Ti Application Note No. T- 23

Title:	**Hydroxide and carbonate in alkaline plating baths for cadmium, copper, lead or zinc**

***Summary*:**	Determination of hydroxide and carbonate in alkaline plating baths by potentiometric titration with HCl using the combined glass electrode.

Sample:	Alkaline plating baths for cadmium, copper, lead or zinc

Sample Preparation:	none

Instruments and Accessories:	702, 716 or 736 Titrino or 726 Titroprocessor, 6.0219.100 comb. glass electrode

Analysis:	Pour ca. 50 mL dist. water into a beaker, add 2.00 mL sample and 5 mL w($BaCl_2$) = 25 % and titrate with c(HCl) = 1 mol/L.

Calculation:	1 mL c(HCl) = 1 mol/L corresponds to 40.00 mg NaOH 106.00 mg Na_2CO_3 g/L NaOH = EP1 * C01 / C00 g/L Na_2CO_3 = (EP2 - EP1) * C02 / C00 EP1 = titrant consumption in mL to reach the first EP EP2 = titrant consumption in mL to reach the second EP C00 = 2.00 (sample size in mL) C01 = 40 C02 = 106

Remarks:	Stop the titration after the second equivalence point. Alkaline plating baths can contain cyanides, which are very toxic for you and the environment. Therefore work should be performed in a fume hood.