



## DETERMINATION OF ACETIC ACID (ACETATE ANIONS) IN NATURAL, DRINKING, AND WASTE WATER

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### INTRODUCTION

The method is used for the determination of acetic acid (as acetate ions) in the samples of **natural water**, **drinking water**, and **waste water** by capillary electrophoresis.

### MEASUREMENT METHOD

The method is based on the sample filtration and dilution and its subsequent analysis by capillary electrophoresis with indirect anions detection at 266 nm.

### MEASUREMENT RANGE

Measurement range of the acetic acid (acetate anions) in the samples is **0.01–10000 mg/L**.

The upper bound of the measurement range is indicated allowing for the dilution.

Carbonates and other inorganic anions at concentrations characteristic for these sample types do not hamper determination of the acetic acid within the 0.1–10000 mg/L range. For the analyses of samples with low acetic acid content (lower than 0.1 mg/L) the total content of basic inorganic anions (chlorides, sulfates, and carbonates) in the sample should not be higher than 300 mg/L.

### 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. All reagents must be of analytical grade or better.

### EXAMPLE OF A REAL ANALYSIS

**BGE:** PABA, with DEA and CTA-OH

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

**Injection:** 300 mbar x sec

**Voltage:** – 25 kV

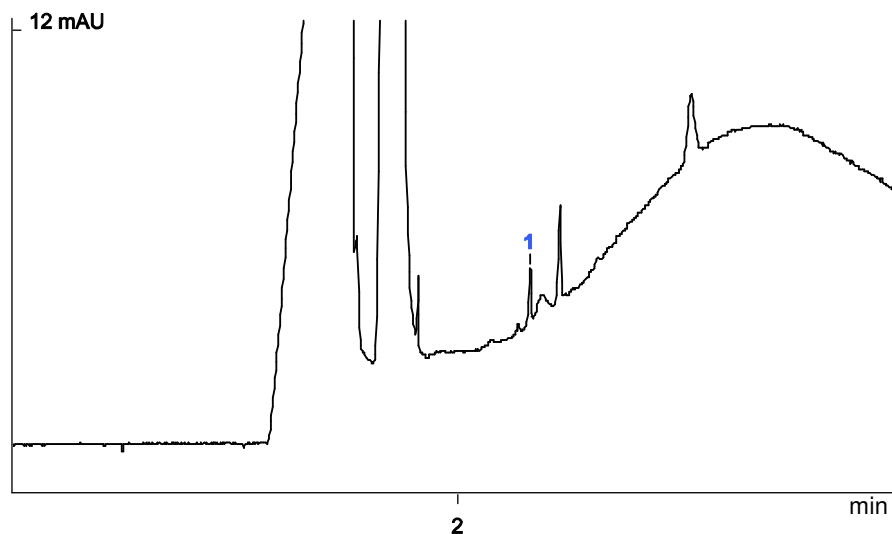
**Temperature:** 20 °C

**Detection:** 266 nm, indirect

**Sample:** waste water (dilution 1:1)

**Measurement results:**

**1** – acetate (0.4 mg/L)



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