Ammonium T 60
0.02 - 1 mg/l N A
Indophenole Blue

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 100, MD 600, MD 610, MD 640, MultiDirect, PM 620, PM 630	ø 24 mm	610 nm	0.02 - 1 mg/l N
SpectroDirect, XD 7000, XD 7500	ø 24 mm	676 nm	0.02 - 1 mg/l N

Material

Required material (partly optional):

Reagents	Packaging Unit	Part Number
Ammonia No. 1	Tablet / 100	512580BT
Ammonia No. 1	Tablet / 250	512581BT
Ammonia No. 2	Tablet / 100	512590BT
Ammonia No. 2	Tablet / 250	512591BT
Set Ammonia No. 1/No. 2 100 Pc.#	100 each	517611BT
Set Ammonia No. 1/No. 2 250 Pc.#	250 each	517612BT
Ammonia Conditioning Powder	Powder / 15 g	460170

Application List

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

Preperation

1. Sea water samples:
   Ammonia conditioning reagent is required when testing sea water or brackish water samples to prevent precipitation (settlement) of salts.
   Fill the test tube with the sample to the 10 ml mark and add one level spoonful of Aluminium Conditioning Powder. Close the vials with the caps and swirl until the

powder has dissolved. Then proceed as described.

Notes

1. The AMMONIA No. 1 tablet will only dissolve completely after the AMMONIA No. 2 Tablet has been added.
2. The temperature of the sample is important for full colour development. At temperatures of below 20°C the reaction period is 15 minutes.

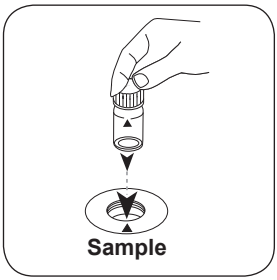
Implementation of the provision Ammonium with Tablet

Select the method on the device

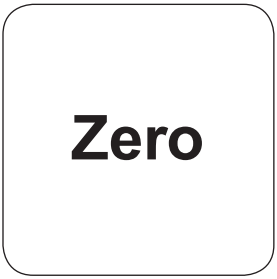
For this method, no ZERO measurements are to be carried out with the following devices: XD 7000, XD 7500

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

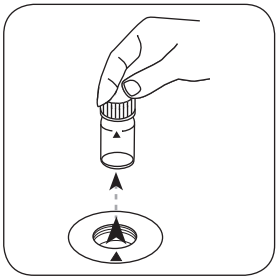
Close vial(s).



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

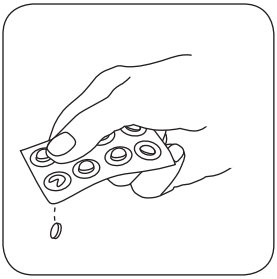


Press the **ZERO** button.

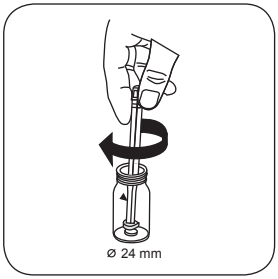


Remove the vial from the sample chamber.

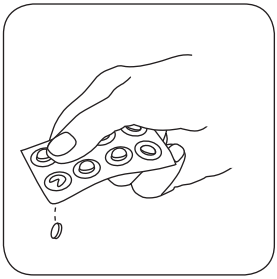
For devices that require **no ZERO measurement** , **start here**.



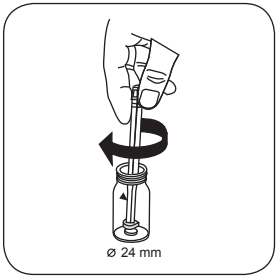
Add **AMMONIA No. 1 tablet**.



Crush tablet(s) by rotating slightly.

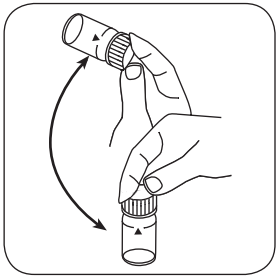


Add **AMMONIA No. 2 tablet**.

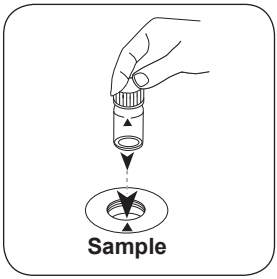


Crush tablet(s) by rotating slightly.

Close vial(s).

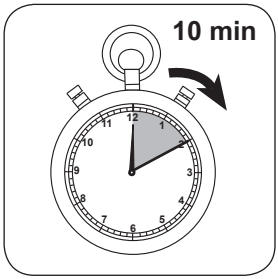


Dissolve tablet(s) by inverting.



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 Ammonium 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	NH_4	1.2878
mg/l	NH_3	1.2158

Chemical Method

Indophenole Blue

Appendix

Interferences

Persistant Interferences

- Sulphides, cyanides, rhodanide, aliphatic amine and aniline interfere in higher concentrations.

Method Validation

Limit of Detection	0.04 mg/l
Limit of Determination	0.12 mg/l
End of Measuring Range	1 mg/l
Sensitivity	0.823 mg/l
Standard Deviation	0.011 µg

Bibliography

Photometrische Analyseverfahren, Schwendt, Wissenschaftliche Verlagsgesellschaft mbH, Stuttgart 1989

According to

APHA Method 4500-NH3 F

[a] determination of free, combined and total | [b] Reactor is necessary for COD (150 °C), TOC (120 °C) and total -chromium, - phosphate, -nitrogen, (100 °C) | [c] MultiDirect: Adapter is necessary for Vacu-vials® (Order code 19 20 75) | [d] Spectroquant® is a Merck KGaA Trademark | [e] alternative reagent, used instead of DPD No.1/No.3 in case of turbidity in the water sample caused by high concentration of calcium and/or high conductivity | [f] additionally required for determination of bromine, chlorine dioxide and ozone in the presence of chlorine | [g] Reagent recovers most insoluble iron oxides without digestion | [h] additionally required for samples with hardness values above 300 mg/l $CaCO_3$ | [i] high range by dilution | [#] including stirring rod, 10 cm