Abstract

AOAC initiated a call for methods (CFM) for the determination heavy metals in food using Inductively Coupled Plasma Mass Spectrometry (ICP-MS). The ICP-MS technique has been validated for the determination of heavy metals in food, suitable for both the 60 - 115% Repeatability and Reproducibility (SMPR) method. In this study, the authors compared the results of the ICP-MS method with those of the AOAC’s reference method. The results were then used to assess the method’s performance and to provide recommendations for future studies.

Quality Control Protocols Table

<table>
<thead>
<tr>
<th>Element</th>
<th>Mean Spike Recovery (n=4)</th>
<th>Mean (n=3)</th>
<th>Repeatability Study Mean (n=3)</th>
<th>Method Accuracy</th>
</tr>
</thead>
<tbody>
<tr>
<td>Arsenic</td>
<td>95%</td>
<td>81%</td>
<td>85%</td>
<td></td>
</tr>
<tr>
<td>Cadmium</td>
<td>88%</td>
<td>81%</td>
<td>85%</td>
<td></td>
</tr>
<tr>
<td>Mercury</td>
<td>67%</td>
<td>100%</td>
<td>11</td>
<td></td>
</tr>
</tbody>
</table>

Method Performance

The authors compared the results of the ICP-MS method with those of the AOAC’s reference method. The results were then used to assess the method’s performance and to provide recommendations for future studies.

Matrix Specific Repeatability, Reproducibility, and Recovery Studies

To determine the method’s accuracy in clinical laboratory practice, ICP-MS was performed on samples purchased from a local grocery store.

Challenges to Achieving SMPR

In this study, the authors compared the results of the ICP-MS method with those of the AOAC’s reference method. The results were then used to assess the method’s performance and to provide recommendations for future studies.

Methodology

In this study, the authors compared the results of the ICP-MS method with those of the AOAC’s reference method. The results were then used to assess the method’s performance and to provide recommendations for future studies.

Conclusion

In this study, the authors compared the results of the ICP-MS method with those of the AOAC’s reference method. The results were then used to assess the method’s performance and to provide recommendations for future studies.