Compound-Specific Stable Isotope Ratio Analysis of Explosives

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CONTEXT


BACKGROUND


For Additional Information

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OBJECTIVE

• Difficult to analyze munitions by CSIA
• Relatively large quantities of analyte mass required for analysis
• Requires separation of multiple samples for some compounds
• Currently, difficult to analyze munitions by CSIS

METHOD DEVELOPMENT

- Compound-Specific Stable Isotope Ratio Analysis of Explosives
- Gas Chromatography - Combustion - Isotope Ratio Mass Spectrometry (GC-IRMS)
- Preconcentration factor: 2.4
- Temperature ramp: 100°C - 500°C
- Elution with 5 ml of AcN; 0.32mm x 1000X; 150°C

RESULTS

Preliminary Results

<table>
<thead>
<tr>
<th>Compound</th>
<th>Method</th>
<th>LOQ [ug/L]</th>
<th>LOD [ug/L]</th>
<th>Recovery [%]</th>
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<tr>
<td>RDX</td>
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<td>0.6</td>
<td>24</td>
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<tr>
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References
