Phenol T 315

0.1 - 5 mg/l C_6H_5OH

4-Aminoantipyrine

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 24 mm	507 nm	0.1 - 5 mg/l C_6H_5OH

Material

Required material (partly optional):

Reagents	Packaging Unit	Part Number
Phenole No. 1	Tablet / 100	515950BT
Phenole No. 2	Tablet / 100	515960BT

Application List

- Waste Water Treatment
- Raw Water Treatment

Preperation

1. The aqueous sample solution should have a pH value between 3 and 11.
2. Wastewater and seawater samples may also require a distillation.

Notes

1. This method determines ortho- and meta-substituted phenols but not all para-substituted phenols (see: „Standard Methods of Examination of Water and Wastewater, 20th Edition, 5-40f.“)

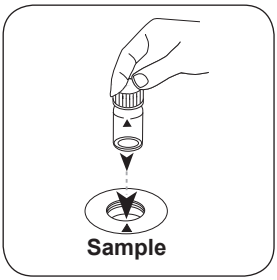
Implementation of the provision Ozone with Tablet

Select the method on the device

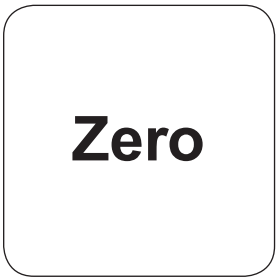
For this method, no ZERO measurements are to be carried out with the following devices: XD 7000, XD 7500

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

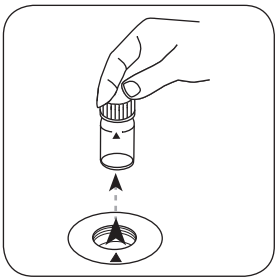
Close vial(s).



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

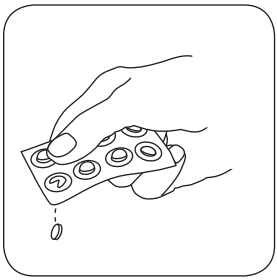


Press the **ZERO** button.

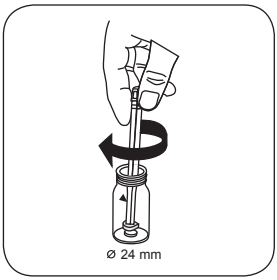


Remove the vial from the sample chamber.

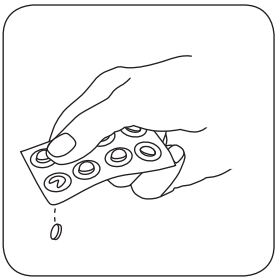
For devices that require **no ZERO measurement** , **start here**.



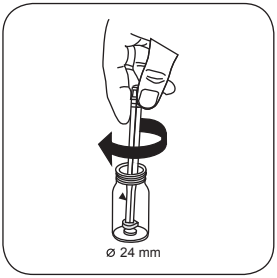
Add **PHENOLE No. 1 tablet**.



Crush tablet(s) by rotating slightly and dissolve.

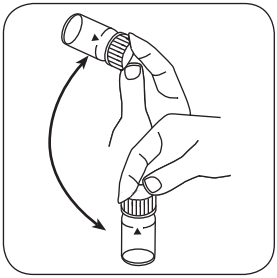


Add **PHENOLE No. 2 tablet**.

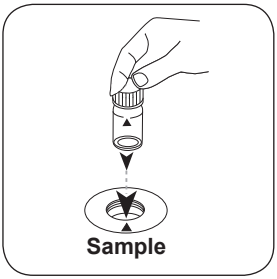


Crush tablet(s) by rotating slightly.

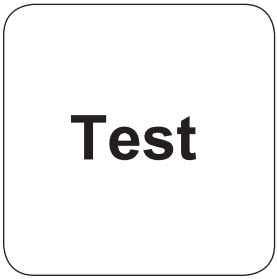
Close vial(s).



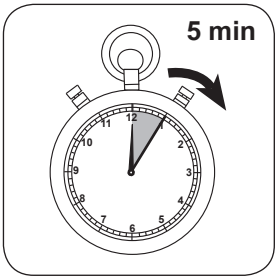
Dissolve tablet(s) by inverting.



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



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



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

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

The result in mg/l Phenole appears on the display.

Chemical Method

4-Aminoantipyrine

Appendix

Interferences

Removeable Interferences

1. Oxidising agents, reducing agents, sulphides, or total suspended solids can cause interference. The water sample is to distilled. (See: Standard Methods for Examination of Water and Wastewater, 20th Edition, 5-40 f.“).

Method Validation

Limit of Detection	0.164 mg/l
Limit of Determination	0.491 mg/l
End of Measuring Range	5 mg/l
Sensitivity	0.159 mg/l
Standard Deviation	0.009 µg

According to

Standard Method 5530
US EPA Method 420.1

[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