Ti Application Note No. T- 49

Title:	**Cationic surfactants in household cleaner by potentiometric two-phase titration**

***Summary*:**	Determination of cationic surfactants in household cleaner by potentiometric two-phase titration with sodium dodecylsulphate using the Surfactrode Resistant.

Sample:	Household cleaner (containing ethanol and an excess of non-ionic surfactants)

Sample Preparation:	none

Instruments and Accessories:	702, 716, 736 or 751 Titrino or 726 Titroprocessor, 727 Titration Stand, 722 Propeller Rod Stirrer, 6.0507.130 Surfactrode Resistant

Analysis:	Weigh ca. 1 g sample (precision 0.1 mg) into a beaker, then add 10 mL each of ethanol and methyl isobutyl ketone (MIBK), ca. 70 mL dist. water and 10 mL buffer pH = 10.0. Make sure that the stirring speed is high enough to mix the solution thoroughly and form a stable emulsion, then titrate with sodium dodecylsulphate c(NaDDS) = 0.004 mol/L.

Calculation:	RS1: meq cationics / 100 g = EP1 * C01 * C02 / C00 RS2: % cationics = RS1 * C03 EP1 = titrant consumption in mL C00 = ca. 1 (sample mass in g) C01 = 0.004 (concentration of the titrant in mol/L) C02 = 100 (conversion factor) C03 = 0.350 (M(cationic surfactant) / 1000 in g/mol)

Remarks:	Result: AVG(4) = 1.320 +/- 0.01 % cationics