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

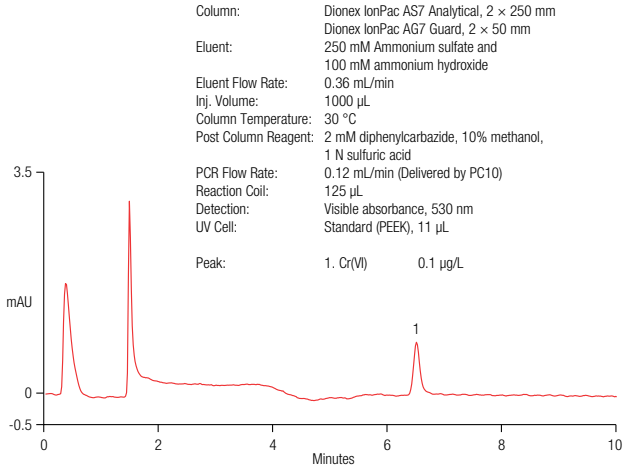

Figure 1. Determination of Cr(VI) in HIW using a Dionex Integrion HPIC system.

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)

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

www.thermoscientific.com/integrion

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