Ti Application Note No. T- 63

Title:	Citrate in mineral water drinks

***Summary*:**	Determination of citrate in mineral water drinks by potentiometric titration with copper sulphate using the Cu ISE. Prior to the determination the sample is degassed and passed through a cation exchange resin.

Sample:	Mineral water drinks containing citrate or citric acid

Sample Preparation:	Degas the sample in an ultrasonic bath for 5 min (or by applying a vacuum). Fill a glass tube with approx. 20 g strongly acidic cation exchange resin (e.g. Dowex 50 WX8) and rinse with dist. water. Then run 50 mL sample through the column into a beaker and rinse with 10 mL dist. water.

Instruments and Accessories:	702, 716, 736, 751 or 785 Titrino or 726 Titroprocessor, 6.0502.140 Cu ISE, 6.0726.100 Ag/AgCl reference electrode

Analysis:	Add 50 mL methanol and 50 mL borate buffer pH = 9 to the prepared sample solution and titrate with c($CuSO_4$) = 0.05 mol/L.

Calculation:	g/L citrate = EP1 * C01 * C02 / C00 EP1 = titrant consumption in mL C00 = 50 (sample volume in mL) C01 = 0.05 (concentration of the titrant in mol/L) C02 = 189.1 [M(citrate) in g/mol]

Results:	AVG(3) = 1.613 ± 0.003 g/L citrate

Remarks:	Polish the Cu ISE after each titration (e.g. with the 6.2802.000 polishing set).