Ti Application Note No. T- 43

Title:	**Bromine index in low-level standards**

***Summary*:**	Determination of the bromine index in low-level standards by bivoltametric titration with bromide/bromate using a double Pt electrode.

Sample:	Two different standard solutions

Sample Preparation:	none

Instruments and Accessories:	702, 716, 736 or 751 Titrino or 726 Titroprocessor, 6.0308.100 double Pt wire electrode, titration vessel with thermostatic jacket, cryostat

Analysis:	Put 100 mL solvent mixture* into the titration vessel and add the sample (the sample size depends on the bromine index). Wait with stirring until the temperature is between 0 ... 5 °C, then titrate with $c(^1/_6\ KBrO_3)$ = 0.02 mol/L (also containing 2.04 g/L KBr) using the MET Ipol mode with a polarisation current of 1 uA. *) Solvent mixture: 714 mL glacial acetic acid + 134 mL 1,1,1-trichloroethane + 134 mL methanol + 18 mL $w(H_2SO_4)$ = 20 %

Calculation:	Bromine index (= mg bromine / 100 g) = (EP1 - C01) * C02 * C03 * C04 / C00 EP1 = titrant consumption for the sample in mL C00 = sample mass in g C01 = titrant consumption for the blank (solvent) in mL C02 = 0.02 (equivalent concentration of the titrant in mol/L) C03 = 7990 (100 * M(Br) in g/mol) C04 = titre of the titrant (determined with cyclohexene)

Remarks:	Results: Sample A: 85.7 mg bromine / 100 g Sample B: 9.5 mg bromine / 100 g