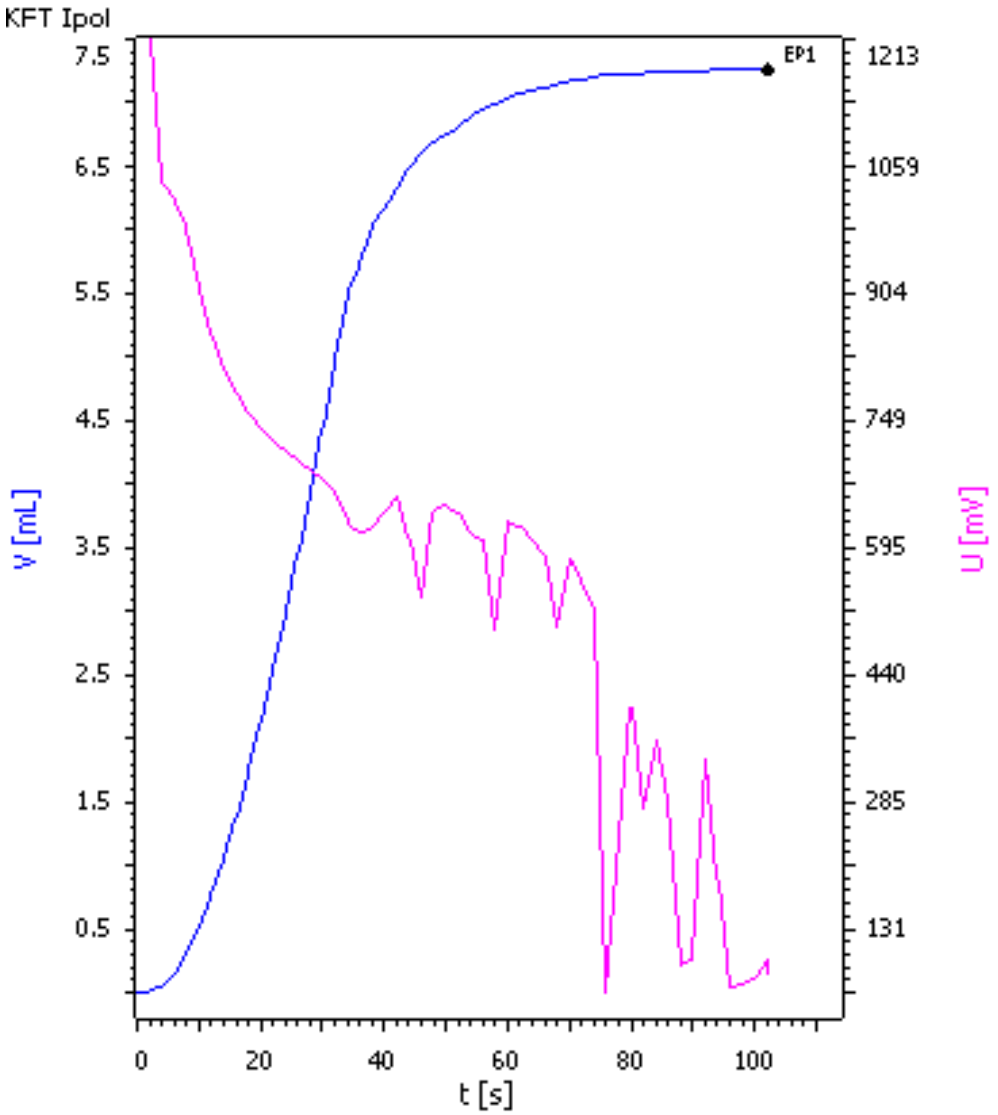
KF Application Note K-52

Determination of the water content in sodium acetate with MATi 10



This Application Note describes the automated determination of the water content in sodium acetate using volumetric Karl Fischer titration (MATi 10).

Metrohm

Method description

Sample

Sodium acetate trihydrate (theoretical water content: 39.72%)

Sample preparation

Between 40 and 80 mg of sample are weighed into the titration beaker. After adding a magnetic stirring bar, the titration beaker is tightly closed with Al-foil and foil holder and placed on the rack of the 814 Robotic Sample Processor.

Electrodes

Double Pt electrode	6.0340.000

Reagents

HYDRANAL®-Composite 5	Fluka 34805
HYDRANAL®-Methanol dry	Fluka 34741
HYDRANAL®-Water Standard 10.0	Fluka 34849

Instrumentation

MATi 10 system

Analysis

System preparation

To prepare the system, a blank value is run and the result discarded.

Blank determination

Three blank values are determined using empty titration beakers and 20 mL of methanol. The mean value is saved as Common Variable and subtracted from the endpoint volumes of all subsequent determinations (titer and sample).

Sample determination

Due to the high water content small sample sizes between approximately 40 and 80 mg are used for the sample determinations. 20 mL of methanol are added and the determination carried out.

Parameters

Except for the calculation, the parameters for all methods are identical.

The following parameters are changed compared to the default values.

Pause 1	8 s
Extraction time	30 s

Results

Blank determination

Mean / [mL] (n = 3)	RSD / [%]
0.183	1.45

Sample determination

Mean / [%] (n = 6)	RSD / [%]
39.83	0.45