

# Determination of Perchlorate in Drinking Water Using a Compact Ion Chromatography System

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## Key Words

Dionex Integrion RFIC System, Dionex IonPac AS18 Column, Dionex EGC 500 KOH Eluent Generator, Drinking Water, Fluoride, Chloride, Sulfate

## Introduction

This application proof note demonstrates a method for the determination of perchlorate in environmental water samples, according to U.S. EPA Method 314.0, based on the approved method published in Application Update 148.<sup>1</sup> In this proof note, the method is performed using a Thermo Scientific™ Dionex™ Integrion™ RFIC system with a 4 mm Thermo Scientific™ Dionex™ IonPac AS16 column, eluent generation to produce the KOH eluent, a 1000 µL injection, and suppressed conductivity detection to determine single-digit parts-per-billion concentrations of perchlorate in drinking water.

## Method

IC System:	Thermo Scientific Dionex Integrion RFIC system
Columns:	Thermo Scientific Dionex IonPac AS16 Analytical (4 × 250 mm) Thermo Scientific Dionex IonPac AG16 Guard (4 × 50 mm)
Eluent:	50 mM KOH
Flow Rate:	1.2 mL/min
Injection Volume:	1000 µL
Temperature:	30 °C
Detection:	Suppressed conductivity, Thermo Scientific™ Dionex™ AERS™ 500 (4 mm) suppressor, external water mode

## Reference

1. Thermo Scientific Application Update 148: Determination of Perchlorate in Drinking Water Using a Reagent-Free Ion Chromatography System, Sunnyvale, CA [Online] <https://www.thermoscientific.com/content/dam/tfs/ATG/CMD/cmd-documents/sci-res/app/chrom/ic/col/AU-148-IC-Perchlorate-Drinking-Water-AU71713-EN.pdf> (accessed Jan. 8, 2016)

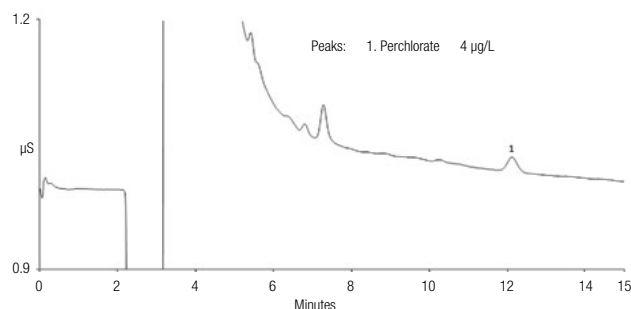


Figure 1. Determination of 4 µg/L perchlorate in Sunnyvale drinking water.

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



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