



CPAchem

is the world leader

in Certified Reference Materials production (Custom and Stock) with both ISO Guide 34 and ISO/IEC 17025 accreditations.

The four secrets of our success are:

- ✓ High-technology
- ✓ High-experienced staff
- ✓ High-quality
- ✓ High-speed

Our scope covers:

Inorganic Certified Reference Materials (CRMs) for AAS, ICP, ICP/MS and Ion Chromatography

- Custom Inorganic CRMs - Single and Multi-components
- Inorganic stock CRMs - Single and Multi-components
- ICP and ICP/MS Internal standards
- AAS and ICP Modifiers, Buffers and Reagents
- IC Eluent concentrates



Organic Certified Reference Materials (CRMs) for GC and HPLC

- Custom Organic CRMs - Single and Multi-components
- CRMs acc. to ISO, EN, ASTM and EPA Methods
- Contaminant CRMs
- Single Component CRMs

Analytical Certified Reference Materials (CRMs) and Reagents

- Custom Analytical CRMs
- Volumetric CRMs
- Conductivity CRMs
- pH Buffer CRMs
- Reagents



What makes us different?

Our unique Computer-Aided-Manufacturing (CAM) Software, that:

- Surveys the stock availability and specifies the raw material to be purchased
- Specifies the proper source and controls through bare-codes (complete traceability)
- Calculates the needed weights and controls the gravimetric process on the analytical balances
- Evaluates the final data received by the instrumental analyses and calculates the certified values and uncertainties
- Creates the labels and certificates
- Controls the products intended to be exported and prints all accompanying documents.



Trace impurities
in the actual solution

Used starting material,
with its purity

Short term and long
term stability studies

Each solution is
barcode identified

Homogeneity
testing

Actual certified value,
neither reported values
of the starting materials,
nor the calculation values

Traceable to SI

Direct calibration, not based
on the starting materials

Trace impurities in the actual solution

Ag	ND	<0.0001
Al	ND	<0.010
As	ND	<0.010
B	ND	<0.010
Br	ND	<0.010
Ca	ND	<0.010
Cd	ND	<0.010
Co	ND	<0.010
Cu	ND	<0.010
Dy	ND	<0.010
Eu	ND	<0.010
Fe	ND	<0.010
Ga	ND	<0.010
Ge	ND	<0.010
Hf	ND	<0.010
Hg	ND	<0.010
Ir	ND	<0.010
K	ND	<0.010
La	ND	<0.010
Li	ND	<0.010
Mg	ND	<0.010
Mn	ND	<0.010
Mo	ND	<0.010
Na	ND	<0.010
Nb	ND	<0.010
Ni	ND	<0.010
Pb	ND	<0.010
Pr	ND	<0.010
Rb	ND	<0.010
Re	ND	<0.010
Rh	ND	<0.010
Ru	ND	<0.010
S	ND	<0.010
Se	ND	<0.010
Si	ND	<0.010
Sn	ND	<0.010
Sr	ND	<0.010
Ta	ND	<0.010
Tb	ND	<0.010
Ti	ND	<0.010
Tl	ND	<0.010
Tm	ND	<0.010
V	ND	<0.010
W	ND	<0.010
Xe	ND	<0.010
Y	ND	<0.010
Yb	ND	<0.010
Zn	ND	<0.010
Zr	ND	<0.010

Starting material, purity

Density: $\rho = 1.006 \text{ g/cm}^3$ at 20 °C
Minimum shelf-life: 12.2015 (unopened bottle in aluminized bag)
Date of opening: (Recommended period of use should not exceed 12 months from date of opening)

Intended use:
For Laboratory Use Only
Calibration of ICP-OES, AAS
Preparation of working reference samples
Detection limit and linearity studies
This statement is not intended to restrict the use for other purposes.

Instructions for the correct use of this reference material:
This certified reference material can be used directly or can be diluted in an appropriate high-purity matrix. Only a clean class A glassware should be used. Do not pipet from container. Obtained concentration after dilution is a result from the multiplication of certified value of CRM concentration and dilution factor.

Stability and storage:
This CRM is with a guaranteed stability under the following conditions:
- Stored in a sealed container
- Protected from light
- The purchaser's will be notified of the CRM during the state period
- The normal laboratory safety procedures for handling of this material are available

Hazardous situation:
The handling of this material is available

Level of homogeneity:
The material was tested for homogeneity by using the sample standard deviation. To ensure sufficient homogeneity of the material, the sample standard deviation must be less than 0.1%.

This Certified Reference Material was:
- Registered to ISO 9001 Quality Management System
- Accredited according to ISO/IEC 17025
- Accredited according to ISO Guide 34

Names of certifying officers:
Laboratory: *Signature*
Manager: *Signature*

Certificate of Analysis

CERTIFIED REFERENCE MATERIAL
Single-element ICP Standard Solution

This document is designed and the certified value(s) and uncertainty(ies) are determined in accordance with ISO Guide 31⁽¹⁾, ISO Guide 38⁽²⁾ and Eurachem / CITAC Guides⁽³⁾

Lot N: A55200

Barcode: 83074370

Certification Date: 04.02.2014
Date of Stability last check:

Description of the Reference Material (CRM):
Solution of Calcium (Ca) concentration 1.000 g/l in 2% Nitric Acid (HNO₃)

Ref N: CRM 3109a

Certified value/ Uncertainty:
Element: Ca
Certified Value and Uncertainty [mg/l]: $999.3 \pm 2.6^{(a)}$

Method(s) of certification used:
CRM's calibration procedure(s):
(a) WQP 5.15.1.1

Concept of Certification and traceability statement:
This certified reference material is produced using a high-purity starting material, acid from sub-boiling and 18 MOhm deionized water.

The reported expanded uncertainty of measurement is stated as the standard uncertainty of measurement multiplied by the coverage factor $k = 2$, which for a normal distribution corresponds to a coverage probability of approximately 95%. The property of the result of a measurement whereby it can be related to stated references, usually national or international standards, through an unbroken chain of comparisons all having stated uncertainties (ISO VIM⁽⁴⁾). The metrological traceability is assured through calibration on ICP-OES, AAS. The calibration curve is drawn using a series of standard solutions prepared from a certified reference material traceable to SI of NIST (SRM) and of CRM. The measurement results are traceable to SI. All analytical balances used for the preparation of the solution are calibrated yearly under an in-house procedure with analytical weights, traceable to DKD and are daily checked. The results from temperature measurement are traceable to SI. The thermometers used for solution's calibration are calibrated from an ISO 17025 accredited laboratory. The ambient conditions are controlled with a hygrometer calibrated from an ISO 17025 accredited laboratory.

Chemical Products for Analysis

CPAchem Ltd
6000 Stara Zagora, Bulgaria
e-mail: info@cpachem.com tel/fax: (+359 42) 60 77 16
for France, Belgium and Switzerland:
78190 TRAPPES CEDEX, France
e-mail: acsd2@wanadoo.fr tel: 01.30.57.57.32 / fax: 01.30.57.57.33

CPAchem's team is committed to total customer satisfaction by careful understanding what customers seek from the customer's viewpoint, producing and delivering high quality products at competitive prices, on time.

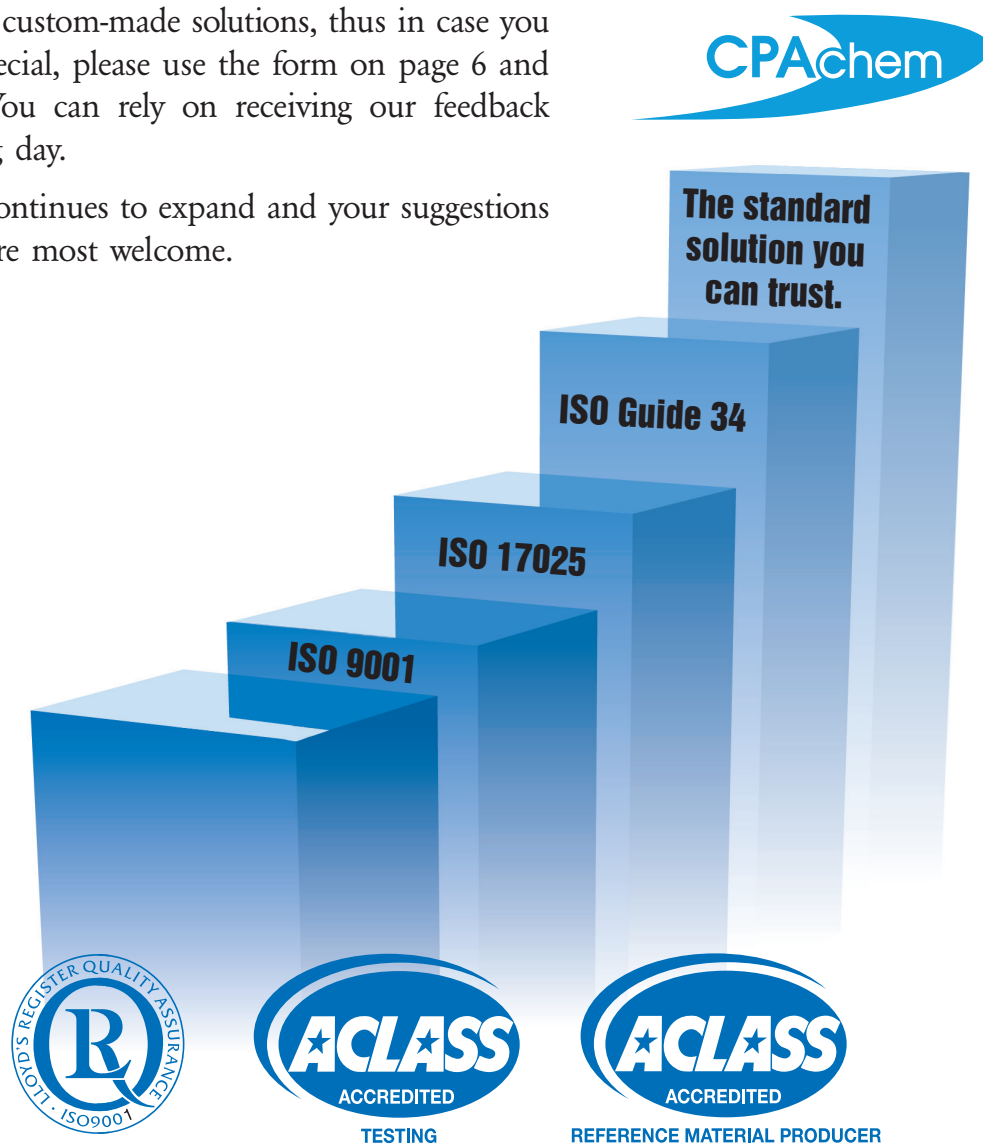
In this process we take reasonable care to ensure our employees' health and safety, and to protect the environment.

The Certified Reference Materials are produced under our quality management system that is:

- Registered to ISO 9001 Quality Management System (Lloyd's Register Quality Assurance Ltd Cert. N° SOF0368072);
- Accredited according to ISO/IEC 17025 - Testing (ACLASS Cert. N° AT1836)
- Accredited according to ISO Guide 34 - Reference Material Producer (ACLASS Cert. N° AR1835)

In addition to the products listed in the catalogue we manufacture many custom-made solutions, thus in case you need something special, please use the form on page 6 and send an inquiry. You can rely on receiving our feedback within one working day.

Our product line continues to expand and your suggestions for new products are most welcome.



Management's statement on quality policy

The major priority of the management of ASPL at „CPA“ Ltd is provision of good professional practice and assuring the quality at all stages of Reference Materials production (calibration solutions for ICP, AAS, Ionic chromatography, HPLC, GC as well as pH buffers, conductivity solutions and solutions intended for volumetric analysis), Reagents and Pharmacopoeia products, including:

- Quality of used raw material
- Preparation and control of RM, Reagents and Pharmacopoeia products
- Homogeneity and stability tests
- Calibration/measurement at stated metrological traceability
- Assignment of property values with stated metrological traceability and assigned uncertainty evaluated according to ISO Guide 98-3 and ISO Guide 35
- Handling, transportation and storage of RM, Reagents and Pharmacopoeia products
- Customers service.

The Management System developed at ASPL is aimed at increasing the level (quality) of the offered services as well as provision of qualitative and reliable results from calibration/characterization of RM.

In order to implement its policy and in accordance with the requirements of EN ISO/IEC 17025, ISO Guide 34, EN ISO 9001:2008, normative regulations and legislation of Republic of Bulgaria the Management has defined the following directions of development:

- Production of RM according to the requirements of ISO Guide 34 and the definitions given by the Guides of ISO REMCO and ISO Guide 99
- Manufacturing and control of reagents by strictly observing the requirements of the particular Pharmacopoeia
- Strict determination and observance of clients' requirements in order to increase the degree of client's satisfaction
- Control of all measurements and calibrations during the process of RM's production in accordance with validation methods, and if required, development of new methods
- Provision of good professional practice and quality during calibration/characterization of RM
- Certification of CRM according to the requirements of ISO Guide 35 and accompanied with certificates corresponding to the requirements of ISO Guide 31
- Motivation of the managing and operative company's personnel in order to ensure quality of every single aspect of the activities in relation to production and calibration/characterization of RM, Reagents and Pharmacopoeia products as well as loyal attitude to company's clients
- Continuously improvement in the level of products and services offered as well as development of new ones considering the clients' requirements and market's demand

- Personnel's training according to the respective activities performed with regard to production of RM, Reagents and Pharmacopeia products and quality of calibration/characterization
- Determination of particular, correct and clear interrelations, competences and responsibilities during work performed between the separate sections of ASPL
- Keeping the MS in accordance with the requirements of EN ISO/IEC 17025, ISO Guide 34 and EN ISO 9001:2008, as well as continuously improvement of its effectiveness through planning and adopting the changes

The Management of ASPL at the Company declares that neither it nor the ASPL's associates are subject to internal or external financial or other influence that may negatively affect the quality and work's results.

The personnel at ASPL conscientiously performs all activities, strictly observing the confidentiality, independence and application of good laboratory practice principles.

Every member of ASPL's personnel is obliged to be acquainted with the quality documents and to apply strictly the Policy and procedures during his/her work.

MANAGER OF „CPA“ Ltd :

Taralova
(Krassimira Taralova)



REQUEST FORM FOR CUSTOM-MADE
MULTI-ELEMENT STANDARD SOLUTIONS

1. Specify the concentration of the chosen element in mg/l.

ELEMENT	CONCENTR. in mg/l	ELEMENT	CONCENTR. in mg/l	ELEMENT	CONCENTR. in mg/l
Ag (HNO ₃)		Ho (HNO ₃ or HCl)		S (H ₂ O; HNO ₃ or HCl)	
Al (HNO ₃ or HCl)		In (HNO ₃ or HCl)		Sb (HNO ₃ /tr.HF or HCl)	
As (HNO ₃ or HCl)		Ir (HNO ₃ /HCl or HCl)		Sc (HNO ₃ or HCl)	
Au (HNO ₃ /HCl or HCl)		K (H ₂ O; HNO ₃ or HCl)		Se (HNO ₃ or HCl)	
B (H ₂ O; HNO ₃ or HCl)		La (HNO ₃ or HCl)		Si (H ₂ O; HNO ₃ /tr.HF or HCl)	
Ba (H ₂ O; HNO ₃ or HCl)		Li (H ₂ O; HNO ₃ or HCl)		Sm (HNO ₃ or HCl)	
Be (HNO ₃ /tr.HF or HCl)		Lu (HNO ₃ or HCl)		Sn (HNO ₃ /tr.HF or HCl)	
Bi (HNO ₃)		Mg (H ₂ O; HNO ₃ or HCl)		Sr (H ₂ O; HNO ₃ or HCl)	
Ca (H ₂ O; HNO ₃ or HCl)		Mn (HNO ₃ or HCl)		Ta (HNO ₃ /tr.HF or HCl/tr.HF)	
Cd (HNO ₃ or HCl)		Mo (H ₂ O; HNO ₃ /tr.HF or HCl)		Tb (HNO ₃ or HCl)	
Ce (HNO ₃ or HCl)		Na (H ₂ O; HNO ₃ or HCl)		Te (HNO ₃ or HCl)	
Co (HNO ₃ or HCl)		Nb (HNO ₃ /tr.HF or HCl/tr.HF)		Th (HNO ₃ or HCl)	
Cr (H ₂ O; HNO ₃ or HCl)		Nd (HNO ₃ or HCl)		Ti (HNO ₃ /tr.HF or HCl)	
Cs (H ₂ O; HNO ₃ or HCl)		Ni (HNO ₃ or HCl)		Tl (HNO ₃ or HCl)	
Cu (HNO ₃ or HCl)		Os (HCl)		Tm (HNO ₃ or HCl)	
Dy (HNO ₃ or HCl)		P (H ₂ O; HNO ₃ or HCl)		U (HNO ₃ or HCl)	
Er (HNO ₃ or HCl)		Pb (HNO ₃)		V (HNO ₃ or HCl)	
Eu (HNO ₃ or HCl)		Pd (HNO ₃ or HCl)		W (H ₂ O; HNO ₃ /tr.HF or HCl)	
Fe (HNO ₃ or HCl)		Pr (HNO ₃ or HCl)		Y (HNO ₃ or HCl)	
Ga (HNO ₃ or HCl)		Pt (HNO ₃ /HCl or HCl)		Yb (HNO ₃ or HCl)	
Gd (HNO ₃ or HCl)		Rb (H ₂ O; HNO ₃ or HCl)		Zn (HNO ₃ or HCl)	
Ge (HNO ₃ /tr.HF or HCl)		Re (H ₂ O; HNO ₃ or HCl)		Zr (HNO ₃ /tr.HF or HCl/tr.HF)	
Hf (HNO ₃ /tr.HF or HCl)		Rh (HNO ₃ /HCl or HCl)			
Hg (HNO ₃ or HCl)		Ru (HNO ₃ /HCl or HCl)			

2. Specify the concentration of the chosen matrix, needed volume and quantities.

MATRIX	CONCENTRATION in mg/l	VOLUME in ml	NUMBER OF BOTTLES
HNO ₃			
HCl			
H ₂ O			
OTHER			

3. Complete

Name*

Company*

City* State/Prov

Zip/Postal Code* Country*

Telephone* Fax

E-mail*

* Required

Please, photocopy for future use and fax it to your local distributor
or CPAchem at: +359 42 607 716

1. Specify the concentration of the chosen element in mg/l.

ELEMENT	CONCENTR. in mg/l	ELEMENT	CONCENTR. in mg/l	ELEMENT	CONCENTR. in mg/l
Acetate		Hydrogen Phtalate		Phosphate as P	
Ammonium		Iodate (IO ₃ ⁻)		Potassium	
Ammonium as N		Iodide (I ⁻)		Propionate	
Barium		Lactate		Silicate	
Benzoate		Lithium		Sodium	
Bromate (BrO ₃ ⁻)		Magnesium		Strontium	
Bromide (Br ⁻)		Maleate		Succinate	
Calcium		Methane sulphonate		Sulphate (SO ₄ ²⁻)	
Cesium		3-Methoxypropylamine		Sulphite	
Chromium (III)		Monoethalonamine		Tartrate	
Chromium (VI)		Monomethylamine		Thiocyanate	
Chlorate (ClO ₃ ⁻)		Nitriotriacetate		Thiosulphate	
Chloride (Cl ⁻)		Nitrate (NO ₃ ⁻)		Triethanolamine	
Citrate		Nitrate as N		Triethylamine	
Cyanide		Nitrite (NO ₂ ⁻)		Trimethylamine	
Diethanolamine		Nitrite as N		Other	
Fluoride		Oxalate		Other	
Formate		Perchlorate		Other	
Glycolate		Phosphate			

2. Specify the concentration of the chosen matrix, needed volume and quantities.

MATRIX	CONCENTRATION in mg/l	VOLUME in ml	NUMBER OF BOTTLES
HNO ₃			
CH ₃ CN			
HCl			
OTHER			

3. Complete

Name*
Company*
City* State/Prov
Zip/Postal Code* Country*
Telephone* Fax
E-mail*

* Required

Please, photocopy for future use and fax it to your local distributor
or CPAchem at: +359 42 607 716

GENERAL SALES TERMS AND CONDITIONS

1. ORDERING

1.1. The orders should be placed in writing with indication of the article number, quantity (number and size of packages) and article description.

Please, state date and invoice number when referring to previous orders. This reference is meant, however, to be valid only for the nature of the product and not the Prices.

1.2. Orders placed by telephone will only become legally binding after they have been confirmed by us in writing or after we have sent the goods with invoice to the buyer.

1.3. We reserve the right to cancel or delay, in whole or partially, orders or contracts for the supply of products due to unforeseen difficulties such as a result of force major circumstances occurring either in our own laboratory (facilities) or in those of our suppliers. Such developments relieve us from the obligations previously undertaken at the time the order was accepted.

1.4. In accordance with legal regulations, we reserve the right to terminate contracts or suspend deliveries in the event of changes in the economic conditions of the customers (bankruptcy, liquidation, insolvency, company dissolution or modification, etc.). In such cases the customer will be held responsible for breach of contract.

2. PRICES

2.1. The Prices are in EUR, EXW Stara Zagora, Bulgaria. Invoicing will be made in Euro at the Prices applicable on the date of delivery. We do not hold any responsibility with regard to the resale policy of our clients.

2.2. In the case of a substantial cost increase occurs prior to the order delivery, we shall be entitled, after the customer has been duly informed, to surcharge this to the agreed Prices. The buyer shall have the right to cancel his order within 7 days after notification of the Price increase.

2.3. Transport cost: the transport cost for the deliveries will be charged to the client and added in the invoice to the value of the goods, thus forming the final invoice amount

3. DELIVERY

3.1. Delivery will be made as quickly as possible using the means of transport and courier agreed upon between us and the buyer. We cannot, however, bind ourselves to a fixed delivery period.

3.2. In the event of being hindered in the fulfillment of our obligations due to unforeseen circumstances, e.g. operational breakdowns, shortage of raw material, transport difficulties, etc. No matter such could be suffered in our facilities, by our suppliers or by the postal services or forwarding agents, the delivery period will be extended by reasonable margin provided that the supply or service is still able to be rendered. Should the above mentioned circumstances prevent the rendering of the supply then we shall be released from our obligations in such respects.

3.3. In the above mentioned cases, when the delivery period is prolonged or the supplier is released from his supply obligations, no claims for compensation or rights of cancellation arise for the ordering party.

4. PACKAGING

- 4.1. We pack our goods using the most appropriate material based on the nature of the goods themselves and the means of shipment selected.
- 4.2. We provide packaging free of charge and do not accept its return.

5. GUARANTEE, NOTIFICATION OF DEFECTS, RETURN OF GOODS AND LIABILITY

- 5.1. Upon receipt the buyer is obliged to check immediately if the goods correspond in quality and quantity to the contractual agreements. If this check is not carried out thoroughly and if apparent faults are not notified immediately, within one week at the latest from the receipt of goods, the goods will be accepted regardless such faults. Claims will not entail release from payment obligations.
- 5.2. Justified complaints will be acknowledged by Price reduction, subsequent improvement, exchange or repurchase against refund. Subsequently derived claims will be excluded.
- 5.3. Recognition can not be given to complaints against the quality of unstable products which have decomposed due to too long storage or incorrect storing conditions. We disclaim all liability for damages occurring as a result of improper handling or storage.
- 5.4. We shall not accept any returned goods without our prior agreement. Returned goods received by us without prior mutual agreement will be returned back to sender at his costs and risk.
- 5.5. Return of properly supplied goods will only be made in exceptional cases and with the proviso that the goods will be returned in their undamaged original packaging.
- 5.6. The buyer shall be responsible for observing any official regulations in relation to dealing (supply, storage, processing, trade, etc.) in individual products. We shall reject any recourse to liability in respect of damage caused by our customers through non-observance of protective legislation (e.g.. regulation concerning dangerous substances).

6. PAYMENT

- 6.1. Our invoices will be payable in advance otherwise agreed upon between us and the buyer. Once the invoice becomes due, an interest for the delay of payment is charged to the Buyer amounting the equivalent of the European Central Bank interest rate increased by 6 percentage points.
- 6.2. For bank transfers, bank drafts or girocheques, the time of receipt of payments shall be considered to be the date on which we receive the credit advice from the financial institution.
- 6.3. Where, during a provisional business relationship, the inability of the Buyer to make payment provides valid evidence of suspect reliability, we shall be entitled to cancel all current supply contracts or to request payment in advance.

7. CHOICE OF DOMICILE AND COURT OF JURISDICTION

- 7.1. All disputes between our Company and its Customers are under the jurisdiction of the Stara Zagora Court. The Stara Zagora judicial authorities will have sole jurisdiction over any controversy arising within the context of these relations.

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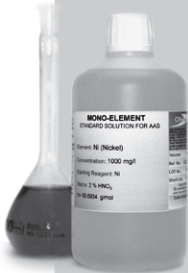
AAS Standards & Modifiers



Single-Element Standards for AAS

1000 mg/l for AAS Flame

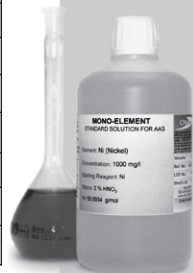
TYPE NAME	ELEMENT	MATRIX	CONCENTRATION	VOLUME	UNIT	REFERENCE
Silver	Ag	in 2-5% HNO ₃	1000 mg/l	100	ml	A001.2NPL1
				500	ml	A001.2NPL5
Aluminium	Al	in 2-5% HCl	1000 mg/l	100	ml	A002.2CPL1
				500	ml	A002.2CPL5
Aluminium	Al	in 2-5% HNO ₃	1000 mg/l	100	ml	A002.2NPL1
				500	ml	A002.2NPL5
Arsenic	As	in 2-5% HCl	1000 mg/l	100	ml	A003.2CPL1
				500	ml	A003.2CPL5
Arsenic	As	in 2-5% HNO ₃	1000 mg/l	100	ml	A003.2NPL1
				500	ml	A003.2NPL5
Gold	Au	in 2-5% HCl	1000 mg/l	100	ml	A004.2CPL1
				500	ml	A004.2CPL5
Boron	B	in H ₂ O	1000 mg/l	100	ml	A005.WL1
				500	ml	A005.WL5
Barium	Ba	in 2-5% HCl	1000 mg/l	100	ml	A006.2CPL1
				500	ml	A006.2CPL5
Barium	Ba	in 2-5% HNO ₃	1000 mg/l	100	ml	A006.2NPL1
				500	ml	A006.2NPL5
Beryllium	Be	in 2-5% HNO ₃ / tr.HF	1000 mg/l	100	ml	A007.2N1FPL1
				500	ml	A007.2N1FPL5
Beryllium	Be	in 2-5% HCl	1000 mg/l	100	ml	A007.2CPL1
				500	ml	A007.2CPL5
Bismuth	Bi	in 5-10% HNO ₃	1000 mg/l	100	ml	A008.10NPL1
				500	ml	A008.10NPL5
Calcium	Ca	in 2-5% HCl	1000 mg/l	100	ml	A009.2CPL1
				500	ml	A009.2CPL5
Calcium	Ca	in 2-5% HNO ₃	1000 mg/l	100	ml	A009.2NPL1
				500	ml	A009.2NPL5
Cadmium	Cd	in 2-5% HCl	1000 mg/l	100	ml	A010.2CPL1
				500	ml	A010.2CPL5
Cadmium	Cd	in 2-5% HNO ₃	1000 mg/l	100	ml	A010.2NPL1
				500	ml	A010.2NPL5
Cerium	Ce	in 2-5% HNO ₃	1000 mg/l	100	ml	A011.2NPL1
				500	ml	A011.2NPL5
Cobalt	Co	in 2-5% HCl	1000 mg/l	100	ml	A012.2CPL1
				500	ml	A012.2CPL5
Cobalt	Co	in 2-5% HNO ₃	1000 mg/l	100	ml	A012.2NPL1
				500	ml	A012.2NPL5
Chromium	Cr	in 2-5% HCl	1000 mg/l	100	ml	A013.2CPL1
				500	ml	A013.2CPL5
Chromium	Cr	in 2-5% HNO ₃	1000 mg/l	100	ml	A013.2NPL1
				500	ml	A013.2NPL5
Cesium	Cs	in 2-5% HNO ₃	1000 mg/l	100	ml	A014.2NPL1
				500	ml	A014.2NPL5
Cesium	Cu	in 2-5% HCl	1000 mg/l	100	ml	A015.2CPL1
				500	ml	A015.2CPL5



* Custom Standards for AAS are available upon request.

TYPE NAME	ELEMENT	MATRIX	CONCENTRATION	VOLUME	UNIT	REFERENCE
Copper	Cu	in 2-5% HNO ₃	1000 mg/l	100	ml	A015.2NPL1
				500	ml	A015.2NPL5
Dysprosium	Dy	in 2-5% HNO ₃	1000 mg/l	100	ml	A016.2NPL1
				500	ml	A016.2NPL5
Erbium	Er	in 2-5% HNO ₃	1000 mg/l	100	ml	A017.2NPL1
				500	ml	A017.2NPL5
Europium	Eu	in 2-5% HNO ₃	1000 mg/l	100	ml	A018.2NPL1
				500	ml	A018.2NPL5
Iron	Fe	in 2-5% HCl	1000 mg/l	100	ml	A019.2CPL1
				500	ml	A019.2CPL5
Iron	Fe	in 2-5% HNO ₃	1000 mg/l	100	ml	A019.2NPL1
				500	ml	A019.2NPL5
Gallium	Ga	in 2-5% HNO ₃	1000 mg/l	100	ml	A020.2NPL1
				500	ml	A020.2NPL5
Gadolinium	Gd	in 2-5% HNO ₃	1000 mg/l	100	ml	A021.2NPL1
				500	ml	A021.2NPL5
Germanium	Ge	in 2-5% HNO ₃ / tr.HF	1000 mg/l	100	ml	A022.5N1FPL1
				500	ml	A022.5N1FPL5
Hafnium	Hf	in 2-5% HNO ₃ / tr.HF	1000 mg/l	100	ml	A023.2N1FPL1
				500	ml	A023.2N1FPL5
Mercury	Hg	in 5-10% HNO ₃	1000 mg/l	100	ml	A024.10NPL1
				500	ml	A024.10NPL5
Holmium	Ho	in 2-5% HNO ₃	1000 mg/l	100	ml	A025.2NPL1
				500	ml	A025.2NPL5
Indium	In	in 2-5% HNO ₃	1000 mg/l	100	ml	A026.2NPL1
				500	ml	A026.2NPL5
Iridium	Ir	in 5-10% HCl	1000 mg/l	100	ml	A027.10CPL1
				500	ml	A027.10CPL5
Potassium	K	in 2-5% HCl	1000 mg/l	100	ml	A028.2CPL1
				500	ml	A028.2CPL5
Potassium	K	in 2-5% HNO ₃	1000 mg/l	100	ml	A028.2NPL1
				500	ml	A028.2NPL5
Lanthanum	La	in 2-5% HCl	1000 mg/l	100	ml	A029.2CPL1
				500	ml	A029.2CPL5
Lanthanum	La	in 2-5% HNO ₃	1000 mg/l	100	ml	A029.2NPL1
				500	ml	A029.2NPL5
Lithium	Li	in 2-5% HNO ₃	1000 mg/l	100	ml	A030.2NPL1
				500	ml	A030.2NPL5
Magnesium	Mg	in 2-5% HCl	1000 mg/l	100	ml	A032.2CPL1
				500	ml	A032.2CPL5
Magnesium	Mg	in 2-5% HNO ₃	1000 mg/l	100	ml	A032.2NPL1
				500	ml	A032.2NPL5
Manganese	Mn	in 2-5% HCl	1000 mg/l	100	ml	A033.2CPL1
				500	ml	A033.2CPL5
Manganese	Mn	in 2-5% HNO ₃	1000 mg/l	100	ml	A033.2NPL1
				500	ml	A033.2NPL5
Molybdenum	Mo	in 2-5% HNO ₃ / tr.HF	1000 mg/l	100	ml	A034.1N1FPL1
				500	ml	A034.1N1FPL5
Molybdenum	Mo	in H ₂ O	1000 mg/l	100	ml	A034.W.L1
				500	ml	A034.W.L5

TYPE NAME	ELEMENT	MATRIX	CONCENTRATION	VOLUME	UNIT	REFERENCE
Sodium	Na	in 1% HCl	1000 mg/l	100	ml	A035.1CPL1
				500	ml	A035.1CPL5
Sodium	Na	in 2-5% HNO ₃	1000 mg/l	100	ml	A035.2NPL1
				500	ml	A035.2NPL5
Sodium	Na	in H ₂ O	1000 mg/l	100	ml	A035.WL1
				500	ml	A035.WL5
Niobium	Nb	in 2-5 %HNO ₃ / tr.HF	1000 mg/l	100	ml	A036.5N1FPL1
				500	ml	A036.5N1FPL5
Neodymium	Nd	in 2-5% HNO ₃	1000 mg/l	100	ml	A037.2NPL1
				500	ml	A037.2NPL5
Nickel	Ni	in 2-5% HNO ₃	1000 mg/l	100	ml	A038.2NPL1
				500	ml	A038.2NPL5
Phosphorus	P	in H ₂ O	1000 mg/l	100	ml	A040.WL1
				500	ml	A040.WL5
Lead	Pb	in 2-5% HNO ₃	1000 mg/l	100	ml	A041.2NPL1
				500	ml	A041.2NPL5
Palladium	Pd	in 2-5% HCl	1000 mg/l	100	ml	A042.5CPL1
				500	ml	A042.5CPL5
Palladium	Pd	in 2-5% HNO ₃	1000 mg/l	100	ml	A042.5NPL1
				500	ml	A042.5NPL5
Platinum	Pt	in 5-10% HCl	1000 mg/l	100	ml	A044.10CPL1
				500	ml	A044.10CPL5
Rubidium	Rb	in 2-5% HNO ₃	1000 mg/l	100	ml	A045.2NPL1
				500	ml	A045.2NPL5
Rhenium	Re	in 2-5% HNO ₃	1000 mg/l	100	ml	A046.5NPL1
				500	ml	A046.5NPL5
Rhodium	Rh	in 2-5% HCl	1000 mg/l	100	ml	A047.5CPL1
				500	ml	A047.5CPL5
Ruthenium	Ru	in 2-5% HCl	1000 mg/l	100	ml	A048.5CPL1
				500	ml	A048.5CPL5
Sulphur	S	in H ₂ O	1000 mg/l	100	ml	A049.WL1
				500	ml	A049.WL5
Antimony	Sb	in 2-5% HNO ₃ / tr.HF	1000 mg/l	100	ml	A050.5N1FPL1
				500	ml	A050.5N1FPL5
Antimony	Sb	in 10-20% HCl	1000 mg/l	100	ml	A050.20CPL1
				500	ml	A050.20CPL5
Scandium	Sc	in 2-5% HNO ₃	1000 mg/l	100	ml	A051.2NPL1
				500	ml	A051.2NPL5
Selenium	Se	in 2-5% HNO ₃	1000 mg/l	100	ml	A052.2NPL1
				500	ml	A052.2NPL5
Silicon	Si	in H ₂ O	1000 mg/l	100	ml	A053.WL1
				500	ml	A053.WL5
Samarium	Sm	in 2-5% HNO ₃	1000 mg/l	100	ml	A054.2NPL1
				500	ml	A054.2NPL5
Tin	Sn	in 2-5% HNO ₃ / tr.HF	1000 mg/l	100	ml	A055.1N1FPL1
				500	ml	A055.1N1FPL5
Tin	Sn	in 10-20% HCl	1000 mg/l	100	ml	A055.20CPL1
				500	ml	A055.20CPL5
Strontium	Sr	in 2-5% HCl	1000 mg/l	100	ml	A056.2CPL1
				500	ml	A056.2CPL5



* Custom Standards for AAS are available upon request.

