Triazole VARIO PP 388
1 - 16 mg/l Benzotriazole or Tolyltriazole tri
Catalyzed UV Digestion

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 110, MD 600, MD 610, MD 640, XD 7000, XD 7500	ø 24 mm	430 nm	1 - 16 mg/l Benzotriazole or Tolyltriazole

Material

Required material (partly optional):

Reagents	Packaging Unit	Part Number
VARIO Triazole Rgt Powder Pack F25	Powder / 100 pc.	532200
Vario Rochelle Salt Solution [h)]	Liquid / 30 ml	530640

Hazard Notes

While the UV lamp is in operation, UV safety goggles must be worn.

Application List

- Boiler Water

Sampling

1. Measure the water sample as soon as possible after sampling.

Preperation

1. To get accurate results the sample temperature must be between 20°C and 25°C.
2. Nitrites or borax-containing water must be adjusted between pH 4 and pH 6 before the analysis (with 1N Sulphuric acid).
3. If the sample contains more than 500 mg/l $CaCO_3$ hardness, 10 drops of Rochelle Salt Solution are to be added.

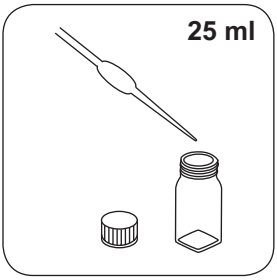
Notes

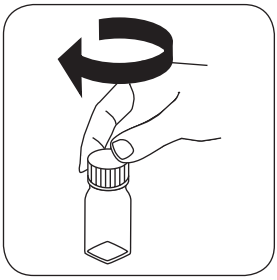
1. Triazole Reagent Powder Packs and UV maps available on request.
2. For handling of the UV lamp see manufacturer‘s manual. Do not touch the surface of the UV lamp. Fingerprints will erode the glass. Wipe the UV lamp with a soft and clean cloth between measurements.
3. The test does not distinguish between Tolyltriazole and Benzotriazole.

Implementation of the provision Benzotriazole / Tolyltriazole with Vario Powder Packs

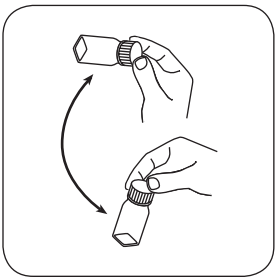
Select the method on the device

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

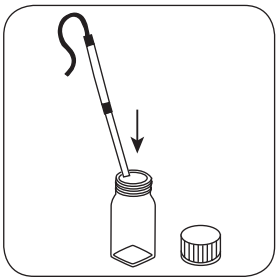




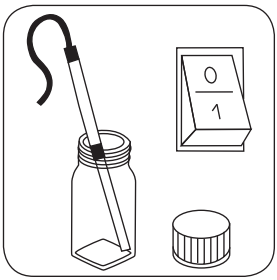
Add **powder pack**.



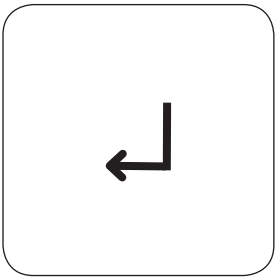
Swirl around to dissolve the powder.



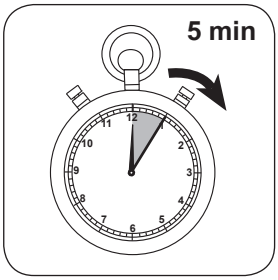
Keep the UV lamp in the sample. **Note: wear UV safety goggles!**



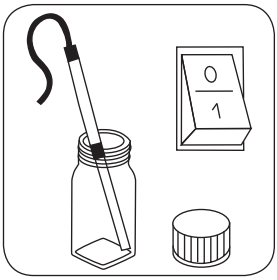
Turn on the UV lamp.



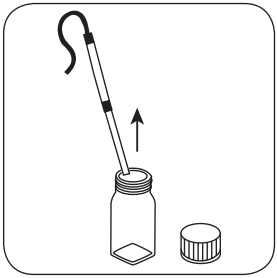
Press the **ENTER** button.



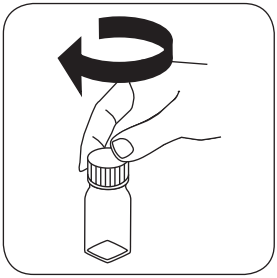
Wait for **5 minute(s) reaction time**.

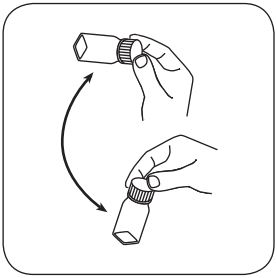


The UV lamp is switched off when the countdown is finished.



Remove the UV lamp from the sample.

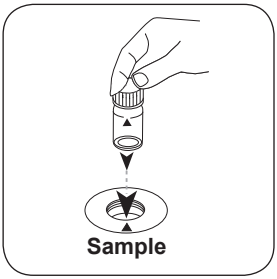




Invert several times to mix the contents.

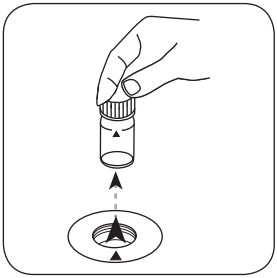
Fill 24 mm vial with **10 ml deionised water** .

Close vial(s).



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

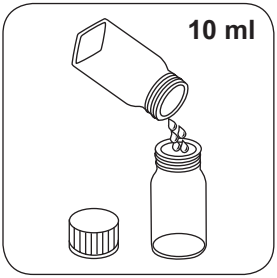
Press the **ZERO** button.



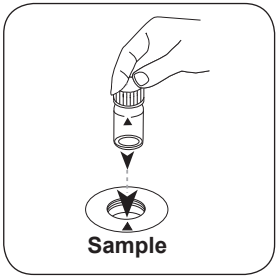
Remove the vial from the sample chamber.

Empty vial.

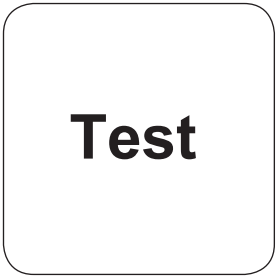
For devices that require **no ZERO measurement** , **start here**.



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



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



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

The result in mg/l Benzotriazole or Tolyltriazole 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	Benzotriazole	1
mg/l	Tolyltriazol	1.1177

Chemical Method

Catalyzed UV Digestion

Appendix

Interferences

Persistant Interferences

- Should the photolysis be carried out for more or less than 5 minutes, this can lead to may show lower results.

Bibliography

Harp, D., Proceedings 45th International Water Conference, 299 (October 22-24, 1984)

[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