

ISE Application Note No. I - 6

Title:	Chloride content of water samples
Summary:	Determination of chloride in water by direct potentiometry using the Chloride ISE
Sample:	Different water samples
Sample Preparation:	(see remarks)
Apparatus and Accessories:	692 pH/Ion Meter, 725 Dosimat, 728 Magnetic Stirrer, 6.0502.120 Cl ISE, 6.0726.100 Ag/AgCl reference electrode (outer electrolyte $c(\text{KNO}_3) = 1 \text{ mol/L}$), printer
Reagents:	Chloride standard: 1000 mg/L Cl^- , prepared from NaCl (1.6485 g/L NaCl) TISAB: $c(\text{KNO}_3) = 0.1 \text{ mol/L}$, $c(\text{HAc}) = 0.1 \text{ mol/L}$, $c(\text{NaAc}) = 0.1 \text{ mol/L}$
Analysis:	Pipette 10.0 mL of sample and 10.0 mL TISAB into a beaker. Start the automatic determination by four standard additions using a preselected delta U of 12 mV.
Remarks:	In waste water the determination is disturbed by the presence of cyanide and reducing sulphur compounds (especially sulphides). These samples have to be treated as follows: Per 100 mL sample add sulphuric acid ($\text{pH} = 1.0$) and 0.5 mL H_2O_2 30 %. Warm up and boil for 3 min. Allow to cool. For low concentrations use a 100 mg/L standard. Care has to be taken of any source of chloride which might contaminate your measuring vessel and the TISAB.