TYPE NAME	ELEMENT	MATRIX	CONCENTRATION	VOLUME	UNIT	REFERENCE
Strontium	Sr	in 2-5% HNO ₃	1000 mg/l	100	ml	A056.2NPL1
				500	ml	A056.2NPL5
Tantalum	Ta	in 2-5% HNO ₃ / tr.HF	1000 mg/l	100	ml	A057.5N1FPL1
				500	ml	A057.5N1FPL5
Tellurium	Te	in 5-10% HNO ₃	1000 mg/l	100	ml	A059.10NPL1
				500	ml	A059.10NPL5
Tellurium	Te	in 10-20% HCl	1000 mg/l	100	ml	A059.20CPL1
				500	ml	A059.20CPL5
Titanium	Ti	in 2-5% HNO ₃ / tr.HF	1000 mg/l	100	ml	A061.5N05FPL1
				500	ml	A061.5N05FPL5
Thallium	Tl	in 2-5% HNO ₃	1000 mg/l	100	ml	A062.2NPL1
				500	ml	A062.2NPL5
Thulium	Tm	in 2-5% HNO ₃	1000 mg/l	100	ml	A063.2NPL1
				500	ml	A063.2NPL5
Vanadium	V	in 2-5% H ₂ SO ₄	1000 mg/l	100	ml	A065.2SPL1
				500	ml	A065.2SPL5
Vanadium	V	in 2-5% HNO ₃	1000 mg/l	100	ml	A065.2NPL1
				500	ml	A065.2NPL5
Tungsten	W	in 2-5% HNO ₃ / tr.HF	1000 mg/l	100	ml	A066.1N2FPL1
				500	ml	A066.1N2FPL5
Yttrium	Y	in 2-5% HNO ₃	1000 mg/l	100	ml	A067.2NPL1
				500	ml	A067.2NPL5
Ytterbium	Yb	in 2-5% HNO ₃	1000 mg/l	100	ml	A068.2NPL1
				500	ml	A068.2NPL5
Zinc	Zn	in 2-5% HCl	1000 mg/l	100	ml	A069.2CPL1
				500	ml	A069.2CPL5
Zinc	Zn	in 2-5% HNO ₃	1000 mg/l	100	ml	A069.2NPL1
				500	ml	A069.2NPL5
Zirconium	Zr	in 2-5% HNO ₃ / tr.HF	1000 mg/l	100	ml	A070.2N05FPL1
				500	ml	A070.5C05FPL5
Zirconium	Zr	in 2-5% HCl/tr.HF	1000 mg/l	100	ml	A070.5C05FPL1
				500	ml	A070.2N05FPL5

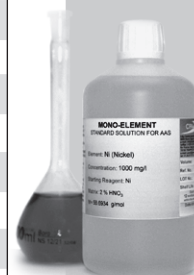
10 000 mg/l for AAS Flame

TYPE NAME	ELEMENT	MATRIX	CONCENTRATION	VOLUME	UNIT	REFERENCE
Aluminium	Al	in 2-5% HCl	10 000 mg/l	20	ml	S102.5CPL02
Aluminium	Al	in 2-5% HNO ₃	10 000 mg/l	20	ml	S102.5NPL02
Antimony	Sb	in 2-5% HNO ₃ / tr.HF	10 000 mg/l	20	ml	S150.5N2FPL02
Arsenic	As	in 2-5% HNO ₃	10 000 mg/l	20	ml	S103.5NPL02
Barium	Ba	in 2-5% HNO ₃	10 000 mg/l	20	ml	S106.5NPL02
Beryllium	Be	in 2-5% HNO ₃ / tr.HF	10 000 mg/l	20	ml	S107.5N1FPL02
Bismuth	Bi	in 5-10% HNO ₃	10 000 mg/l	20	ml	S108.10NPL02
Boron	B	H ₂ O	10 000 mg/l	20	ml	S105.W.L02
Cadmium	Cd	in 2-5% HNO ₃	10 000 mg/l	20	ml	S110.5NPL02
Calcium	Ca	in 2-5% HNO ₃	10 000 mg/l	20	ml	S109.5NPL02
Cesium	Cs	in 2-5% HNO ₃	10 000 mg/l	20	ml	S114.2NPL02
Chromium	Cr	in 2-5% HNO ₃	10 000 mg/l	20	ml	S113.5NPL02
Cobalt	Co	in 2-5% HNO ₃	10 000 mg/l	20	ml	S112.5NPL02

TYPE NAME	ELEMENT	MATRIX	CONCENTRATION	VOLUME	UNIT	REFERENCE
Copper	Cu	in 2-5% HNO ₃	10 000 mg/l	20	ml	S115.5NPL02
Iron	Fe	in 2-5% HNO ₃	10 000 mg/l	20	ml	S119.5NPL02
Lead	Pb	in 2-5% HNO ₃	10 000 mg/l	20	ml	S141.5NPL02
Lithium	Li	in 2-5% HNO ₃	10 000 mg/l	20	ml	S130.2NPL02
Magnesium	Mg	in 2-5% HNO ₃	10 000 mg/l	20	ml	S132.5NPL02
Manganese	Mn	in 2-5% HNO ₃	10 000 mg/l	20	ml	S133.5NPL02
Molybdenum	Mo	in 2-5% HNO ₃ / tr.HF	10 000 mg/l	20	ml	S134.5N4FPL02
Nickel	Ni	in 2-5% HNO ₃	10 000 mg/l	20	ml	S138.5NPL02
Phosphorus	P	in H ₂ O	10 000 mg/l	20	ml	S140.W.L02
Potassium	K	in 2-5% HNO ₃	10 000 mg/l	20	ml	S128.2NPL02
Rubidium	Rb	in 2-5% HNO ₃	10 000 mg/l	20	ml	S145.2NPL02
Scandium	Sc	in 2-5% HNO ₃	10 000 mg/l	20	ml	S151.5NPL02
Selenium	Se	in 2-5% HNO ₃	10 000 mg/l	20	ml	S152.5NPL02
Silicon	Si	in H ₂ O	10 000 mg/l	20	ml	S153.W.L02
Silver	Ag	in 2-5% HNO ₃	10 000 mg/l	20	ml	S101.5NPL02
Sodium	Na	in 2-5% HNO ₃	10 000 mg/l	20	ml	S135.2NPL02
Strontium	Sr	in 2-5% HNO ₃	10 000 mg/l	20	ml	S156.5NPL02
Tellurium	Te	in 10-20 %HNO ₃	10 000 mg/l	20	ml	S159.20NPL02
Tin	Sn	in 2-5% HNO ₃ / tr.HF	10 000 mg/l	20	ml	S155.5N2FPL02
Titanium	Ti	in 2-5% HNO ₃ / tr.HF	10 000 mg/l	20	ml	S161.5N2FPL02
Thallium	Tl	in 2-5% HNO ₃	10 000 mg/l	20	ml	S162.5NPL02
Tungsten	W	in 2-5% HNO ₃ / tr.HF	10 000 mg/l	20	ml	S166.2N5FPL02
Vanadium	V	in 2-5% HNO ₃	10 000 mg/l	20	ml	S165.5NPL02
Yttrium	Y	in 2-5% HNO ₃	10 000 mg/l	20	ml	S167.5NPL02
Zinc	Zn	in 2-5% HNO ₃	10 000 mg/l	20	ml	S169.5NPL02
Zirconium	Zr	in 2-5% HNO ₃ / tr.HF	10 000 mg/l	20	ml	S170.5N2FPL02

Concentrate for AAS Flame

TYPE NAME	ELEMENT	MATRIX	CONCENTRATION	VOLUME	UNIT	REFERENCE
Aluminium	Al	in 2-5% HNO ₃	10 000 mg/l	100	ml	A102.5NPL1
Antimony	Sb	in 5-10% HNO ₃ / tr.HF	10 000 mg/l	100	ml	A150.10N2FPL1
Antimony	Sb	in 10-20% HCl	10 000 mg/l	100	ml	A150.20CPL1
Arsenic	As	in 2-5% HCl	10 000 mg/l	100	ml	A103.5CPL1
Arsenic	As	in 2-5% HNO ₃	10 000 mg/l	100	ml	A103.5NPL1
Barium	Ba	in 2-5% HCl	10 000 mg/l	100	ml	A106.5CPL1
Beryllium	Be	in 2-5% HCl	10 000 mg/l	100	ml	A107.5CPL1
Beryllium	Be	in 2-5% HNO ₃ / tr.HF	10 000 mg/l	100	ml	A107.5N1FPL1
Bismuth	Bi	in 5-10% HNO ₃	10 000 mg/l	100	ml	A108.10NPL1
Boron	B	in H ₂ O	10 000 mg/l	100	ml	A105.2APL1
Cadmium	Cd	in 2-5% HCl	10 000 mg/l	100	ml	A110.5CPL1
Cadmium	Cd	in 2-5% HNO ₃	10 000 mg/l	100	ml	A110.5NPL1
Calcium	Ca	in 2-5% HCl	10 000 mg/l	100	ml	A109.5CPL1
Calcium	Ca	in 2-5% HNO ₃	10 000 mg/l	100	ml	A109.5NPL1
Cesium	Cs	in 2-5% HNO ₃	10 000 mg/l	100	ml	A114.2NPL1
Chromium	Cr	in 2-5% HCl	10 000 mg/l	100	ml	A113.5CPL1
Chromium	Cr	in 2-5% HNO ₃	10 000 mg/l	100	ml	A113.5NPL1



* Custom Standards for AAS are available upon request.

TYPE NAME	ELEMENT	MATRIX	CONCENTRATION	VOLUME	UNIT	REFERENCE
Cobalt	Co	in 2-5% HCl	10 000 mg/l	100	ml	A112.5CPL1
Cobalt	Co	in 2-5% HNO ₃	10 000 mg/l	100	ml	A112.5NPL1
Copper	Cu	in 2-5% HNO ₃	10 000 mg/l	100	ml	A115.5NPL1
Germanium	Ge	in 2-5% HNO ₃ / tr.HF	10 000 mg/l	100	ml	A122.5N1FPL1
Iron	Fe	in 2-5% HCl	10 000 mg/l	100	ml	A119.5CPL1
Iron	Fe	in 2-5% HNO ₃	10 000 mg/l	100	ml	A119.5NPL1
Lead	Pb	in 2-5% HNO ₃	10 000 mg/l	100	ml	A141.5NPL1
Lithium	Li	in 2-5% HNO ₃	10 000 mg/l	100	ml	A130.2NPL1
Lithium	Li	in 2-5% HCl	10 000 mg/l	100	ml	A130.2CPL1
Magnesium	Mg	in 2-5% HCl	10 000 mg/l	100	ml	A132.5CPL1
Magnesium	Mg	in 2-5% HNO ₃	10 000 mg/l	100	ml	A132.5NPL1
Manganese	Mn	in 2-5% HNO ₃	10 000 mg/l	100	ml	A133.5NPL1
Mercury	Hg	in 5-10% HNO ₃	10 000 mg/l	100	ml	A124.10NPL1
Molybdenum	Mo	in 2-5% HNO ₃ / tr.HF	10 000 mg/l	100	ml	A134.5N4FPL1
Nickel	Ni	in 2-5% HNO ₃	10 000 mg/l	100	ml	A138.5NPL1
Phosphorus	P	in H ₂ O	10 000 mg/l	100	ml	A140.W.L1
Potassium	K	in 2-5% HCl	10 000 mg/l	100	ml	A128.2CPL1
Potassium	K	in 2-5% HNO ₃	10 000 mg/l	100	ml	A128.2NPL1
Rubidium	Rb	in 2-5% HNO ₃	10 000 mg/l	100	ml	A145.2NPL1
Scandium	Sc	in 2-5% HNO ₃	10 000 mg/l	100	ml	A151.5NPL1
Selenium	Se	in 2-5% HNO ₃	10 000 mg/l	100	ml	A152.5NPL1
Silicon	Si	in H ₂ O	10 000 mg/l	100	ml	A153.W.L1
Silver	Ag	in 10-20% HNO ₃	10 000 mg/l	100	ml	A101.20NPL1
Sodium	Na	in 2-5% HCl	10 000 mg/l	100	ml	A135.2CPL1
Sodium	Na	in 2-5% HNO ₃	10 000 mg/l	100	ml	A135.2NPL1
Strontium	Sr	in 2-5% HCl	10 000 mg/l	100	ml	A156.2CPL1
Strontium	Sr	in 2-5% HNO ₃	10 000 mg/l	100	ml	A156.5NPL1
Tellurium	Te	in 10-20% HCl	10 000 mg/l	100	ml	A159.20CPL1
Tellurium	Te	in 10-20% HNO ₃	10 000 mg/l	100	ml	A159.20NPL1
Tin	Sn	in 2-5% HNO ₃ / tr.HF	10 000 mg/l	100	ml	A155.2N2FPL1
Tin	Sn	in 2-5% HCl	10 000 mg/l	100	ml	A155.5CPL1
Titanium	Ti	in 2-5% HNO ₃ / tr.HF	10 000 mg/l	100	ml	A161.5N2FPL1
Titanium	Ti	in 2-5% HNO ₃	10 000 mg/l	100	ml	A162.5NPL1
Tungsten	W	in 2-5% HNO ₃ / tr.HF	10 000 mg/l	100	ml	A166.2N5FPL1
Vanadium	V	in 2-5% HNO ₃	10 000 mg/l	100	ml	A165.5NPL1
Yttrium	Y	in 2-5% HNO ₃	10 000 mg/l	100	ml	A167.5NPL1
Zinc	Zn	in 2-5% HNO ₃	10 000 mg/l	100	ml	A169.5NPL1
Zinc	Zn	in 2-5% HNO ₃	10 000 mg/l	100	ml	A169.5CPL1
Zirconium	Zr	in 2-5%HCl/ tr.HF	10 000 mg/l	100	ml	A170.5C2FPL1

Single-Element Standard in Alcohol

TYPE NAME	ELEMENT	MATRIX	CONCENTRATION	VOLUME	UNIT	REFERENCE
Calcium	Ca	in 2% HCl /12%C ₂ H ₅ OH	1000 mg/l	100	ml	A009.2C12EL.L1
				500	ml	A009.2C12EL.L5
Copper	Cu	in 2% HCl /12%C ₂ H ₅ OH	1000 mg/l	100	ml	A015.2C12EL.L1
				500	ml	A015.2C12EL.L5

Iron	Fe	in 2% HCl /12%C ₂ H ₅ OH	1000 mg/l	100	ml	A019.2C12EL.L1
				500	ml	A019.2C12EL.L5
Potassium	K	in 2% HCl /12%C ₂ H ₅ OH	1000 mg/l	100	ml	A028.2C12EL.L1
				500	ml	A028.2C12EL.L5
Sodium	Na	in 2% HCl /12%C ₂ H ₅ OH	1000 mg/l	100	ml	A035.2C12EL.L1
				500	ml	A035.2C12EL.L5
Zinc	Zn	in 2% HCl /12%C ₂ H ₅ OH	1000 mg/l	100	ml	A069.2C12EL.L1
				500	ml	A069.2C12EL.L5

Single-Element Standards in KCN

TYPE NAME	ELEMENT	MATRIX	CONCENTRATION	VOLUME	UNIT	REFERENCE
Gold	Au	0.4% KCN	1000 mg/l	100	ml	A965.1K.04.L1
				500	ml	A965.1K.04.L5
Copper	Cu	0.4% KCN	1000 mg/l	100	ml	691C.1K.04.L1
				500	ml	691C.1K.04.L5

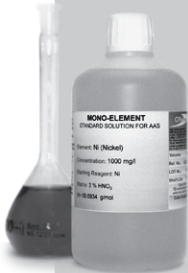
Single-Element Standard for Graphite Furnace

TYPE NAME	ELEMENT	MATRIX	CONCENTRATION	VOLUME	UNIT	REFERENCE
Antimony	Sb	in 1 % HNO ₃	20 ppb	50	ml	F1ED8.D02.1N.L05
Arsenic	As	in 1 % HNO ₃	20 ppb	50	ml	F2165.D02.1N.L05
Cadmium	Cd	in 1 % HNO ₃	0.2 ppb	50	ml	F5519.D002.1N.L05
Lead	Pb	in 1 % HNO ₃	20 ppb	50	ml	1E9C.D02.1N.L05
Manganese	Mn	in 1 % HNO ₃	10 ppb	50	ml	F4C73.D01.1N.L05
Nickel	Ni	in 1 % HNO ₃	30 ppb	50	ml	F3836.D03.1N.L05

Modifiers, Buffers & Reagents

Matrix Modifier for Graphite Furnace

TYPE NAME	ELEMENT	MATRIX	CONCENTRATION	VOLUME	UNIT	REFERENCE
Ammonium Modifier	NH ₄ NO ₃	in H ₂ O	50 g/l	50	ml	MM909D.50K.W.L05
Magnesium Modifier	Mg(NO ₃) ₂	in H ₂ O	10 g/l	50	ml	MM2F6A.10K.W.L05
Magnesium Modifier	Mg(NO ₃) ₂	in H ₂ O	20 g/l	50	ml	MM2F6A.20K.W.L05
Nickel Modifier	Ni(NO ₃) ₂	in 1 %HNO ₃	10 g/l	50	ml	MM9E04.10K.1N.L05
Palladium Modifier	Pd(NO ₃) ₂	in 1 %HNO ₃	2 g/l	50	ml	MM4CF5.2K.1N.L05
Palladium Modifier	Pd(NO ₃) ₂	in 1 %HNO ₃	5 g/l	50	ml	MM4CF5.5K.1N.L05
Magnesium + Palladium Modifier	Mg(NO ₃) ₂ + Pd(NO ₃) ₂	in 1 %HNO ₃	10 g/l + 2 g/l	50	ml	MM2323.10K.1N.L05
Phosphate Modifier	NH ₄ H ₂ PO ₄	in 1 %HNO ₃	100 g/l	50	ml	MMCFE0.100K.1N.L05
Phosphate Modifier	NH ₄ H ₂ PO ₄	in 1 %HNO ₃	20 g/l	50	ml	MMCFE0.20K.1N.L05



* Custom Standards for AAS are available upon request.

Ionisation Buffers

TYPE NAME	ELEMENT	MATRIX	CONCENTRATION	VOLUME	UNIT	REFERENCE
Cesium Ionization buffer	Cs	in 1 %HNO ₃	2%	100	ml	IB514.1N.L1
				500	ml	IB514.1N.L5
Lithium Ionization buffer	Li	in 1 %HNO3	2%	100	ml	IB530.1N.L1
				500	ml	IB530.1N.L5

Reagents for AAS Flame

TYPE NAME	ELEMENT	MATRIX	CONCENTRATION	VOLUME	UNIT	REFERENCE
Lanthanum	La	in 2 %HCl	2%	100	ml	IB529.2C.L1
				500	ml	IB529.2C.L5
Strontium	Sr	in 1 %HNO ₃	2%	100	ml	IB556.2N.L1
				500	ml	IB556.2N.L5

Blanks

TYPE NAME	MATRIX	VOLUME	UNIT	REFERENCE
Water	HCl	1000	ml	AW.5CP.1L
		500	ml	AW.5CP.L5
Water	HNO ₃	1000	ml	AW.5NP.1L
		500	ml	AW.5NP.L5
High purity deionized water blank		1 000	ml	DI01.L5
		500	ml	DI01.1L

Single-Element Standards

Mercury Standards

TYPE NAME	ELEMENT	MATRIX	CONCENTRATION	VOLUME	UNIT	REFERENCE
QC-MS Mercury	Hg	in 2 %HNO ₃	0.01 mg/l	100	ml	MSD0BC.D01.2N.L05
Mercury	Hg	in 5% HNO ₃	0.5 mg/l	100	ml	ESD0BC.K5.5N.L1
Mercury	Hg	in 2 %HNO ₃	1 mg/l	100	ml	MSD0BC.1.2N.L1

Multi-Element Standards

Multi Element Standard for Graphite Furnace

AA Calibration Standard - 2 components		Reference: 0B26.3.2N.L1		Reference: 0B26.3.2N.L5	
		Volume: 100 ml		Volume: 500 ml	
		Matrix: in 2 % HNO ₃		Matrix: in 2 % HNO ₃	
Element	Concentration	Element	Concentration		
Ni	10 mg/l	Cr	3 mg/l		

* Custom Single-Element Standards and Multi-Element Standards are available upon request.

ICP & ICP-MS Standards



Single-Element Standards

1000 mg/l for ICP

ICP & ICP-MS STANDARDS

TYPE NAME	ELEMENT	MATRIX	CONCENTRATION	VOLUME	UNIT	REFERENCE
Silver	Ag	in 2-5% HNO ₃	1000 mg/l	30	ml	C001.2NPL03
				100	ml	C001.2NPL1
				250	ml	C001.2NPL25
				500	ml	C001.2NPL5
Aluminium	Al	in 2-5% HCl	1000 mg/l	30	ml	C002.2CPL03
				100	ml	C002.2CPL1
				250	ml	C002.2CPL25
				500	ml	C002.2CPL5
Aluminium	Al	in 2-5% HNO ₃	1000 mg/l	30	ml	C002.2NPL03
				100	ml	C002.2NPL1
				250	ml	C002.2NPL25
				500	ml	C002.2NPL5
Arsenic	As	in 2-5% HNO ₃	1000 mg/l	30	ml	C003.2NPL03
				100	ml	C003.2NPL1
				250	ml	C003.2NPL25
				500	ml	C003.2NPL5
Gold	Au	in 2-5% HCl	1000 mg/l	30	ml	C004.2CPL03
				100	ml	C004.2CPL1
				250	ml	C004.2CPL25
				500	ml	C004.2CPL5
Boron	B	in H ₂ O	1000 mg/l	30	ml	C005.W.L03
				100	ml	C005.W.L1
				250	ml	C005.W.L25
				500	ml	C005.W.L5
Barium	Ba	in 2-5% HCl	1000 mg/l	30	ml	C006.2CPL03
				100	ml	C006.2CPL1
				250	ml	C006.2CPL25
				500	ml	C006.2CPL5
Barium	Ba	in 2-5% HNO ₃	1000 mg/l	30	ml	C006.2NPL03
				100	ml	C006.2NPL1
				250	ml	C006.2NPL25
				500	ml	C006.2NPL5
Beryllium	Be	in 2-5% HCl	1000 mg/l	30	ml	C007.2CPL03
				100	ml	C007.2CPL1
				250	ml	C007.2CPL25
				500	ml	C007.2CPL5
Beryllium	Be	in 2-5% HNO ₃ /HF tr	1000 mg/l	30	ml	C007.2N05FPL03
				100	ml	C007.2N05FPL1
				250	ml	C007.2N05FPL25
				500	ml	C007.2N05FPL5
Bismuth	Bi	in 2-5% HNO ₃	1000 mg/l	30	ml	C008.10NPL03
				100	ml	C008.10NPL1
				250	ml	C008.10NPL25
				500	ml	C008.10NPL5



* Custom Standards for ICP & ICP-MS are available upon request.

TYPE NAME	ELEMENT	MATRIX	CONCENTRATION	VOLUME	UNIT	REFERENCE
Calcium	Ca	in 2-5% HCl	1000 mg/l	30	ml	C009.2CPL03
				100	ml	C009.2CPL1
				250	ml	C009.2CPL25
				500	ml	C009.2CPL5
Calcium	Ca	in 2-5% HNO ₃	1000 mg/l	30	ml	C009.2NPL03
				100	ml	C009.2NPL1
				250	ml	C009.2NPL25
				500	ml	C009.2NPL5
Cadmium	Cd	in 2-5% HNO ₃	1000 mg/l	30	ml	C010.2NPL03
				100	ml	C010.2NPL1
				250	ml	C010.2NPL25
				500	ml	C010.2NPL5
Cerium	Ce	in 2-5% HNO ₃	1000 mg/l	30	ml	C011.2NPL03
				100	ml	C011.2NPL1
				250	ml	C011.2NPL25
				500	ml	C011.2NPL5
Cobalt	Co	in 2-5% HNO ₃	1000 mg/l	30	ml	C012.2NPL03
				100	ml	C012.2NPL1
				250	ml	C012.2NPL25
				500	ml	C012.2NPL5
Chromium	Cr	in 2-5% HCl	1000 mg/l	30	ml	C013.2CPL03
				100	ml	C013.2CPL1
				250	ml	C013.2CPL25
				500	ml	C013.2CPL5
Chromium	Cr	in 2-5% HNO ₃	1000 mg/l	30	ml	C013.2NPL03
				100	ml	C013.2NPL1
				250	ml	C013.2NPL25
				500	ml	C013.2NPL5
Cesium	Cs	in 2-5% HNO ₃	1000 mg/l	30	ml	C014.2NPL03
				100	ml	C014.2NPL1
				250	ml	C014.2NPL25
				500	ml	C014.2NPL5
Cesium	Cs	in H ₂ O	1000 mg/l	30	ml	C014.W.L03
				100	ml	C014.W.L1
				250	ml	C014.W.L25
				500	ml	C014.W.L5
Copper	Cu	in 2-5% HNO ₃	1000 mg/l	30	ml	C015.2NPL03
				100	ml	C015.2NPL1
				250	ml	C015.2NPL25
				500	ml	C015.2NPL5
Dysprosium	Dy	in 2-5% HNO ₃	1000 mg/l	30	ml	C016.2NPL03
				100	ml	C016.2NPL1
				250	ml	C016.2NPL25
				500	ml	C016.2NPL5
Erbium	Er	in 2-5% HNO ₃	1000 mg/l	30	ml	C017.2NPL03
				100	ml	C017.2NPL1
				250	ml	C017.2NPL25
				500	ml	C017.2NPL5

TYPE NAME	ELEMENT	MATRIX	CONCENTRATION	VOLUME	UNIT	REFERENCE
Europium	Eu	in 2-5% HNO ₃	1000 mg/l	30	ml	C018.2NPL03
				100	ml	C018.2NPL1
				250	ml	C018.2NPL25
				500	ml	C018.2NPL5
Iron	Fe	in 2-5% HCl	1000 mg/l	30	ml	C019.2CPL03
				100	ml	C019.2CPL1
				250	ml	C019.2CPL25
				500	ml	C019.2CPL5
Iron	Fe	in 2-5% HNO ₃	1000 mg/l	30	ml	C019.2NPL03
				100	ml	C019.2NPL1
				250	ml	C019.2NPL25
				500	ml	C019.2NPL5
Gallium	Ga	in 2-5% HNO ₃	1000 mg/l	30	ml	C020.2NPL03
				100	ml	C020.2NPL1
				250	ml	C020.2NPL25
				500	ml	C020.2NPL5
Gadolinium	Gd	in 2-5% HNO ₃	1000 mg/l	30	ml	C021.2NPL03
				100	ml	C021.2NPL1
				250	ml	C021.2NPL25
				500	ml	C021.2NPL5
Germanium	Ge	in 2-5% HNO ₃ /HF tr	1000 mg/l	30	ml	C022.5N1FPL03
				100	ml	C022.5N1FPL1
				250	ml	C022.5N1FPL25
				500	ml	C022.5N1FPL5
Hafnium	Hf	in 2-5% HCl/HF tr	1000 mg/l	30	ml	C023.2C05FPL03
				100	ml	C023.2C05FPL1
				250	ml	C023.2C05FPL25
				500	ml	C023.2C05FPL5
Hafnium	Hf	in 2-5% HNO ₃ /HF tr	1000 mg/l	30	ml	C023.2N1FPL03
				100	ml	C023.2N1FPL1
				250	ml	C023.2N1FPL25
				500	ml	C023.2N1FPL5
Mercury	Hg	in 5-10% HNO ₃	1000 mg/l	30	ml	C024.10NPL03
				100	ml	C024.10NPL1
				250	ml	C024.10NPL25
				500	ml	C024.10NPL5
Holmium	Ho	in 2-5% HNO ₃	1000 mg/l	30	ml	C025.2NPL03
				100	ml	C025.2NPL1
				250	ml	C025.2NPL25
				500	ml	C025.2NPL5
Indium	In	in 2-5% HNO ₃	1000 mg/l	30	ml	C026.2NPL03
				100	ml	C026.2NPL1
				250	ml	C026.2NPL25
				500	ml	C026.2NPL5
Iridium	Ir	in 5-10% HCl	1000 mg/l	30	ml	C027.10CPL03
				100	ml	C027.10CPL1
				250	ml	C027.10CPL25
				500	ml	C027.10CPL5



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TYPE NAME	ELEMENT	MATRIX	CONCENTRATION	VOLUME	UNIT	REFERENCE
Potassium	K	in 2-5% HNO ₃	1000 mg/l	30	ml	C028.2NPL03
				100	ml	C028.2NPL1
				250	ml	C028.2NPL25
				500	ml	C028.2NPL5
Potassium	K	in H ₂ O	1000 mg/l	30	ml	C028.W.L03
				100	ml	C028.W.L1
				250	ml	C028.W.L25
				500	ml	C028.W.L5
Lanthanum	La	in 2-5% HNO ₃	1000 mg/l	30	ml	C029.2NPL03
				100	ml	C029.2NPL1
				250	ml	C029.2NPL25
				500	ml	C029.2NPL5
Lithium	Li	in 2-5% HCl	1000 mg/l	30	ml	C030.2CPL03
				100	ml	C030.2CPL1
				250	ml	C030.2CPL25
				500	ml	C030.2CPL5
Lithium	Li	in 2-5% HNO ₃	1000 mg/l	30	ml	C030.2NPL03
				100	ml	C030.2NPL1
				250	ml	C030.2NPL25
				500	ml	C030.2NPL5
Lutetium	Lu	in 2-5% HNO ₃	1000 mg/l	30	ml	C031.2NPL03
				100	ml	C031.2NPL1
				250	ml	C031.2NPL25
				500	ml	C031.2NPL5
Magnesium	Mg	in 2-5% HNO ₃	1000 mg/l	30	ml	C032.2NPL03
				100	ml	C032.2NPL1
				250	ml	C032.2NPL25
				500	ml	C032.2NPL5
Manganese	Mn	in 2-5% HCl	1000 mg/l	30	ml	C033.2CPL03
				100	ml	C033.2CPL1
				250	ml	C033.2CPL25
				500	ml	C033.2CPL5
Manganese	Mn	in 2-5% HNO ₃	1000 mg/l	30	ml	C033.2NPL03
				100	ml	C033.2NPL1
				250	ml	C033.2NPL25
				500	ml	C033.2NPL5
Molybdenum	Mo	in 2-5% HNO ₃ /HF tr	1000 mg/l	30	ml	C034.1N1FPL03
				100	ml	C034.1N1FPL1
				250	ml	C034.1N1FPL25
				500	ml	C034.1N1FPL5
Molybdenum	Mo	in 2-5% NH ₄ OH	1000 mg/l	30	ml	C034.4APL03
				100	ml	C034.4APL1
				250	ml	C034.4APL25
				500	ml	C034.4APL5
Sodium	Na	in 2-5% HNO ₃	1000 mg/l	30	ml	C035.2NPL03
				100	ml	C035.2NPL1
				250	ml	C035.2NPL25
				500	ml	C035.2NPL5

TYPE NAME	ELEMENT	MATRIX	CONCENTRATION	VOLUME	UNIT	REFERENCE
Sodium	Na	in H ₂ O	1000 mg/l	30	ml	C035.W.L03
				100	ml	C035.W.L1
				250	ml	C035.W.L25
				500	ml	C035.W.L5
Niobium	Nb	in 2-5% HNO ₃ /HF tr	1000 mg/l	30	ml	C036.5N1FPL03
				100	ml	C036.5N1FPL1
				250	ml	C036.5N1FPL25
				500	ml	C036.5N1FPL5
Neodymium	Nd	in 2-5% HNO ₃	1000 mg/l	30	ml	C037.2NPL03
				100	ml	C037.2NPL1
				250	ml	C037.2NPL25
				500	ml	C037.2NPL5
Nickel	Ni	in 2-5% HNO ₃	1000 mg/l	30	ml	C038.2NPL03
				100	ml	C038.2NPL1
				250	ml	C038.2NPL25
				500	ml	C038.2NPL5
Osmium	Os	in 2-5% HCl	1000 mg/l	30	ml	C039.2CPL03
				100	ml	C039.2CPL1
				250	ml	C039.2CPL25
				500	ml	C039.2CPL5
Phosphorus	P	in 0.5% H ₂ SO ₄	1000 mg/l	30	ml	C040.05SPL03
				100	ml	C040.05SPL1
				250	ml	C040.05SPL25
				500	ml	C040.05SPL5
Phosphorus	P	in H ₂ O	1000 mg/l	30	ml	C040.W.L03
				100	ml	C040.W.L1
				250	ml	C040.W.L25
				500	ml	C040.W.L5
Lead	Pb	in 2-5% HNO ₃	1000 mg/l	30	ml	C041.2NPL03
				100	ml	C041.2NPL1
				250	ml	C041.2NPL25
				500	ml	C041.2NPL5
Palladium	Pd	in 2-5% HCl	1000 mg/l	30	ml	C042.5CPL03
				100	ml	C042.5CPL1
				250	ml	C042.5CPL25
				500	ml	C042.5CPL5
Palladium	Pd	in 2-5% HNO ₃	1000 mg/l	30	ml	C042.5NPL03
				100	ml	C042.5NPL1
				250	ml	C042.5NPL25
				500	ml	C042.5NPL5
Praseodymium	Pr	in 2-5% HNO ₃	1000 mg/l	30	ml	C043.2NPL03
				100	ml	C043.2NPL1
				250	ml	C043.2NPL25
				500	ml	C043.2NPL5
Platinum	Pt	in 5-10% HCl	1000 mg/l	30	ml	C044.10CPL03
				100	ml	C044.10CPL1
				250	ml	C044.10CPL25
				500	ml	C044.10CPL5



* Custom Standards for ICP & ICP-MS are available upon request.

