

# 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, Integriion, 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](#).<sup>1</sup> In this proof note, the method is performed using a Thermo Scientific™ Dionex™ Integriion™ HPIC™ system.

## Method

IC System:	Thermo Scientific Dionex Integriion 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)

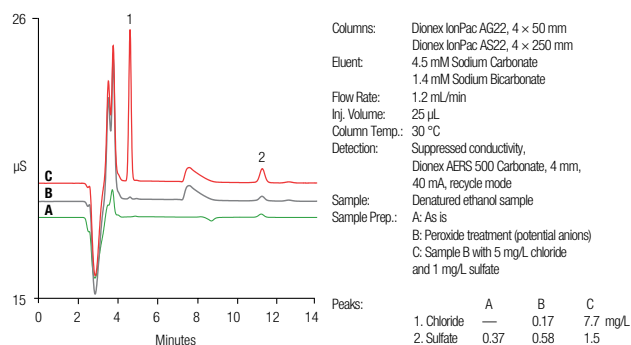


Figure 1. Separation of chloride and sulfate in denatured ethanol samples: A) Denatured reagent ethanol, B) Denatured ethanol sample, C) Sample B with 5 mg/L chloride and 1 mg/L sulfate.

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](http://www.thermoscientific.com/appslab)



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