Determination of Potential Chloride and Sulfate in Denatured Ethanol Samples Using a Compact Ion Chromatography System

Terri Christison and Jeff Rohrer, Thermo Fisher Scientific, Sunnyvale, CA, USA

Key Words

HPIC, Integrion, Dionex IonPac AS22 Column, Dionex AS22 Eluent Concentrate, Dionex AERS 500 Suppressor, Biofuel

Introduction

This application proof note demonstrates the direct determination of potential chloride and sulfate in a peroxide-treated denatured ethanol sample, as based on the method published in Application Update 194.[1] In this proof note, the method is performed using a Thermo Scientific™ Dionex™ Integrion™ HPIC™ system.

Method

IC System:	Thermo Scientific Dionex Integrion HPIC system
Columns:	Thermo Scientific™ Dionex™ IonPac™ AS22 Analytical (4 × 250 mm) Thermo Scientific Dionex IonPac AG22 Guard (4 × 50 mm)
Eluent:	4.5 mM Sodium Carbonate/1.4 mM Bicarbonate
Flow Rate:	1.2 mL/min
Injection Volume:	25 µL
Temperature:	30 °C
Detection:	Suppressed conductivity, Thermo Scientific™ Dionex™ AERS™ 500 Carbonate Suppressor, 4 mm, 40 mA, recycle mode

Reference

1. Thermo Scientific Application Note 194: Determination of Existent and Potential Sulfate and Total Inorganic Chloride in Denatured Ethanol by Direct Injection Using an RFIC System, Sunnyvale, CA [Online] http://www.thermoscientific.com/content/dam/tfs/ATG/CMD/CMD%20Documents/Application%20&%20Technical%20Notes/Chromatography/Ion%20Chromatography/IC%20and%20RFIC%20Columns/AU-194-IC-Sulfate-Chloride-Denatured-Ethanol-AN71058-EN.pdf (accessed Jan. 14, 2016)

For application support, visit the AppsLab Library where you can find detailed method information, chromatograms and related compound information. All the information needed to run, process and report the analysis is available in ready-to-use eWorkflows, which can be executed directly in your chromatography data system. www.thermoscientific.com/appslab

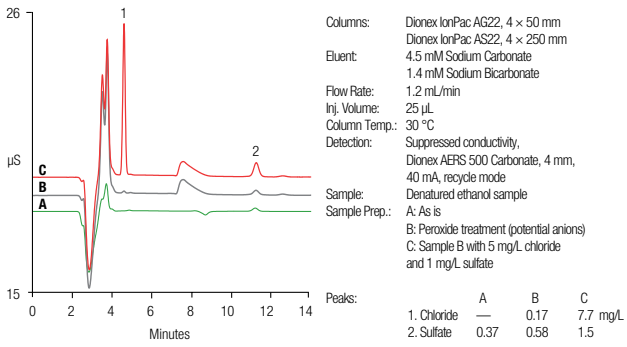

Figure 1. Separation of chloride and sulfate in denatured ethanol samples: A) Denatured reagent ethanol, B) Denatured ethanol sample, C) Sample B with 5 mg/L chloride and 1 mg/L sulfate.

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