



Certificate of Analysis.

Multi-element ICP Standard 23 elements in Dilute Nitric acid 1000 ppm each (Ag, Al, B, Ba, Bi, Ca, Cd, Co, Cr, Cu, Fe, Ga, In, K, Li, Mg, Mn, Na, Ni, Pb, Sr, Ti, Zn).

Product Code:	BS13658.
Description:	Multi-element ICP Standard 23 elements in Dilute Nitric acid 1000 ppm each (Ag, Al, B, Ba, Bi, Ca, Cd, Co, Cr, Cu, Fe, Ga, In, K, Li, Mg, Mn, Na, Ni, Pb, Sr, Ti, Zn).
Chemical Name:	NA.
Pack Size:	100 ml.
CAS NO.:	NA.
Mol. Weight:	NA.
Mol. Formula:	NA.
Solubility:	Miscible in water.
Accuracy:	± 5%.
Storage:	Store at ambient temperature.
LOT NO.:	Sample.
Manufacture Date:	Lot specific.
Expiry Date:	2 years.

Characteristics	Specification	Measured Values
Appearance:	Liquid.	Lot specific.
Odour:	Odourless.	Lot specific.
Silver (Ag) 1000 ppm:	950 - 1,050 ppm.	Lot specific.
Aluminium (Al) 1000 ppm:	950 - 1,050 ppm.	Lot specific.
Boron (B) 1000 ppm:	950 - 1,050 ppm.	Lot specific.
Barium (Ba) 1000 ppm:	950 - 1,050 ppm.	Lot specific.
Bismuth (Bi) 1000 ppm:	950 - 1,050 ppm.	Lot specific.
Calcium (Ca) 1000 ppm:	950 - 1,050 ppm.	Lot specific.
Cadmium (Cd) 1000 ppm:	950 - 1,050 ppm.	Lot specific.
Cobalt (Co) 1000 ppm:	950 - 1,050 ppm.	Lot specific.
Chromium (Cr) 1000 ppm:	950 - 1,050 ppm.	Lot specific.
Copper (Cu) 1000 ppm:	950 - 1,050 ppm.	Lot specific.
Iron (Fe) 1000 ppm:	950 - 1,050 ppm.	Lot specific.
Gallium (Ga) 1000 ppm:	950 - 1,050 ppm.	Lot specific.



Indium (In) 1000 ppm:	950 - 1,050 ppm.	Lot specific.
Potassium (K)1000 ppm:	950 - 1,050 ppm.	Lot specific.
Lithium (Li) 1000 ppm:	950 - 1,050 ppm.	Lot specific.
Magnesium (Mg) 1000 ppm:	950 - 1,050 ppm.	Lot specific.
Manganese (Mn) 1000 ppm:	950 - 1,050 ppm.	Lot specific.
Sodium (Na) 1000 ppm:	950 - 1,050 ppm.	Lot specific.
Nickel (Ni) 1000 ppm:	950 - 1,050 ppm.	Lot specific.
Lead (Pb) 1000 ppm:	950 - 1,050 ppm.	Lot specific.
Strontium (Sr) 1000 ppm:	950 - 1,050 ppm.	Lot specific.
Thallium (Tl) 1000 ppm:	950 - 1,050 ppm.	Lot specific.
Zinc (Zn) 1000 ppm:	950 - 1,050 ppm.	Lot specific.

Note: - This material is only for laboratory purpose and not for human consumption.

Certification & Traceability:

This product was manufactured, processed and/or certified under a quality management system that is accredited **ISO 17034:2016 and ISO/IEC 17025:2017**. This product was prepared to the certified concentrations shown above by gravimetric methods and analysed using “High Performance ICP-OES” protocol developed by NIST and are directly traceable to **NIST SRMs**.

The solution was diluted with filtered (0.22 µm), 18 M-ohm deionized water and stabilized with the appropriate high-purity acid as indicated in the matrix. The balances used in the preparation of this CRM are calibrated regularly, using a calibration provider that is accredited to **ISO/IEC 17025**. All standard components used in the manufacture of this product are pre-qualified and verified before use. All volumetric dilutions are performed in Class A calibrated glassware.

Tests were performed for capacity, readability, repeatability and linearity. Secondary verification of the certified concentrations was performed using ICP-OES that was calibrated and/or referenced against **NIST SRMs**. This product is manufactured, packaged, stored, and shipped in accordance with good manufacturing practices that is certified to **WHO-GMP**. The uncertainty associated with each certified concentration represents the expanded uncertainty at the 95% confidence level using a coverage factor of **k=2**.

Validity Period:

Briti Scientific standards ensures the accuracy of this product for 24 months from the manufacture date given above, provided the instructions for use are followed.



Quality Certifications:

This product was prepared under a quality management system that is accredited to the following:

ISO 17034:2016 Accredited: Reference Materials Producer, CGI Certificate No. WGMP/22N2594 – General Requirements for the Competence of Reference Material Producers.

ISO 17034 references additional requirements specified in ISO Guide 31 and ISO Guide 35.

ISO/IEC 17025:2017 Accredited: Chemical Testing, CGI Certificate No. UG/23N256- General Requirements for the Competence of Testing and Calibration Laboratories.

ISO 9001:2015 Certified: Quality Management Systems, CGI Certificate No. QMS/23N258.

WHO-GMP Certified: Good Manufacturing Practices, CGI Certificate No. WGMP/22N2594.

Homogeneity:

This product was determined to be homogenous by procedures consistent with the requirements of **ISO 17034** and **ISO Guide 35**. Replicate samples of the finished solution were analysed to confirm its homogeneity, in accordance with internal procedures for the assessment of homogeneity and stability.

Health and Safety Information:

Refer to the Safety Data Sheet (SDS), which can be obtained at www.britisscientific.com.

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