



NQAC

Nestlé Quality Assurance Center
Dublin

Technical Datasheet

Analysis Name: Nine Nutritional Minerals by ICP-OES

Method Number: OM-AOAC-2011.14

Scope of Application: This method describes the determination of calcium, copper, iron, potassium, magnesium, manganese, sodium, phosphorus, and zinc by ICP-OES in foods, beverages (finished, concentrates, and powders), health products, pet foods, raw materials such as premixes, food grade oils, salts, and tastemakers, and gummy-based vitamins. The method is not suitable for the analysis of silicates or soil samples.

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 and the element emission rays' position and intensity are measured.

Sample Weight Required: 25 g

Method Reference: AOAC 2011.14 Ca, Cu, Fe, Mg, Mn, K, P, Na, and Zn in Fortified Food Products

Analytical Platform: ICP-OES

Special Information: Indicate each element required. Include Certificate of Analysis or estimated levels for premix samples. Sodium is required to complete salt as sodium testing. QLs are dependent on matrix and potential interferences.

Analyte Reported	Alias	Unit of Measure	Limit of Quantification				Reproducibility
			Beverages	Foods	Powders	Fats & Volatiles	
Calcium	Ca	mg/100 g	4	8	15	30	15%
Copper	Cu	mg/100 g	0.05	0.1	0.2	0.4	15%
Iron	Fe	mg/100 g	0.3	0.5	1	2	15%
Magnesium	Mg	mg/100 g	2	3	5	10	15%
Manganese	Mn	mg/100 g	0.002	0.003	0.005	0.01	15%
Phosphorus	P	mg/100 g	3	5	10	20	15%
Potassium	K	mg/100 g	5	10	20	40	15%
Sodium	Na	mg/100 g	1	2	4	8	15%
Zinc	Zn	mg/100 g	0.1	0.3	0.5	1	15%
Salt as Sodium		%	0.01				15%