TYPE NAME	ELEMENT	MATRIX	CONCENTRATION	VOLUME	UNIT	REFERENCE
Rubidium	Rb	in 2-5% HNO ₃	1000 mg/l	30	ml	C045.2NPL03
				100	ml	C045.2NPL1
				250	ml	C045.2NPL25
				500	ml	C045.2NPL5
Rubidium	Rb	in H ₂ O	1000 mg/l	30	ml	C045.W.L03
				100	ml	C045.W.L1
				250	ml	C045.W.L25
				500	ml	C045.W.L5
Rhenium	Re	in 2-5% HNO ₃	1000 mg/l	30	ml	C046.2NPL03
				100	ml	C046.2NPL1
				250	ml	C046.2NPL25
				500	ml	C046.2NPL5
Rhenium	Re	in H ₂ O	1000 mg/l	30	ml	C046.W.L03
				100	ml	C046.W.L1
				250	ml	C046.W.L25
				500	ml	C046.W.L5
Rhodium	Rh	in 2-5% HCl	1000 mg/l	30	ml	C047.5CPL03
				100	ml	C047.5CPL1
				250	ml	C047.5CPL25
				500	ml	C047.5CPL5
Ruthenium	Ru	in 2-5% HCl	1000 mg/l	30	ml	C048.5CPL03
				100	ml	C048.5CPL1
				250	ml	C048.5CPL25
				500	ml	C048.5CPL5
Sulphur	S	in H ₂ O	1000 mg/l	30	ml	C049.W.L03
				100	ml	C049.W.L1
				250	ml	C049.W.L25
				500	ml	C049.W.L5
Antimony	Sb	in 10-20% HCl	1000 mg/l	30	ml	C050.20CPL03
				100	ml	C050.20CPL1
				250	ml	C050.20CPL25
				500	ml	C050.20CPL5
Antimony	Sb	in 2-5% HNO ₃ /HF tr	1000 mg/l	30	ml	C050.5N1FPL03
				100	ml	C050.5N1FPL1
				250	ml	C050.5N1FPL25
				500	ml	C050.5N1FPL5
Scandium	Sc	in 2-5% HNO ₃	1000 mg/l	30	ml	C051.2NPL03
				100	ml	C051.2NPL1
				250	ml	C051.2NPL25
				500	ml	C051.2NPL5
Selenium	Se	in 2-5% HNO ₃	1000 mg/l	30	ml	C052.2NPL03
				100	ml	C052.2NPL1
				250	ml	C052.2NPL25
				500	ml	C052.2NPL5
Silicon	Si	in H ₂ O	1000 mg/l	30	ml	C053.W.L03
				100	ml	C053.W.L1
				250	ml	C053.W.L25
				500	ml	C053.W.L5

TYPE NAME	ELEMENT	MATRIX	CONCENTRATION	VOLUME	UNIT	REFERENCE
Samarium	Sm	in 2-5% HNO ₃	1000 mg/l	30	ml	C054.2NPL03
				100	ml	C054.2NPL1
				250	ml	C054.2NPL25
				500	ml	C054.2NPL5
Tin	Sn	in 2-5% HNO ₃ /HF tr	1000 mg/l	30	ml	C055.1N1FPL03
				100	ml	C055.1N1FPL1
				250	ml	C055.1N1FPL25
				500	ml	C055.1N1FPL5
Tin	Sn	in 20% HCl	1000 mg/l	30	ml	C055.20CPL03
				100	ml	C055.20CPL1
				250	ml	C055.20CPL25
				500	ml	C055.20CPL5
Strontium	Sr	in 2-5% HCl	1000 mg/l	30	ml	C056.2CPL03
				100	ml	C056.2CPL1
				250	ml	C056.2CPL25
				500	ml	C056.2CPL5
Strontium	Sr	in 2-5% HNO ₃	1000 mg/l	30	ml	C056.2NPL03
				100	ml	C056.2NPL1
				250	ml	C056.2NPL25
				500	ml	C056.2NPL5
Tantalum	Ta	in 2-5% HNO ₃ /HF tr	1000 mg/l	30	ml	C057.5N1FPL03
				100	ml	C057.5N1FPL1
				250	ml	C057.5N1FPL25
				500	ml	C057.5N1FPL5
Terbium	Tb	in 2-5% HNO ₃	1000 mg/l	30	ml	C058.2NPL03
				100	ml	C058.2NPL1
				250	ml	C058.2NPL25
				500	ml	C058.2NPL5
Tellurium	Te	in 10-20% HCl	1000 mg/l	30	ml	C059.20CPL03
				100	ml	C059.20CPL1
				250	ml	C059.20CPL25
				500	ml	C059.20CPL5
Tellurium	Te	in 10-20% HNO ₃	1000 mg/l	30	ml	C059.20NPL03
				100	ml	C059.20NPL1
				250	ml	C059.20NPL25
				500	ml	C059.20NPL5
Thorium	Th	in 2-5% HNO ₃	1000 mg/l	30	ml	C060.2NPL03
				100	ml	C060.2NPL1
				250	ml	C060.2NPL25
				500	ml	C060.2NPL5
Titanium	Ti	in 2-5% HNO ₃ /HF tr	1000 mg/l	30	ml	C061.5N05FPL03
				100	ml	C061.5N05FPL1
				250	ml	C061.5N05FPL25
				500	ml	C061.5N05FPL5
Titanium	Ti	in 5 %HCl/HF tr	1000 mg/l	30	ml	C061.5C05FPL03
				100	ml	C061.5C05FPL1
				250	ml	C061.5C05FPL25
				500	ml	C061.5C05FPL5



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TYPE NAME	ELEMENT	MATRIX	CONCENTRATION	VOLUME	UNIT	REFERENCE
Thallium	Tl	in 2-5% HNO ₃	1000 mg/l	30	ml	C062.2NPL03
				100	ml	C062.2NPL1
				250	ml	C062.2NPL25
				500	ml	C062.2NPL5
Thulium	Tm	in 2-5% HNO ₃	1000 mg/l	30	ml	C063.2NPL03
				100	ml	C063.2NPL1
				250	ml	C063.2NPL25
				500	ml	C063.2NPL5
Uranium	U	in 2-5% HNO ₃	1000 mg/l	30	ml	C064.2NPL03
				100	ml	C064.2NPL1
				250	ml	C064.2NPL25
				500	ml	C064.2NPL5
Vanadium	V	in 2-5% HNO ₃	1000 mg/l	30	ml	C065.2NPL03
				100	ml	C065.2NPL1
				250	ml	C065.2NPL25
				500	ml	C065.2NPL5
Vanadium	V	in 2% H ₂ SO ₄	1000 mg/l	30	ml	C065.2SPL03
				100	ml	C065.2SPL1
				250	ml	C065.2SPL25
				500	ml	C065.2SPL5
Tungsten	W	in 2-5% HNO ₃ /HF tr	1000 mg/l	30	ml	C066.1N2FPL03
				100	ml	C066.1N2FPL1
				250	ml	C066.1N2FPL25
				500	ml	C066.1N2FPL5
Tungsten	W	in 2-5% NH ₄ OH	1000 mg/l	30	ml	C066.4APL03
				100	ml	C066.4APL1
				250	ml	C066.4APL25
				500	ml	C066.4APL5
Yttrium	Y	in 2-5% HNO ₃	1000 mg/l	30	ml	C067.2NPL03
				100	ml	C067.2NPL1
				250	ml	C067.2NPL25
				500	ml	C067.2NPL5
Ytterbium	Yb	in 2-5% HNO ₃	1000 mg/l	30	ml	C068.2NPL03
				100	ml	C068.2NPL1
				250	ml	C068.2NPL25
				500	ml	C068.2NPL5
Zinc	Zn	in 2-5% HCl	1000 mg/l	30	ml	C069.2CPL03
				100	ml	C069.2CPL1
				250	ml	C069.2CPL25
				500	ml	C069.2CPL5
Zinc	Zn	in 2-5% HNO ₃	1000 mg/l	30	ml	C069.2NPL03
				100	ml	C069.2NPL1
				250	ml	C069.2NPL25
				500	ml	C069.2NPL5
Zirconium	Zr	in 2-5% HNO ₃ /HF tr	1000 mg/l	30	ml	C070.2N05FPL03
				100	ml	C070.2N05FPL1
				250	ml	C070.2N05FPL25
				500	ml	C070.2N05FPL5
Zirconium	Zr	in 2-5% HCl/HF tr	1000 mg/l	30	ml	C070.5C05FPL03
				100	ml	C070.5C05FPL1
				250	ml	C070.5C05FPL25
				500	ml	C070.5C05FPL5

10 000 mg/l for ICP

TYPE NAME	ELEMENT	MATRIX	CONCENTRATION	VOLUME	UNIT	REFERENCE
Silver	Ag	in 2-5% HNO ₃	10 000 mg/l	30	ml	C101.5NPL5
				100	ml	C101.5NPL03
				250	ml	C101.5NPL1
				500	ml	C101.5NPL25
Aluminium	Al	in 2-5% HCl	10 000 mg/l	30	ml	C102.5CPL03
				100	ml	C102.5CPL1
				250	ml	C102.5CPL25
				500	ml	C102.5CPL5
Aluminium	Al	in 2-5% HNO ₃	10 000 mg/l	30	ml	C102.5NPL03
				100	ml	C102.5NPL1
				250	ml	C102.5NPL25
				500	ml	C102.5NPL5
Arsenic	As	in 2-5% HNO ₃	10 000 mg/l	30	ml	C103.5NPL03
				100	ml	C103.5NPL1
				250	ml	C103.5NPL25
				500	ml	C103.5NPL5
Gold	Au	in 2-5% HCl	10 000 mg/l	30	ml	C104.5CPL03
				100	ml	C104.5CPL03
				250	ml	C104.5CPL1
				500	ml	C104.5CPL25
Boron	B	in H ₂ O	10 000 mg/l	30	ml	C105.W.L03
				100	ml	C105.W.L1
				250	ml	C105.W.L25
				500	ml	C105.W.L5
Barium	Ba	in 2-5% HCl	10 000 mg/l	30	ml	C106.5CPL03
				100	ml	C106.5CPL1
				250	ml	C106.5CPL25
				500	ml	C106.5CPL5
Barium	Ba	in 2-5% HNO ₃	10 000 mg/l	30	ml	C106.2NPL03
				100	ml	C106.2NPL1
				250	ml	C106.2NPL25
				500	ml	C106.2NPL5
Beryllium	Be	in 2-5% HNO ₃ /HF tr	10 000 mg/l	30	ml	C107.5N1FPL03
				100	ml	C107.5N1FPL1
				250	ml	C107.5N1FPL25
				500	ml	C107.5N1FPL5
Bismuth	Bi	in 2-5% HNO ₃	10 000 mg/l	30	ml	C108.10NPL03
				100	ml	C108.10NPL1
				250	ml	C108.10NPL25
				500	ml	C108.10NPL5
Calcium	Ca	in 2-5% HNO ₃	10 000 mg/l	30	ml	C109.2NPL03
				100	ml	C109.2NPL1
				250	ml	C109.2NPL25
				500	ml	C109.2NPL5
Cadmium	Cd	in 2-5% HNO ₃	10 000 mg/l	30	ml	C110.5NPL03
				100	ml	C110.5NPL1
				250	ml	C110.5NPL25
				500	ml	C110.5NPL5



* Custom Standards for ICP & ICP-MS are available upon request.

TYPE NAME	ELEMENT	MATRIX	CONCENTRATION	VOLUME	UNIT	REFERENCE
Cerium	Ce	in 2-5% HNO ₃	10 000 mg/l	30	ml	C111.5NPL03
				100	ml	C111.5NPL1
				250	ml	C111.5NPL25
				500	ml	C111.5NPL5
Cobalt	Co	in 2-5% HNO ₃	10 000 mg/l	30	ml	C112.5NPL03
				100	ml	C112.5NPL1
				250	ml	C112.5NPL25
				500	ml	C112.5NPL5
Chromium	Cr	in 2-5% HCl	10 000 mg/l	30	ml	C113.5CPL03
				100	ml	C113.5CPL1
				250	ml	C113.5CPL25
				500	ml	C113.5CPL5
Chromium	Cr	in 2-5% HNO ₃	10 000 mg/l	30	ml	C113.5NPL03
				100	ml	C113.5NPL1
				250	ml	C113.5NPL25
				500	ml	C113.5NPL5
Cesium	Cs	in 2-5% HNO ₃	10 000 mg/l	30	ml	C114.2NPL03
				100	ml	C114.2NPL1
				250	ml	C114.2NPL25
				500	ml	C114.2NPL5
Cesium	Cs	in H ₂ O	10 000 mg/l	30	ml	C114.W.L03
				100	ml	C114.W.L1
				250	ml	C114.W.L25
				500	ml	C114.W.L5
Copper	Cu	in 2-5% HNO ₃	10 000 mg/l	30	ml	C115.5NPL03
				100	ml	C115.5NPL1
				250	ml	C115.5NPL25
				500	ml	C115.5NPL5
Dysprosium	Dy	in 2-5% HNO ₃	10 000 mg/l	30	ml	C116.5NPL03
				100	ml	C116.5NPL1
				250	ml	C116.5NPL25
				500	ml	C116.5NPL5
Erbium	Er	in 2-5% HNO ₃	10 000 mg/l	30	ml	C117.5NPL03
				100	ml	C117.5NPL1
				250	ml	C117.5NPL25
				500	ml	C117.5NPL5
Europium	Eu	in 2-5% HNO ₃	10 000 mg/l	30	ml	C118.2NPL03
				100	ml	C118.2NPL1
				250	ml	C118.2NPL25
				500	ml	C118.2NPL5
Iron	Fe	in 2-5% HCl	10 000 mg/l	30	ml	C119.5CPL03
				100	ml	C119.5CPL1
				250	ml	C119.5CPL125
				500	ml	C119.5CPL5
Iron	Fe	in 2-5% HNO ₃	10 000 mg/l	30	ml	C119.5NPL03
				100	ml	C119.5NPL1
				250	ml	C119.5NPL25
				500	ml	C119.5NPL5

TYPE NAME	ELEMENT	MATRIX	CONCENTRATION	VOLUME	UNIT	REFERENCE
Gallium	Ga	in 2-5% HNO ₃	10 000 mg/l	30	ml	C120.5NPL03
				100	ml	C120.5NPL1
				250	ml	C120.5NPL25
				500	ml	C120.5NPL5
Gadolinium	Gd	in 2-5% HNO ₃	10 000 mg/l	30	ml	C121.5NPL03
				100	ml	C121.5NPL1
				250	ml	C121.5NPL25
				500	ml	C121.5NPL5
Germanium	Ge	in 2-5% HNO ₃ /HF tr	10 000 mg/l	30	ml	C122.5N1FPL03
				100	ml	C122.5N1FPL1
				250	ml	C122.5N1FPL25
				500	ml	C122.5N1FPL5
Hafnium	Hf	in 2-5% HNO ₃ /HF tr	10 000 mg/l	30	ml	C123.5N2FPL03
				100	ml	C123.5N2FPL1
				250	ml	C123.5N2FPL25
				500	ml	C123.5N2FPL5
Mercury	Hg	in 5-10% HNO ₃	10 000 mg/l	30	ml	C124.10NPL03
				100	ml	C124.10NPL1
				250	ml	C124.10NPL25
				500	ml	C124.10NPL5
Holmium	Ho	in 2-5% HNO ₃	10 000 mg/l	30	ml	C125.5NPL03
				100	ml	C125.5NPL1
				250	ml	C125.5NPL25
				500	ml	C125.5NPL5
Indium	In	in 2-5% HNO ₃	10 000 mg/l	30	ml	C126.5NPL03
				100	ml	C126.5NPL1
				250	ml	C126.5NPL25
				500	ml	C126.5NPL5
Iridium	Ir	in 5-10% HCl	10 000 mg/l	30	ml	C127.10CPL03
				100	ml	C127.10CPL1
				250	ml	C127.10CPL25
				500	ml	C127.10CPL5
Potassium	K	in 2-5% HNO ₃	10 000 mg/l	30	ml	C128.2NPL03
				100	ml	C128.2NPL1
				250	ml	C128.2NPL25
				500	ml	C128.2NPL5
Potassium	K	in H ₂ O	10 000 mg/l	30	ml	C128.W.L03
				100	ml	C128.W.L1
				250	ml	C128.W.L25
				500	ml	C128.W.L5
Lanthanum	La	in 2-5% HNO ₃	10 000 mg/l	30	ml	C129.5NPL03
				100	ml	C129.5NPL1
				250	ml	C129.5NPL25
				500	ml	C129.5NPL5
Lithium	Li	in 2-5% HNO ₃	10 000 mg/l	30	ml	C130.5NPL03
				100	ml	C130.5NPL1
				250	ml	C130.5NPL25
				500	ml	C130.5NPL5



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TYPE NAME	ELEMENT	MATRIX	CONCENTRATION	VOLUME	UNIT	REFERENCE
Lutetium	Lu	in 2-5% HNO ₃	10 000 mg/l	30	ml	C131.5NPL03
				100	ml	C131.5NPL1
				250	ml	C131.5NPL25
				500	ml	C131.5NPL5
Magnesium	Mg	in 2-5% HNO ₃	10 000 mg/l	30	ml	C132.2NPL03
				100	ml	C132.2NPL1
				250	ml	C132.2NPL25
				500	ml	C132.2NPL5
Manganese	Mn	in 2-5% HCl	10 000 mg/l	30	ml	C133.5CPL03
				100	ml	C133.5CPL1
				250	ml	C133.5CPL25
				500	ml	C133.5CPL5
Manganese	Mn	in 2-5% HNO ₃	10 000 mg/l	30	ml	C133.5NPL03
				100	ml	C133.5NPL1
				250	ml	C133.5NPL25
				500	ml	C133.5NPL5
Molybdenum	Mo	in 2-5 % NH ₄ OH	10 000 mg/l	30	ml	C134.4APL03
				100	ml	C134.4APL1
				250	ml	C134.4APL25
				500	ml	C134.4APL5
Molybdenum	Mo	in 2-5% HNO ₃ /HF tr	10 000 mg/l	30	ml	C134.5N4FPL03
				100	ml	C134.5N4FPL1
				250	ml	C134.5N4FPL25
				500	ml	C134.5N4FPL5
Sodium	Na	in 2-5% HNO ₃	10 000 mg/l	30	ml	C135.2NPL03
				100	ml	C135.2NPL1
				250	ml	C135.2NPL25
				500	ml	C135.2NPL5
Sodium	Na	in H ₂ O	10 000 mg/l	30	ml	C135.W.L03
				100	ml	C135.W.L1
				250	ml	C135.W.L25
				500	ml	C135.W.L5
Niobium	Nb	in 2-5% HNO ₃ /HF tr	10 000 mg/l	30	ml	C136.5N5FPL03
				100	ml	C136.5N5FPL1
				250	ml	C136.5N5FPL25
				500	ml	C136.5N5FPL5
Neodymium	Nd	in 2-5% HNO ₃	10 000 mg/l	30	ml	C137.5N.L03
				100	ml	C137.5N.L1
				250	ml	C137.5N.L25
				500	ml	C137.5N.L5
Nickel	Ni	in 2-5% HNO ₃	10 000 mg/l	30	ml	C138.5NPL03
				100	ml	C138.5NPL1
				250	ml	C138.5NPL25
				500	ml	C138.5NPL5
Phosphorus	P	in 0,5% H ₂ SO ₄	10 000 mg/l	30	ml	C140.05SPL03
				100	ml	C140.005SPL1
				250	ml	C140.005SPL25
				500	ml	C140.005SPL5

TYPE NAME	ELEMENT	MATRIX	CONCENTRATION	VOLUME	UNIT	REFERENCE
Phosphorus	P	in H ₂ O	10 000 mg/l	30	ml	C140.W.L03
				100	ml	C140.W.L1
				250	ml	C140.W.L25
				500	ml	C140.W.L5
Lead	Pb	in 2-5% HNO ₃	10 000 mg/l	33	ml	C141.5NPL03
				100	ml	C141.5NPL1
				250	ml	C141.5NPL25
				500	ml	C141.5NPL5
Palladium	Pd	in 5-10% HNO ₃	10 000 mg/l	30	ml	C142.10NPL03
				100	ml	C142.10NPL1
				250	ml	C142.10NPL25
				500	ml	C142.10NPL5
Palladium	Pd	in 2-5% HCl	10 000 mg/l	30	ml	C142.5CPL03
				100	ml	C142.5CPL1
				250	ml	C142.5CPL25
				500	ml	C142.5CPL5
Praseodymium	Pr	in 2-5% HNO ₃	10 000 mg/l	30	ml	C143.5NPL03
				100	ml	C143.5NPL1
				250	ml	C143.5NPL25
				500	ml	C143.5NPL5
Platinum	Pt	in 10-20% HCl	10 000 mg/l	30	ml	C144.10CPL03
				100	ml	C144.10CPL1
				250	ml	C144.10CPL25
				500	ml	C144.10CPL5
Rubidium	Rb	in 2-5% HNO ₃	10 000 mg/l	30	ml	C145.2NPL03
				100	ml	C145.2NPL1
				250	ml	C145.2NPL25
				500	ml	C145.2NPL5
Rubidium	Rb	in H ₂ O	10 000 mg/l	30	ml	C145.W.L03
				100	ml	C145.W.L1
				250	ml	C145.W.L25
				500	ml	C145.W.L5
Rhenium	Re	in 2-5% HNO ₃	10 000 mg/l	30	ml	C146.5NPL03
				100	ml	C146.5NPL1
				250	ml	C146.5NPL25
				500	ml	C146.5NPL5
Rhenium	Re	in H ₂ O	10 000 mg/l	30	ml	C146.W.L03
				100	ml	C146.W.L1
				250	ml	C146.W.L25
				500	ml	C146.W.L5
Ruthenium	Ru	in 10-20% HCl	10 000 mg/l	30	ml	C148.10CPL03
				100	ml	C148.10CPL1
				250	ml	C148.10CPL25
				500	ml	C148.10CPL5
Sulfur	S	in H ₂ O	10 000 mg/l	30	ml	C149.W.L03
				100	ml	C149.W.L1
				250	ml	C149.W.L25
				500	ml	C149.W.L5



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TYPE NAME	ELEMENT	MATRIX	CONCENTRATION	VOLUME	UNIT	REFERENCE
Antimony	Sb	in 2-5% HNO ₃ /HF tr	10 000 mg/l	30	ml	C150.10N2FPL03
				100	ml	C150.10N2FPL1
				250	ml	C150.10N2FPL25
				500	ml	C150.10N2FPL5
Antimony	Sb	in 10-20% HCl	10 000 mg/l	30	ml	C150.20CPL03
				100	ml	C150.20CPL1
				250	ml	C150.20CPL25
				500	ml	C150.20CPL5
Scandium	Sc	in 2-5% HNO ₃	10 000 mg/l	30	ml	C151.5NPL03
				100	ml	C151.5NPL1
				250	ml	C151.5NPL25
				500	ml	C151.5NPL5
Selenium	Se	in 2-5% HNO ₃	10 000 mg/l	30	ml	C152.5NPL03
				100	ml	C152.5NPL1
				250	ml	C152.5NPL25
				500	ml	C152.5NPL5
Silicon	Si	in H ₂ O	10 000 mg/l	30	ml	C153.W.L03
				100	ml	C153.W.L1
				250	ml	C153.W.L25
				500	ml	C153.W.L5
Samarium	Sm	in 2-5% HNO ₃	10 000 mg/l	30	ml	C154.2NPL03
				100	ml	C154.2NPL1
				250	ml	C154.2NPL25
				500	ml	C154.2NPL5
Tin	Sn	in 10-20% HCl	10 000 mg/l	30	ml	C155.20CPL03
				100	ml	C155.20CPL1
				250	ml	C155.20CPL25
				500	ml	C155.20CPL5
Tin	Sn	in 2-5% HNO ₃ /HF tr	10 000 mg/l	30	ml	C155.2N2FPL03
				100	ml	C155.2N2FPL1
				250	ml	C155.2N2FPL25
				500	ml	C155.2N2FPL5
Strontium	Sr	in 2-5% HCl	10 000 mg/l	30	ml	C156.2CPL03
				100	ml	C156.2CPL1
				250	ml	C156.2CPL25
				500	ml	C156.2CPL5
Strontium	Sr	in 2-5% HNO ₃	10 000 mg/l	30	ml	C156.2NPL03
				100	ml	C156.2NPL1
				250	ml	C156.2NPL25
				500	ml	C156.2NPL5
Tantalum	Ta	in 2-5% HNO ₃ /HF tr	10 000 mg/l	30	ml	C157.5N2FPL03
				100	ml	C157.5N2FPL1
				250	ml	C157.5N2FPL25
				500	ml	C157.5N2FPL5
Terbium	Tb	in 2-5% HNO ₃	10 000 mg/l	30	ml	C158.5NPL03
				100	ml	C158.5NPL1
				250	ml	C158.5NPL25
				500	ml	C158.5NPL5

TYPE NAME	ELEMENT	MATRIX	CONCENTRATION	VOLUME	UNIT	REFERENCE
Tellurium	Te	in 10-20% HNO ₃	10 000 mg/l	30	ml	C159.20NPL03
				100	ml	C159.20NPL1
				250	ml	C159.20NPL25
				500	ml	C159.20NPL5
Titanium	Ti	in 2-5% HCl/HF tr	10 000 mg/l	30	ml	C161.5C05FPL03
				100	ml	C161.5C05FPL1
				250	ml	C161.5C05FPL25
				500	ml	C161.5C05FPL5
Titanium	Ti	in 2-5% HNO ₃ /HF tr	10 000 mg/l	30	ml	C161.5N2FPL03
				100	ml	C161.5N2FPL1
				250	ml	C161.5N2FPL25
				500	ml	C161.5N2FPL5
Thallium	Tl	in 2-5% HNO ₃	10 000 mg/l	30	ml	C162.5NPL03
				100	ml	C162.5NPL1
				250	ml	C162.5NPL25
				500	ml	C162.5NPL5
Thulium	Tm	in 2-5% HNO ₃	10 000 mg/l	30	ml	C163.5NPL03
				100	ml	C163.5NPL1
				250	ml	C163.5NPL25
				500	ml	C163.5NPL5
Uranium	U	in 2-5% HNO ₃	10 000 mg/l	30	ml	C164.5NPL03
				100	ml	C164.5NPL1
				250	ml	C164.5NPL25
				500	ml	C164.5NPL5
Vanadium	V	in 2-5% HNO ₃	10 000 mg/l	30	ml	C165.5NPL03
				100	ml	C165.5NPL1
				250	ml	C165.5NPL25
				500	ml	C165.5NPL5
Vanadium	V	in 2-5% H ₂ SO ₄	10 000 mg/l	30	ml	C165.5SPL03
				100	ml	C165.5SPL1
				250	ml	C165.5SPL25
				500	ml	C165.5SPL5
Tungsten	W	in 5-10% NH ₄ OH	10 000 mg/l	30	ml	C166.10APL03
				100	ml	C166.10APL1
				250	ml	C166.10APL25
				500	ml	C166.10APL5
Tungsten	W	in 2-5% HNO ₃ /HF tr	10 000 mg/l	30	ml	C166.2N5FPL03
				100	ml	C166.2N5FPL1
				250	ml	C166.2N5FPL25
				500	ml	C166.2N5FPL5
Yttrium	Y	in 2-5% HNO ₃	10 000 mg/l	30	ml	C167.5NPL03
				100	ml	C167.5NPL1
				250	ml	C167.5NPL25
				500	ml	C167.5NPL5
Ytterbium	Yb	in 2-5% HNO ₃	10 000 mg/l	30	ml	C168.5NPL03
				100	ml	C168.5NPL1
				250	ml	C168.5NPL25
				500	ml	C168.5NPL5



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TYPE NAME	ELEMENT	MATRIX	CONCENTRATION	VOLUME	UNIT	REFERENCE
Zinc	Zn	in 2-5% HCl	10 000 mg/l	30	ml	C169.5CPL03
				100	ml	C169.5CPL1
				250	ml	C169.5CPL25
				500	ml	C169.5CPL5
Zinc	Zn	in 2-5% HNO ₃	10 000 mg/l	30	ml	C169.5NPL03
				100	ml	C169.5NPL1
				250	ml	C169.5NPL25
				500	ml	C169.5NPL5
Zirconium	Zr	in 2-5% HCl/HF tr	10 000 mg/l	30	ml	C170.5C2FPL03
				100	ml	C170.5C2FPL1
				250	ml	C170.5C2FPL25
				500	ml	C170.5C2FPL5
Zirconium	Zr	in 2-5% HNO ₃ /HF tr	10 000 mg/l	30	ml	C170.5N2FPL03
				100	ml	C170.5N2FPL1
				250	ml	C170.5N2FPL25
				500	ml	C170.5N2FPL5

10 mg/l for ICP-MS

TYPE NAME	ELEMENT	STARTING MATERIAL	MATRIX	CONCENTRATION	VOLUME	UNIT	REFERENCE
Silver	Ag	Ag 99.999%	in 2-5% HNO ₃	10 mg/l	100	ml	M401.2NPL1
Aluminium	Al	Al(NO ₃) ₃ 99.999%	in 2-5% HNO ₃	10 mg/l	100	ml	M402.2NPL1
Arsenic	As	As 99.9999%	in 2-5% HNO ₃	10 mg/l	100	ml	M403.2NPL1
Gold	Au	Au 99.999%	in 2-5% HCl	10 mg/l	100	ml	M404.2CPL1
Boron	B	(NH ₄) ₂ B ₄ O ₇ 99.999%	in H ₂ O	10 mg/l	100	ml	M405.W.L1
Barium	Ba	BaCO ₃ 99.999%	in 2-5% HNO ₃	10 mg/l	100	ml	M406.2NPL1
Beryllium	Be	Be ₄ O(C ₂ H ₃ O ₂) ₆ 99.999%	in 2-5% HNO ₃	10 mg/l	100	ml	M407.2NPL1
Bismuth	Bi	Bi 99.999%	in 2-5% HNO ₃	10 mg/l	100	ml	M408.2NPL1
Calcium	Ca	CaCO ₃ 99.999%	in 2-5% HNO ₃	10 mg/l	100	ml	M409.2NPL1
Cadmium	Cd	Cd 99.9999%	in 2-5% HNO ₃	10 mg/l	100	ml	M410.2NPL1
Cerium	Ce	Ce(NO ₃) ₃ 99.999%	in 2-5% HNO ₃	10 mg/l	100	ml	M411.2NPL1
Cobalt	Co	Co 99.999%	in 2-5% HNO ₃	10 mg/l	100	ml	M412.2NPL1
Chromium	Cr	Cr(NO ₃) ₃ 99.999%	in 2-5% HNO ₃	10 mg/l	100	ml	M413.2NPL1
Cesium	Cs	CsNO ₃ 99.999%	in 2-5% HNO ₃	10 mg/l	100	ml	M414.2NPL1
Copper	Cu	Cu 99.999%	in 2-5% HNO ₃	10 mg/l	100	ml	M415.2NPL1
Dysprosium	Dy	Dy ₂ O ₃ 99.999%	in 2-5% HNO ₃	10 mg/l	100	ml	M416.2NPL1
Erbium	Er	Er ₂ O ₃ 99.999%	in 2-5% HNO ₃	10 mg/l	100	ml	M417.2NPL1
Europium	Eu	Eu ₂ O ₃ 99.99%	in 2-5% HNO ₃	10 mg/l	100	ml	M418.2NPL1
Iron	Fe	Fe(NO ₃) ₃ 99.9995%	in 2-5% HNO ₃	10 mg/l	100	ml	M419.2NPL1
Gallium	Ga	Ga 99.999%	in 2-5% HNO ₃	10 mg/l	100	ml	M420.2NPL1
Gadolinium	Gd	Gd ₂ O ₃ 99.999%	in 2-5% HNO ₃	10 mg/l	100	ml	M421.2NPL1
Germanium	Ge	Ge 99.999%	in 2-5% HNO ₃ /HF tr	10 mg/l	100	ml	M422.2N02FPL1
Hafnium	Hf	HfO ₂ 99.995%	in 2-5% HNO ₃ /HF tr	10 mg/l	100	ml	M423.2N05FPL1
Mercury	Hg	HgO 99.999+%	in 2-5% HNO ₃	10 mg/l	100	ml	M424.5NPL1
Holmium	Ho	HoO ₃ 99.99%	in 2-5% HNO ₃	10 mg/l	100	ml	M425.2NPL1
Indium	In	In 99.999%	in 2-5% HCl	10 mg/l	100	ml	M426.2NPL1

