Nitrate T M260

0.08 - 1 mg/L N

Zinc Reduction / NED

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
, MD 600, MD 610, MD 640, Test Kit, XD 7000, XD 7500	ø 24 mm	530 nm	0.08 - 1 mg/L N

Material

Required material (partly optional):

Reagents	Packaging Unit	Part Number
Nitrate Test	Tablet / 100	502810
Nitrite LR	Tablet / 100	512310BT
Nitrite LR	Tablet / 250	512311BT
Nitrate Test Pulver	Powder / 15 g	465230
Nitrate test tube	1 pc.	366220

Application List

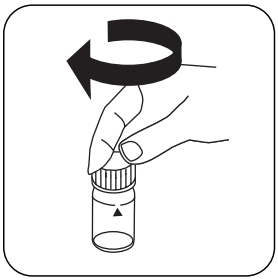
- Waste Water Treatment
- Drinking Water Treatment
- Raw Water Treatment

Determination of Nitrate with Tablet and Powder

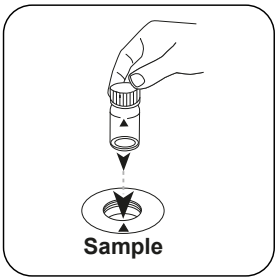
Select the method on the device.

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

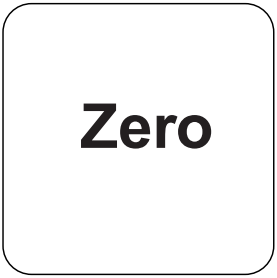
Fill 24 mm vial with **10 mL sample**.



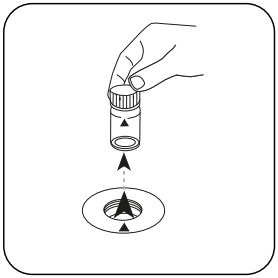
Close vial(s).



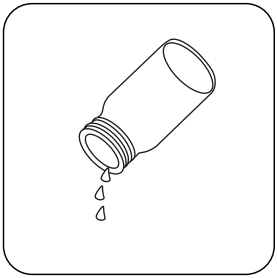
Place **sample vial** in the sample chamber. Pay attention to the positioning.



Press the **ZERO** button.

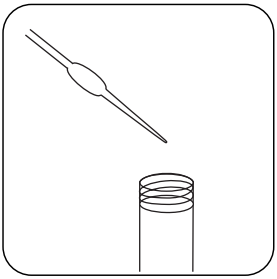


Remove the vial from the sample chamber.

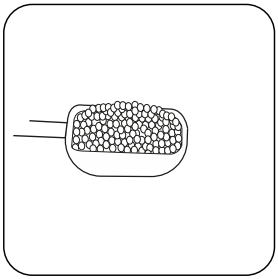


Empty vial.

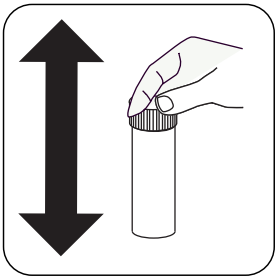
For devices that require **no ZERO measurement** , **start here**.



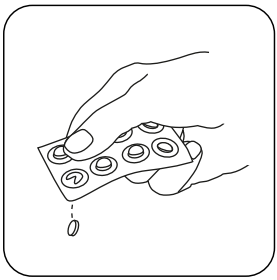
Fill a Nitratest tube with **20 mL sample**.



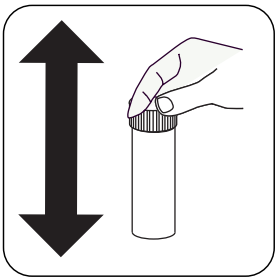
Add **one microspoon NITRATE TEST powder** .



Close the test tube with the lid and mix the contents by vigorously shaking for 1 minute.

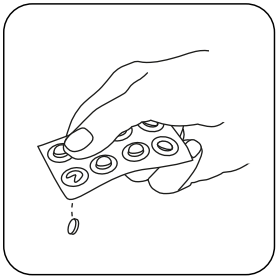


Add **NITRATE TEST tablet**.

