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Nestlé Quality Assurance Center
Dublin

Technical Datasheet

Analysis Name: Trace Elements Analysis by ICP-MS

Method Number: LI-00.848

Scope of Application: This method describes the determination of aluminum, arsenic, cadmium, chromium, cobalt, lead, nickel, mercury, molybdenum, selenium, and tin analysis by ICP-MS in foods, beverages (finished, concentrates, and powders), health products, gummy-based vitamins, pet foods, and raw materials such as premixes, food grade oils, salts, and tastemakers.

Description: Test portion is heated at 200°C with nitric acid in a closed vessel microwave digestion system. Digested samples are ionized through inductively coupled argon plasma.

The ions are extracted from the plasma, separated in the mass spectrometer, and determined using a Dual Stage SEM/Analog detector system.

Sample Weight Required: 25 g

Method Reference: EN 13805:2013 Pressure digestion
EN 15763:2009 Determination of As, Cd, Hg and Pb in foodstuffs by ICP-MS after pressure digestion
EN 15765:2009 Determination of Sn by ICP-MS after pressure digestion
AOAC 2011.19 Cr, Se, and Mo in Infant Formula and Adult Nutritional Products

Analytical Platform: ICP-MS

Special Information: Supplement and Raw Material sample submissions must include either a Certificate of Analysis, or an ingredient list with estimated target levels for all elements encompassed by the screen.



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If certain components are at levels above our calibrated curve range, it may be necessary to raise the limit of quantitation for other analytes to accommodate the elevated levels. (This protects the instrumentation from contamination.)

Supplement and Raw Material samples lacking the above documentation, will be tested at our standard dilution levels, and may result in delays or additional charges.

When submitting specifications, ensure that appropriate units are included (for instance: mg/kg, ppm, etc.).

Analyte Reported	Alias	Unit of Measure	Limit of Quantification				
			Baby Foods* & RTD Beverages	Juice & Beverage Concentrates	Powdered & Dried Foods	Fats, Oils, & Volatiles	Premixes, Supplements, Raw Materials
Aluminum	Al	mg/kg	0.05	0.1	0.2	0.4	2
Arsenic	As	µg/kg	1	2	4	8	40
Cadmium	Cd	µg/kg	1	2	4	8	40
Chromium	Cr	µg/100 g	1	2	4	8	40
Lead	Pb	µg/kg	1	2	4	8	40
Mercury	Hg	µg/kg	1	1	2	4	20
Molybdenum	Mo	µg/100 g	1	2	4	8	40
Nickel	Ni	µg/kg	50	100	200	400	2000
Selenium	Se	µg/100 g	1	2	4	8	40
Tin	Sn	µg/kg	50	100	200	400	2000
Method Reproducibility : 35% for all analytes							

*Baby Foods refer to Liquid and Powdered Infant Formula, Infant Cereal, and Pureed Baby Foods.