TYPE NAME	ELEMENT	STARTING MATERIAL	MATRIX	CONCENTRATION	VOLUME	UNIT	REFERENCE
Iridium	Ir	(NH ₄) ₂ IrCl ₆ 99.99%	in 2-5% HCl	10 mg/l	100	ml	M427.2CPL1
Potassium	K	KNO ₃ 99.999%	in 2-5% HNO ₃	10 mg/l	100	ml	M428.2NPL1
Lanthanum	La	La ₂ O ₃ 99.999%	in 2-5% HNO ₃	10 mg/l	100	ml	M429.2NPL1
Lithium	Li	Li ₂ CO ₃ 99.999%	in 2-5% HNO ₃	10 mg/l	100	ml	M430.2NPL1
Lutetium	Lu	Lu ₂ O ₃ 99.99%	in 2-5% HNO ₃	10 mg/l	100	ml	M431.2NPL1
Magnesium	Mg	Mg(NO ₃) ₂ , 99.999%	in 2-5% HNO ₃	10 mg/l	100	ml	M432.2NPL1
Manganese	Mn	Mn(NO ₃) ₂ , 99.999%	in 2-5% HNO ₃	10 mg/l	100	ml	M433.2NPL1
Molybdenum	Mo	(NH ₄) ₂ MoO ₄ , 99.999%	in H ₂ O	10 mg/l	100	ml	M434.W.L1
Sodium	Na	NaNO ₃ 99.999%	in 2-5% HNO ₃	10 mg/l	100	ml	M435.2NPL1
Niobium	Nb	Nb 99.99%	in 2-5% HNO ₃ /HF tr	10 mg/l	100	ml	M436.2N05FPL1
Neodymium	Nd	Nd ₂ O ₃ 99.999%	in 2-5% HNO ₃	10 mg/l	100	ml	M437.2NPL1
Nickel	Ni	Ni(NO ₃) ₂ 99.9998%	in 2-5% HNO ₃	10 mg/l	100	ml	M438.2NPL1
Phosphorus	P	NH ₄ H ₂ PO ₄ 99.999%	in H ₂ O	10 mg/l	100	ml	M440.W.L1
Lead	Pb	Pb(NO ₃) ₂ 99.9995%	in 2-5% HNO ₃	10 mg/l	100	ml	M441.2NPL1
Palladium	Pd	Pd 99.999%	in 2-5% HNO ₃	10 mg/l	100	ml	M442.2NPL1
Praseodymium	Pr	Pr ₆ O ₁₁ 99.999%	in 2-5% HNO ₃	10 mg/l	100	ml	M443.2NPL1
Platinum	Pt	Pt 99.999%	in 2-5% HCl	10 mg/l	100	ml	M444.2CPL1
Rubidium	Rb	RbNO ₃ 99.99%	in 2-5% HNO ₃	10 mg/l	100	ml	M445.2NPL1
Rhenium	Re	Re 99.995 + %	in 2-5% HNO ₃	10 mg/l	100	ml	M446.2NPL1
Rhodium	Rh	RhCl ₃ 99.99%	in 2-5% HCl	10 mg/l	100	ml	M447.2CPL1
Ruthenium	Ru	RuCl ₃ 99.99%	in 2-5% HCl	10 mg/l	100	ml	M448.2CPL1
Sulphur	S	(NH ₄) ₂ SO ₄ 99.999%	in H ₂ O	10 mg/l	100	ml	M449.W.L1
Antimony	Sb	Sb 99.999%	in 2-5% HNO ₃ /HF tr	10 mg/l	100	ml	M450.2N05FPL1
Scandium	Sc	Sc(NO ₃) ₃ 99.999%	in 2-5% HNO ₃	10 mg/l	100	ml	M451.2NPL1
Selenium	Se	Se 99.999%	in 2-5% HNO ₃	10 mg/l	100	ml	M452.2NPL1
Silicon	Si	(NH ₄) ₂ SiF ₆ 99.999%	in H ₂ O	10 mg/l	100	ml	M453.W.L1
Samarium	Sm	Sm ₂ O ₃ 99.999%	in 2-5% HNO ₃	10 mg/l	100	ml	M454.2NPL1
Tin	Sn	Sn 99.9999%	in 2-5% HNO ₃ /HF tr	10 mg/l	100	ml	M455.1N05FPL1
Strontium	Sr	SrCO ₃ 99.999%	in 2-5% HNO ₃	10 mg/l	100	ml	M456.2NPL1
Tantalum	Ta	Ta 99.99 + %	in 2-5% HNO ₃ /HF tr	10 mg/l	100	ml	M457.2N05FPL1
Terbium	Tb	Tb(NO ₃) ₃ 99.999%	in 2-5% HNO ₃	10 mg/l	100	ml	M458.2NPL1
Tellurium	Te	Te 99.999%	in 2-5% HNO ₃	10 mg/l	100	ml	M459.2NPL1
Titanium	Ti	(NH ₄) ₂ TiF ₆ , 99.998%	in 2-5% HNO ₃ /HF tr	10 mg/l	100	ml	M461.2N02FPL1
Thallium	Tl	TlNO ₃ 99.999%	in 2-5% HNO ₃	10 mg/l	100	ml	M462.2NPL1
Thulium	Tm	Tm ₂ O ₃ 99.999%	in 2-5% HNO ₃	10 mg/l	100	ml	M463.2NPL1
Uranium	U	UO ₂ (OOCCH ₃) ₂ 99.99%	in 2-5% HNO ₃	10 mg/l	100	ml	M464.2NPL1
Vanadium	V	NH ₄ VO ₃ 99.999%	in 2-5% HNO ₃	10 mg/l	100	ml	M465.2NPL1
Tungsten	W	WO ₃ 99.999%	in H ₂ O/NH ₄ OH tr	10 mg/l	100	ml	M466.W.L1
Yttrium	Y	Y ₂ O ₃ 99.999%	in 2-5% HNO ₃	10 mg/l	100	ml	M467.2NPL1
Ytterbium	Yb	Yb ₂ O ₃ 99.999%	in 2-5% HNO ₃	10 mg/l	100	ml	M468.2NPL1
Zinc	Zn	Zn 99.999%	in 2-5% HNO ₃	10 mg/l	100	ml	M469.2NPL1
Zirconium	Zr	ZrO(NO ₃) ₂ 99.99%	in 2-5% HNO ₃ /HF tr	10 mg/l	100	ml	M470.2N05FPL1



100 mg/l for ICP-MS

TYPE NAME	ELEMENT	STARTING MATERIAL	MATRIX	CONCENTRATION	VOLUME	UNIT	REFERENCE
Silver	Ag	Ag 99.999%	in 2-5% HNO ₃	100 mg/l	100	ml	M301.2NPL1
Aluminium	Al	Al(NO ₃) ₃ 99.999%	in 2-5% HNO ₃	100 mg/l	100	ml	M302.2NPL1
Arsenic	As	As 99.999%	in 2-5% HNO ₃	100 mg/l	100	ml	M303.2NPL1
Gold	Au	Au 99.999%	in 2-5% HCl	100 mg/l	100	ml	M304.2CPL1
Boron	B	(NH ₄) ₂ B ₄ O ₇ 99.999%	in H ₂ O	100 mg/l	100	ml	M305.WL1
Barium	Ba	BaCO ₃ 99.999%	in 2-5% HNO ₃	100 mg/l	100	ml	M306.2NPL1
Beryllium	Be	Be ₄ O(C ₂ H ₃ O ₂) ₆ 99.999%	in 2-5% HNO ₃	100 mg/l	100	ml	M307.2NPL05
Bismuth	Bi	Bi 99.999%	in 2-5% HNO ₃	100 mg/l	100	ml	M308.2NPL1
Calcium	Ca	CaCO ₃ 99.999%	in 2-5% HNO ₃	100 mg/l	100	ml	M309.2NPL1
Cadmium	Cd	Cd 99.9999%	in 2-5% HNO ₃	100 mg/l	100	ml	M310.2NPL1
Cerium	Ce	Ce(NO ₃) ₃ 99.999%	in 2-5% HNO ₃	100 mg/l	100	ml	M311.2NPL1
Cobalt	Co	Co(NO ₃) ₂ 99.999%	in 2-5% HNO ₃	100 mg/l	100	ml	M312.2NPL1
Chromium	Cr	Cr(NO ₃) ₃ 99.999%	in 2-5% HNO ₃	100 mg/l	100	ml	M313.2NPL1
Cesium	Cs	CsNO ₃ 99.999%	in 2-5% HNO ₃	100 mg/l	100	ml	M314.2NPL1
Copper	Cu	Cu 99.999%	in 2-5% HNO ₃	100 mg/l	100	ml	M315.2NPL1
Dysprosium	Dy	Dy ₂ O ₃ 99.999%	in 2-5% HNO ₃	100 mg/l	100	ml	M316.2NPL1
Erbium	Er	Er ₂ O ₃ 99.999%	in 2-5% HNO ₃	100 mg/l	100	ml	M317.2NPL1
Europium	Eu	Eu ₂ O ₃ 99.99%	in 2-5% HNO ₃	100 mg/l	100	ml	M318.2NPL1
Iron	Fe	Fe(NO ₃) ₃ 99.9995%	in 2-5% HNO ₃	100 mg/l	100	ml	M319.2NPL1
Gallium	Ga	Ga 99.999%	in 2-5% HNO ₃	100 mg/l	100	ml	M320.2NPL1
Gadolinium	Gd	Gd ₂ O ₃ 99.999%	in 2-5% HNO ₃	100 mg/l	100	ml	M321.2NPL1
Germanium	Ge	Ge 99.999%	in 2-5% HNO ₃ /HF tr	100 mg/l	100	ml	M322.2N02FPL1
Hafnium	Hf	HfO ₂ 99.995%	in 2-5% HNO ₃ /HF tr	100 mg/l	100	ml	M323.2N05FPL1
Mercury	Hg	HgO 99.999+ %	in 2-5% HNO ₃	100 mg/l	100	ml	M324.5NPL1
Holmium	Ho	HoO ₃ 99.99%	in 2-5% HNO ₃	100 mg/l	100	ml	M325.2NPL1
Indium	In	In 99.999%	in 2-5% HNO ₃	100 mg/l	100	ml	M326.2NPL1
Iridium	Ir	(NH ₄) ₂ IrCl ₆ 99.99%	in 2-5% HCl	100 mg/l	100	ml	M327.2CPL1
Potassium	K	KNO ₃ 99.999%	in 2-5% HNO ₃	100 mg/l	100	ml	M328.2NPL1
Lanthanum	La	La ₂ O ₃ 99.999%	in 2-5% HNO ₃	100 mg/l	100	ml	M329.2NPL1
Lithium	Li	Li ₂ CO ₃ 99.999%	in 2-5% HNO ₃	100 mg/l	100	ml	M330.2NPL1
Lutetium	Lu	Lu ₂ O ₃ 99.99%	in 2-5% HNO ₃	100 mg/l	100	ml	M331.2NPL1
Magnesium	Mg	Mg(NO ₃) ₂ 99.9995%	in 2-5% HNO ₃	100 mg/l	100	ml	M332.2NPL1
Manganese	Mn	Mn(NO ₃) ₂ 99.999%	in 2-5% HNO ₃	100 mg/l	100	ml	M333.2NPL1
Molybdenum	Mo	(NH ₄) ₂ MoO ₄ 99.999%	in H ₂ O	100 mg/l	100	ml	M334.WL1
Sodium	Na	NaNO ₃ 99.999%	in 2-5% HNO ₃	100 mg/l	100	ml	M335.2NPL1
Niobium	Nb	Nb 99.99%	in 2-5% HNO ₃ /HF tr	100 mg/l	100	ml	M336.2N05FPL1
Neodymium	Nd	Nd ₂ O ₃ 99.999%	in 2-5% HNO ₃	100 mg/l	100	ml	M337.2NPL1
Nickel	Ni	Ni 99.9998%	in 2-5% HNO ₃	100 mg/l	100	ml	M338.2NPL1
Phosphorus	P	NH ₄ H ₂ PO ₄ 99.999%	in H ₂ O	100 mg/l	100	ml	M340.WL1
Lead	Pb	Pb(NO ₃) ₂ 99.9995%	in 2-5% HNO ₃	100 mg/l	100	ml	M341.2NPL1
Palladium	Pd	Pd 99.999%	in 2-5% HNO ₃	100 mg/l	100	ml	M342.2NPL1
Praseodymium	Pr	Pr ₆ O ₁₁ 99.999%	in 2-5% HNO ₃	100 mg/l	100	ml	M343.2NPL1
Platinum	Pt	Pt 99.999%	in 2-5% HCl	100 mg/l	100	ml	M344.2CPL1

TYPE NAME	ELEMENT	STARTING MATERIAL	MATRIX	CONCENTRATION	VOLUME	UNIT	REFERENCE
Rubidium	Rb	RbNO ₃ 99.99%	in 2-5% HNO ₃	100 mg/l	100	ml	M345.2NPL1
Rhenium	Re	Re 99.995+ %	in 2-5% HNO ₃	100 mg/l	100	ml	M346.2NPL1
Rhodium	Rh	RhCl ₃ 99.99%	in 2-5% HCl	100 mg/l	100	ml	M347.2CPL1
Ruthenium	Ru	RuCl ₃ 99.99%	in 2-5% HCl	100 mg/l	100	ml	M348.2CPL1
Sulphur	S	(NH ₄) ₂ SO ₄ 99.999%	in H ₂ O	100 mg/l	100	ml	M349.W.L1
Antimony	Sb	Sb 99.999%	in 2-5% HNO ₃ /HF tr	100 mg/l	100	ml	M350.2N05FPL1
Scandium	Sc	Sc(NO ₃) ₃ 99.999%	in 2-5% HNO ₃	100 mg/l	100	ml	M351.2NPL1
Selenium	Se	Se 99.999%	in 2-5% HNO ₃	100 mg/l	100	ml	M352.2NPL1
Silicon	Si	(NH ₄) ₂ SiF ₆ 99.999%	in H ₂ O	100 mg/l	100	ml	M353.W.L1
Samarium	Sm	Sm ₂ O ₃ 99.999%	in 2-5% HNO ₃	100 mg/l	100	ml	M354.2NPL1
Tin	Sn	Sn 99.9999%	in 2-5% HNO ₃ /HF tr	100 mg/l	100	ml	M355.1N05FPL1
Strontium	Sr	SrCO ₃ 99.999%	in 2-5% HNO ₃	100 mg/l	100	ml	M356.2NPL1
Tantalum	Ta	Ta 99.99+ %	in 2-5% HNO ₃ /HF tr	100 mg/l	100	ml	M357.2N05FPL1
Terbium	Tb	Tb(NO ₃) ₃ 99.999%	in 2-5% HNO ₃	100 mg/l	100	ml	M358.2NPL1
Tellurium	Te	Te 99.999%	in 2-5% HNO ₃	100 mg/l	100	ml	M359.2NPL1
Titanium	Ti	(NH ₄) ₂ TiF ₆ 99.998%	in 2-5% HNO ₃ /HF tr	100 mg/l	100	ml	M361.2N02FPL1
Thallium	Tl	TlNO ₃ 99.999%	in 2-5% HNO ₃	100 mg/l	100	ml	M362.2NPL1
Thulium	Tm	Tm ₂ O ₃ 99.999%	in 2-5% HNO ₃	100 mg/l	100	ml	M363.2NPL1
Uranium	U	UO ₂ (OOCCH ₃) ₂ 99.99%	in 2-5% HNO ₃	100 mg/l	100	ml	M364.2NPL1
Vanadium	V	NH ₄ VO ₃ 99.999%	in 2-5% HNO ₃	100 mg/l	100	ml	M365.2NPL1
Tungsten	W	WO ₃ 99.999%	in 0,05% NH ₃	100 mg/l	100	ml	M366.W.L1
Yttrium	Y	Y ₂ O ₃ 99.999%	in 2-5% HNO ₃	100 mg/l	100	ml	M367.2NPL1
Ytterbium	Yb	Yb ₂ O ₃ 99.999%	in 2-5% HNO ₃	100 mg/l	100	ml	M368.2NPL1
Zinc	Zn	Zn 99.9999%	in 2-5% HNO ₃	100 mg/l	100	ml	M369.2NPL1
Zirconium	Zr	ZrO(NO ₃) ₂ 99.99%	in 2-5% HNO ₃ /HF tr	100 mg/l	100	ml	M370.2N05FPL1

1000 mg/l for ICP-MS

TYPE NAME	ELEMENT	STARTING MATERIAL	MATRIX	CONCENTRATION	VOLUME	UNIT	REFERENCE
Silver	Ag	Ag 99.999%	in 2-5% HNO ₃	1000 mg/l	100	ml	M201.2NPL1
Gold	Au	Au 99.999%	in 2-5% HCl	1000 mg/l	100	ml	M204.2CPL1
Barium	Ba	BaCO ₃ 99.999%	in 2-5% HNO ₃	1000 mg/l	100	ml	M206.2NPL1
Beryllium	Be	Be ₄ O(C ₂ H ₃ O ₂) ₆ 99.999%	in 2-5% HNO ₃	1000 mg/l	100	ml	M207.2NPL1
Bismuth	Bi	Bi 99.999%	in 2-5% HNO ₃	1000 mg/l	100	ml	M208.2NPL1
Cadmium	Cd	Cd 99.9999%	in 2-5% HNO ₃	1000 mg/l	100	ml	M210.2NPL1
Cobalt	Co	Co(NO ₃) ₂ 99.999%	in 2-5% HNO ₃	1000 mg/l	100	ml	M212.2NPL1
Chromium	Cr	Cr(NO ₃) ₃ 99.999%	in 2-5% HNO ₃	1000 mg/l	100	ml	M213.2NPL1
Copper	Cu	Cu 99.999%	in 2-5% HNO ₃	1000 mg/l	100	ml	M215.2NPL1
Iron	Fe	Fe(NO ₃) ₃ 99.9995%	in 2-5% HNO ₃	1000 mg/l	100	ml	M219.2NPL1
Germanium	Ge	Ge 99.999%	in 2-5% HNO ₃ /HF tr	1000 mg/l	100	ml	M222.2N2FPL1
Mercury	Hg	HgO 99.999+ %	in 2-5% HNO ₃	1000 mg/l	100	ml	M224.5NPL1
Indium	In	In 99.999%	in 2-5% HNO ₃	1000 mg/l	100	ml	M226.2NPL1
Potassium	K	KNO ₃ 99.999%	in 2-5% HNO ₃	1000 mg/l	100	ml	M228.2NPL1
Lithium	Li	Li ₂ CO ₃ 99.999%	in 2-5% HNO ₃	1000 mg/l	100	ml	M230.2NPL1



* Custom Standards for ICP & ICP-MS are available upon request.

TYPE NAME	ELEMENT	STARTING MATERIAL	MATRIX	CONCENTRATION	VOLUME	UNIT	REFERENCE
Magnesium	Mg	Mg(NO ₃) ₂ , 99.9995%	in 2-5% HNO ₃	1000 mg/l	100	ml	M232.2NPL1
Manganese	Mn	Mn(NO ₃) ₂ , 99.999%	in 2-5% HNO ₃	1000 mg/l	100	ml	M233.2NPL1
Sodium	Na	NaNO ₃ 99.999%	in 2-5% HNO ₃	1000 mg/l	100	ml	M235.2NPL1
Nickel	Ni	Ni 99.9998%	in 2-5% HNO ₃	1000 mg/l	100	ml	M238.2NPL1
Phosphorus	P	NH ₄ H ₂ PO ₄ 99.999%	in H ₂ O	1000 mg/l	100	ml	M240.W.L1
Lead	Pb	Pb(NO ₃) ₂ 99.9995%	in 2-5% HNO ₃	1000 mg/l	100	ml	M241.2NPL1
Platinum	Pt	Pt 99.999%	in 2-5% HCl	1000 mg/l	100	ml	M244.2NPL1
Rhodium	Rh	RhCl ₃ 99.99%	in 2-5% HCl	1000 mg/l	100	ml	M247.2CPL1
Sulphur	S	(NH ₄) ₂ SO ₄ 99.999%	in H ₂ O	1000 mg/l	100	ml	M249.W.L1
Antimony	Sb	Sb 99.999%	in 2-5% HNO ₃ /HF tr	1000 mg/l	100	ml	M250.2N05FPL1
Scandium	Sc	Sc(NO ₃) ₃ 99.999%	in 2-5% HNO ₃	1000 mg/l	100	ml	M251.2NPL1
Selenium	Se	Se 99.999%	in 2-5% HNO ₃	1000 mg/l	100	ml	M252.2NPL1
Tin	Sn	Sn 99.9999%	in 2-5% HNO ₃ /HF tr	1000 mg/l	100	ml	M255.1N05FPL1
Strontium	Sr	SrCO ₃ 99.999%	in 2-5% HNO ₃	1000 mg/l	100	ml	M256.2NPL1
Terbium	Tb	Tb(NO ₃) ₃ 99.999%	in 2-5% HNO ₃	1000 mg/l	100	ml	M258.2NPL1
Titanium	Ti	(NH ₄) ₂ TiF ₆ , 99.998%	in 2-5% HNO ₃ /HF tr	1000 mg/l	100	ml	M261.2N2FPL1
Thallium	Tl	TlNO ₃ 99.999%	in 2-5% HNO ₃	1000 mg/l	100	ml	M262.2NPL1
Vanadium	V	NH ₄ VO ₃ 99.999%	in 2-5% HNO ₃	1000 mg/l	100	ml	M265.2NPL1
Yttrium	Y	Y ₂ O ₃ 99.999%	in 2-5% HNO ₃	1000 mg/l	100	ml	M267.2NPL1
Zinc	Zn	Zn 99.9999%	in 2-5% HNO ₃	1000 mg/l	100	ml	M269.2NPL1

10 000 mg/l for ICP-MS

TYPE NAME	ELEMENT	STARTING MATERIAL	MATRIX	CONCENTRATION	VOLUME	UNIT	REFERENCE
Bismuth	Bi	Bi 99.999%	in 5-10% HNO ₃	10 000 mg/l	100	ml	M108.10NPL1
Calcium	Ca	CaCO ₃ 99.999%	in 2-5% HNO ₃	10 000 mg/l	100	ml	M109.2NPL1
Cadmium	Cd	Cd 99.9999%	in 2-5% HNO ₃	10 000 mg/l	100	ml	M110.5NPL1
Cobalt	Co	Co(NO ₃) ₂ 99.999%	in 2-5% HNO ₃	10 000 mg/l	100	ml	M112.5NPL1
Chromium	Cr	Cr(NO ₃) ₃ 99.999%	in 2-5% HNO ₃	10 000 mg/l	100	ml	M113.5NPL1
Copper	Cu	Cu 99.999%	in 2-5% HNO ₃	10 000 mg/l	100	ml	M115.5NPL1
Iron	Fe	Fe(NO ₃) ₃ 99.9995%	in 2-5% HNO ₃	10 000 mg/l	100	ml	M119.5NPL5
Potassium	K	KNO ₃ 99.999%	in 2-5% HNO ₃	10 000 mg/l	100	ml	M128.2NPL1
Lithium	Li	Li ₂ CO ₃ 99.999%	in 2-5% HNO ₃	10 000 mg/l	100	ml	M130.2NPL1
Magnesium	Mg	Mg(NO ₃) ₂ 99.9995%	in 2-5% HNO ₃	10 000 mg/l	100	ml	M132.2NPL1
Manganese	Mn	Mn(NO ₃) ₂ 99.999%	in 2-5% HNO ₃	10 000 mg/l	100	ml	M133.5NPL1
Sodium	Na	NaNO ₃ 99.999%	in 2-5% HNO ₃	10 000 mg/l	100	ml	M135.2NPL1
Phosphorus	P	NH ₄ H ₂ PO ₄ 99.999%	in H ₂ O	10 000 mg/l	100	ml	M140.W.L100
Sulphur	S	(NH ₄) ₂ SO ₄ 99.999%	in H ₂ O	10 000 mg/l	100	ml	M149.W.L1
Antimony	Sb	Sb 99.999%	in 5-10% HNO ₃ /HF tr	10 000 mg/l	100	ml	M150.10N2FPL1
Tin	Sn	Sn 99.9999%	in 2-5% HNO ₃ /HF tr	10 000 mg/l	100	ml	M155.2N2FPL1
Zinc	Zn	Zn 99.9999%	in 2-5% HNO ₃	10 000 mg/l	100	ml	M169.5NPL1

Specification Standards

TYPE NAME	ELEMENT	STARTING MATERIAL	MATRIX	CONCENTRATION	VOLUME	UNIT	REFERENCE
Arsenic (III)	As (III)	As ₂ O ₃	in NaOH/NaCl	100 mg/l	100	ml	SP371.05001NC.L1
Arsenic (III)	As (III)	As ₂ O ₃	in NaOH/NaCl	1000 mg/l	100	ml	SP071.05001NC.L1
Arsenic (V)	As (III)	As ₂ O ₅	in H ₂ O	100 mg/l	100	ml	SP372.W.L1
Arsenic (V)	As (III)	As ₂ O ₅	in H ₂ O	1000 mg/l	100	ml	SP072.W.L1
Chromium (III)	Cr (III)	Cr metal	in 2-5% HNO ₃	10 mg/l	100	ml	SP473.5N.L1
Chromium (III)	Cr (III)	Cr metal	in 2-5% HNO ₃	100 mg/l	100	ml	SP373.5N.L1
Chromium (III)	Cr (III)	Cr metal	in 2-5% HNO ₃	1000 mg/l	100	ml	SP073.5N.L1
Chromium (III)	Cr (III)	Cr metal	in 2-5% HNO ₃	10000 mg/l	100	ml	SP173.5N.L1
Chromium (VI)	Cr (VI)	(NH ₄) ₂ Cr ₂ O ₇	in H ₂ O	100 mg/l	100	ml	SP374.W.L1
Chromium (VI)	Cr (VI)	(NH ₄) ₂ Cr ₂ O ₇	in H ₂ O	1000 mg/l	100	ml	SP074.W.L1
Selenium (IV)	Se (IV)	Se metal	in 2-5% HNO ₃	100 mg/l	100	ml	SP375.2N.L1
Selenium (IV)	Se (IV)	Se metal	in 2-5% HNO ₃	1000 mg/l	100	ml	SP075.2N.L1
Selenium (VI)	Se (VI)	Selenic acid	in H ₂ O/tr HNO ₃	100 mg/l	100	ml	SP376.01N.L1
Selenium (VI)	Se (VI)	Selenic acid	in H ₂ O/tr HNO ₃	1000 mg/l	100	ml	SP076.01N.L1

Blanks & dilution matrix

TYPE NAME	MATRIX	VOLUME	UNIT	REFERENCE
Blank- Nitric Acid	in 0.5% HNO ₃ (v/v)	500	ml	MS6469.0.05N.L5
Blank- Nitric Acid	in 5% HNO ₃ (v/v)	500	ml	MS6469.0.5N.L5
High - purity Water		500	ml	MS6469.0.W.L5
Water	in 5% HCl	500	ml	AW.5CPL5
Water	in 5% HNO ₃	500	ml	AW.5NPL5



* Custom Standards for ICP & ICP-MS are available upon request.

ICP Multi-Element Standards

ICP Standards

ICP Calibration Standards

Standard 33 components		Reference: M8A96.K1.5N.L1		Reference: M8A96.K1.5N.L5			
		Volume: 100 ml Matrix: in 5 % HNO ₃		Volume: 500 ml Matrix: in 5 % HNO ₃			
Element	Concentration	Element	Concentration	Element	Concentration	Element	Concentration
Al	100 mg/l	Cs	100 mg/l	Mn	100 mg/l	Sr	100 mg/l
Sb	100 mg/l	Cr	100 mg/l	Mo	100 mg/l	Tl	100 mg/l
As	100 mg/l	Co	100 mg/l	Ni	100 mg/l	Ti	100 mg/l
Ba	100 mg/l	Cu	100 mg/l	Nb	100 mg/l	U	100 mg/l
Be	100 mg/l	In	100 mg/l	K	100 mg/l	V	100 mg/l
Bi	100 mg/l	Fe	100 mg/l	Rb	100 mg/l	Zn	100 mg/l
B	100 mg/l	Pb	100 mg/l	Se	100 mg/l		
Cd	100 mg/l	Li	100 mg/l	Ag	100 mg/l		
Ca	100 mg/l	Mg	100 mg/l	Na	100 mg/l		

Standard 28 components		Reference: MB56A.K1.5N.L05		Reference: MB56A.K1.5N.L1		Reference: MB56A.K1.5N.L5	
		Volume: 50 ml Matrix: in 5 % HNO ₃		Volume: 100 ml Matrix: in 5 % HNO ₃		Volume: 500 ml Matrix: in 5 % HNO ₃	
Element	Concentration	Element	Concentration	Element	Concentration	Element	Concentration
Sb	100 mg/l	Cd	100 mg/l	Li	100 mg/l	Ag	100 mg/l
Al	100 mg/l	Ca	100 mg/l	Mg	100 mg/l	Na	100 mg/l
As	100 mg/l	Co	100 mg/l	Mn	100 mg/l	Sr	100 mg/l
Ba	100 mg/l	Cr	100 mg/l	Mo	100 mg/l	Tl	100 mg/l
Be	100 mg/l	Cu	100 mg/l	Ni	100 mg/l	Ti	100 mg/l
Bi	100 mg/l	Fe	100 mg/l	K	100 mg/l	V	100 mg/l
B	100 mg/l	Pb	100 mg/l	Se	100 mg/l	Zn	100 mg/l

Standard 4 components		Reference: 91C8.1K.2N.L1		Reference: 91C8.1K.2N.L5			
		Volume: 100 ml Matrix: in 2 % HNO ₃		Volume: 500 ml Matrix: in 2 % HNO ₃			
Element	Concentration	Element	Concentration	Element	Concentration	Element	Concentration
Ca	1000 mg/l	Mg	1000 mg/l	K	1000 mg/l	Na	1000 mg/l

Standard 2 components: P, S		Reference: F4AD.1K.W.L1		Reference: F4AD.1K.W.L5			
		Volume: 100 ml Matrix: in H ₂ O		Volume: 500 ml Matrix: in H ₂ O			
Element	Concentration	Element	Concentration				
P	1000 mg/l	S	1000 mg/l				

Standard precious metals - 8 components		Reference: A2E5.K1.5C.L1	
		Volume: 100 ml	
		Matrix: in 5 % HCl	
Element	Concentration	Element	Concentration
Au	100 mg/l	Pt	100 mg/l
Ir	100 mg/l	Re	100 mg/l
Os	100 mg/l	Rh	100 mg/l
Pd	100 mg/l	Ru	100 mg/l

Calibration Standard 7 - 3 components		Reference: E210.K5.5N.L1	
		Volume: 100 ml	
		Matrix: in 5 % HNO ₃	
Element	Concentration	Element	Concentration
B	500 mg/l	Si	500 mg/l
Mo	500 mg/l		

Calibration Standard - 15 components		Reference: E592.1.2N.L1	
		Volume: 100 ml	
		Matrix: in 2 % HNO ₃	
Element	Concentration	Element	Concentration
B	1 mg/l	Lu	1 mg/l
Ba	1 mg/l	Na	1 mg/l
Co	1 mg/l	Rh	1 mg/l
Fe	1 mg/l	Sc	1 mg/l
Ga	1 mg/l	Tl	1 mg/l
In	1 mg/l	U	1 mg/l
K	1 mg/l	Y	1 mg/l
Li	1 mg/l		

GENESIS Calibration Standard - 22 components		Reference: 3965.2.2N2C.L1	
		Volume: 100 ml	
		Matrix: in 2 % HNO ₃ / 2 % HCl/ tr. HF	
Element	Concentration	Element	Concentration
S	50 mg/l	V	10 mg/l
Ce	10 mg/l	Y	10 mg/l
Cu	10 mg/l	Zr	10 mg/l
Eu	10 mg/l	Mn	5 mg/l
Fe	10 mg/l	Mo	5 mg/l
In	10 mg/l	Na	5 mg/l
K	10 mg/l	Sc	5 mg/l
Ni	10 mg/l	Be	2 mg/l
P	10 mg/l	Li	2 mg/l
Si	10 mg/l	Sr	2 mg/l
Ti	10 mg/l	Ca	1 mg/l

Standard precious metals - 3 components		Reference: C56D.K1.5C.L1	
		Volume: 100 ml	
		Matrix: in 5 % HCl	
Element	Concentration	Element	Concentration
Au	100 mg/l	Pt	100 mg/l
Pd	100 mg/l		

Calibration Standard - 10 components		Reference: 1E1E.1.2N.L1	
		Volume: 100 ml	
		Matrix: in 2 % HNO ₃	
Element	Concentration	Element	Concentration
P	10 mg/l	Mn	1 mg/l
Ni	5 mg/l	Ba	0.2 mg/l
K	5 mg/l	Ca	0.2 mg/l
Al	1 mg/l	Mg	0.2 mg/l
Cu	1 mg/l	Zn	0.2 mg/l

ICP Calibration Standard - Toxic components - 7 components		Reference: 8E66.K1.5N.L1	
		Volume: 100 ml	
		Matrix: in 5 % HNO ₃	
Element	Concentration	Element	Concentration
As	100 mg/l	Pb	100 mg/l
Be	100 mg/l	Se	100 mg/l
Cd	100 mg/l	Tl	100 mg/l
Ni	100 mg/l		

ICP-MS Precious Metals Standard - 8 components		Reference: A2E5.10.5C.L1	
		Volume: 100 ml	
		Matrix: in 5 % HCl	
Element	Concentration	Element	Concentration
Au	10 mg/l	Pt	10 mg/l
Ir	10 mg/l	Re	10 mg/l
Os	10 mg/l	Rh	10 mg/l
Pd	10 mg/l	Ru	10 mg/l



* Custom Standards for ICP & ICP-MS are available upon request.

