

Determination of Trace Concentrations of Oxyhalides and Bromide in Municipal and Bottled Waters Using a Compact Ion Chromatography System

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Key Words

Dionex Integrion RFIC System, Dionex IonPac AS19 Column, Dionex EGC 500 KOH Eluent Generator, Drinking Water, Chlorite, Bromate, Chlorate

Introduction

This application proof note demonstrates an efficient and sensitive approach for determining trace concentrations of disinfection byproduct (DBP) anions and bromide in municipal and bottled water samples. This work is based on the method published in Application Note 167, which uses IC with a hydroxide-selective Thermo Scientific™ Dionex™ IonPac™ AS19 column and electrolytic eluent generation.¹ In this proof note, the method is performed using a Thermo Scientific™ Dionex™ Integrion™ RFIC system, which provides the latest in IC technology.

Method

IC System:	Thermo Scientific Dionex Integrion RFIC system		
Columns:	Thermo Scientific Dionex IonPac AS19 Analytical (4 × 250 mm) Thermo Scientific Dionex IonPac AG19 Guard (4 × 50 mm)		
Eluent:	?? KOH		
Gradient:	Retention Time [min]	Flow [mL/min]	Concentration [mM]
	-3.0	1.0	10
	0.0	1.0	10
	10.0	1.0	10
	25.0	1.0	45
	30.0	1.0	45
Flow Rate:	1 mL/min		
Injection Volume:	250 µL		
Temperature:	30 °C		
Detection:	Suppressed conductivity, Thermo Scientific™ Dionex™ AERS™ 500 (4 mm) suppressor, recycle mode		

Reference

1. Thermo Scientific Application Note 167: Determination of Trace Concentrations of Oxyhalides and Bromide in Municipal and Bottled Waters Using a Hydroxide-Selective Column with a Reagent-Free™ Ion Chromatography 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/AN-167-Oxyhalides-Bromide-Municipal-Bottled-Waters-Hydroxide-Selective-Column-RFIC-AN70410-EN.pdf> (accessed Jan. 8, 2016)

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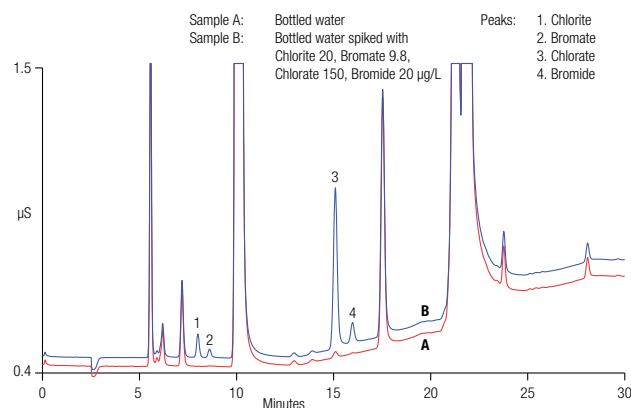


Figure 1. Chlorite, bromate, chlorate, and bromide in bottled water samples.

For application support, visit the [AppsLab Library](http://www.thermoscientific.com/appslib) 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/appslib



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