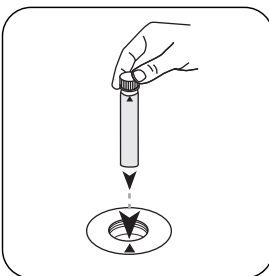
Add **0.2 mL Nitrate-111**.



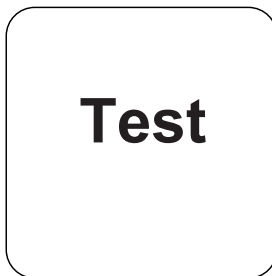
Close vial(s).



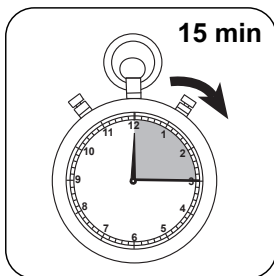
Invert several times to mix the contents.



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

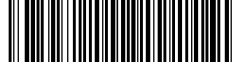


Press the **TEST** (XD: **START**) button.



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  $\text{NO}_3$  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 <sub>3</sub> | 4.4268       |

## Chemical Method

2,6-Dimethylphenole

## Appendix

### Calibration function for 3rd-party photometers

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

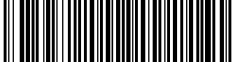
|   | ø 16 mm                  |
|---|--------------------------|
| a | $-3.34651 \cdot 10^{-1}$ |
| b | $2.53157 \cdot 10^{-1}$  |
| c |                          |
| d |                          |
| e |                          |
| f |                          |

## 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 <sup>6+</sup> | 5             |
| Fe <sup>2+</sup> | 50            |
| Sn <sup>2+</sup> | 50            |
| Ca <sup>2+</sup> | 100           |
| Co <sup>2+</sup> | 100           |
| Cu <sup>2+</sup> | 100           |



| Interference                 | from / [mg/L] |
|------------------------------|---------------|
| Fe <sup>3+</sup>             | 100           |
| Ni <sup>2+</sup>             | 100           |
| Pb <sup>2+</sup>             | 100           |
| Zn <sup>2+</sup>             | 100           |
| Cd <sup>2+</sup>             | 200           |
| K <sup>+</sup>               | 500           |
| NO <sub>2</sub> <sup>-</sup> | 2             |
| Cl <sup>-</sup>              | 500           |

**Bibliography**

Photometrische Analyseverfahren, Schwedt, Wissenschaftliche Verlagsgesellschaft mbH, Stuttgart 1989

**Derived from**

ISO 7890-1-2-1986

DIN 38405 D9-2