Calibration Standard - 26 components		Reference: MU01100100	
		Volume: 100 ml	
		Matrix: in 5 % HNO ₃	
Element	Concentration	Element	Concentration
Al	100 mg/l	Li	100 mg/l
As	100 mg/l	Mg	100 mg/l
Ba	100 mg/l	Mn	100 mg/l
Be	100 mg/l	Mo	100 mg/l
Bi	100 mg/l	Ni	100 mg/l
B	100 mg/l	K	100 mg/l
Cd	100 mg/l	Se	100 mg/l
Ca	100 mg/l	Na	100 mg/l
Cr	100 mg/l	Sr	100 mg/l
Co	100 mg/l	Tl	100 mg/l
Cu	100 mg/l	Ti	100 mg/l
Fe	100 mg/l	V	100 mg/l
Pb	100 mg/l	Zn	100 mg/l

Multi-element standard - 16 components		Reference: MU01060100	
		Volume: 100 ml	
		Matrix: in 10 % HNO ₃	
Element	Concentration	Element	Concentration
Al	100 mg/l	Fe	20 mg/l
Ba	5 mg/l	Pb	200 mg/l
Be	2 mg/l	Mn	10 mg/l
B	20 mg/l	Ni	50 mg/l
Cd	20 mg/l	Se	5 mg/l
Cr	20 mg/l	Tl	100 mg/l
Co	50 mg/l	V	50 mg/l
Cu	20 mg/l	Zn	50 mg/l

MISA Standard 3 - Tellurium		Reference: AA6C.K1.10C.L1	
		Volume: 100 ml	
		Matrix: in 10 % HCl	
Element	Concentration		
Te	100 mg/l		

Multi-element standard - 4 components		Reference: MU01090100	
		Volume: 100 ml	
		Matrix: in 1 % HCl	
Element	Concentration	Element	Concentration
Ca	100 mg/l	K	150 mg/l
Mg	20 mg/l	Na	3300 mg/l

MISA Standard 1 - Rare Earth Metals - 18 components		Reference: 7027.K1.5N.L1	
		Volume: 100 ml	
		Matrix: in 5 % HNO ₃	
Element	Concentration	Element	Concentration
Ce	100 mg/l	Pr	100 mg/l
Dy	100 mg/l	Sc	100 mg/l
Er	100 mg/l	Sm	100 mg/l
Eu	100 mg/l	Tb	100 mg/l
Gd	100 mg/l	Th	100 mg/l
Ho	100 mg/l	Tm	100 mg/l
La	100 mg/l	U	100 mg/l
Lu	100 mg/l	Y	100 mg/l
Nd	100 mg/l	Yb	100 mg/l

MISA Standard 2 - Precious Metals - 6 components		Reference: 397C.K1.10C.L1	
		Volume: 100 ml	
		Matrix: in 10 % HCl	
Element	Concentration	Element	Concentration
Au	100 mg/l	Pt	100 mg/l
Ir	100 mg/l	Rh	100 mg/l
Pd	100 mg/l	Ru	100 mg/l

MISA Standard 4 - Alkali, Alkaline Earth, Non-Transition Group - 16 components		Reference: 942A.K1.10N.L1	
		Volume: 100 ml	
		Matrix: in 10 % HNO ₃	
Element	Concentration	Element	Concentration
Al	100 mg/l	In	100 mg/l
As	100 mg/l	Li	100 mg/l
Ba	100 mg/l	Mg	100 mg/l
Bi	100 mg/l	K	100 mg/l
Be	100 mg/l	Rb	100 mg/l
Ca	100 mg/l	Se	100 mg/l
Cs	100 mg/l	Na	100 mg/l
Ga	100 mg/l	Sr	100 mg/l

MISA Standard 5 - Fluoride Soluble Group 15 components		Reference: 32D7.K1.5NFL1	
		Volume: 100 ml	
		Matrix: in 5 % HNO ₃ /tr. HF	
Element	Concentration	Element	Concentration
Sb	100 mg/l	Si	100 mg/l
B	100 mg/l	S	100 mg/l
Ge	100 mg/l	Ta	100 mg/l
Hf	100 mg/l	Sn	100 mg/l
Mo	100 mg/l	Ti	100 mg/l
Nb	100 mg/l	W	100 mg/l
P	100 mg/l	Zr	100 mg/l
Re	100 mg/l		

MISA Standard 6 - Transition Metals - 13 components		Reference: E579.K1.10N.L1	
		Volume: 100 ml	
		Matrix: in 10 % HNO ₃	
Element	Concentration	Element	Concentration
Cd	100 mg/l	Hg	100 mg/l
Co	100 mg/l	Ni	100 mg/l
Cu	100 mg/l	Ag	100 mg/l
Cr	100 mg/l	Tl	100 mg/l
Fe	100 mg/l	V	100 mg/l
Pb	100 mg/l	Zn	100 mg/l
Mn	100 mg/l		

Continuing Calibration Verification for CLP - 5 components		Reference: 30A8.50.5N.L1	
		Volume: 100 ml	
		Matrix: in 5 % HNO ₃	
Element	Concentration	Element	Concentration
As	50 mg/l	Pb	25 mg/l
Tl	50 mg/l	Se	25 mg/l
Cd	25 mg/l		

Continuing Calibration Verification for CLP - 16 components		Reference: 199B.50.5N.L1	
		Volume: 100 ml	
		Matrix: in 5 % HNO ₃	
Element	Concentration	Element	Concentration
Ca	2500 mg/l	V	250 mg/l
Mg	2500 mg/l	Ni	200 mg/l
K	2500 mg/l	Cu	125 mg/l
Na	2500 mg/l	Zn	100 mg/l
Al	1000 mg/l	Mn	75 mg/l
Ba	1000 mg/l	Cr	50 mg/l
Fe	500 mg/l	Ag	50 mg/l
Co	250 mg/l	Be	25 mg/l

Continuing Calibration Verification Standard - 16 components		Reference: AC25.K125.5N.L1	
		Volume: 100 ml	
		Matrix: in 5 % HNO ₃	
Element	Concentration	Element	Concentration
Ca	2500 mg/l	V	250 mg/l
Mg	2500 mg/l	Co	250 mg/l
Na	2500 mg/l	Ni	250 mg/l
K	2500 mg/l	Zn	250 mg/l
Al	1000 mg/l	Ag	125 mg/l
Ba	1000 mg/l	Cu	125 mg/l
Fe	500 mg/l	Cr	100 mg/l
Mn	250 mg/l	Be	25 mg/l



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Quality Control Standards for ICP

Quality Control Standard 1 - 23 components		Reference: B0D3.K1.5N.L1	
		Volume: 100 ml	
		Matrix: in 5 % HNO ₃ /tr. HF	
Element	Concentration	Element	Concentration
Sb	100 mg/l	Mn	100 mg/l
As	100 mg/l	Mo	100 mg/l
Be	100 mg/l	Ni	100 mg/l
Cd	100 mg/l	P	100 mg/l
Ca	100 mg/l	Se	100 mg/l
Cr	100 mg/l	Sr	100 mg/l
Co	100 mg/l	Sn	100 mg/l
Cu	100 mg/l	Tl	100 mg/l
Fe	100 mg/l	Ti	100 mg/l
Pb	100 mg/l	V	100 mg/l
Li	100 mg/l	Zn	100 mg/l
Mg	100 mg/l		

Quality Control Standard 4 - 19 components		Reference: 4176.50.5N.L1	
		Volume: 100 ml	
		Matrix: in 5 % HNO ₃	
Element	Concentration	Element	Concentration
Bi	200 mg/l	Co	20 mg/l
In	200 mg/l	Cu	20 mg/l
Pb	200 mg/l	Zn	20 mg/l
Ga	150 mg/l	B	15 mg/l
Al	100 mg/l	Fe	15 mg/l
Ag	50 mg/l	Ba	5 mg/l
Ni	50 mg/l	Mn	5 mg/l
Tl	40 mg/l	Be	1 mg/l
Cr	25 mg/l	Sr	1 mg/l
Cd	20 mg/l		

Quality Control Standard 6 - 4 components		Reference: F9B8.1K.2N.L1	
		Volume: 100 ml	
		Matrix: in 2 % HNO ₃	
Element	Concentration	Element	Concentration
Ba	1000 mg/l	Mg	1000 mg/l
Ca	1000 mg/l	Sr	1000 mg/l

Quality Control Standard 2R - 7 components		Reference: 01EC.K1.5N.L1	
		Volume: 100 ml	
		Matrix: in 5 % HNO ₃ /tr. HF	
Element	Concentration	Element	Concentration
Al	100 mg/l	Si	100 mg/l
Ba	100 mg/l	Ag	100 mg/l
B	100 mg/l	Na	100 mg/l
K	100 mg/l		

Quality Control Standard 3 - 15 components		Reference: CF34.K1.5N.L1	
		Volume: 100 ml	
		Matrix: in 5 % HNO ₃ /tr. HF	
Element	Concentration	Element	Concentration
Al	100 mg/l	Pb	100 mg/l
Ba	100 mg/l	Mg	100 mg/l
Cd	100 mg/l	Mn	100 mg/l
Ca	100 mg/l	Ni	100 mg/l
Cr	100 mg/l	Na	100 mg/l
Co	100 mg/l	Ti	100 mg/l
Cu	100 mg/l	Zn	100 mg/l
Fe	100 mg/l		

Quality Control Standard 5 - 3 components		Reference: A895.10K.2N.L1	
		Volume: 100 ml	
		Matrix: in 2 % HNO ₃	
Element	Concentration	Element	Concentration
K	10000 mg/l	Li	250 mg/l
Na	1000 mg/l		

Quality Control Standard 24 - 22 components		Reference: 3865.10.10N.L1	
		Volume: 100 ml	
		Matrix: in 10 % HNO ₃	
Element	Concentration	Element	Concentration
Al	10 mg/l	Fe	10 mg/l
Ba	10 mg/l	Pb	10 mg/l
Bi	10 mg/l	Li	10 mg/l
B	10 mg/l	Mg	10 mg/l
Cd	10 mg/l	Mn	10 mg/l
Ca	10 mg/l	Mo	10 mg/l
Cr	10 mg/l	K	10 mg/l
Co	10 mg/l	Ag	10 mg/l
Cu	10 mg/l	Na	10 mg/l
Ga	10 mg/l	Tl	10 mg/l
In	10 mg/l	Zn	10 mg/l

QC Multi 22 components		Reference: M52B5.1.5N.L1 Volume: 100 ml Matrix: in 5 % HNO ₃			Reference: M52B5.1.5N.L5 Volume: 500 ml Matrix: in 5 % HNO ₃		
Element	Concentration	Element	Concentration	Element	Concentration	Element	Concentration
Sb	1 mg/l	Co	1 mg/l	Mg	1 mg/l	Tl	1 mg/l
As	1 mg/l	Cr	1 mg/l	Mn	1 mg/l	Ti	1 mg/l
Be	1 mg/l	Cu	1 mg/l	Mo	1 mg/l	V	1 mg/l
Bi	1 mg/l	Fe	1 mg/l	Ni	1 mg/l	Zn	1 mg/l
Cd	1 mg/l	Pb	1 mg/l	Se	1 mg/l		
Ca	1 mg/l	Li	1 mg/l	Sr	1 mg/l		

QC Multi 28 components		Reference: MB56A.1.2N.L1 Volume: 100 ml Matrix: in 2 % HNO ₃			Reference: MB56A.1.2N.L5 Volume: 500 ml Matrix: in 2 % HNO ₃		
Element	Concentration	Element	Concentration	Element	Concentration	Element	Concentration
Sb	1 mg/l	Cd	1 mg/l	Pb	1 mg/l	Ag	1 mg/l
Al	1 mg/l	Ca	1 mg/l	Mg	1 mg/l	Na	1 mg/l
As	1 mg/l	Cr	1 mg/l	Mn	1 mg/l	Sr	1 mg/l
B	1 mg/l	Co	1 mg/l	Mo	1 mg/l	Tl	1 mg/l
Ba	1 mg/l	Cu	1 mg/l	Ni	1 mg/l	Ti	1 mg/l
Be	1 mg/l	Fe	1 mg/l	K	1 mg/l	V	1 mg/l
Bi	1 mg/l	Li	1 mg/l	Se	1 mg/l	Zn	1 mg/l

QC Multi 33 components		Reference: M8A96.1.5N.L1 Volume: 100 ml Matrix: in 5% HNO ₃			Reference: M8A96.1.5N.L5 Volume: 500 ml Matrix: n 5% HNO ₃		
Element	Concentration	Element	Concentration	Element	Concentration	Element	Concentration
Sb	1 mg/l	Cs	1 mg/l	Mn	1 mg/l	Sr	1 mg/l
Al	1 mg/l	Cr	1 mg/l	Mo	1 mg/l	Tl	1 mg/l
As	1 mg/l	Co	1 mg/l	Ni	1 mg/l	Ti	1 mg/l
Ba	1 mg/l	Cu	1 mg/l	Nb	1 mg/l	U	1 mg/l
Be	1 mg/l	In	1 mg/l	K	1 mg/l	V	1 mg/l
Bi	1 mg/l	Fe	1 mg/l	Rb	1 mg/l	Zn	1 mg/l
B	1 mg/l	Pb	1 mg/l	Se	1 mg/l		
Cd	1 mg/l	Li	1 mg/l	Ag	1 mg/l		
Ca	1 mg/l	Mg	1 mg/l	Na	1 mg/l		

QC precious metals		Reference: M397C.1.2C.L1 Volume: 100 ml Matrix: in 2% HCl			Reference: M397C.1.2C.L5 Volume: 500 ml Matrix: in 2% HCl		
Element	Concentration	Element	Concentration	Element	Concentration	Element	Concentration
Au	1 mg/l	Rh	1 mg/l	Na	1 mg/l	V	1 mg/l
Ir	1 mg/l	Ru	1 mg/l	Sr	1 mg/l	Zn	1 mg/l
Pd	1 mg/l	Se	1 mg/l	Tl	1 mg/l		
Pt	1 mg/l	Ag	1 mg/l	Ti	1 mg/l		

Hg - Mercury		Reference: ESD0BC.K5.5N.L1		Reference: ESD0BC.K5.5N.L5	
		Volume: 100 ml	Matrix: in 5% HNO ₃	Volume: 500 ml	Matrix: in 5% HNO ₃
Element	Concentration				
Hg	0.5 mg/l				



* Custom Standards for ICP & ICP-MS are available upon request.

Tuning Solutions

Tuning Solution - 15 components		Reference: 2197.10.2N.L1	
		Volume: 100 ml	
		Matrix: in 2 % HNO ₃	
Element	Concentration	Element	Concentration
B	10 mg/l	Lu	10 mg/l
Ba	10 mg/l	K	10 mg/l
Co	10 mg/l	Rh	10 mg/l
Ga	10 mg/l	Sc	10 mg/l
In	10 mg/l	Na	10 mg/l
Fe	10 mg/l	Th	10 mg/l
Li	10 mg/l		

CIROS Tuning Solution - 9 components		Reference: 5EC8.10.5C2N.L1	
		Volume: 100 ml	
		Matrix: in 5 % HCl/2 % HNO ₃	
Element	Concentration	Element	Concentration
S	50 mg/l	Sc	10 mg/l
Fe	10 mg/l	Ti	10 mg/l
K	10 mg/l	Mg	5 mg/l
La	10 mg/l	Mn	5 mg/l
P	10 mg/l		

Initial Calibration Verification

ICV-2A - 16 components		Reference: 5927.K1.5N.L1	
		Volume: 100 ml	
		Matrix: in 5 % HNO ₃	
Element	Concentration	Element	Concentration
Mg	2000 mg/l	V	500 mg/l
Na	2000 mg/l	Cr	200 mg/l
Al	1000 mg/l	Cu	200 mg/l
Ba	1000 mg/l	Ag	100 mg/l
Fe	1000 mg/l	Be	100 mg/l
Co	500 mg/l	Mn	100 mg/l
Ni	500 mg/l	Zn	100 mg/l

ICV-2C - 5 components		Reference: A186.K5.5N.L1	
		Volume: 100 ml	
		Matrix: in 5 % HNO ₃	
Element	Concentration	Element	Concentration
As	500 mg/l	Tl	500 mg/l
Pb	500 mg/l	Cd	100 mg/l
Se	500 mg/l		

ICP-MS Standards

ICP-MS Calibration Standards

Standard 8 elements		Reference: MSBD60.10.2N01F.L1 Volume: 100 ml Matrix: in 2 % HNO ₃ /HF tr	
Element	Concentration	Element	Concentration
Sb	10 mg/l	Te	10 mg/l
Ge	10 mg/l	Sn	10 mg/l
Hf	10 mg/l	W	10 mg/l
Mo	10 mg/l	Zr	10 mg/l

Standard 31 elements		Reference: MSE194.10.2N.L1 Volume: 100 ml Matrix: in 2 % HNO ₃	
Element	Concentration	Element	Concentration
Al	10 mg/l	Mn	10 mg/l
As	10 mg/l	Nd	10 mg/l
Ba	10 mg/l	Ni	10 mg/l
B	10 mg/l	P	10 mg/l
Cd	10 mg/l	Pb	10 mg/l
Ce	10 mg/l	Rb	10 mg/l
Co	10 mg/l	Se	10 mg/l
Cr	10 mg/l	Ag	10 mg/l
Cu	10 mg/l	Sm	10 mg/l
Dy	10 mg/l	Sr	10 mg/l
Er	10 mg/l	Tl	10 mg/l
Gd	10 mg/l	Tm	10 mg/l
Ho	10 mg/l	U	10 mg/l
La	10 mg/l	V	10 mg/l
Li	10 mg/l	Zn	10 mg/l
Lu	10 mg/l		

Initial Calibration Verification Standard 2 - 2 components		Reference: 1F15.10.2N.L1 Volume: 100 ml Matrix: in 2 % HNO ₃	
Element	Concentration	Element	Concentration
Sn	10 mg/l	Ti	10 mg/l

Standard 18 elements		Reference: MSBEDC.10.2N.L1 Volume: 100 ml Matrix: in 2 % HNO ₃	
Element	Concentration	Element	Concentration
Al	10 mg/l	Ni	10 mg/l
As	10 mg/l	Pb	10 mg/l
Ba	10 mg/l	Se	10 mg/l
Be	10 mg/l	Ag	10 mg/l
Cd	10 mg/l	Th	10 mg/l
Cr	10 mg/l	Tl	10 mg/l
Co	10 mg/l	U	10 mg/l
Cu	10 mg/l	V	10 mg/l
Mn	10 mg/l	Zn	10 mg/l

Standard 5 elements		Reference: MS13BF.1K.2N.L1 Volume: 100 ml Matrix: in 2 % HNO ₃	
Element	Concentration	Element	Concentration
Ca	1000 mg/l	K	1000 mg/l
Fe	1000 mg/l	Na	1000 mg/l
Mg	1000 mg/l		

Standard 4 elements precious metals		Reference: MS91C8.1K.2N.L1 Volume: 100 ml Matrix: in 2 % HNO ₃	
Element	Concentration	Element	Concentration
Ca	1000 mg/l	K	1000 mg/l
Mg	1000 mg/l	Na	1000 mg/l



* Custom Standards for ICP & ICP-MS are available upon request.

Initial Calibration Verification Standard 1 - 26 components		Reference: E738.K1.10N.L1	
		Volume: 100 ml	
		Matrix: in 5 % HNO ₃	
Element	Concentration	Element	Concentration
Ca	1000 mg/l	Cr	10 mg/l
Fe	1000 mg/l	Cu	10 mg/l
K	1000 mg/l	Mn	10 mg/l
Mg	1000 mg/l	Mo	10 mg/l
Na	1000 mg/l	Ni	10 mg/l
Sr	1000 mg/l	Pb	10 mg/l
Ag	10 mg/l	Sb	10 mg/l
Al	10 mg/l	Se	10 mg/l
As	10 mg/l	Tl	10 mg/l
Ba	10 mg/l	V	10 mg/l
Be	10 mg/l	Zn	10 mg/l
Cd	10 mg/l	Th	10 mg/l
Co	10 mg/l	U	10 mg/l

ICP-MS Instrument Calibration Standard 1A - 20 components		Reference: E85B.10.5N.L1	
		Volume: 100 ml	
		Matrix: in 5 % HNO ₃ / tr. Tart. Ac.	
Element	Concentration	Element	Concentration
Se	50 mg/l	Pb	10 mg/l
Al	10 mg/l	Mn	10 mg/l
Sb	10 mg/l	Mo	10 mg/l
As	10 mg/l	Ni	10 mg/l
Ba	10 mg/l	Ag	10 mg/l
Be	10 mg/l	Tl	10 mg/l
Cd	10 mg/l	Th	10 mg/l
Cr	10 mg/l	U	10 mg/l
Co	10 mg/l	V	10 mg/l
Cu	10 mg/l	Zn	10 mg/l

ICP-MS Calibration Standard - 10 components		Reference: D743.10.2N.L1	
		Volume: 100 ml	
		Matrix: in 2 % HNO ₃	
Element	Concentration	Element	Concentration
Ba	10 mg/l	In	10 mg/l
Be	10 mg/l	Li	10 mg/l
Bi	10 mg/l	Ni	10 mg/l
Ce	10 mg/l	Pb	10 mg/l
Co	10 mg/l	U	10 mg/l

ICP-MS Calibration Standard - 5 components		Reference: 1ADA.10.2N.L1	
		Volume: 100 ml	
		Matrix: in 2 % HNO ₃	
Element	Concentration	Element	Concentration
Ca	10 mg/l	Li	10 mg/l
Fe	10 mg/l	Na	10 mg/l
K	10 mg/l		

ICP Multi-Element Standard Solution XX for MS - 11 components		Reference: CEB3.1.1N.L1	
		Volume: 100 ml	
		Matrix: in 1 % HNO ₃	
Element	Concentration	Element	Concentration
Mg	1 mg/l	Tl	1 mg/l
Cu	1 mg/l	Ce	1 mg/l
Cd	1 mg/l	Ge	1 mg/l
Pb	1 mg/l	Tb	1 mg/l
Sc	1 mg/l	Ba	1 mg/l
Rh	1 mg/l		

ICP-MS Refractory Elements Standard - 12 components		Reference: 058E.10.5N.L1	
		Volume: 100 ml	
		Matrix: in 1 % HNO ₃	
Element	Concentration	Element	Concentration
Ge	10 mg/l	Sn	10 mg/l
Hf	10 mg/l	Ta	10 mg/l
Mo	10 mg/l	Te	10 mg/l
Nb	10 mg/l	Ti	10 mg/l
Sb	10 mg/l	W	10 mg/l
Si	10 mg/l	Zr	10 mg/l

Quality Control Standards for ICP-MS

QC-MS 31 elements		Reference: MSE194.D01.1N.L1 Volume: 100 ml Matrix: in 1 % HNO ₃		Reference: MSE194.D01.1N.L5 Volume: 500 ml Matrix: in 1 % HNO ₃			
Element	Concentration	Element	Concentration	Element	Concentration	Element	Concentration
Al	0.01 mg/l	Cu	0.01 mg/l	Lu	0.01 mg/l	Ag	0.01 mg/l
As	0.01 mg/l	Dy	0.01 mg/l	Mn	0.01 mg/l	Sr	0.01 mg/l
Ba	0.01 mg/l	Er	0.01 mg/l	Ni	0.01 mg/l	Tl	0.01 mg/l
B	0.01 mg/l	Gd	0.01 mg/l	Nb	0.01 mg/l	Tm	0.01 mg/l
Cd	0.01 mg/l	Ho	0.01 mg/l	P	0.01 mg/l	U	0.01 mg/l
Ce	0.01 mg/l	La	0.01 mg/l	Rb	0.01 mg/l	V	0.01 mg/l
Cr	0.01 mg/l	Pb	0.01 mg/l	Sm	0.01 mg/l	Zn	0.01 mg/l
Co	0.01 mg/l	Li	0.01 mg/l	Se	0.01 mg/l		

QC-MS Hg		<u>Reference: MSD0BC.D01.2N.L1</u>		<u>Reference: MSD0BC.D01.2N.L5</u>	
		Volume: 100 ml Matrix: in 2 % HNO ₃		Volume: 500 ml Matrix: in 2 % HNO ₃	
Element	Concentration				
Hg	0.01 mg/l				

QC-MS 18 elements		Reference: MSBEDC.D01.1N.L1 Volume: 100 ml Matrix: in 1 % HNO ₃		Reference: SBEDC.D01.1N.L5 Volume: 500 ml Matrix: in 1 % HNO ₃			
Element	Concentration	Element	Concentration	Element	Concentration	Element	Concentration
Al	0.01 mg/l	Cr	0.01 mg/l	Ni	0.01 mg/l	U	0.01 mg/l
As	0.01 mg/l	Co	0.01 mg/l	Se	0.01 mg/l	V	0.01 mg/l
Ba	0.01 mg/l	Cu	0.01 mg/l	Ag	0.01 mg/l	Zn	0.01 mg/l
Be	0.01 mg/l	Pb	0.01 mg/l	Tl	0.01 mg/l		
Cd	0.01 mg/l	Mn	0.01 mg/l	Th	0.01 mg/l		

QC-MS 18 elements		Reference: MSBEDC.10.2N.L1 Volume: 100 ml Matrix: in 2 % HNO ₃	
Element	Concentration	Element	Concentration
Al	10 mg/l	Mn	10 mg/l
As	10 mg/l	Ni	10 mg/l
Ba	10 mg/l	Se	10 mg/l
Be	10 mg/l	Ag	10 mg/l
Cd	10 mg/l	Tl	10 mg/l
Cr	10 mg/l	Th	10 mg/l
Co	10 mg/l	U	10 mg/l
Cu	10 mg/l	V	10 mg/l
Pb	10 mg/l	Zn	10 mg/l

QC-MS Multi 8 elements		Reference: MSBD60.10.2N01FL1 Volume: 100 ml Matrix: in 2 % HNO ₃ /0.1% HF	
Element	Concentration	Element	Concentration
Sb	10 mg/l	Te	10 mg/l
Ge	10 mg/l	Sn	10 mg/l
Hf	10 mg/l	W	10 mg/l
Mo	10 mg/l	Zr	10 mg/l



* Custom Standards for ICP & ICP-MS are available upon request.

Internal Standard for ICP-MS

TYPE NAME	ELEMENT	MATRIX	CONCENTRATION	VOLUME	UNIT	REFERENCE
Internal Standard Solumass™	Be	in 2 %HNO ₃	100 mg/l	100	ml	MS6925.1K.2N.L1
Internal Standard Solumass™	Bi	in 2 %HNO ₃	100 mg/l	100	ml	MS3926.K1.2N.L1
Internal Standard Solumass™	Cs	in 2 %HNO ₃	100 mg/l	100	ml	MSE11C.K1.2N.L1
Internal Standard Solumass™	Eu	in 2 %HNO ₃	100 mg/l	100	ml	MS6994.K1.2N.L1
Internal Standard Solumass™	Ga	in 2 %HNO ₃	100 mg/l	100	ml	MS59E8.1K.2N.L1
Internal Standard Solumass™	Ge	in 2 %HNO ₃ /HF tr	100 mg/l	100	ml	MS69E9.K1.2N.L1
Internal Standard Solumass™	Au	in 2% HCl	100 mg/l	100	ml	MSA965.K1.2C.L1
Internal Standard Solumass™	Ho	in 2 %HNO ₃	100 mg/l	100	ml	MSB0BE.K1.2N.L1
Internal Standard Solumass™	In	in 2 %HNO ₃	100 mg/l	100	ml	MS8C82.K1.2N.L1
Internal Standard Solumass™	Pr	in 2 %HNO ₃	100 mg/l	100	ml	MSDE98.K1.2N.L1
Internal Standard Solumass™	Re	in 2 %HNO ₃	100 mg/l	100	ml	MSAAE4.K1.2N.L1
Internal Standard Solumass™	Rh	in 2% HCl	100 mg/l	100	ml	MS06E6.K1.2C.L1
Internal Standard Solumass™	Sc	in 2 %HNO ₃	100 mg/l	100	ml	MSE2D9.K1.2N.L1
Internal Standard Solumass™	Tb	in 2 %HNO ₃	100 mg/l	100	ml	MSDE6D.K1.2N.L1
Internal Standard Solumass™	Th	in 2 %HNO ₃	100 mg/l	100	ml	MS066E.K1.2N.L1
Internal Standard Solumass™	Yb	in 2 %HNO ₃	100 mg/l	100	ml	MS1837.K1.2N.L1
Internal Standard Solumass™	Y	in 2 %HNO ₃	100 mg/l	100	ml	MS1F40.K1.2N.L1

ICP-MS Internal Standard 2 - 8 components		Reference: 7556.10.N.L1	
		Volume: 100 ml	
		Matrix: in 2 % HNO ₃	
Element	Concentration	Element	Concentration
Bi	10 mg/l	Sc	10 mg/l
Ho	10 mg/l	Tb	10 mg/l
In	10 mg/l	Y	10 mg/l
6Li	10 mg/l	Rh	10 mg/l

ICP-MS Alternate Internal Standard 1 - 7 components		Reference: B55E.10.N.L1	
		Volume: 100 ml	
		Matrix: in 5 % HNO ₃ (v/v)	
Element	Concentration	Element	Concentration
6Li	10 mg/l	In	10 mg/l
Sc	10 mg/l	Tb	10 mg/l
Ge	10 mg/l	Bi	10 mg/l
Y	10 mg/l		

ICP-MS Alternate Internal Standard 2 - 8 components		Reference: E738.K1.10N.L1	
		Volume: 100 ml	
		Matrix: in 10 % HNO ₃ (v/v)	
Element	Concentration	Element	Concentration
Bi	100 mg/l	Lu	100 mg/l
Ge	100 mg/l	Rh	100 mg/l
In	100 mg/l	Sc	100 mg/l
6Li	100 mg/l	Tb	100 mg/l

Instrument Check Standards

Instrument Check Standards

Spiking Standard 1R - 4 components		Reference: D543.K4.5N.L5	
		Volume: 500 ml	
		Matrix: in 5 % HNO ₃ /tr. HF	
Element	Concentration	Element	Concentration
Si	2000 mg/l	P	400 mg/l
B	400 mg/l	Mo	200 mg/l

Spiking Standard 2R - 4 components		Reference: 91C8.10K.2N.L1	
		Volume: 100 ml	
		Matrix: in 2 % HNO ₃	
Element	Concentration	Element	Concentration
Ca	10 000 mg/l	K	10 000 mg/l
Mg	10 000 mg/l	Na	10 000 mg/l

Spiking Standard 4R - Sb		Reference: 1ED8.K2.2N.L1	
		Volume: 100 ml	
		Matrix: in 2 % HNO ₃	
Element	Concentration		
Sb	200 mg/l		

Spiking Standard 5R - 5 components		Reference: F373.K2.5N.L1	
		Volume: 100 ml	
		Matrix: in 5 % HNO ₃	
Element	Concentration	Element	Concentration
Se	400 mg/l	Pb	200 mg/l
Tl	400 mg/l	Cd	100 mg/l
As	200 mg/l		

Spiking Standard 3 - 12 components		Reference: 4554.50.5N.L1	
		Volume: 100 ml	
		Matrix: in 5 % HNO ₃	
Element	Concentration	Element	Concentration
Al	2000 mg/l	V	500 mg/l
Ba	2000 mg/l	Zn	500 mg/l
Fe	1000 mg/l	Cu	250 mg/l
Co	500 mg/l	Cr	200 mg/l
Mn	500 mg/l	Be	50 mg/l
Ni	500 mg/l	Ag	50 mg/l

Instrument Check Standard 1 - 9 components		Reference: 9EF9.K1.2N.L1	
		Volume: 100 ml	
		Matrix: in 2 % HNO ₃	
Element	Concentration	Element	Concentration
P	1000 mg/l	Ba	10 mg/l
Al	100 mg/l	Be	10 mg/l
B	100 mg/l	Ca	10 mg/l
Ni	100 mg/l	Sc	10 mg/l
Zn	100 mg/l		

Instrument Check Standard 2 - 7 components		Reference: 4855.50.2N.L1	
		Volume: 100 ml	
		Matrix: in 2 % HNO ₃	
Element	Concentration	Element	Concentration
Ba	50 mg/l	Ni	20 mg/l
Be	20 mg/l	Sc	20 mg/l
La	20 mg/l	Zn	20 mg/l
Mn	20 mg/l		

Instrument Check Standard 3 - 11 components		Reference: 198A.20.2N.L1	
		Volume: 100 ml	
		Matrix: in 2 % HNO ₃ /tr. HF	
Element	Concentration	Element	Concentration
P	100 mg/l	Mn	20 mg/l
K	100 mg/l	Mo	20 mg/l
S	100 mg/l	Ni	20 mg/l
As	20 mg/l	Sc	20 mg/l
La	20 mg/l	Na	20 mg/l
Li	20 mg/l		



* Custom Standards for ICP & ICP-MS are available upon request.

