

REF 918 34

en

Test 1-34

05.15

NANOCOLOR® Cationic Detergents

(cationic surfactants)

Extraction method**Method:**

Photometric determination with bromophenol blue

Cuvette rectangular:	50 mm	20 mm	10 mm
Range (mg/L CTAB):	0.05–3.00	0.1–5.0	0.2–5.0
Factor:	01.51	003.7	007.4
Wavelength (HW = 5–12 nm):	436 nm		
Factor:	01.79	004.4	008.8
Wavelength (HW = 5–12 nm):	445 nm		
Reaction time:	0		
Reaction temperature:	20–25° C		

Contents of reagent set:

200 mL Cationic Detergents R1	3 x 535 mL Cationic Detergents organic phase
10 g Cationic Detergents R2	2 g wadding
1 measuring spoon 85 mm	1 glass funnel 35 m Ø

Hazard warning:

Organic phase contains chloroform 90–100 %.

H302, H315, H319, H332, H336, H351, H361, H373

Harmful if swallowed. Causes skin irritation. Causes serious eye irritation. Harmful if inhaled. May cause drowsiness or dizziness. Suspected of causing cancer. Suspected of damaging fertility or the unborn child. May cause damage to organs through prolonged or repeated exposure.

P201, P202, P261, P264, P280, P301+312, P302+352, P304+340, P305+351+338, P308+313, P330, P332+313, P337+313, P405 Obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Avoid breathing dust/vapors. Wash with water thoroughly after handling. Wear protective gloves/eye protection. IF SWALLOWED: Call a POISON CENTER/doctor/... if you feel unwell. IF ON SKIN: Wash with plenty of water/... IF INHALED: Remove person to fresh air and keep comfortable for breathing. IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. IF exposed or concerned: Get medical advice/attention. Rinse mouth. If skin irritation occurs: Get medical advice/attention. If eye irritation persists: Get medical advice/attention. Store locked up. For further details ask for a safety data sheet.

Interferences:

If the water contains anionic detergents in addition to the cationic ones, equivalent quantities are combined which escape analysis. In order to achieve optimum test results, it is essential that all glassware be thoroughly cleaned before use. The most suitable solvent is alcohol (ethanol).

The method can not be applied for the analysis of sea water.

Procedure:

Requisite accessories: 2 separations funnels 100 mL (REF 916 64), piston pipette with tips
Pour into two separate separations funnels:

Test sample	Blank value
50 mL test sample (the pH value of the sample must be between pH 4 and 7)	50 mL distilled water
2 mL R1, mix	2 mL R1, mix
1 spoon R2, dissolve	1 spoon R2, dissolve
20 mL organic phase	20 mL organic phase
shake for 3 min , allow to separate	shake for 3 min , allow to separate

After phase separation filter each of the lower layers through the funnels with wadding into cuvettes and measure. *Too much wadding produces inaccurate test results.*

Measurement:

For NANOCOLOR® photometers see manual, test 1-34.

Photometers of other manufacturers:

For other photometers verify factor for each type of instrument by measuring standard solutions. The factor depends extremely from wavelength.

Interpretation:

Cationic detergents refer to *N*-cetyl-*N,N,N*-trimethylammoniumbromide (CTAB). To analyse cationic detergents of known composition, the following correction is necessary:

$$\text{Test result} = \text{Measured value} \times \text{EW/CTAB}$$

EW = equivalent weight of substance to be determined

CTAB = equivalent weight of CTAB (= 365)

Disposal:

Organic phase must be collected for waste disposal (chlorinated hydrocarbons). The contents of separation funnels can be washed into drain with plenty of water. Please observe local regulations concerning of waste.