

## **Deuterated Monitoring Compounds for Better Accuracy and Precision Measurement of GC/MS Environmental Data**

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### **ABSTRACT**

The use of surrogate compounds to measure method performance in Gas Chromatography/Mass Spectroscopy (GC/MS) methods for environmental monitoring is not a new practice. All EPA-approved methods require the use of three to six compounds; however only a few are deuterated analogs of target analytes. Deuterated analogs are more representative of target analytes, thereby providing more information regarding matrix effects while measuring the accuracy and precision. Since 2001, the EPA's Office of Superfund Remediation and Technology Innovation's Contract Laboratory Program (CLP) has required laboratories to add over a dozen deuterated monitoring compounds (DMCs) to each sample, all analogs of target analytes. Developed to improve data quality used in decision-making processes, this approach ultimately reduced the cost to the Superfund Program. This presentation will show, with thousands of data points, how incorporating more DMCs into EPA-approved GC/MS methods has improved data quality and provided cost savings to the Agency, and how it may benefit the entire analytical chemistry community.