

# Sensitive Determination of Hexavalent Chromium in Drinking Water Using a Compact Ion Chromatography System

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## Key Words

Integrion, IonPac AS7, Ion Chromatography, Drinking Water, Hexavalent Chromium

## Introduction

This application proof note demonstrates that the method outlined in Thermo Scientific Application Update 179 can be run successfully using a Thermo Scientific™ Dionex™ Integrion HPIC system. Application Update 179 describes modification of the conditions described in U.S. EPA Method 218.6, including use of a 2 mm column format and a smaller reaction coil, to increase method sensitivity. The modified method, which is now U.S. EPA Method 218.7, uses a Thermo Scientific™ Dionex™ IonPac™ AS7 column (2 × 250 mm), a 1000 µL injection volume, and postcolumn reaction (using a 125 µL reaction coil) followed by visible absorbance detection at 530 nm.

## Method

IC System:	Thermo Scientific Dionex Integrion HPIC system
Columns:	Thermo Scientific Dionex IonPac AS7 Analytical (2 × 250 mm) Thermo Scientific Dionex IonPac AG7 Guard (2 × 50 mm)
Eluent:	250 mM ammonium sulfate and 100 mM ammonium hydroxide
Flow Rate:	0.36 mL/min
Injection Volume:	1000 µL (full loop)
Temperature:	30 °C
Detection:	Visible absorbance, 530 nm

## Reference

1. Thermo Scientific Application Update 179: Sensitive Determination of Hexavalent Chromium in Drinking Water. Sunnyvale, CA [Online] <http://www.thermoscientific.com/content/dam/tfs/ATG/CMD/CMD%20Documents/Application%20&%20Technical%20Notes/Chromatography/GC%20HPLC%20and%20UHPLC%20Columns%20and%20Accessories/Chromatography%20Column%20Accessories/AU-179-Sensitive-Determination-Hexavalent-Chromium-Drinking-Water-AU70415-EN.pdf> (accessed Feb. 15, 2016)

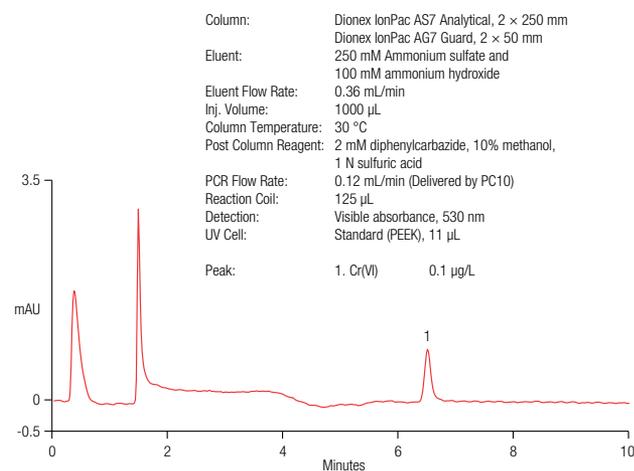


Figure 1. Determination of Cr(VI) in HIW using a Dionex Integrion HPIC system.

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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