Instrument Check Standard 4 - 12 components		Reference: 735FK1.2N.L1	
		Volume: 100 ml	
		Matrix: in 2 % HNO ₃	
Element	Concentration	Element	Concentration
K	500 mg/l	Mn	100 mg/l
Al	100 mg/l	Ni	100 mg/l
As	100 mg/l	P	100 mg/l
Ba	100 mg/l	Sc	100 mg/l
Cu	100 mg/l	Na	100 mg/l
Pb	100 mg/l	Zn	100 mg/l

Instrument Check Standard 5 - 15 components		Reference: 6C97.K1.2N.L1	
		Volume: 100 ml	
		Matrix: in 2 % HNO ₃	
Element	Concentration	Element	Concentration
Y	600 mg/l	Pb	100 mg/l
Al	100 mg/l	Mg	100 mg/l
As	100 mg/l	Mn	100 mg/l
Cd	100 mg/l	Ni	100 mg/l
Cr	100 mg/l	K	100 mg/l
Co	100 mg/l	Na	100 mg/l
Cu	100 mg/l	Zn	100 mg/l
Fe	100 mg/l		

Instrument Check Standard - 9 components		Reference: A479.50.2N.L1		Reference: A479.50.2N.L5	
		Volume: 100 ml		Volume: 500 ml	
		Matrix: in 2 % HNO ₃		Matrix: in 2 % HNO ₃	
Element	Concentration	Element	Concentration	Element	Concentration
Al	50 mg/l	Co	50 mg/l	P	50 mg/l
As	50 mg/l	Cu	50 mg/l	K	50 mg/l
Cr	50 mg/l	Pb	50 mg/l	Na	50 mg/l

Instrument Check Standard 7 - 7 components		Reference: AAB1.50.2N.L1	
		Volume: 100 ml	
		Matrix: in 2 % HNO ₃	
Element	Concentration	Element	Concentration
K	500 mg/l	Cu	50 mg/l
Al	50 mg/l	Mn	50 mg/l
Ba	50 mg/l	Zn	50 mg/l
Cd	50 mg/l		

Instrument Check Standard - 12 components		Reference: 8636.10.2N.L1	
		Volume: 100 ml	
		Matrix: in 2 % HNO ₃	
Element	Concentration	Element	Concentration
K	50 mg/l	Ni	10 mg/l
Al	10 mg/l	P	10 mg/l
As	10 mg/l	Pb	10 mg/l
Cu	10 mg/l	Sc	10 mg/l
Mn	10 mg/l	Zn	10 mg/l
Na	10 mg/l	Ba	1 mg/l

Quantitation Detection Limit Standard

Contract Required Detection Limit Standard - 9 components		Reference: 96D3.K2.5N.L1	
		Volume: 100 ml	
		Matrix: in 5 % HNO ₃	
Element	Concentration	Element	Concentration
Co	1000 mg/l	Mn	300 mg/l
V	1000 mg/l	Ag	200 mg/l
Ni	800 mg/l	Cr	200 mg/l
Cu	500 mg/l	Be	100 mg/l
Zn	400 mg/l		

Contract Required Detection Limit Standard - 5 components		Reference: 922B.K1.5N.L1	
		Volume: 100 ml	
		Matrix: in 5 % HNO ₃	
Element	Concentration	Element	Concentration
As	100 mg/l	Se	50 mg/l
Tl	100 mg/l	Pb	30 mg/l
Cd	50 mg/l		

Contract Required Detection Limit Standard for CLP - 23 components		Reference: EC46.1.2N.L1	
		Volume: 100 ml	
		Matrix: in 2 % HNO ₃	
Element	Concentration	Element	Concentration
Ca	500 mg/l	Ni	4 mg/l
Mg	500 mg/l	Se	3.5 mg/l
Na	500 mg/l	Tl	2.5 mg/l
K	500 mg/l	Cu	2.5 mg/l
Al	20 mg/l	As	1.5 mg/l
Ba	20 mg/l	Mn	1.5 mg/l
Fe	10 mg/l	Ag	1 mg/l
Zn	6 mg/l	Pb	1 mg/l
Li	5 mg/l	Cr	1 mg/l
Co	5 mg/l	Be	0.5 mg/l
Sr	5 mg/l	Cd	0.5 mg/l
V	5 mg/l		

ICP Contract Required Detection Limit Standard 2 for CLP - 16 components		Reference: 968A.20.2N.L1	
		Volume: 100 ml	
		Matrix: in 2 % HNO ₃	
Element	Concentration	Element	Concentration
Fe	200 mg/l	Tl	50 mg/l
Sb	120 mg/l	Mn	30 mg/l
Zn	120 mg/l	As	20 mg/l
Co	100 mg/l	Cr	20 mg/l
V	100 mg/l	Pb	20 mg/l
Ni	80 mg/l	Ag	20 mg/l
Se	70 mg/l	Be	10 mg/l
Cu	50 mg/l	Cd	10 mg/l

ICP-MS Contract Required Detection Limit Standard 2 - 22 components		Reference: 9781.2.5NTFL1	
		Volume: 100 ml	
		Matrix: in 5 % HNO ₃ / tr.HF/tr. Tart. Ac	
Element	Concentration	Element	Concentration
Ca	1000 mg/l	Cu	4 mg/l
Mg	1000 mg/l	Zn	4 mg/l
K	1000 mg/l	As	2 mg/l
Na	1000 mg/l	Be	2 mg/l
Fe	400 mg/l	Cd	2 mg/l
Al	40 mg/l	Co	2 mg/l
Ba	20 mg/l	Pb	2 mg/l
Se	10 mg/l	Mn	2 mg/l
V	10 mg/l	Ni	2 mg/l
Sb	4 mg/l	Ag	2 mg/l
Cr	4 mg/l	Tl	2 mg/l

Contract Required Detection Limit Standard for CLP - 16 components		Reference: B752.1.2N.L1	
		Volume: 100 ml	
		Matrix: in 2 % HNO ₃	
Element	Concentration	Element	Concentration
Ba	10 mg/l	Be	1 mg/l
Se	5 mg/l	Cd	1 mg/l
Cr	2 mg/l	Co	1 mg/l
Cu	2 mg/l	Mn	1 mg/l
Sb	2 mg/l	Ni	1 mg/l
Zn	2 mg/l	Pb	1 mg/l
Ag	1 mg/l	Tl	1 mg/l
As	1 mg/l	V	1 mg/l

ICP Contract Required Detection Limit Standard 2A - 6 components		Reference: CBB.D.K2.10N.L1	
		Volume: 100 ml	
		Matrix: in 2 % HNO ₃	
Element	Concentration	Element	Concentration
Ca	5000 mg/l	Na	5000 mg/l
Mg	5000 mg/l	Al	200 mg/l
K	5000 mg/l	Ba	200 mg/l

Contract Required Detection Limits (CRDL)		Reference: 8005.20.5N.L1	
		Volume: 100 ml	
		Matrix: in 5 % HNO ₃	
Element	Concentration	Element	Concentration
Sb	120 mg/l	As	20 mg/l
Co	100 mg/l	Cr	20 mg/l
V	100 mg/l	Tl	20 mg/l
Ni	80 mg/l	Be	10 mg/l
Cu	50 mg/l	Cd	10 mg/l
Zn	40 mg/l	Se	10 mg/l
Mn	30 mg/l	Pb	6 mg/l
Ag	20 mg/l		

Contract Required Quantitation Limit Standard for CLP - MS - 17 components		Reference: 1F00.1.2N.L1	
		Volume: 100 ml	
		Matrix: in 2 % HNO ₃	
Element	Concentration	Element	Concentration
Al	30 mg/l	Cd	1 mg/l
Ba	10 mg/l	Ni	1 mg/l
Se	5 mg/l	Pb	1 mg/l
Cr	2 mg/l	Tl	1 mg/l
Cu	2 mg/l	V	1 mg/l
Sb	2 mg/l	Zn	1 mg/l
Ag	1 mg/l	Co	0.5 mg/l
As	1 mg/l	Mn	0.5 mg/l
Be	1 mg/l		



* Custom Standards for ICP & ICP-MS are available upon request.

ICP-MS Contract Required Detection Limit Standard 1 - 22 components		Reference: A536.1.5NT.L1	
		Volume: 100 ml	
		Matrix: in 5 % HNO ₃ / tr.HF/tr. Tart. Ac	
Element	Concentration	Element	Concentration
Ca	500 mg/l	Cu	2.5 mg/l
K	500 mg/l	Zn	2 mg/l
Mg	500 mg/l	Mn	1.5 mg/l
Na	500 mg/l	Ag	1 mg/l
Al	20 mg/l	As	1 mg/l
Ba	20 mg/l	Cr	1 mg/l
Fe	10 mg/l	Tl	1 mg/l
Sb	6 mg/l	Be	0.5 mg/l
Co	5 mg/l	Cd	0.5 mg/l
V	5 mg/l	Se	0.5 mg/l
Ni	4 mg/l	Pb	0.3 mg/l

Interference Check

Interference Check Standard 1 - 17 components		Reference: 8F59.K3.5N.L1	
		Volume: 100 ml	
		Matrix: in 5 % HNO ₃	
Element	Concentration	Element	Concentration
K	20000 mg/l	Cu	300 mg/l
As	1000 mg/l	Ni	300 mg/l
Pb	1000 mg/l	Ag	300 mg/l
Tl	1000 mg/l	V	300 mg/l
Se	500 mg/l	Zn	300 mg/l
Ba	300 mg/l	Mn	200 mg/l
Cd	300 mg/l	Be	100 mg/l
Cr	300 mg/l	Hg	50 mg/l
Co	300 mg/l		

Interference Check Standard 2 - 4 components		Reference: 4AF7.K5.5N.L1	
		Volume: 100 ml	
		Matrix: in 5 % HNO ₃	
Element	Concentration	Element	Concentration
Tl	1000 mg/l	Mo	300 mg/l
B	500 mg/l	Si	200 mg/l

Interference Check Standard 3 - Sb		Reference: 1ED8.K5.2N.L1	
		Volume: 100 ml	
		Matrix: in 2 % HNO ₃	
Element	Concentration		
Sb	500 mg/l		

Initial Calibration Verification Standards

ICP-MS Initial Calibration Verification Standard 3 - 22 components		Reference: 2EE1.10.5N.L5	
		Volume: 500 ml	
		Matrix: in 5 %HNO3/ tr. Tart. Ac.	
Element	Concentration	Element	Concentration
Ca	100 mg/l	Cd	10 mg/l
Fe	100 mg/l	Cr	10 mg/l
Mg	100 mg/l	Co	10 mg/l
K	100 mg/l	Cu	10 mg/l
Na	100 mg/l	Pb	10 mg/l
Se	50 mg/l	Mn	10 mg/l
Al	10 mg/l	Ni	10 mg/l
Sb	10 mg/l	Ag	10 mg/l
As	10 mg/l	Tl	10 mg/l
Ba	10 mg/l	V	10 mg/l
Be	10 mg/l	Zn	10 mg/l

Tuning Solution

Tuning Solution 9 elements		Reference: MS8AC1.10.2N.L1 Volume: 100 ml Matrix: in 2 % HNO ₃	
Element	Concentration	Element	Concentration
Ba	10 mg/l	Pb	10 mg/l
Be	10 mg/l	Mg	10 mg/l
Ce	10 mg/l	Rh	10 mg/l
Co	10 mg/l	U	10 mg/l
In	10 mg/l		

Tuning Solution 5 elements		Reference: MS448B.10.2N.L1 Volume: 100 ml Matrix: in 2 % HNO ₃	
Element	Concentration	Element	Concentration
Be	10 mg/l	Pb	10 mg/l
Co	10 mg/l	Mg	10 mg/l
In	10 mg/l		

Tuning Solution 4 elements		Reference: 5EAF.10.2N.L1 Volume: 100 ml Matrix: in 2 % HNO ₃	
Element	Concentration	Element	Concentration
Co	10 mg/l	Li	10 mg/l
In	10 mg/l	Tl	10 mg/l

ICP-MS Tuning Solution 3 - 10 components		Reference: 0E83.10.2N.L1 Volume: 100 ml Matrix: in 2 % HNO ₃	
Element	Concentration	Element	Concentration
Ba	10 mg/l	In	1 mg/l
Be	1 mg/l	Mg	1 mg/l
Ce	1 mg/l	Pb	1 mg/l
Co	1 mg/l	Th	1 mg/l
Fe	1 mg/l	U	1 mg/l

Tuning Solution 8 elements		Reference: MSF5AA.10.2N.L1 Volume: 100 ml Matrix: in 2 % HNO ₃	
Element	Concentration	Element	Concentration
Ba	10 mg/l	Li	10 mg/l
Be	10 mg/l	Mg	10 mg/l
Cu	10 mg/l	Tl	10 mg/l
In	10 mg/l	U	10 mg/l

Tuning Solution 4 elements		Reference: MS4C39.10.2N.L1 Volume: 100 ml Matrix: in 2 % HNO ₃	
Element	Concentration	Element	Concentration
Ce	10 mg/l	Tl	10 mg/l
Li	10 mg/l	Y	10 mg/l

ICP-MS Tuning Solution - Tune B ICAP - 7 components		Reference: 161D.1.2N05C.L1 Volume: 100 ml Matrix: in 2 % HNO ₃	
Element	Concentration	Element	Concentration
Ba	1 mg/l	In	1 mg/l
Bi	1 mg/l	Li	1 mg/l
Ce	1 mg/l	U	1 mg/l
Co	1 mg/l		

ICP-MS Tuning Solution 4 - 4 components		Reference: 5EAF.10.2N.L1 Volume: 100 ml Matrix: in 2 % HNO ₃	
Element	Concentration	Element	Concentration
Co	10 mg/l	Li	10 mg/l
In	10 mg/l	Tl	10 mg/l



* Custom Standards for ICP & ICP-MS are available upon request.

Plasma Setup Solution

Plasma Setup Solution 13 elements		Reference: MS9562.D01.05N.L5	
		Volume: 100 ml	
		Matrix: in 0,5 % HNO ₃	
Element	Concentration	Element	Concentration
Al	0.01 mg/l	In	0.01 mg/l
B	0.01 mg/l	Pb	0.01 mg/l
Ba	0.01 mg/l	Mg	0.01 mg/l
Cd	0.01 mg/l	Mn	0.01 mg/l
Ce	0.01 mg/l	Rh	0.01 mg/l
Cr	0.01 mg/l	Th	0.01 mg/l
Cu	0.01 mg/l		

EPA and ISO Methods

EPA Method 200.7

EPA 200.7 - Mixed Calibration Standard 1		Reference: 87EA.5.5N.L1	
		Volume: 100 ml	
		Matrix: in 5 % HNO ₃	
Element	Concentration	Element	Concentration
As	100 mg/l	Cd	20 mg/l
Ca	100 mg/l	Cu	20 mg/l
Sb	50 mg/l	Mn	20 mg/l
Se	50 mg/l	Ba	10 mg/l
B	20 mg/l	Ag	5 mg/l

EPA 200.7 - Mixed Calibration Standard 2 - 6 components		Reference: B306.K2.5N.L1	
		Volume: 100 ml	
		Matrix: in 5 % HNO ₃	
Element	Concentration	Element	Concentration
K	200 mg/l	Ti	100 mg/l
Mo	100 mg/l	Li	50 mg/l
Na	100 mg/l	Sr	10 mg/l

EPA 200.7 - Mixed Calibration Standard 2 - 4 components		Reference: AE93.20.5N.L1	
		Volume: 100 ml	
		Matrix: in 5 % HNO ₃	
Element	Concentration	Element	Concentration
P	100 mg/l	Co	20 mg/l
Ce	20 mg/l	V	20 mg/l

EPA 200.7 - Mixed Calibration Standard 4 - 5 components		Reference: 58DA.K1.5N.L1	
		Volume: 100 ml	
		Matrix: in 5 % HNO ₃	
Element	Concentration	Element	Concentration
Al	100 mg/l	Zn	50 mg/l
Si	100 mg/l	Sn	40 mg/l
Cr	50 mg/l		

EPA 200.7 - Mixed Calibration Standard 5 - 6 components		Reference: FE99.10.5N.L1	
		Volume: 100 ml	
		Matrix: in 5 % HNO ₃	
Element	Concentration	Element	Concentration
Fe	100 mg/l	Tl	50 mg/l
Pb	100 mg/l	Ni	20 mg/l
Mg	100 mg/l	Be	10 mg/l

EPA 200.7 - Mixed Calibration Standard 6R - 5 components		Reference: 78DA.50.5NF.L1	
		Volume: 100 ml	
		Matrix: in 5 % HNO ₃	
Element	Concentration	Element	Concentration
P	200 mg/l	Si	100 mg/l
Sn	200 mg/l	B	50 mg/l
Ti	100 mg/l		

EPA 200.7 - Instrument Performance Check Standard 1		Reference: 581A.2D5.5N.L1	
		Volume: 100 ml	
		Matrix: in 5 % HNO ₃	
Element	Concentration	Element	Concentration
K	100 mg/l	Fe	20 mg/l
P	100 mg/l	Pb	20 mg/l
Al	20 mg/l	Li	20 mg/l
As	20 mg/l	Mg	20 mg/l
Ba	20 mg/l	Mn	20 mg/l
Be	20 mg/l	Ni	20 mg/l
B	20 mg/l	Se	20 mg/l
Cd	20 mg/l	Na	20 mg/l
Ca	20 mg/l	Sr	20 mg/l
Ce	20 mg/l	Tl	20 mg/l
Cr	20 mg/l	V	20 mg/l
Co	20 mg/l	Zn	20 mg/l
Cu	20 mg/l	Ag	2.5 mg/l

EPA 200.7 - Instrument Performance Check Standard 2 - 5 components		Reference: A827.20.5N.L1	
		Volume: 100 ml	
		Matrix: in 5 % HNO ₃	
Element	Concentration	Element	Concentration
Si	100 mg/l	Sn	20 mg/l
Sb	20 mg/l	Ti	20 mg/l
Mo	20 mg/l		



* Custom Standards for ICP & ICP-MS are available upon request.

EPA 200.7 - Laboratory Fortifying Stock Solution - 25 components		Reference: 424E.2D5.5N.L1	
		Volume: 100 ml	
		Matrix: in 5 % HNO ₃	
Element	Concentration	Element	Concentration
P	50 mg/l	Se	25 mg/l
Al	25 mg/l	Si	25 mg/l
Sb	25 mg/l	Sr	25 mg/l
As	25 mg/l	Tl	25 mg/l
Ba	25 mg/l	Zn	25 mg/l
B	25 mg/l	Cd	10 mg/l
Cr	25 mg/l	Co	10 mg/l
Cu	25 mg/l	Mo	10 mg/l
Fe	25 mg/l	Sn	10 mg/l
Pb	25 mg/l	V	10 mg/l
Li	25 mg/l	Be	5 mg/l
Mn	25 mg/l	Ag	2.5 mg/l
Ni	25 mg/l		

EPA 200.7 - Instrument Fortifying Standard for Water - 22 components		Reference: A816.7D5.5N.L1	
		Volume: 100 ml	
		Matrix: in 5 % HNO ₃	
Element	Concentration	Element	Concentration
K	500 mg/l	Fe	20 mg/l
Al	20 mg/l	Pb	20 mg/l
As	20 mg/l	Li	20 mg/l
Ba	20 mg/l	Mn	20 mg/l
Be	20 mg/l	Ni	20 mg/l
B	20 mg/l	P	20 mg/l
Cd	20 mg/l	Se	20 mg/l
Ce	20 mg/l	Tl	20 mg/l
Cr	20 mg/l	V	20 mg/l
Co	20 mg/l	Zn	20 mg/l
Cu	20 mg/l	Ag	7.5 mg/l

EPA 200.7 - Laboratory Performance Check Standard - 29 components		Reference: 0F81.5.5N.L1	
		Volume: 100 ml	
		Matrix: in 5 % HNO ₃	
Element	Concentration	Element	Concentration
P	100 mg/l	Pb	20 mg/l
K	100 mg/l	Li	20 mg/l
Si	100 mg/l	Mg	20 mg/l
Al	20 mg/l	Mn	20 mg/l
Sb	20 mg/l	Mo	20 mg/l
As	20 mg/l	Ni	20 mg/l
Ba	20 mg/l	Se	20 mg/l
Be	20 mg/l	Na	20 mg/l
B	20 mg/l	Sr	20 mg/l
Cd	20 mg/l	Tl	20 mg/l
Ca	20 mg/l	Sn	20 mg/l
Cr	20 mg/l	V	20 mg/l
Co	20 mg/l	Zn	20 mg/l
Cu	20 mg/l	Ag	5 mg/l
Fe	20 mg/l		

EPA 200.7 - Instrument Fortifying Standard - 26 components		Reference: C2E3.7D5.5N.L1	
		Volume: 100 ml	
		Matrix: in 5 % HNO ₃	
Element	Concentration	Element	Concentration
K	500 mg/l	Pb	20 mg/l
Al	20 mg/l	Li	20 mg/l
As	20 mg/l	Mg	20 mg/l
Ba	20 mg/l	Mn	20 mg/l
Be	20 mg/l	Ni	20 mg/l
B	20 mg/l	P	20 mg/l
Cd	20 mg/l	Se	20 mg/l
Ca	20 mg/l	Na	20 mg/l
Ce	20 mg/l	Sr	20 mg/l
Cr	20 mg/l	Tl	20 mg/l
Co	20 mg/l	V	20 mg/l
Cu	20 mg/l	Zn	20 mg/l
Fe	20 mg/l	Ag	7.5 mg/l

Instrument Fortifying Standard for Solids - 24 components		Reference: E5D1.7D5.5N.L1	
		Volume: 100 ml	
		Matrix: in 5 % HNO ₃	
Element	Concentration	Element	Concentration
K	500 mg/l	Li	20 mg/l
As	20 mg/l	Mg	20 mg/l
Ba	20 mg/l	Mn	20 mg/l
Be	20 mg/l	Ni	20 mg/l
B	20 mg/l	P	20 mg/l
Cd	20 mg/l	Se	20 mg/l
Ca	20 mg/l	Na	20 mg/l
Ce	20 mg/l	Sr	20 mg/l
Cr	20 mg/l	Tl	20 mg/l
Co	20 mg/l	V	20 mg/l
Cu	20 mg/l	Zn	20 mg/l
Pb	20 mg/l	Ag	7.5 mg/l

EPA 200.7 - Instrument Fortifying Standard - 5 components		Reference: 6C22.20.5N.L1	
		Volume: 100 ml	
		Matrix: in 5 % HNO ₃	
Element	Concentration	Element	Concentration
Sb	20 mg/l	Sn	20 mg/l
Mo	20 mg/l	Ti	20 mg/l
Si	20 mg/l		

EPA 200.7 - SIC Solution 1		Reference: B072.50.2N.L1	
		Volume: 100 ml	
		Matrix: in 2 % HNO ₃ /tr. HF	
Element	Concentration		
Mo	50 mg/l		

EPA 200.7 - SIC Solution 2 - 5 components		Reference: B8ED.10.2N.L1	
		Volume: 100 ml	
		Matrix: in 2 % HNO ₃	
Element	Concentration	Element	Concentration
Cu	40 mg/l	Co	10 mg/l
Cr	20 mg/l	V	10 mg/l
Mn	20 mg/l		

EPA 200.7 - SIC Solution 3 - 3 components		Reference: B229.30.2N.L1	
		Volume: 100 ml	
		Matrix: in 2 % HNO ₃	
Element	Concentration	Element	Concentration
Fe	150 mg/l	Ni	20 mg/l
Al	30 mg/l		

200.7 Calibration - CAL 2 - 6 components		Reference: B306.2K.5N.L1	
		Volume: 100 ml	
		Matrix: in 5 % HNO ₃	
Element	Concentration	Element	Concentration
K	2000 mg/l	Ti	1000 mg/l
Mo	1000 mg/l	Li	500 mg/l
Na	1000 mg/l	Sr	100 mg/l

200.7 Calibration - CAL 1 - 10 components		Reference: AE81.50.5N.L1	
		Volume: 100 ml	
		Matrix: in 5 % HNO ₃	
Element	Concentration	Element	Concentration
As	1000 mg/l	Cu	200 mg/l
Ca	1000 mg/l	Mn	200 mg/l
Sb	500 mg/l	Ba	100 mg/l
Se	500 mg/l	B	100 mg/l
Cd	200 mg/l	Ag	50 mg/l



* Custom Standards for ICP & ICP-MS are available upon request.

200.7 Calibration - CAL 3 - 4 components		Reference: AE93.K2.5N.L1	
		Volume: 100 ml	
		Matrix: in 5 % HNO ₃	
Element	Concentration	Element	Concentration
P	1000 mg/l	Co	200 mg/l
Ce	200 mg/l	V	200 mg/l

200.7 Calibration - CAL 4A- 4 components		Reference: B37B.1K.5N.L1	
		Volume: 100 ml	
		Matrix: in 5 % HNO ₃	
Element	Concentration	Element	Concentration
Al	1000 mg/l	Zn	500 mg/l
Cr	500 mg/l	Hg	200 mg/l

200.7 Calibration - CAL 4B- 2 components		Reference: E2EC.1K.2N.L1	
		Volume: 100 ml	
		Matrix: in 2 %HNO ₃ /tr.HF	
Element	Concentration	Element	Concentration
SiO ₂	1000 mg/l	Sn	400 mg/l

200.7 Quality Control Standard (QCS) - 3 components		Reference: 92F5.K1.5N.L1	
		Volume: 100 ml	
		Matrix: in 5 % HNO ₃	
Element	Concentration	Element	Concentration
Ce	100 mg/l	P	100 mg/l
Hg	100 mg/l		

EPA Method 200.8

200.8 Calibration CAL 3 - Hg		Reference: DOBC.1.5N.L1	
		Volume: 100 ml	
		Matrix: in 5 % HNO ₃ (v/v)	
Element	Concentration		
Hg	1 mg/l		

EPA Method 6010

EPA 6010 - Laboratory Performance Check Standard - 30 components		Reference: 7CF2.5.5N.L1	
		Volume: 100 ml	
		Matrix: in 5 % HNO ₃	
Element	Concentration	Element	Concentration
P	100 mg/l	Pb	20 mg/l
K	100 mg/l	Li	20 mg/l
Si	100 mg/l	Mg	20 mg/l
Al	20 mg/l	Mn	20 mg/l
Sb	20 mg/l	Mo	20 mg/l
As	20 mg/l	Ni	20 mg/l
Ba	20 mg/l	Se	20 mg/l
Be	20 mg/l	Na	20 mg/l
B	20 mg/l	Sr	20 mg/l
Cd	20 mg/l	Tl	20 mg/l
Ca	20 mg/l	Sn	20 mg/l
Cr	20 mg/l	Ti	20 mg/l
Co	20 mg/l	V	20 mg/l
Cu	20 mg/l	Zn	20 mg/l
Fe	20 mg/l	Ag	5 mg/l

Multi element Reference Solution 1 - 18 components		Reference: 9B99.10.5N.L1	
		Volume: 100 ml	
		Matrix: in 5 % HNO ₃	
Element	Concentration	Element	Concentration
Al	10 mg/l	Mo	10 mg/l
Be	10 mg/l	Ni	10 mg/l
Bi	10 mg/l	Pb	10 mg/l
Cd	10 mg/l	Si	10 mg/l
Co	10 mg/l	Sr	10 mg/l
Cu	10 mg/l	V	10 mg/l
Fe	10 mg/l	W	10 mg/l
Li	10 mg/l	Zn	10 mg/l
Mn	10 mg/l	Zr	10 mg/l

Reagent Blank Solution: Nitric Acid 1%	Reference: 842A.1K.N.L5
	Volume: 500 ml

Multi element Reference Solution 2 - 5 components		Reference: 2014.10.5N.L1	
		Volume: 100 ml	
		Matrix: in 5 % HNO ₃	
Element	Concentration	Element	Concentration
As	10 mg/l	Sn	10 mg/l
Sb	10 mg/l	Ti	10 mg/l
Se	10 mg/l		

Multi element Reference Solution 6 - 6 components		Reference: B488.10.1N.L1	
		Volume: 100 ml	
		Matrix: in 1 % HNO ₃	
Element	Concentration	Element	Concentration
Ca	10 mg/l	K	10 mg/l
Mg	10 mg/l	S	10 mg/l
Na	10 mg/l	P	10 mg/l

USP 232

Multi-element solution according to USP 232 dietary supplements - 4 components		Reference: FDA4.15.7N.L1	
		Volume: 100 ml	
		Matrix: in 7 % HNO ₃	
Element	Concentration	Element	Concentration
Cd	5 mg/l	As	15 mg/l
Pb	10 mg/l	Hg	15 mg/l

USP 232 Parenteral Elemental Impurities - 8 components		Reference: 121E.1D5.7N.L1	
		Volume: 100 ml	
		Matrix: in 7 % HNO ₃	
Element	Concentration	Element	Concentration
Cd	2.5 mg/l	Mo	10 mg/l
Pb	5 mg/l	Ni	50 mg/l
As	1.5 mg/l	V	10 mg/l
Hg	1.5 mg/l	Cu	100 mg/l

ICP Multi-element standard according to USP 232 parenteral dose - 6 components		Reference: 7F97.10.15C.L1	
		Volume: 100 ml	
		Matrix: in 15 % HCl	
Element	Concentration	Element	Concentration
Ir	10 mg/l	Rh	10 mg/l
Pt	10 mg/l	Pd	10 mg/l
Os	10 mg/l	Ru	10 mg/l

USP 232 Parenteral Elemental Impurities - 8 components		Reference: E13C.1D5.7N.L1	
		Volume: 100 ml	
		Matrix: in 7 % HNO ₃	
Element	Concentration	Element	Concentration
Cd	25 mg/l	Mo	100 mg/l
Pb	5 mg/l	Ni	500 mg/l
As	1.5 mg/l	V	100 mg/l
Hg	15 mg/l	Cu	1000 mg/l

USP 232 Parenteral Elemental Impurities - 6 components		Reference: 7F97.K1.15C.L1	
		Volume: 100 ml	
		Matrix: in 15 % HCl	
Element	Concentration	Element	Concentration
Ir	100 mg/l	Rh	100 mg/l
Pt	100 mg/l	Pd	100 mg/l
Os	100 mg/l	Ru	100 mg/l



Standards for Water Quality

Reference Material for Measurement of Elements in Water

CRM water 1 (Ca 1000 µg/l) - 1 bottle of 100 ml		Reference: WCEBF.D005.005N.L1 Volume: 100 ml Matrix: in 0,05 % HNO ₃	
Element	Concentration	Element	Concentration
S	2000 µg/l	Al	5 µg/l
Ca	1000 µg/l	Ba	5 µg/l
Si	1000 µg/l	Cu	5 µg/l
P	500 µg/l	Pb	5 µg/l
K	500 µg/l	Mo	5 µg/l
Na	500 µg/l	Ni	5 µg/l
Mg	200 µg/l	Ag	5 µg/l
B	50 µg/l	Sr	5 µg/l
Li	50 µg/l	V	5 µg/l
Sb	10 µg/l	Be	2 µg/l
As	10 µg/l	Co	2 µg/l
Bi	10 µg/l	Cr	2 µg/l
Fe	10 µg/l	Mn	2 µg/l
Se	10 µg/l	Ti	2 µg/l
Tl	10 µg/l	Cd	0.5 µg/l
Zn	10 µg/l		

CRM water 2 (Ca 10 000 µg/l) - 1 bottle of 100 ml		Reference: WCEBF.D05.05N.L1 Volume: 100 ml Matrix: in 0,05 % HNO ₃	
Element	Concentration	Element	Concentration
S	20 000 µg/l	Al	50 µg/l
Ca	10 000 µg/l	Ba	50 µg/l
Si	10 000 µg/l	Cu	50 µg/l
P	5000 µg/l	Pb	50 µg/l
K	5000 µg/l	Mo	50 µg/l
Na	5000 µg/l	Ni	50 µg/l
Mg	2000 µg/l	Ag	50 µg/l
B	500 µg/l	Sr	50 µg/l
Li	500 µg/l	V	50 µg/l
Sb	100 µg/l	Be	20 µg/l
As	100 µg/l	Co	20 µg/l
Bi	100 µg/l	Cr	20 µg/l
Fe	100 µg/l	Mn	20 µg/l
Se	100 µg/l	Ti	20 µg/l
Tl	100 µg/l	Cd	5 µg/l
Zn	100 µg/l		

CRM water 3 (Ca 100 000 µg/l) - 1 bottle of 100 ml		Reference: WCEBF.D5.5N.L1 Volume: 100 ml Matrix: in 5 % HNO ₃	
Element	Concentration	Element	Concentration
S	200 000 µg/l	Al	500 µg/l
Ca	100 000 µg/l	Ba	500 µg/l
Si	100 000 µg/l	Cu	500 µg/l
P	50 000 µg/l	Pb	500 µg/l
K	50 000 µg/l	Mo	500 µg/l
Na	50 000 µg/l	Ni	500 µg/l
Mg	20 000 µg/l	Ag	500 µg/l
B	5000 µg/l	Sr	500 µg/l
Li	5000 µg/l	V	500 µg/l
Sb	1000 µg/l	Be	200 µg/l
As	1000 µg/l	Cr	200 µg/l
Bi	1000 µg/l	Co	200 µg/l
Fe	1000 µg/l	Mn	200 µg/l
Se	1000 µg/l	Ti	200 µg/l
Tl	1000 µg/l	Cd	50 µg/l
Zn	1000 µg/l		

CRM water 4 (Ca 1 000 000 µg/l) - 1 bottle of 100 ml		Reference: WCEBF.5.5N.L1 Volume: 100 ml Matrix: in 5 % HNO ₃	
Element	Concentration	Element	Concentration
S	2 000 000 µg/l	Al	5000 µg/l
Ca	1000 000 µg/l	Ba	5000 µg/l
Si	1000 000 µg/l	Cu	5000 µg/l
P	500 000 µg/l	Pb	5000 µg/l
K	500 000 µg/l	Mo	5000 µg/l
Na	500 000 µg/l	Ni	5000 µg/l
Mg	200 000 µg/l	Ag	5000 µg/l
B	50 000 µg/l	Sr	5000 µg/l
Li	50 000 µg/l	V	5000 µg/l
Sb	10 000 µg/l	Be	2000 µg/l
As	10 000 µg/l	Cr	2000 µg/l
Bi	10 000 µg/l	Co	2000 µg/l
Fe	10 000 µg/l	Mn	2000 µg/l
Se	10 000 µg/l	Ti	2000 µg/l
Tl	10 000 µg/l	Cd	500µg/l
Zn	10 000 µg/l		

CRM water 5 (Ca 2 000 000 µg/l) - 4 bottle of 100 ml		Reference: WCEBFD5.5N.L1 Volume: 100 ml Matrix: in 5 % HNO ₃	
Element	Concentration	Element	Concentration
S	4000 000 µg/l	Al	10 000 µg/l
Ca	2000 000 µg/l	Ba	10 000 µg/l
Si	2000 000 µg/l	Cu	10 000 µg/l
P	1000 000 µg/l	Pb	10 000 µg/l
K	1000 000 µg/l	Mo	10 000 µg/l
Na	1000 000 µg/l	Ni	10 000 µg/l
Mg	400 000 µg/l	Ag	10 000 µg/l
B	100 000 µg/l	Sr	10 000 µg/l
Li	100 000 µg/l	V	10 000 µg/l
Sb	20 000 µg/l	Be	4000 µg/l
As	20 000 µg/l	Cr	4000 µg/l
Bi	20 000 µg/l	Co	4000 µg/l
Fe	20 000 µg/l	Mn	4000 µg/l
Se	20 000 µg/l	Ti	4000 µg/l
Tl	20 000 µg/l	Cd	1000 µg/l
Zn	20 000 µg/l		

TCLP Standard for ICP - 4 components		Reference: 47BC.25.2N.L1 Volume: 100 ml Matrix: in 2 % HNO ₃	
Element	Concentration	Element	Concentration
Ba	500 mg/l	Ag	25 mg/l
Cr	25 mg/l	Cd	5 mg/l

TCLP Standard 2 - Hg		Reference: D0BC.20.5N.L1 Volume: 100 ml Matrix: in 5 % HNO ₃	
Element	Concentration		
Hg	20 mg/l		

ICP Calibration Standard - Sewage Sludge		Reference: D45E.10.5N.L1 Volume: 100 ml Matrix: in 5 % HNO ₃	
Element	Concentration	Element	Concentration
Zn	2500 mg/l	Cu	800 mg/l
Cr	900 mg/l	Ni	200 mg/l
Pb	900 mg/l	Cd	10 mg/l

CLP Soil Spiking Solution - 16 components		Reference: 10D1.10.5N.L1 Volume: 100 ml Matrix: in 5 % HNO ₃	
Element	Concentration	Element	Concentration
As	400 mg/l	Ni	100 mg/l
Ba	400 mg/l	V	100 mg/l
Se	400 mg/l	Zn	100 mg/l
Tl	400 mg/l	Cu	50 mg/l
Sb	100 mg/l	Cr	40 mg/l
Co	100 mg/l	Be	10 mg/l
Pb	100 mg/l	Cd	10 mg/l
Mn	100 mg/l	Ag	10 mg/l

TCLP Standard for ICP - 3 components		Reference: 8050.25.5N.L1 Volume: 100 ml Matrix: in 5 % HNO ₃	
Element	Concentration	Element	Concentration
As	25 mg/l	Se	5 mg/l
Pb	25 mg/l		

Standards for Analytes covered in the Safe Drinking Water Act (SDWA)

Primary Metals for Analysis by ICP - 9 components		Reference: 6D95.K1.2N.L1 Volume: 100 ml Matrix: in 2 % HNO ₃	
Element	Concentration	Element	Concentration
As	100 mg/l	Cd	10 mg/l
Ca	100 mg/l	Cr	10 mg/l
Na	100 mg/l	Cu	10 mg/l
Ba	10 mg/l	Ni	10 mg/l
Be	10 mg/l		

Primary Metals for Analysis by ICP-MS - 11 components		Reference: 686F.10.2N.L1 Volume: 100 ml Matrix: in 2 % HNO ₃	
Element	Concentration	Element	Concentration
As	10 mg/l	Ni	10 mg/l
Ba	10 mg/l	Pb	10 mg/l
Be	10 mg/l	Sb	10 mg/l
Cd	10 mg/l	Se	10 mg/l
Cr	10 mg/l	Tl	10 mg/l
Cu	10 mg/l		



* Custom Standards for ICP & ICP-MS are available upon request.

