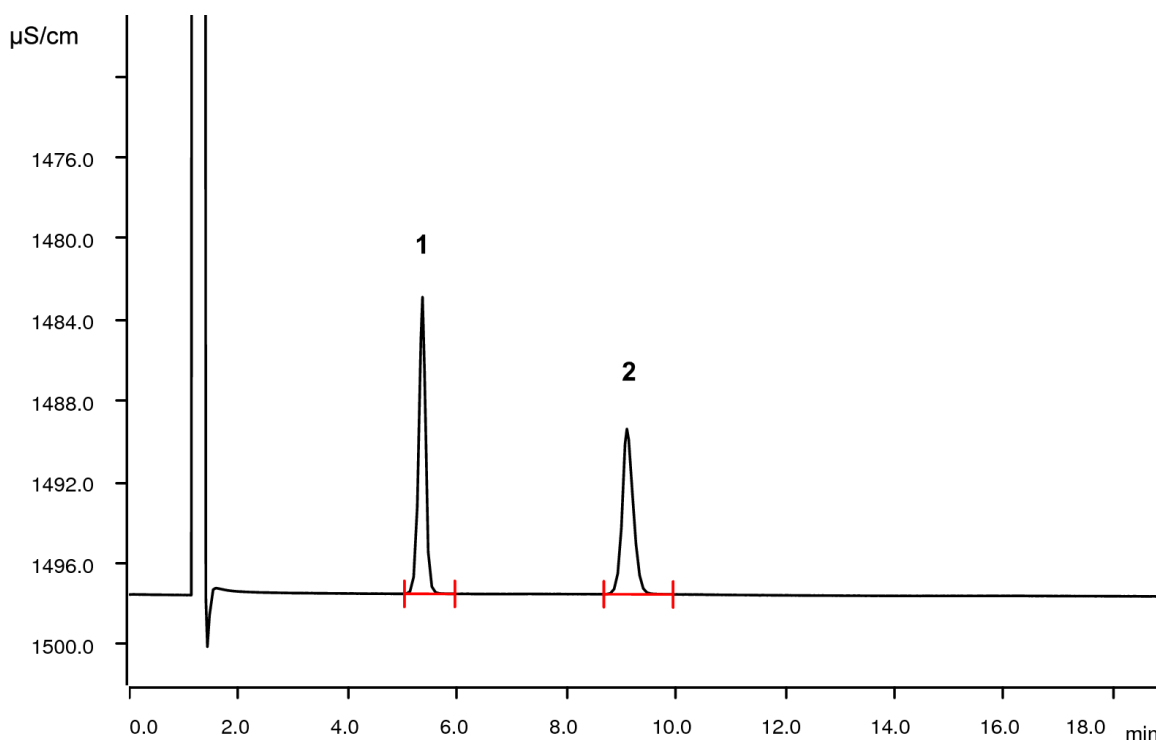# Sodium in potassium sodium tartrate as per USP

Within the scope of the USP monograph modernization, sodium is determined in potassium sodium tartrate applying cation chromatography with direct conductivity detection. The USP41 monograph for «Potassium sodium tartrate» does not yet mention an assay for sodium. The separation is performed on a Metrosep C 6 - 150/4.0 column (L76). The assay of potassium is performed with two commercially available products according to USP definitions. All acceptance criteria are fulfilled. See AN-C-182 for the respective determination of potassium. Apllying this method allows to determine sodium and potassium simultaneously according to USP.

Results

	Cation	Sample weighed in [mg/L]	Conc. measured [mg/L]	RSD [%, N = 2] (NMT = 1.0%)	Recov. [%] (90%...110%)	Tailing (NMT = 2.0)
1	Sodium	8.8	8.9	0.40	100	0.93

2 potassium; not quantified. NMT = not more than

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Sample

Potassium sodium tartrate

Sample preparation

Stock solution: 270.65 mg dissolved in 50 mL ultrapure water.
8.8 mg/L sodium sample solution: dilute 1 mL of stock solution to 50 mL with ultrapure water.

Columns

Metrosep C 6 - 150/4.0	6.1051.420
Metrosep C 6 Guard/4.0	6.1051.500

Solutions

|	
Eluent	4.0 mmol/L nitric acid
Diluent	Ultrapure water (dionized water, NLT resistivity 18 MΩ•cm and less than 20 ppb Total Organic Carbon at 20 °C)
Standard	15.0 mg/L potassium from USP potassium chloride RS in Diluent

Instrumentation

930 Compact IC Flex Oven/Deg	2.930.2160
IC Conductivity Detector	2.850.9010
858 Professional Sample Processor	2.858.0020

Analysis

Direct conductivity detection

Parameters

Flow rate	0.9 mL/min
Injection volume	20 µL
P_{max}	20 MPa
Total recording time	20 min
Column temperature	30 °C
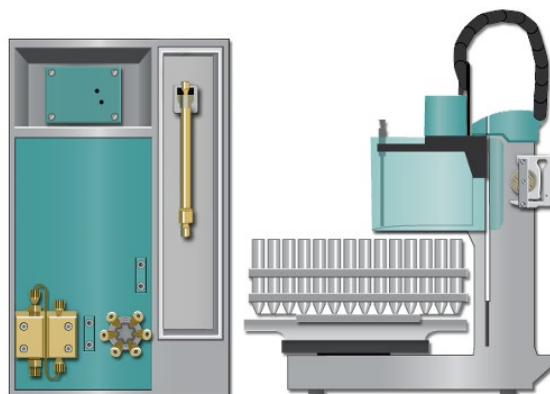
Calibration

	Sodium [mg/L]
Level 1	1.76
Level 2	4.4
Level 3	6.6
Level 4	8.8
Level 5	11.0
Level 6	13.2
Correlation coefficient	0.9999 (NLT = 0.999)

NLT = not less than

Remark

Sodium and potassium in potassium sodium tartrate can be determined simultaneously with this method.

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