**Surfactants M. (cation.) TT****378****0.05 - 1.5 mg/l CTAB****Disulphine 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 600, MD 610, MD 640, MultiDirect, SpectroDirect, XD 7000, XD 7500	ø 16 mm	610 nm	0.05 - 1.5 mg/l CTAB

Material

Required material (partly optional):

Reagents	Packaging Unit	Part Number
Surfactants (cationic) Spectroquant 1.01764.0001 tube test ^{d)}	25 pc.	420765

Application List

- Waste Water Treatment

Preperation

1. Before performing the test read the original test instructions (delivered with the test) and the MSDS (available at www.merckmillipore.com).
2. Appropriate safety precautions and good lab technique should be used during the whole procedure.
3. Because reaction depends on temperature, sample and tube temperature must be between 20 and 25°C.
4. The test sample should have a pH value between 3 and 8.

Notes

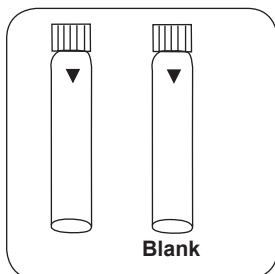
1. This method is adapted from MERCK.
2. Spektroquant® is a registered trade mark of the company MERCK KGaA.
3. Sample volume should always be metered by using volumetric pipette (class A).
4. Triton® is a registered trade mark of the company DOW Chemical Company.
5. CTAB = calculated as N-cetyl-N,N,N-trimethylammonium bromide.
6. Should the lower phase be turbid, warm the cell briefly with the hand.

Implementation of the provision Cationic surfactants with MERCK Spectroquant® Cell Test, No. 1.01764.0001

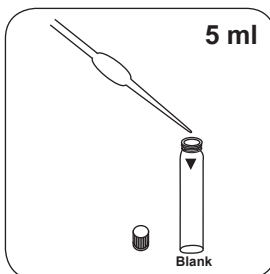
Select the method on the device

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

Skip steps with Blank.



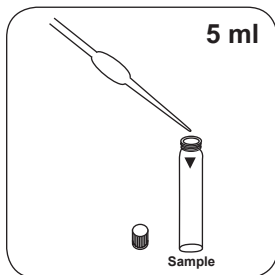
Prepare two **reaction vials**.
Mark one as a blank.



Put **5 ml deionised water**
in the blank.



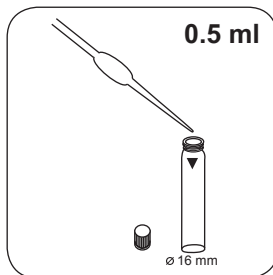
Do not mix the contents



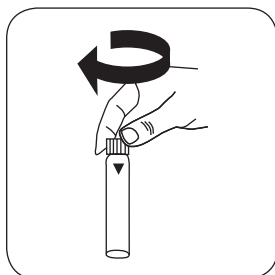
Put **5 ml sample** in the
sample vial.



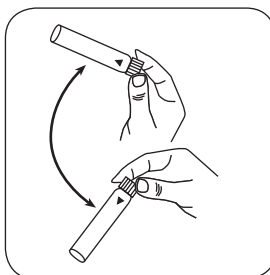
Do not mix the contents



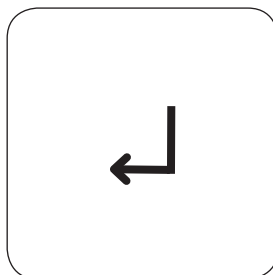
Add **0.5 ml Reagenz T-1 K**.



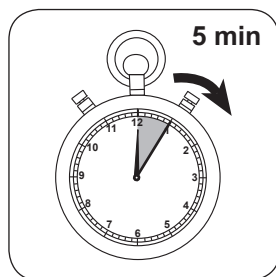
Close vial(s).



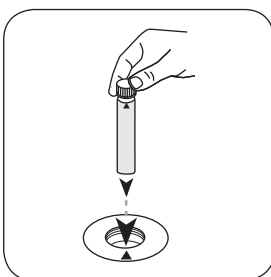
Invert several times to mix
the contents (30 sec.).



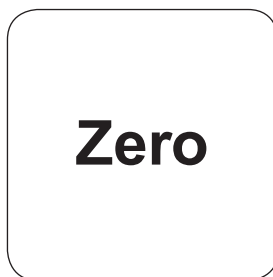
Press the **ENTER** button.



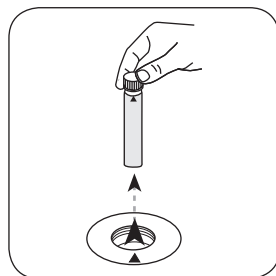
Wait for **5 minute(s) reaction time**.



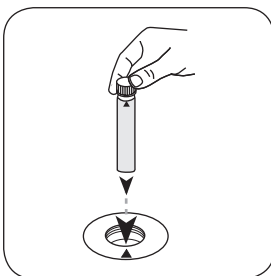
Place **blank** in the sample chamber. • Pay attention to the positioning.



Press the **ZERO** button.



Remove **vial** from the sample chamber.



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



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

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

Chemical Method

Disulphine Blue

Appendix

According to

DIN EN 903:1994

^{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 CaCO₃ | ⁱ⁾ high range by dilution | ^{*} including stirring rod, 10 cm