

Ti Application Note No. T- 22

Title: Cyanide in alkaline plating baths for cadmium, copper, lead or zinc

Summary: Determination of cyanide in alkaline plating baths by potentiometric titration with silver nitrate using the Ag Titrode.

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

Sample Preparation: none

Instruments and Accessories: 702, 716 or 736 Titrino or 726 Titroprocessor, 6.0430.100 Ag Titrode with Ag₂S coating

Analysis: Pour ca. 50 mL dist. water into a beaker, add 2 mL c(NaOH) = 2 mol/L and 2.00 mL sample and titrate with c(AgNO₃) = 0.1 mol/L.

Calculation: 1 mL c(AgNO₃) = 0.1 mol/L corresponds to 5.2036 mg CN⁻
13.0232 mg KCN
9.8016 mg NaCN

$$\text{g/L cyanide} = \text{EP1} * \text{C01} / \text{C00}$$

EP1 = titrant consumption in mL
C00 = 2.00 (sample size in mL)
C01 = 5.2036 or 13.0232 or 9.8016 (CN⁻ or KCN or NaCN equivalent in mg/mL, see above)

Remarks: Take care when working with cyanides as they are very toxic for you and the environment.