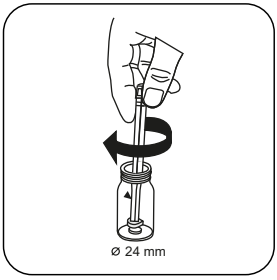


Close the test tube with the lid and mix the contents by vigorously shaking for 1 minute.

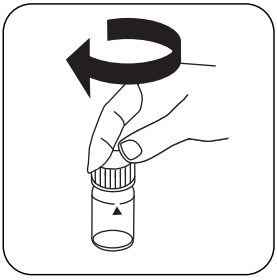
- Leave test tubes upright. Wait until the reducing agent has dropped off.
- Then turn the test tube three to four times around.
- Leave the test tube to stand for 2 minutes.
- Open the test tube and wipe the residue of the reduction with a clean cloth.
- Decant **10 mL of this sample** into a **24 mm vial** without causing a reducing agent.



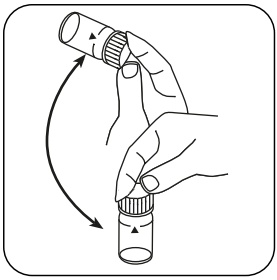
Add **NITRITE LR tablet**.



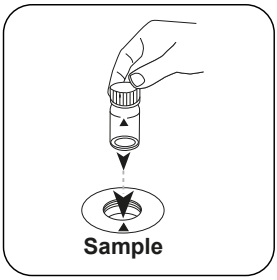
Crush tablet(s) by rotating slightly.



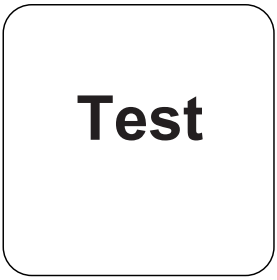
Close vial(s).



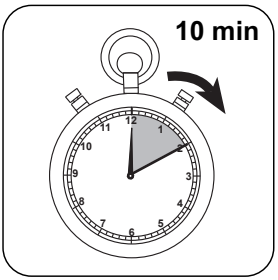
Dissolve tablet(s) by inverting.



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



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



Wait for **10 minute(s) reaction time**.

Once the reaction period is finished, the measurement takes place automatically.

The result in mg/L Nitrate 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

Zinc Reduction / NED

Appendix

Calibration function for 3rd-party photometers

Conc. = a + b•Abs + c•Abs^2 + d•Abs^3 + e•Abs^4 + f•Abs^5

	ø 24 mm	□ **10 mm**
a	$-9.38065 \cdot 10^{-3}$	$-9.38065 \cdot 10^{-3}$
b	$3.20151 \cdot 10^{-1}$	$6.88325 \cdot 10^{-1}$
c	$2.5446 \cdot 10^{-3}$	$1.17624 \cdot 10^{-2}$
d		
e		
f		

Interferences

Persistant Interferences

1. Antimony (III), iron, lead, mercury (I), silver, Chloroplatinate, metavanadate, and bismuth create precipitation.
2. With the presence of Copper (II) there will be lower results, because it accelerates the degradation of diazonium salts.

Removeable Interferences

1. If there is nitrate in the original water sample, it will lead to high values of nitrate nitrogen. For correction, carry out a nitrite determination using method 270 in NO2-N and subtract the result from the nitrate reading for the correct result. The result displayed does not show the actual concentration of nitrate nitrogen in the water sample being analysed.
2. Concentration of nitrate nitrogen above 1 mg/L results in an erroneous measurement after the reaction time of 10 minutes (in this instance, a colour change to apricot colour instead of the reddish pink solution). The range of the test can be extended by first diluting the water sample with deionised water. The subsequent result of the test must then be multiplied by the dilution factor.

Derived from

ASTM D 3867-09
APHA 4500 NO3- E-2000
US EPA 353.3 (1983)