



Premier Analytical Services (PAS) is delighted to have recently received UKAS ISO 17025 accreditation for its new inorganic arsenic testing service.

The testing is performed using HPLC coupled with ICP-MS to give quantification of inorganic arsenic species down to 0.01mg/kg. This new service is launched just as EFSA has published its latest update on its risk assessment of inorganic arsenic in food, which highlights the adverse effects on human health including cancer.

For advice about your testing requirements for Elements, Nutrition, Food Chemistry and Contaminants please contact us for an introductory call or a quote.

For any further queries please visit our website at paslabs.co.uk or contact Warren Jackson at warren.jackson@premierfoods.co.uk or paslabs@premierfoods.co.uk



METHOD SUMMARY:

**Determination of Inorganic Arsenic by
HPLC - Inductively Coupled Plasma - Mass Spectrometry**

TEST METHOD NUMBER: C-TM-314

DATE: February 2024

Premier Analytical Services uses the UKAS accredited method C-TM-314 for the Determination of Inorganic Arsenic by HPLC- Inductively Coupled Plasma – Mass Spectrometry (HPLC-ICP-MS) in food products.

Samples are extracted in dilute nitric acid. The dissolved inorganic arsenic compounds are then separated from the sample matrix by HPLC before being measured on the connected Inductively Coupled Plasma – Mass Spectrometry (ICP-MS). The concentrations are compared to analytical standards of both arsenic III and arsenic V and the results reported of both oxidation states and the total inorganic arsenic.

PERFORMANCE CRITERIA

Analysis

All analyses are carried out using validated methods which meet strict performance criteria and are valid for the analysis of arsenic III, arsenic V and total inorganic arsenic in Foods, and for Infant Formula.

Recovery

All analyses are conducted with a control IQC sample.

Limit of Detection

The Limits of detection are as follows -

- Arsenic III (Arsenite) LOD 0.002 mg/kg; LOQ 0.01 mg/kg
- Arsenic V (Arsenate) LOD 0.002 mg/kg; LOQ 0.01 mg/kg
- Total Inorganic Arsenic LOD 0.002 mg/kg; LOQ 0.01 mg/kg

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