Primary Metals for Analysis by GFAA - 9 components		Reference: 2495.10.2N.L1	
		Volume: 100 ml	
		Matrix: in 2 % HNO ₃	
Element	Concentration	Element	Concentration
Sb	10 mg/l	Pb	10 mg/l
As	10 mg/l	Ni	10 mg/l
Cd	10 mg/l	Se	10 mg/l
Cr	10 mg/l	Tl	10 mg/l
Cu	10 mg/l		

Primary & Secondary Metals for Analysis by GFAA/ICP/ICP-MS - 19 components		Reference: DE11.10.2N.L1	
		Volume: 100 ml	
		Matrix: in 2 % HNO ₃	
Element	Concentration	Element	Concentration
Sb	100 mg/l	Cr	10 mg/l
As	100 mg/l	Cu	10 mg/l
Ca	100 mg/l	Pb	10 mg/l
Fe	100 mg/l	Mn	10 mg/l
Si	100 mg/l	Ni	10 mg/l
Na	100 mg/l	Se	10 mg/l
Al	10 mg/l	Ag	10 mg/l
Ba	10 mg/l	Tl	10 mg/l
Be	10 mg/l	Zn	10 mg/l
Cd	10 mg/l		

Primary Metals for Analysis by GFAA/ICP/ICP-MS - 14 components		Reference: C87D.K1.2NFL1	
		Volume: 100 ml	
		Matrix: in 2 % HNO ₃	
Element	Concentration	Element	Concentration
Sb	100 mg/l	Cd	10 mg/l
As	100 mg/l	Cr	10 mg/l
Ca	100 mg/l	Cu	10 mg/l
Si	100 mg/l	Pb	10 mg/l
Na	100 mg/l	Ni	10 mg/l
Ba	10 mg/l	Se	10 mg/l
Be	10 mg/l	Tl	10 mg/l

Secondary Metals for Analysis by GFAA/ICP/ICP-MS - 5 components		Reference: F235.10.2N.L1	
		Volume: 100 ml	
		Matrix: in 2 % HNO ₃	
Element	Concentration	Element	Concentration
Fe	100 mg/l	Mn	10 mg/l
Ag	10 mg/l	Zn	10 mg/l
Al	10 mg/l		

ICP Standards

Quality Control Standards for ICP

Quality Control Standard - 25 components		Reference: 64F7.10.2N.L1	
		Volume: 100 ml	
		Matrix: in 2 % HNO ₃	
Element	Concentration	Element	Concentration
Ag	10 mg/l	Mn	10 mg/l
Al	10 mg/l	Mo	10 mg/l
As	10 mg/l	Na	10 mg/l
Ba	10 mg/l	Ni	10 mg/l
Be	10 mg/l	Pb	10 mg/l
Ca	10 mg/l	Sb	10 mg/l
Cd	10 mg/l	Se	10 mg/l
Co	10 mg/l	Th	10 mg/l
Cr	10 mg/l	Tl	10 mg/l
Cu	10 mg/l	U	10 mg/l
Fe	10 mg/l	V	10 mg/l
K	10 mg/l	Zn	10 mg/l
Mg	10 mg/l		

ICP Calibration Standards

Solids 1A CCV Solution for ICP-OES - 14 components		Reference: 06DF.K1.5N.L1	
		Volume: 100 ml	
		Matrix: in 5 % HNO ₃	
Element	Concentration	Element	Concentration
B	1000 mg/l	Cr	100 mg/l
Ba	1000 mg/l	Cu	100 mg/l
P	1000 mg/l	Ni	100 mg/l
Mn	500 mg/l	Pb	100 mg/l
Zn	500 mg/l	V	100 mg/l
As	100 mg/l	Be	5 mg/l
Co	100 mg/l	Cd	5 mg/l

Solids 1B CCV Solution for ICP-OES - 6 components		Reference: FC4C.5K.5N.L1	
		Volume: 100 ml	
		Matrix: in 5 % HNO ₃	
Element	Concentration	Element	Concentration
Al	5000 mg/l	Mg	5000 mg/l
Ca	5000 mg/l	Na	5000 mg/l
Fe	5000 mg/l	K	2000 mg/l

Solids Mix 3A solution for ICP-OES - 11 components		Reference: F679.1K.5N.L1	
		Volume: 100 ml	
		Matrix: in 5 % HNO ₃	
Element	Concentration	Element	Concentration
Mn	2500 mg/l	Ni	1000 mg/l
Zn	2500 mg/l	Pb	1000 mg/l
As	1000 mg/l	V	1000 mg/l
Co	1000 mg/l	Be	100 mg/l
Cr	1000 mg/l	Cd	100 mg/l
Cu	1000 mg/l		

Solids Mix 4 solution for ICP-OES - 6 components		Reference: 42F9.50.5N.L1	
		Volume: 100 ml	
		Matrix: in 5 % HNO ₃	
Element	Concentration	Element	Concentration
Sb	100 mg/l	Te	100 mg/l
Se	100 mg/l	Tl	100 mg/l
Sn	100 mg/l	Mo	50 mg/l



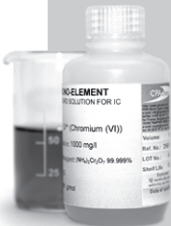
* Custom Standards for ICP & ICP-MS are available upon request.

Ion Chromatography Standards



Single-Ion Standards

TYPE NAME	ELEMENT	MATRIX	CONCENTRATION	VOLUME	UNIT	REFERENCE
Acetate	CH ₃ COO ⁻	in H ₂ O	1000 mg/l	100	ml	H016.W.L1
Acetate	CH ₃ COO ⁻	in H ₂ O	1000 mg/l	250	ml	H016.W.L25
Acetate	CH ₃ COO ⁻	in H ₂ O	1000 mg/l	500	ml	H016.W.L5
Ammonium	NH ₄ ⁺	in H ₂ O	1000 mg/l	100	ml	H011.W.L1
Ammonium	NH ₄ ⁺	in H ₂ O	1000 mg/l	250	ml	H011.W.L25
Ammonium	NH ₄ ⁺	in H ₂ O	1000 mg/l	500	ml	H011.W.L5
Ammonium as N	N	in H ₂ O	1000 mg/l	100	ml	H031.W.L1
Ammonium as N	N	in H ₂ O	1000 mg/l	250	ml	H031.W.L25
Ammonium as N	N	in H ₂ O	1000 mg/l	500	ml	H031.W.L5
Barium	Ba ²⁺	in H ₂ O	1000 mg/l	100	ml	H022.W.L1
Barium	Ba ²⁺	in H ₂ O	1000 mg/l	250	ml	H022.W.L25
Barium	Ba ²⁺	in H ₂ O	1000 mg/l	500	ml	H022.W.L5
Benzoate	C ₆ H ₅ COO ⁻	in H ₂ O	1000 mg/l	100	ml	H030.W.L1
Benzoate	C ₆ H ₅ COO ⁻	in H ₂ O	1000 mg/l	250	ml	H030.W.L25
Benzoate	C ₆ H ₅ COO ⁻	in H ₂ O	1000 mg/l	500	ml	H030.W.L5
Bromate	BrO ₃ ⁻	in H ₂ O	1000 mg/l	100	ml	H020.W.L1
Bromate	BrO ₃ ⁻	in H ₂ O	1000 mg/l	250	ml	H020.W.L25
Bromate	BrO ₃ ⁻	in H ₂ O	1000 mg/l	500	ml	H020.W.L5
Bromide	Br ⁻	in H ₂ O	1000 mg/l	100	ml	H001.W.L1
Bromide	Br ⁻	in H ₂ O	1000 mg/l	250	ml	H001.W.L25
Bromide	Br ⁻	in H ₂ O	1000 mg/l	500	ml	H001.W.L5
Calcium	Ca ²⁺	in H ₂ O	1000 mg/l	100	ml	H002.W.L1
Calcium	Ca ²⁺	in H ₂ O	1000 mg/l	250	ml	H002.W.L25
Calcium	Ca ²⁺	in H ₂ O	1000 mg/l	500	ml	H002.W.L5
Cesium	Cs ⁺	in H ₂ O	1000 mg/l	100	ml	H027.W.L1
Cesium	Cs ⁺	in H ₂ O	1000 mg/l	250	ml	H027.W.L25
Cesium	Cs ⁺	in H ₂ O	1000 mg/l	500	ml	H027.W.L5
Chlorate	ClO ₃ ⁻	in H ₂ O	1000 mg/l	100	ml	H025.W.L1
Chlorate	ClO ₃ ⁻	in H ₂ O	1000 mg/l	250	ml	H025.W.L25
Chlorate	ClO ₃ ⁻	in H ₂ O	1000 mg/l	500	ml	H025.W.L5
Chloride	Cl ⁻	in H ₂ O	1000 mg/l	100	ml	H003.W.L1
Chloride	Cl ⁻	in H ₂ O	1000 mg/l	250	ml	H003.W.L25
Chloride	Cl ⁻	in H ₂ O	1000 mg/l	500	ml	H003.W.L5
Chlorite	ClO ₂ ⁻	in H ₂ O/tr NaOH	1000 mg/l	100	ml	H028.010.L1
Chlorite	ClO ₂ ⁻	in H ₂ O/tr NaOH	1000 mg/l	250	ml	H028.010.L25
Chlorite	ClO ₂ ⁻	in H ₂ O/tr NaOH	1000 mg/l	500	ml	H028.010.L5
Chromate as Cr(VI)	Cr ⁶⁺	in H ₂ O	1000 mg/l	100	ml	H004.W.L1
Chromate as Cr(VI)	Cr ⁶⁺	in H ₂ O	1000 mg/l	250	ml	H004.W.L25
Chromate as Cr(VI)	Cr ⁶⁺	in H ₂ O	1000 mg/l	500	ml	H004.W.L5
Citrate	C ₆ H ₅ O ₇ ³⁻	in H ₂ O	1000 mg/l	100	ml	H029.W.L1
Citrate	C ₆ H ₅ O ₇ ³⁻	in H ₂ O	1000 mg/l	250	ml	H029.W.L25



* Custom Standards for Ion Chromatography are available upon request.

TYPE NAME	ELEMENT	MATRIX	CONCENTRATION	VOLUME	UNIT	REFERENCE
Citrate	$C_6H_5O_7^{3-}$	in H_2O	1000 mg/l	500	ml	H029.W.L5
Cyanide	CN^-	in H_2O /tr KOH	1000 mg/l	100	ml	H032.010.L1
Cyanide	CN^-	in H_2O /tr KOH	1000 mg/l	250	ml	H032.010.L25
Cyanide	CN^-	in H_2O /tr KOH	1000 mg/l	500	ml	H032.010.L5
Diethanolamine	$(HOC_2H_4)_2NH_2^+$	in H_2O	1000 mg/l	100	ml	H033.W.L1
Diethanolamine	$(HOC_2H_4)_2NH_2^+$	in H_2O	1000 mg/l	250	ml	H033.W.L25
Diethanolamine	$(HOC_2H_4)_2NH_2^+$	in H_2O	1000 mg/l	500	ml	H033.W.L5
Fluoride	F^-	in H_2O	1000 mg/l	100	ml	H005.W.L1
Fluoride	F^-	in H_2O	1000 mg/l	250	ml	H005.W.L25
Fluoride	F^-	in H_2O	1000 mg/l	500	ml	H005.W.L5
Formate	$HCOO^-$	in H_2O	1000 mg/l	100	ml	H026.W.L1
Formate	$HCOO^-$	in H_2O	1000 mg/l	250	ml	H026.W.L25
Formate	$HCOO^-$	in H_2O	1000 mg/l	500	ml	H026.W.L5
Glycolate	$C_2H_3O_3^-$	in H_2O	1000 mg/l	100	ml	H034.W.L1
Glycolate	$C_2H_3O_3^-$	in H_2O	1000 mg/l	250	ml	H034.W.L25
Glycolate	$C_2H_3O_3^-$	in H_2O	1000 mg/l	500	ml	H034.W.L5
Hydrogen phthalate	$C_6H_4(COO)_2H^-$	in H_2O	1000 mg/l	100	ml	H035.W.L1
Hydrogen phthalate	$C_6H_4(COO)_2H^-$	in H_2O	1000 mg/l	250	ml	H035.W.L25
Hydrogen phthalate	$C_6H_4(COO)_2H^-$	in H_2O	1000 mg/l	500	ml	H035.W.L5
Hydrogen sulfite	HSO_3^-	in H_2O	1000 mg/l	100	ml	H057.W.L1
Hydrogen sulfite	HSO_3^-	in H_2O	1000 mg/l	250	ml	H057.W.L25
Hydrogen sulfite	HSO_3^-	in H_2O	1000 mg/l	500	ml	H057.W.L5
Iodate	IO_3^-	in H_2O	1000 mg/l	100	ml	H036.W.L1
Iodate	IO_3^-	in H_2O	1000 mg/l	250	ml	H036.W.L25
Iodate	IO_3^-	in H_2O	1000 mg/l	500	ml	H036.W.L5
Iodide	I^-	in H_2O	1000 mg/l	100	ml	H006.W.L1
Iodide	I^-	in H_2O	1000 mg/l	250	ml	H006.W.L25
Iodide	I^-	in H_2O	1000 mg/l	500	ml	H006.W.L5
Lactate	$CH_3CH(OH)COO^-$	in H_2O	1000 mg/l	100	ml	H037.W.L1
Lactate	$CH_3CH(OH)COO^-$	in H_2O	1000 mg/l	250	ml	H037.W.L25
Lactate	$CH_3CH(OH)COO^-$	in H_2O	1000 mg/l	500	ml	H037.W.L5
Lithium	Li^+	in H_2O	1000 mg/l	100	ml	H008.W.L1
Lithium	Li^+	in H_2O	1000 mg/l	250	ml	H008.W.L25
Lithium	Li^+	in H_2O	1000 mg/l	500	ml	H008.W.L5
Magnesium	Mg^{2+}	in H_2O	1000 mg/l	100	ml	H009.W.L1
Magnesium	Mg^{2+}	in H_2O	1000 mg/l	250	ml	H009.W.L25
Magnesium	Mg^{2+}	in H_2O	1000 mg/l	500	ml	H009.W.L5
Maleate	$C_2H_2(COO)_2^{2-}$	in H_2O	1000 mg/l	100	ml	H038.W.L1
Maleate	$C_2H_2(COO)_2^{2-}$	in H_2O	1000 mg/l	250	ml	H038.W.L25
Maleate	$C_2H_2(COO)_2^{2-}$	in H_2O	1000 mg/l	500	ml	H038.W.L5
Methane sulfonate	$CH_3SO_3^-$	in H_2O	1000 mg/l	100	ml	H039.W.L1
Methane sulfonate	$CH_3SO_3^-$	in H_2O	1000 mg/l	250	ml	H039.W.L25
Methane sulfonate	$CH_3SO_3^-$	in H_2O	1000 mg/l	500	ml	H039.W.L5
3-Methoxypropylamine	$CH_3O(CH_2)_3NH_3^+$	in H_2O	1000 mg/l	100	ml	H053.W.L1
3-Methoxypropylamine	$CH_3O(CH_2)_3NH_3^+$	in H_2O	1000 mg/l	250	ml	H053.W.L25

TYPE NAME	ELEMENT	MATRIX	CONCENTRATION	VOLUME	UNIT	REFERENCE
3-Methoxypropylamine	$\text{CH}_3\text{O}(\text{CH}_2)_3\text{NH}_3^+$	in H_2O	1000 mg/l	500	ml	H053.W.L5
Monoethanolamine	$\text{HOC}_2\text{H}_4\text{NH}_3^+$	in H_2O	1000 mg/l	100	ml	H040.W.L1
Monoethanolamine	$\text{HOC}_2\text{H}_4\text{NH}_3^+$	in H_2O	1000 mg/l	250	ml	H040.W.L25
Monoethanolamine	$\text{HOC}_2\text{H}_4\text{NH}_3^+$	in H_2O	1000 mg/l	500	ml	H040.W.L5
Monomethylamine	CH_3NH_3^+	in H_2O	1000 mg/l	100	ml	H041.W.L1
Monomethylamine	CH_3NH_3^+	in H_2O	1000 mg/l	250	ml	H041.W.L25
Monomethylamine	CH_3NH_3^+	in H_2O	1000 mg/l	500	ml	H041.W.L5
Nitrate	NO_3^-	in H_2O	1000 mg/l	100	ml	H013.W.L1
Nitrate	NO_3^-	in H_2O	1000 mg/l	250	ml	H013.W.L25
Nitrate	NO_3^-	in H_2O	1000 mg/l	500	ml	H013.W.L5
Nitrate as N	N	in H_2O	1000 mg/l	100	ml	H044.W.L1
Nitrate as N	N	in H_2O	1000 mg/l	250	ml	H044.W.L25
Nitrate as N	N	in H_2O	1000 mg/l	500	ml	H044.W.L5
Nitrilotriacetate	$\text{N}(\text{CH}_2\text{COO})_3^{3-}$	in H_2O	1000 mg/l	100	ml	H042.W.L1
Nitrilotriacetate	$\text{N}(\text{CH}_2\text{COO})_3^{3-}$	in H_2O	1000 mg/l	250	ml	H042.W.L25
Nitrilotriacetate	$\text{N}(\text{CH}_2\text{COO})_3^{3-}$	in H_2O	1000 mg/l	500	ml	H042.W.L5
Nitrite	NO_2^-	in H_2O	1000 mg/l	100	ml	H012.W.L1
Nitrite	NO_2^-	in H_2O	1000 mg/l	250	ml	H012.W.L25
Nitrite	NO_2^-	in H_2O	1000 mg/l	500	ml	H012.W.L5
Nitrite as N	N	in H_2O	1000 mg/l	100	ml	H043.W.L1
Nitrite as N	N	in H_2O	1000 mg/l	250	ml	H043.W.L25
Nitrite as N	N	in H_2O	1000 mg/l	500	ml	H043.W.L5
Oxalate	$\text{C}_2\text{O}_4^{2-}$	in H_2O	1000 mg/l	100	ml	H024.W.L1
Oxalate	$\text{C}_2\text{O}_4^{2-}$	in H_2O	1000 mg/l	250	ml	H024.W.L25
Oxalate	$\text{C}_2\text{O}_4^{2-}$	in H_2O	1000 mg/l	500	ml	H024.W.L5
Perchlorate	ClO_4^{3-}	in H_2O	1000 mg/l	100	ml	H017.W.L1
Perchlorate	ClO_4^{3-}	in H_2O	1000 mg/l	250	ml	H017.W.L25
Perchlorate	ClO_4^{3-}	in H_2O	1000 mg/l	500	ml	H017.W.L5
Phosphate	PO_4^{3-}	in H_2O	1000 mg/l	100	ml	H014.W.L1
Phosphate	PO_4^{3-}	in H_2O	1000 mg/l	250	ml	H014.W.L25
Phosphate	PO_4^{3-}	in H_2O	1000 mg/l	500	ml	H014.W.L5
Phosphate as P	P	in H_2O	1000 mg/l	100	ml	H045.W.L1
Phosphate as P	P	in H_2O	1000 mg/l	250	ml	H045.W.L25
Phosphate as P	P	in H_2O	1000 mg/l	500	ml	H045.W.L5
Potassium	K^+	in H_2O	1000 mg/l	100	ml	H007.W.L1
Potassium	K^+	in H_2O	1000 mg/l	250	ml	H007.W.L25
Potassium	K^+	in H_2O	1000 mg/l	500	ml	H007.W.L5
Propionate	$\text{C}_2\text{H}_5\text{COO}^-$	in H_2O	1000 mg/l	100	ml	H046.W.L1
Propionate	$\text{C}_2\text{H}_5\text{COO}^-$	in H_2O	1000 mg/l	250	ml	H046.W.L25
Propionate	$\text{C}_2\text{H}_5\text{COO}^-$	in H_2O	1000 mg/l	500	ml	H046.W.L5
Silicate	SiO_3^{2-}	in 1% NaOH	1000 mg/l	100	ml	H047.10.L1
Silicate	SiO_3^{2-}	in 1% NaOH	1000 mg/l	250	ml	H047.10.L25
Silicate	SiO_3^{2-}	in 1% NaOH	1000 mg/l	500	ml	H047.10.L5
Sodium	Na^+	in H_2O	1000 mg/l	100	ml	H010.W.L1
Sodium	Na^+	in H_2O	1000 mg/l	250	ml	H010.W.L25



* Custom Standards for Ion Chromatography are available upon request.

TYPE NAME	ELEMENT	MATRIX	CONCENTRATION	VOLUME	UNIT	REFERENCE
Sodium	Na ⁺	in H ₂ O	1000 mg/l	500	ml	H010.W.L5
Strontium	Sr ²⁺	in H ₂ O	1000 mg/l	100	ml	H023.W.L1
Strontium	Sr ²⁺	in H ₂ O	1000 mg/l	250	ml	H023.W.L25
Strontium	Sr ²⁺	in H ₂ O	1000 mg/l	500	ml	H023.W.L5
Succinate	OOC(CH ₂) ₂ COO ²⁻	in H ₂ O	1000 mg/l	100	ml	H048.W.L1
Succinate	OOC(CH ₂) ₂ COO ²⁻	in H ₂ O	1000 mg/l	250	ml	H048.W.L25
Succinate	OOC(CH ₂) ₂ COO ²⁻	in H ₂ O	1000 mg/l	500	ml	H048.W.L5
Sulphate	SO ₄ ²⁻	in H ₂ O	1000 mg/l	100	ml	H015.W.L1
Sulphate	SO ₄ ²⁻	in H ₂ O	1000 mg/l	250	ml	H015.W.L25
Sulphate	SO ₄ ²⁻	in H ₂ O	1000 mg/l	500	ml	H015.W.L5
Sulphite as S(IV)	S(IV)	in H ₂ O	1000 mg/l	100	ml	H018.W.L1
Sulphite as S(IV)	S(IV)	in H ₂ O	1000 mg/l	250	ml	H018.W.L25
Sulphite as S(IV)	S(IV)	in H ₂ O	1000 mg/l	500	ml	H018.W.L5
Tartrate	OOC(CHOH) ₂ COO ²⁻	in H ₂ O	1000 mg/l	100	ml	H049.W.L1
Tartrate	OOC(CHOH) ₂ COO ²⁻	in H ₂ O	1000 mg/l	250	ml	H049.W.L25
Tartrate	OOC(CHOH) ₂ COO ²⁻	in H ₂ O	1000 mg/l	500	ml	H049.W.L5
Thiocyanate	SCN ⁻	in H ₂ O	1000 mg/l	100	ml	H021.W.L1
Thiocyanate	SCN ⁻	in H ₂ O	1000 mg/l	250	ml	H021.W.L25
Thiocyanate	SCN ⁻	in H ₂ O	1000 mg/l	500	ml	H021.W.L5
Thiosulphate	S ₂ O ₃ ²⁻	in n-pentanol	1000 mg/l	100	ml	H050.011044.L1
Thiosulphate	S ₂ O ₃ ²⁻	in n-pentanol	1000 mg/l	250	ml	050.011044.L25
Thiosulphate	S ₂ O ₃ ²⁻	in n-pentanol	1000 mg/l	500	ml	H050.011044.L5
Triethanolamine	(HOC ₂ H ₄) ₃ NH ⁺	in H ₂ O	1000 mg/l	100	ml	H051.W.L1
Triethanolamine	(HOC ₂ H ₄) ₃ NH ⁺	in H ₂ O	1000 mg/l	250	ml	H051.W.L25
Triethanolamine	(HOC ₂ H ₄) ₃ NH ⁺	in H ₂ O	1000 mg/l	500	ml	H051.W.L5
Triethylamine	(C ₂ H ₅) ₃ NH ⁺	in H ₂ O	1000 mg/l	100	ml	H054.W.L1
Triethylamine	(C ₂ H ₅) ₃ NH ⁺	in H ₂ O	1000 mg/l	250	ml	H054.W.L25
Triethylamine	(C ₂ H ₅) ₃ NH ⁺	in H ₂ O	1000 mg/l	500	ml	H054.W.L5
Trimethylamine	(CH ₃)NH ⁺	in H ₂ O	1000 mg/l	100	ml	H052.W.L1
Trimethylamine	(CH ₃)NH ⁺	in H ₂ O	1000 mg/l	250	ml	H052.W.L25
Trimethylamine	(CH ₃)NH ⁺	in H ₂ O	1000 mg/l	500	ml	H052.W.L5
Tetrafluoroborate	BF ₄	in H ₂ O	1000 mg/l	100	ml	H058.W.L1
Tetrafluoroborate	BF ₄	in H ₂ O	1000 mg/l	250	ml	H058.W.L25
Tetrafluoroborate	BF ₄	in H ₂ O	1000 mg/l	500	ml	H058.W.L5
Adipates	C ₆ H ₈ O ₄ ²⁻	in H ₂ O	1000 mg/l	100	ml	H059.W.L1
Adipates	C ₆ H ₈ O ₄ ²⁻	in H ₂ O	1000 mg/l	250	ml	H059.W.L25
Adipates	C ₆ H ₈ O ₄ ²⁻	in H ₂ O	1000 mg/l	500	ml	H059.W.L5
Butyrates	C ₄ H ₇ O ₂ ⁻	in H ₂ O	1000 mg/l	100	ml	H060.W.L1
Butyrates	C ₄ H ₇ O ₂ ⁻	in H ₂ O	1000 mg/l	250	ml	H060.W.L25
Butyrates	C ₄ H ₇ O ₂ ⁻	in H ₂ O	1000 mg/l	500	ml	H060.W.L5

Multi-Ion Standards

Standard 7 ions		Reference: 1521.K1.W.L1			Reference: 1521.K1.W.L25		
		Volume: 100 ml Matrix: in H ₂ O			Volume: 250 ml Matrix: in H ₂ O		
Element	Concentration	Element	Concentration	Element	Concentration	Element	Concentration
Br ⁻	100 mg/l	F ⁻	100 mg/l	NO ₃ ⁻	100 mg/l	SO ₄ ²⁻	100 mg/l
Cl ⁻	100 mg/l	NO ₂ ⁻	100 mg/l	PO ₄ ³⁻	100 mg/l		

Standard 7 ions		Reference: 1521.1K.W.L1	
		Volume: 100 ml Matrix: in H ₂ O	
Element	Concentration	Element	Concentration
Br ⁻	1000 mg/l	NO ₃ ⁻	1000 mg/l
Cl ⁻	1000 mg/l	PO ₄ ³⁻	1000 mg/l
F ⁻	1000 mg/l	SO ₄ ²⁻	1000 mg/l
NO ₂ ⁻	1000 mg/l		

Standard 7 ions		Reference: ACE63.25.W.L1			Reference: ACE63.25.W.L5		
		Volume: 100 ml Matrix: in H ₂ O			Volume: 500 ml Matrix: in H ₂ O		
Element	Concentration	Element	Concentration	Element	Concentration	Element	Concentration
PO ₄ ³⁻	40 mg/l	Br ⁻	25 mg/l	NO ₂ ⁻	15 mg/l	F ⁻	5 mg/l
SO ₄ ²⁻	30 mg/l	NO ₃ ⁻	25 mg/l	Cl ⁻	10 mg/l		

Standard 6 ions		Reference: 1A3DCF.40.01N.L1			Reference: A3DCF.40.01N.L5		
		Volume: 100 ml Matrix: in H ₂ O/tr HNO ₃			Volume: 250 ml Matrix: in H ₂ O/tr HNO ₃		
Element	Concentration	Element	Concentration	Element	Concentration		
NH ₄ ⁺	40 mg/l	Na ⁺	20 mg/l	K ⁺	20 mg/l		
Ca ²⁺	40 mg/l	Mg ²⁺	20 mg/l	Li ⁺	10 mg/l		

Standard 6 ions		Reference: E3A7.K1.W.L1	
		Volume: 100 ml Matrix: in H ₂ O	
Element	Concentration	Element	Concentration
Br ⁻	100 mg/l	NO ₃ ⁻	100 mg/l
Cl ⁻	100 mg/l	PO ₄ ³⁻	100 mg/l
F ⁻	100 mg/l	SO ₄ ²⁻	100 mg/l



* Custom Standards for Ion Chromatography are available upon request.

