



## DETERMINATION OF BROMIDE AND IODIDE ANIONS IN WATER SAMPLES

Lumex Method M 01-45 (2009)

### INTRODUCTION

The method allows determination of bromide and iodide ions in **natural**, **potable** (incl. **bottled**), and **mineral water** using capillary electrophoresis (CE) method.

### MEASUREMENT METHOD

Measurement method is based on sample filtration and its subsequent separation in a fused silica capillary under the influence of the applied electric field. Identification and quantification of bromide and iodide ions is performed by registering their intrinsic absorbance at 200 nm wavelength.

### MEASUREMENT RANGE

Measurement ranges of the analyzed anions in the samples are:

for **bromide** ions **0.05–100 mg/L**,

for **iodide** ions **0.1–100 mg/L**.

Chloride ions with mass concentration ratio 4000:1 do not influence determination of bromide ions.

### EQUIPMENT AND REAGENTS

The CAPEL<sup>®</sup> capillary electrophoresis system is used in measurements. Data acquisition, collection, processing and output are performed using a personal computer running under WINDOWS<sup>®</sup> XP/7/8 operating system with installed dedicated software package ELFORUN<sup>®</sup>. All reagents must be of analytical grade or better.

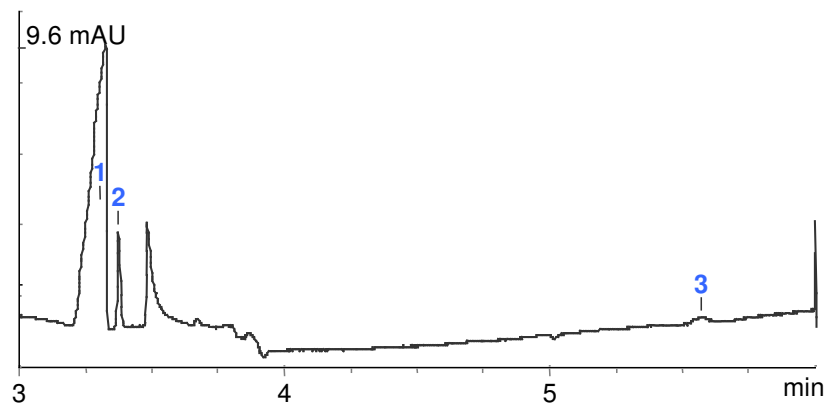
### EXAMPLE OF A REAL ANALYSIS

**BGE:** sulfate, with CTA-OH  
**Capillary:**  $L_{\text{eff}}/L_{\text{tot}}$  50/60 cm, ID 75  $\mu\text{m}$   
**Injection:** 600 mbar x sec  
**Voltage:** – 20 kV  
**Temperature:** +20 °C  
**Detection:** 200 nm, indirect

**Sample:** "Matzesta" mineral water (dilution 1:100)

#### Measurement results:

- 1** – chloride
- 2** – bromide (59 mg/L)
- 3** – iodide (7.5 mg/L)



The information in this leaflet is supplemental. To get more specific, please contact the manufacturer of CAPEL<sup>®</sup> CE systems LUMEX INSTRUMENTS Group.

#### NORTH AMERICA

Lumex Instruments Canada 0890278  
 B.C. Ltd.  
 E-mail: eaa@lumexinstruments.com  
 www.lumexinstruments.com

#### EUROPE

Lumex Analytics GmbH  
 E-mail: info@lumexanalytics.de  
 www.lumexanalytics.de

#### RUSSIA

Lumex-Marketing LLC  
 E-mail: sales@lumex.ru  
 www.lumexinstruments.com

#### CHINA

Beijing Lumex Analytical  
 Equipment Co. Ltd.  
 E-mail: lumex@lumex.com.cn  
 www.lumexcn.com