

DETERMINATION OF CATIONS IN FEEDSTUFFS, COMPOUND FEEDS, AND FEED RAW MATERIALS

Lumex Method M 04-65-2010

INTRODUCTION

The method¹ is used for the determination of the mass fraction of total inorganic cations (ammonium, potassium, sodium, magnesium, calcium) in **all types of feedstuffs, compound feeds, fodders, premixes, fodder additives, and feed raw materials (of plant, animal, and mineral origin)** by capillary electrophoresis.

MEASUREMENT METHOD

The measurement method is based on capillary zone electrophoresis with indirect UV detection at the wavelength of 254 or 267 nm.

MEASUREMENT RANGE

The measurement range for the components is **0.01–40%** for the sample weight of 100 mg. The determination is not hindered by the presence of other inorganic cations (Ba, Li, Sr, Mn, Fe) in the concentrations that are typical for this type of samples.

EQUIPMENT AND REAGENTS

The CAPEL capillary electrophoresis system is used in measurements. Data acquisition, collection, processing and output are performed using a personal computer running under WINDOWS[®] XP/7/8/10 operating system with installed dedicated software package ELFORUN. Lumex Instruments set, order **No 0300001912**.

EXAMPLES OF REAL ANALYSES

BGE: benzimidazole, with tartaric acid and 18-crown-6

Capillary: $L_{\text{eff}}/L_{\text{tot}}$ 50/60 cm, ID 75 μm

Injection: 150 mbar x sec

Voltage: 25 kV

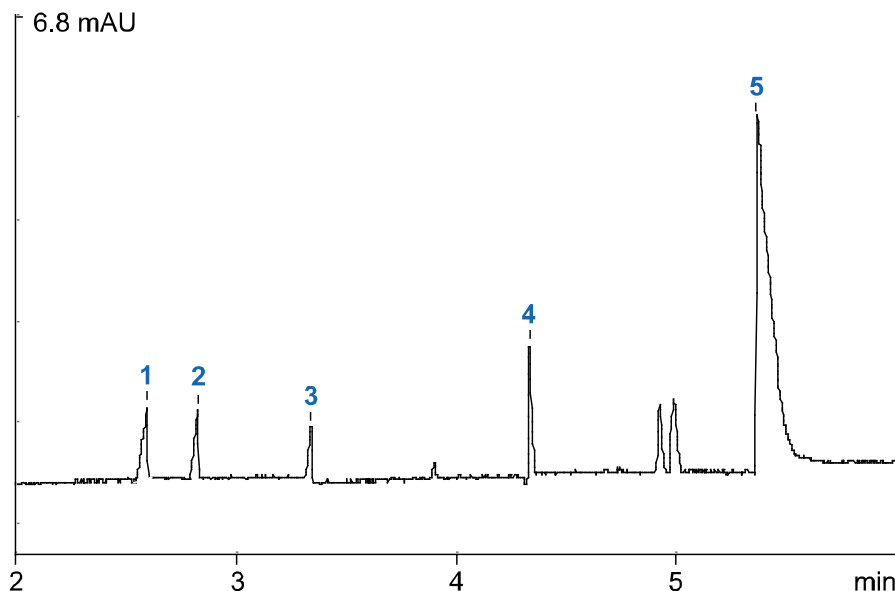
Temperature: + 20 °C

Detection: 267 nm

Sample: compound feed

Measurement results:

- 1 – ammonium (0.41%)
- 2 – potassium (0.56%)
- 3 – sodium (0.16%)
- 4 – magnesium (0.17%)
- 5 – calcium (2.8%)



The contents on this paper are subject to change without notice.

To get more specific information, please contact the representative by sales@lumexinstruments.com

¹ National Standard GOST R 56374-2015.