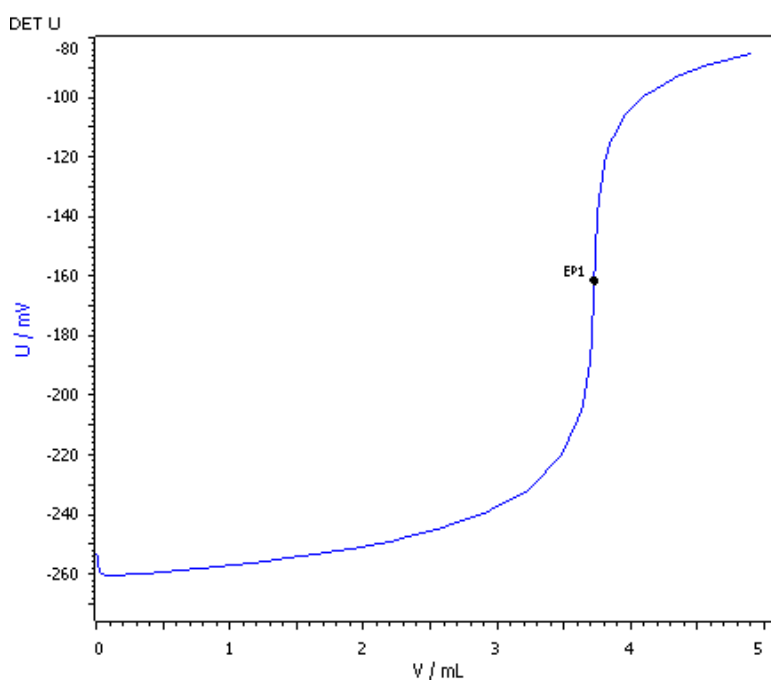


Titration Application Note T-137

Determination of sulfate in sodium sulfate according to Ph.Eur.



Sodium sulfate is determined according to the European Pharmacopeia using the Pb ISE.

Method description

Sample

Sodium sulfate

Sample preparation

The sodium sulfate was dried over night in a drying oven at 105 °C and allowed to cool down in a desiccator for at least 1 h.

Configuration

907 Titrand	2.907.0020
801 Magnetic stirrer	2.801.0040
800 Dosino, 4x	2.800.0010
50 mL Dosing unit, 2x	6.3032.250
10 mL Dosing unit	6.3032.210
2 mL Dosing unit	6.3032.120
Ion-selective electrode Pb	6.0502.170
LL ISE Reference	6.0750.100

Solutions

Titrand	$c(\text{Pb}(\text{NO}_3)_2) = 0.1 \text{ mol/L}$ Approx. 33.1 g $\text{Pb}(\text{NO}_3)_2$ is weighed into a 1 L volumetric flask and dissolved in deion. H_2O . The flask is then filled up to the mark with deion. H_2O .
Solvent	Methanol
Hydrochloric acid	$c(\text{HCl}) = 0.1 \text{ mol/L}$

Analysis

50 mg anhydrous Na_2SO_4 is weighed into a titration beaker and dissolved in 20 mL deionized H_2O and 0.1 mL $c(\text{HCl}) = 0.1 \text{ mol/L}$. After the dissolution 40 mL methanol is added to the titration beaker. The solution is then titrated with $c(\text{Pb}(\text{NO}_3)_2) = 0.1 \text{ mol/L}$ until after the equivalence point.

Parameters

Mode	DET U
Stirring rate	8
Pause	30 s
Signal drift	50 mV/min
Max. waiting time	26 s
Meas. point density	4
Min. increment	10 μL
EP criterion	5
EP recognition	greatest

Results

$w(\text{Na}_2\text{SO}_4) / \%$	$s(\text{rel}), n = 5$
99.63	0.67%