Standard 6 ions		Reference: A7A40.5.01N.L1		Reference: A7A40.5.01N.L5			
		Volume: 100 ml		Volume: 500 ml			
		Matrix: in H ₂ O/tr HNO ₃		Matrix: in H ₂ O/tr HNO ₃			
Element	Concentration	Element	Concentration	Element	Concentration	Element	Concentration
Ca ²⁺	5 mg/l	NH ₄ ⁺	2.5 mg/l	Na ⁺	2 mg/l		
K ⁺	5 mg/l	Mg ²⁺	2.5 mg/l	Li ⁺	0.5 mg/l		

Standard 5 ions		Reference: 1A15.K1.W.L1	
		Volume: 100 ml	
		Matrix: in H ₂ O	
Element	Concentration	Element	Concentration
NH ₄ ⁺	100 mg/l	K ⁺	100 mg/l
Ca ²⁺	100 mg/l	Na ⁺	100 mg/l
Mg ²⁺	100 mg/l		

Standard 4 ions		Reference: 4C79.1K.W.L1	
		Volume: 100 ml	
		Matrix: in H ₂ O	
Element	Concentration	Element	Concentration
Ca ²⁺	1000 mg/l	K ⁺	1000 mg/l
Mg ²⁺	1000 mg/l	Na ⁺	1000 mg/l

Standard 3 ions		Reference: 3905.1K.W.L1	
		Volume: 100 ml	
		Matrix: in H ₂ O	
Element	Concentration	Element	Concentration
Cl ⁻	1000 mg/l	SO ₄ ²⁻	1000 mg/l
NO ₃ ⁻	1000 mg/l		

Eluent Concentrates

Sodium Carbonate	Reference: EL001.W.L1	Reference: EL001.W.L5
	Volume: 100 ml	Volume: 500 ml
	Matrix: in H ₂ O	Matrix: in H ₂ O
0.5M Carbonate - 100 times concentrated		

Sodium Bicarbonate	Reference: EL002.W.L1	Reference: EL002.W.L5
	Volume: 100 ml	Volume: 500 ml
	Matrix: in H ₂ O	Matrix: in H ₂ O
0.5M Bicarbonate - 100 times concentrated		

Carbonate Bicarbonate	Reference: EL003.W.L1	Reference: EL003.W.L5
	Volume: 100 ml	Volume: 500 ml
	Matrix: in H ₂ O	Matrix: in H ₂ O
0.22M Carbonate/ 0.28M Bicarbonate - 100 times concentrated		

Carbonate Bicarbonate	Reference: EL004.W.L1	Reference: EL004.W.L5
	Volume: 100 ml	Volume: 500 ml
	Matrix: in H ₂ O	Matrix: in H ₂ O
0.18M Carbonate/ 0.17M Bicarbonate - 100 times concentrated		

Carbonate Bicarbonate	Reference: EL005.W.L1	Reference: EL005.W.L5
	Volume: 100 ml	Volume: 500 ml
	Matrix: in H ₂ O	Matrix: in H ₂ O
0.35M Carbonate/ 0.10M Bicarbonate - 100 times concentrated		

Water For Chromatography

Water 0.2 micron filtered	Reference: CIW.1L
	Volume: 1000 ml



* Custom Standards for Ion Chromatography are available upon request.

Standards equivalent to



Standards equivalent to Agilent

STANDARDS EQUIVALENT TO

Agilent Environmental Calibration Standard - 25 components		Reference: 5183-4688.L1	
		Volume: 100 ml	
		Matrix: in 10 % HNO ₃ /tr.HF	
Element	Concentration	Element	Concentration
Ca	1000 mg/l	Cu	10 mg/l
Fe	1000 mg/l	Pb	10 mg/l
Mg	1000 mg/l	Mn	10 mg/l
K	1000 mg/l	Mo	10 mg/l
Na	1000 mg/l	Ni	10 mg/l
Al	10 mg/l	Se	10 mg/l
Sb	10 mg/l	Ag	10 mg/l
As	10 mg/l	Tl	10 mg/l
Ba	10 mg/l	Th	10 mg/l
Be	10 mg/l	U	10 mg/l
Cd	10 mg/l	V	10 mg/l
Cr	10 mg/l	Zn	10 mg/l
Co	10 mg/l		

Agilent Multi-element Calibration Standard # 2A - 28 components		Reference: 8500-6940.L1	
		Volume: 100 ml	
		Matrix: in 5 % HNO ₃	
Element	Concentration	Element	Concentration
Ag	10 mg/l	K	10 mg/l
Al	10 mg/l	Li	10 mg/l
As	10 mg/l	Mg	10 mg/l
Ba	10 mg/l	Mn	10 mg/l
Be	10 mg/l	Na	10 mg/l
Ca	10 mg/l	Ni	10 mg/l
Cd	10 mg/l	Pb	10 mg/l
Co	10 mg/l	Rb	10 mg/l
Cr	10 mg/l	Se	10 mg/l
Cs	10 mg/l	Sr	10 mg/l
Cu	10 mg/l	Tl	10 mg/l
Fe	10 mg/l	U	10 mg/l
Ga	10 mg/l	V	10 mg/l
Hg	10 mg/l	Zn	10 mg/l

Initial Calibration Verification Standard - 24 components		Reference: 5183-4687.L1	
		Volume: 100 ml	
		Matrix: in 5 % HNO ₃	
Element	Concentration	Element	Concentration
Ca	1000 mg/l	Cr	100 mg/l
Fe	1000 mg/l	Mn	100 mg/l
K	1000 mg/l	Mo	100 mg/l
Mg	1000 mg/l	Pb	100 mg/l
Na	1000 mg/l	Sb	100 mg/l
Ag	100 mg/l	Se	100 mg/l
Al	100 mg/l	Tl	100 mg/l
As	100 mg/l	V	100 mg/l
Ba	100 mg/l	Zn	100 mg/l
Be	100 mg/l	U	100 mg/l
Cd	100 mg/l	Cu	100 mg/l
Co	100 mg/l	Ni	100 mg/l

Initial Calibration Verification Standard - 26 components		Reference: 5183-4682.L1	
		Volume: 100 ml	
		Matrix: in 5 % HNO ₃	
Element	Concentration	Element	Concentration
Ca	1000 mg/l	Cr	10 mg/l
Fe	1000 mg/l	Cu	10 mg/l
K	1000 mg/l	Mn	10 mg/l
Mg	1000 mg/l	Mo	10 mg/l
Na	1000 mg/l	Ni	10 mg/l
Sr	1000 mg/l	Pb	10 mg/l
Ag	10 mg/l	Sb	10 mg/l
Al	10 mg/l	Se	10 mg/l
As	10 mg/l	Tl	10 mg/l
Ba	10 mg/l	V	10 mg/l
Be	10 mg/l	Zn	10 mg/l
Cd	10 mg/l	Th	10 mg/l
Co	10 mg/l	U	10 mg/l

6020 Interference Check Solution A for ICP-MS systems -12 components		<u>Reference: 5188-6526.L1</u> Volume: 100 ml Matrix: in 5 % HNO ₃ /tr HF			<u>Reference: 5188-6526.L5</u> Volume: 500 ml Matrix: in 5 % HNO ₃ /tr HF		
Element	Concentration	Element	Concentration	Element	Concentration	Element	Concentration
Cl-	20 000 mg/l	Na	2 500 mg/l	Mg	1000 mg/l	S	1000 mg/l
Ca	3 000 mg/l	C	2 000 mg/l	P	1000 mg/l	Mo	20 mg/l
Fe	2 500 mg/l	Al	1000 mg/l	K	1000 mg/l	Ti	20 mg/l



6020 Interference Check Solution B for ICP/MS - 11 components		Reference: 5188-6527.L1	
		Volume: 100 ml	
		Matrix: in 5 % HNO ₃	
Element	Concentration	Element	Concentration
Co	20 mg/l	As	10 mg/l
Cr	20 mg/l	Cd	10 mg/l
Cu	20 mg/l	Se	10 mg/l
Mn	20 mg/l	Zn	10 mg/l
Ni	20 mg/l	Ag	5 mg/l
V	20 mg/l		

Internal standard mix for ICP-MS systems - 8 components		Reference: 5188-6525.L1	
		Volume: 100 ml	
		Matrix: in 10 % HNO ₃ /tr HCl	
Element	Concentration	Element	Concentration
6Li	10 mg/l	In	10 mg/l
Sc	10 mg/l	Tb	10 mg/l
Ge	10 mg/l	Lu	10 mg/l
Rh	10 mg/l	Bi	10 mg/l

ICP-MS tuning solution - 6 components		Reference: 5190-0465.L1	
		Volume: 100 ml	
		Matrix: in 2 % HNO ₃	
Element	Concentration	Element	Concentration
Li	10 mg/l	Ce	10 mg/l
Mg	10 mg/l	Tl	10 mg/l
Y	10 mg/l	Co	10 mg/l

ICP-MS Stock Tuning Solution - 5 components		Reference: 5188-6564.L1	
		Volume: 100 ml	
		Matrix: in 5 % HNO ₃ /tr HF	
Element	Concentration	Element	Concentration
Li	10 mg/l	Tl	10 mg/l
Y	10 mg/l	Co	10 mg/l
Ce	10 mg/l		

ICP internal standard - 15 components		Reference: 6610030100.L1			Reference: 6610030100.L5		
		Volume: 100 ml Matrix: in 5 % HNO ₃			Volume: 500 ml Matrix: in 5 % HNO ₃		
Element	Concentration	Element	Concentration	Element	Concentration	Element	Concentration
Al	5 mg/l	Co	5 mg/l	Mo	5 mg/l	Sr	5 mg/l
As	5 mg/l	Cr	5 mg/l	Ni	5 mg/l	Zn	5 mg/l
Ba	5 mg/l	Cu	5 mg/l	Pb	5 mg/l	K	50 mg/l
Cd	5 mg/l	Mn	5 mg/l	Se	5 mg/l		

Tuning Solution - 9 elements		Reference: 190024400.L1	
		Volume: 100 ml	
		Matrix: in 2 % HNO ₃	
Element	Concentration	Element	Concentration
Ba	10 mg/l	Pb	10 mg/l
Be	10 mg/l	Mg	10 mg/l
Ce	10 mg/l	Tl	10 mg/l
Co	10 mg/l	Th	10 mg/l
In	10 mg/l		

ICV-7 QC standard Initial/continuing calibration verification standard - 22 components		Reference: 190064900.L1	
		Volume: 100 ml	
		Matrix: in 5 % HNO ₃	
Element	Concentration	Element	Concentration
Ca	5000 mg/l	Cu	25 mg/l
Mg	5000 mg/l	Zn	20 mg/l
K	5000 mg/l	Mn	15 mg/l
Na	5000 mg/l	As	10 mg/l
Al	200 mg/l	Cr	10 mg/l
Ba	200 mg/l	Ag	10 mg/l
Fe	100 mg/l	Tl	10 mg/l
Sb	60 mg/l	Be	5 mg/l
Co	50 mg/l	Cd	5 mg/l
V	50 mg/l	Pb	5 mg/l
Ni	40 mg/l	Se	5 mg/l

QCSTD-27 Quality Control standard for environmental analyses		Reference: 8500-6940.L1	
		Volume: 100 ml	
		Matrix: in 5 % HNO ₃ /tr. Hf	
Element	Concentration	Element	Concentration
Al	100 mg/l	Mn	100 mg/l
Sb	100 mg/l	Mo	100 mg/l
As	100 mg/l	Ni	100 mg/l
Ba	100 mg/l	K	100 mg/l
Be	100 mg/l	Se	100 mg/l
B	100 mg/l	Si	100 mg/l
Cd	100 mg/l	Ag	100 mg/l
Ca	100 mg/l	Sr	100 mg/l
Cr	100 mg/l	Na	100 mg/l
Co	100 mg/l	Tl	100 mg/l
Cu	100 mg/l	Ti	100 mg/l
Fe	100 mg/l	V	100 mg/l
Pb	100 mg/l	Zn	100 mg/l
Mg	100 mg/l		

ANALT-B Quality Control Standard - 12 components		Reference: 190065100.L1	
		Volume: 100 ml	
		Matrix: in 5 % HNO ₃	
Element	Concentration	Element	Concentration
Cd	100 mg/l	Be	50 mg/l
Ni	100 mg/l	Co	50 mg/l
Pb	100 mg/l	Cr	50 mg/l
Ag	100 mg/l	Cu	50 mg/l
Zn	100 mg/l	Mn	50 mg/l
Ba	50 mg/l	V	50 mg/l

INTF-A Quality Control standard - 4 components		Reference: 190064800.L1	
		Volume: 100 ml	
		Matrix: in 5 % HNO ₃	
Element	Concentration	Element	Concentration
Al	5000 mg/l	Mg	5000 mg/l
Ca	5000 mg/l	Fe	2000 mg/l

ICP-OES wavelength calibration solution concentrate - 15 components		Reference: 6610030000.L1			Reference: 6610030000.L5		
		Volume: 100 ml			Volume: 500 ml		
		Matrix: in 5 % HNO ₃			Matrix: in 5 % HNO ₃		
Element	Concentration	Element	Concentration	Element	Concentration	Element	Concentration
Al	50 mg/l	Co	50 mg/l	Mo	50 mg/l	Sr	50 mg/l
As	50 mg/l	Cr	50 mg/l	Ni	50 mg/l	Zn	50 mg/l
Ba	50 mg/l	Cu	50 mg/l	Pb	50 mg/l	K	500 mg/l
Cd	50 mg/l	Mn	50 mg/l	Se	50 mg/l		

ICP-OES wavelength calibration solution - 15 components		Reference: 6610030100.L1			Reference: 6610030100.L5		
		Volume: 100 ml			Volume: 500 ml		
		Matrix: in 5 % HNO ₃			Matrix: in 5 % HNO ₃		
Element	Concentration	Element	Concentration	Element	Concentration	Element	Concentration
Al	5 mg/l	Co	5 mg/l	Mo	5 mg/l	Sr	5 mg/l
As	5 mg/l	Cr	5 mg/l	Ni	5 mg/l	Zn	5 mg/l
Ba	5 mg/l	Cu	5 mg/l	Pb	5 mg/l	K	50 mg/l
Cd	5 mg/l	Mn	5 mg/l	Se	5 mg/l		

ICP-OES wavelength calibration solution - 6 components		Reference: 6610030400.L1	
		Volume: 100 ml	
		Matrix: in 5 % HNO ₃	
Element	Concentration	Element	Concentration
Bi	100 mg/l	Sc	100 mg/l
In	100 mg/l	Tb	100 mg/l
6Li	100 mg/l	Y	100 mg/l

Calibration mix 1 for AA and ICP-OES 4 components		Reference: 6610030500.L1	
		Volume: 100 ml	
		Matrix: in 2 % HNO ₃ ; 0.5 % HF	
Element	Concentration	Element	Concentration
Mo	100 mg/l	Sn	100 mg/l
Sb	100 mg/l	Ti	100 mg/l



Calibration mix 2 for AA and ICP-OES - 18 components		Reference: 6610030600.L1	
		Volume: 100 ml Matrix: in 5 % HNO ₃	
Element	Concentration	Element	Concentration
Ag	100 mg/l	Mn	100 mg/l
Al	100 mg/l	Ni	100 mg/l
As	100 mg/l	Pb	100 mg/l
Ba	100 mg/l	Se	100 mg/l
Be	100 mg/l	Th	100 mg/l
Cd	100 mg/l	Tl	100 mg/l
Co	100 mg/l	U	100 mg/l
Cr	100 mg/l	V	100 mg/l
Cu	100 mg/l	Zn	100 mg/l

Calibration mix majors		Reference: 6610030700.L1		Reference: 6610030700.L5	
		Volume: 100 ml Matrix: in 5 % HNO ₃		Volume: 500 ml Matrix: in 5 % HNO ₃	
Element	Concentration	Element	Concentration	Element	Concentration
Ca	500 mg/l	K	500 mg/l	Na	500 mg/l
Fe	500 mg/l	Mg	500 mg/l		

PA Tuning Solution 1 - 26 components		Reference: 5188-6524-1.L1	
		Volume: 100 ml Matrix: in 2 % HNO ₃	
Element	Concentration	Element	Concentration
As	20 mg/l	In	5 mg/l
Be	20 mg/l	6Li	5 mg/l
Cd	20 mg/l	Lu	5 mg/l
Zn	20 mg/l	Mn	5 mg/l
Mg	10 mg/l	Na	5 mg/l
Ni	10 mg/l	Sc	5 mg/l
Pb	10 mg/l	Sr	5 mg/l
Al	5 mg/l	Th	5 mg/l
Ba	5 mg/l	Tl	5 mg/l
Bi	5 mg/l	U	5 mg/l
Co	5 mg/l	V	5 mg/l
Cr	5 mg/l	Y	2.5 mg/l
Cu	5 mg/l	Yb	2.5 mg/l

PA Tuning Solution 2 - 8 components		Reference: 5188-6524-2.L1	
		Volume: 100 ml Matrix: in 5 %HCl	
Element	Concentration	Element	Concentration
Ge	10 mg/l	Sb	10 mg/l
Mo	10 mg/l	Sn	10 mg/l
Pd	10 mg/l	Ir	5 mg/l
Ru	10 mg/l	Ti	5 mg/l

Multi-element calibration standard-4B - 12 components		Reference: 8500-6942.L1	
		Volume: 100 ml Matrix: in 2 % HNO ₃ / tr. HF	
Element	Concentration	Element	Concentration
B	10 mg/l	S	10 mg/l
Ge	10 mg/l	Si	10 mg/l
Mo	10 mg/l	Ta	10 mg/l
Nb	10 mg/l	Ti	10 mg/l
P	10 mg/l	W	10 mg/l
Re	10 mg/l	Zr	10 mg/l

Multi-element calibration standard-1 - 17 components		Reference: 8500-6944.L1	
		Volume: 100 ml Matrix: in 5 % HNO ₃	
Element	Concentration	Element	Concentration
Ce	10 mg/l	Pr	10 mg/l
Dy	10 mg/l	Sc	10 mg/l
Er	10 mg/l	Sm	10 mg/l
Eu	10 mg/l	Tb	10 mg/l
Gd	10 mg/l	Th	10 mg/l
Ho	10 mg/l	Tm	10 mg/l
La	10 mg/l	Y	10 mg/l
Lu	10 mg/l	Yb	10 mg/l
Nd	10 mg/l		

Multi-element calibration standard-3 - 10 components		Reference: 8500-6948.L1	
		Volume: 100 ml	
		Matrix: in 10 % HCl/1 % HNO ₃	
Element	Concentration	Element	Concentration
Sb	10 mg/l	Pt	10 mg/l
Au	10 mg/l	Rh	10 mg/l
Hf	10 mg/l	Ru	10 mg/l
Ir	10 mg/l	Te	10 mg/l
Pd	10 mg/l	Sn	10 mg/l

ICV-7 QC standard Initial/continuing calibration verification standard - 26 components		Reference: 51834682.L1	
		Volume: 100 ml	
		Matrix: in 10 % HNO ₃	
Element	Concentration	Element	Concentration
Ca	1000 mg/l	Cr	10 mg/l
Fe	1000 mg/l	Cu	10 mg/l
K	1000 mg/l	Mn	10 mg/l
Mg	1000 mg/l	Mo	10 mg/l
Na	1000 mg/l	Ni	10 mg/l
Sr	1000 mg/l	Pb	10 mg/l
Ag	10 mg/l	Sb	10 mg/l
Al	10 mg/l	Se	10 mg/l
As	10 mg/l	Tl	10 mg/l
Ba	10 mg/l	V	10 mg/l
Be	10 mg/l	Zn	10 mg/l
Cd	10 mg/l	Th	10 mg/l
Co	10 mg/l	U	10 mg/l

ICP standard solution - 15 components		Reference: 8500-6944.L1	
		Volume: 100 ml	
		Matrix: in 2 % HNO ₃	
Element	Concentration	Element	Concentration
Al	5 mg/l	Mn	5 mg/l
As	5 mg/l	Mo	5 mg/l
Ba	5 mg/l	Ni	5 mg/l
Cd	5 mg/l	Pb	5 mg/l
Co	5 mg/l	Se	5 mg/l
Cr	5 mg/l	Sr	5 mg/l
Cu	5 mg/l	Zn	5 mg/l
K	5 mg/l		



Standards equivalent to Perkin Elmer

Mixed Calibration Standard - 10 components		Reference: N0691579.L1		Reference: N0691579.L5			
		Volume: 100 ml Matrix: in 2 % HNO ₃		Volume: 500 ml Matrix: in 2 % HNO ₃			
Element	Concentration	Element	Concentration	Element	Concentration	Element	Concentration
As	50 mg/l	Li	10 mg/l	Sr	10 mg/l	Ba	1 mg/l
K	50 mg/l	Mn	10 mg/l	Zn	10 mg/l	Mg	1 mg/l
La	10 mg/l	Ni	10 mg/l				

Mixed Calibration Standard 1 - 6 components		Reference: N9300200.L1	
		Volume: 100 ml Matrix: in 2 % HNO ₃	
Element	Concentration	Element	Concentration
Pb	500 mg/l	Zn	150 mg/l
Se	200 mg/l	Mn	100 mg/l
Cd	150 mg/l	Be	50 mg/l

Mixed Calibration Standard 2 - 5 components		Reference: N9300201.L1	
		Volume: 100 ml Matrix: in 5 % HNO ₃	
Element	Concentration	Element	Concentration
Fe	10 000 mg/l	Cu	100 mg/l
Ba	100 mg/l	V	100 mg/l
Co	100 mg/l		

Mixed Calibration Standard 3 - 3 components		Reference: N9300202.L1	
		Volume: 100 ml Matrix: in 2 % HNO ₃ /tr HF	
Element	Concentration	Element	Concentration
As	500 mg/l	Si	100 mg/l
Mo	100 mg/l		

Mixed Calibration Standard 4 - 6 components		Reference: N9300203.L1	
		Volume: 100 ml Matrix: in 5 % HNO ₃	
Element	Concentration	Element	Concentration
Ca	1000 mg/l	Na	200 mg/l
K	400 mg/l	Cr	20 mg/l
Al	200 mg/l	Ni	20 mg/l

Mixed Calibration Standard 5 - 5 components		Reference: N9300204.L1	
		Volume: 100 ml Matrix: in 5 % HNO ₃ / tr Tartaric acid/tr HF	
Element	Concentration	Element	Concentration
Mg	1000 mg/l	B	100 mg/l
Sb	200 mg/l	Ag	50 mg/l
Tl	200 mg/l		

Wavelength Calibration Standard - 11 components		Reference: N0681470.L1		Reference: N0681470.L5			
		Volume: 100 ml Matrix: in 5 % HNO ₃		Volume: 500 ml Matrix: in 5 % HNO ₃			
Element	Concentration	Element	Concentration	Element	Concentration	Element	Concentration
P	100 mg/l	As	20 mg/l	Mn	20 mg/l	Na	20 mg/l
K	100 mg/l	La	20 mg/l	Mo	20 mg/l	Sc	20 mg/l
S	100 mg/l	Li	20 mg/l	Ni	20 mg/l		

Initial Calibration Verification Standard - 21 components		Reference: N9303953.L1	
		Volume: 100 ml	
		Matrix: in 5 % HNO ₃	
Element	Concentration	Element	Concentration
Ca	500 mg/l	Cu	25 mg/l
Mg	500 mg/l	Zn	20 mg/l
K	500 mg/l	Mn	15 mg/l
Na	500 mg/l	As	10 mg/l
Ba	200 mg/l	Cr	10 mg/l
Al	200 mg/l	Ag	10 mg/l
Fe	100 mg/l	Tl	10 mg/l
Sb	60 mg/l	Cd	5 mg/l
Co	50 mg/l	Se	5 mg/l
V	50 mg/l	Pb	3 mg/l
Ni	40 mg/l		

Quality Control Standard, 21 components Pure (Pure XVI)		Reference: N9300281.L1	
		Volume: 100 ml	
		Matrix: in 5 % HNO ₃ / tr. HF/ tr.Tart. Ac.	
Element	Concentration	Element	Concentration
As	100 mg/l	Mo	100 mg/l
Be	100 mg/l	Ni	100 mg/l
Ca	100 mg/l	Pb	100 mg/l
Cd	100 mg/l	Sb	100 mg/l
Co	100 mg/l	Se	100 mg/l
Cr	100 mg/l	Sr	100 mg/l
Cu	100 mg/l	Ti	100 mg/l
Fe	100 mg/l	Tl	100 mg/l
Li	100 mg/l	V	100 mg/l
Mg	100 mg/l	Zn	100 mg/l
Mn	100 mg/l		

Quality Control Standard - 7 components		Reference: N9300280.L1	
		Volume: 100 ml	
		Matrix: in 5 % HNO ₃ / tr. HF	
Element	Concentration	Element	Concentration
K	1000 mg/l	Ba	100 mg/l
Si	500 mg/l	Na	100 mg/l
Al	100 mg/l	Ag	50 mg/l
B	100 mg/l		

Instrument Calibration Standard 1 - 4 components		Reference: N9300218.L1			Reference: N9300218.L5		
		Volume: 100 ml			Volume: 500 ml		
		Matrix: in 5 % HNO ₃			Matrix: in 5 % HNO ₃		
Element	Concentration	Element	Concentration	Element	Concentration	Element	Concentration
Ca	5000 mg/l	K	5000 mg/l	Na	5000 mg/l	Mg	5000 mg/l

Instrument Calibration Standard 2 - 5 components		Reference: N9300219.L1	
		Volume: 100 ml	
		Matrix: in 5 % HNO ₃	
Element	Concentration	Element	Concentration
Ni	400 mg/l	Ag	100 mg/l
Zn	200 mg/l	Cr	100 mg/l
Mn	150 mg/l		

Instrument Calibration Standard 3 - 7 components		Reference: N9300220.L1	
		Volume: 100 ml	
		Matrix: in 5 %HNO ₃	
Element	Concentration	Element	Concentration
Al	2000 mg/l	V	500 mg/l
Ba	2000 mg/l	Cu	250 mg/l
Fe	1000 mg/l	Be	50 mg/l
Co	500 mg/l		



Instrument Calibration Standard 4 - 5 components		Reference: N9300221.L1 Volume: 100 ml Matrix: in 5 % HNO ₃	
Element	Concentration	Element	Concentration
As	100 mg/l	Se	50 mg/l
Tl	100 mg/l	Pb	30 mg/l
Cd	50 mg/l		

Instrument Check Standard 1 - 17 components		Reference: N9303821.L1 Volume: 100 ml Matrix: in 2 % HNO ₃ / tr Tart Ac/tr HF	
Element	Concentration	Element	Concentration
Ag	10 mg/l	Mn	10 mg/l
Al	10 mg/l	Ni	10 mg/l
As	10 mg/l	Pb	10 mg/l
Ba	10 mg/l	Sb	10 mg/l
Be	10 mg/l	Se	10 mg/l
Cd	10 mg/l	Tl	10 mg/l
Co	10 mg/l	V	10 mg/l
Cr	10 mg/l	Zn	10 mg/l
Cu	10 mg/l		

Instrument Check Standard 4 - 3 components		Reference: N9303823.L1 Volume: 100 ml Matrix: in 2 % HNO ₃	
Element	Concentration	Element	Concentration
Mo	10 mg/l	U	10 mg/l
Th	10 mg/l		

Contract Required Detection Limits (CRDL) - 15 components		Reference: N9300225.L1 Volume: 100 ml Matrix: in 5 % HNO ₃ / tr Tart Ac/tr HF	
Element	Concentration	Element	Concentration
Sb	120 mg/l	As	20 mg/l
Co	100 mg/l	Cr	20 mg/l
V	100 mg/l	Tl	20 mg/l
Ni	80 mg/l	Be	10 mg/l
Cu	50 mg/l	Cd	10 mg/l
Zn	40 mg/l	Se	10 mg/l
Mn	30 mg/l	Pb	6 mg/l
Ag	20 mg/l		

Instrument Check Standard 3 - 5 components		Reference: N9303822.L1 Volume: 100 ml Matrix: in 2 % HNO ₃	
Element	Concentration	Element	Concentration
Ca	200 mg/l	Mg	200 mg/l
Fe	200 mg/l	Na	200 mg/l
K	200 mg/l		

Instrument Check Standard 5 - 4 components		Reference: N9303824.L1 Volume: 100 ml Matrix: in 2 % HNO ₃	
Element	Concentration	Element	Concentration
Mo	10 mg/l	Sr	10 mg/l
Sn	10 mg/l	Ti	10 mg/l

Interference Check Standard - 5 components		Reference: N9300208.L1 Volume: 100 ml Matrix: in 5 % HNO ₃	
Element	Concentration	Element	Concentration
Ca	6000 mg/l	Al	1200 mg/l
Fe	5000 mg/l	Na	1000 mg/l
Mg	3000 mg/l		

Interference Check Standard 18 - 17 components		Reference: N9300205.L1 Volume: 100 ml Matrix: in 5 % HNO ₃		Reference: N9300205.L5 Volume: 500 ml Matrix: in 5 % HNO ₃			
Element	Concentration	Element	Concentration	Element	Concentration	Element	Concentration
K	20000 mg/l	Ag	300 mg/l	Cu	300 mg/l	Be	100 mg/l
As	1000 mg/l	Ba	300 mg/l	Ni	300 mg/l	Hg	100 mg/l
Pb	1000 mg/l	Cd	300 mg/l	V	300 mg/l		
Tl	1000 mg/l	Co	300 mg/l	Zn	300 mg/l		
Se	500 mg/l	Cr	300 mg/l	Mn	200 mg/l		

Interferents A - 4 components		Reference: N9300226.L1			Reference: N9300226.L5		
		Volume: 100 ml			Volume: 500 ml		
		Matrix: in 5 % HNO ₃			Matrix: in 5 % HNO ₃		
Element	Concentration	Element	Concentration	Element	Concentration	Element	Concentration
Al	5000 mg/l	Ca	5000 mg/l	Mg	5000 mg/l	Fe	2000 mg/l

Alternate Interferents A - 6 components		Reference: N9300228.L1			Reference: N9300228.L5		
		Volume: 100 ml			Volume: 500 ml		
		Matrix: in 5 % HNO ₃			Matrix: in 5 % HNO ₃		
Element	Concentration	Element	Concentration	Element	Concentration		
Cr	1000 mg/l	Mn	1000 mg/l	Ti	1000 mg/l		
Cu	1000 mg/l	Ni	1000 mg/l	V	1000 mg/l		

Analytes B - 16 components		Reference: N9300228.L1			Reference: N9300228.L5		
		Volume: 100 ml			Volume: 500 ml		
		Matrix: in 5 % HNO ₃ / tr Tart Ac/tr HF			Matrix: in 5 % HNO ₃ / tr Tart Ac/tr HF		
Element	Concentration	Element	Concentration	Element	Concentration	Element	Concentration
Cd	100 mg/l	Ba	50 mg/l	Cu	50 mg/l	As	10 mg/l
Ni	100 mg/l	Be	50 mg/l	Mn	50 mg/l	Tl	10 mg/l
Zn	100 mg/l	Co	50 mg/l	V	50 mg/l	Pb	5 mg/l
Sb	60 mg/l	Cr	50 mg/l	Ag	20 mg/l	Se	5 mg/l

Alternate Analytes B - 12 components		Reference: N9300229.L1			Reference: N9300229.L5		
		Volume: 100 ml			Volume: 500 ml		
		Matrix: in 5 % HNO ₃ / tr Tart Ac/tr HF			Matrix: in 5 % HNO ₃ / tr Tart Ac/tr HF		
Element	Concentration	Element	Concentration	Element	Concentration	Element	Concentration
Al	100 mg/l	Mo	100 mg/l	Se	100 mg/l	Fe	10 mg/l
As	100 mg/l	Na	100 mg/l	Tl	100 mg/l	Mg	10 mg/l
B	100 mg/l	Sb	100 mg/l	Ca	10 mg/l	Si	10 mg/l

Interference Check Solution 1 - 12 components		Reference: N9303828.L1			Reference: N9303828.L5		
		Volume: 100 ml			Volume: 500 ml		
		Matrix: in 5 % HNO ₃ / tr Tart Ac/tr HF			Matrix: in 5 % HNO ₃ / tr Tart Ac/tr HF		
Element	Concentration	Element	Concentration	Element	Concentration	Element	Concentration
Cl-	10000 mg/l	Ca	1000 mg/l	Mg	1000 mg/l	S	1000 mg/l
C	2000 mg/l	Fe	1000 mg/l	Na	1000 mg/l	Mo	20 mg/l
Al	1000 mg/l	K	1000 mg/l	P	1000 mg/l	Ti	20 mg/l



Interference Check Solution 2 - 9 components		Reference: N9303830.L1		Reference: N9303830.L5	
		Volume: 100 ml Matrix: in 2 % HNO ₃		Volume: 500 ml Matrix: in 2 % HNO ₃	
Element	Concentration	Element	Concentration	Element	Concentration
Ag	10 mg/l	Co	10 mg/l	Mn	10 mg/l
As	10 mg/l	Cr	10 mg/l	Ni	10 mg/l
Cd	10 mg/l	Cu	10 mg/l	Zn	10 mg/l

Analytes C - 17 components		Reference: N9303831.L1		Reference: N9303831.L5			
		Volume: 100 ml Matrix: in 2 %HNO ₃ / tr Tart Ac/tr HF		Volume: 500 ml Matrix: in 2 %HNO ₃ / tr Tart Ac/tr HF			
Element	Concentration	Element	Concentration	Element	Concentration	Element	Concentration
Ag	2 mg/l	Co	2 mg/l	Ni	2 mg/l	V	2 mg/l
As	2 mg/l	Cr	2 mg/l	Pb	2 mg/l	Zn	2 mg/l
Ba	2 mg/l	Cu	2 mg/l	Sb	2 mg/l		
Be	2 mg/l	Hg	2 mg/l	Se	2 mg/l		
Cd	2 mg/l	Mn	2 mg/l	Tl	2 mg/l		

Universal Data Acquisition Standard 5: 12 components		Reference: N9300235.L1	
		Volume: 100 ml Matrix: in 2 % HNO ₃ / tr. HF	
Element	Concentration	Element	Concentration
B	10 mg/l	S	10 mg/l
Ge	10 mg/l	Si	10 mg/l
Mo	10 mg/l	Ta	10 mg/l
Nb	10 mg/l	Ti	10 mg/l
P	10 mg/l	W	10 mg/l
Re	10 mg/l	Zr	10 mg/l

Vis Wavecal Solution - 8 components		Reference: N9302946.L1		Reference: N9302946.L25	
		Volume: 100 ml Matrix: in 2 % HNO ₃		Volume: 250 ml Matrix: in 2 % HNO ₃	
Element	Concentration	Element	Concentration	Element	Concentration
Ba	1 mg/l	La	10 mg/l	Na	10 mg/l
Ca	1 mg/l	Li	10 mg/l	Sr	10 mg/l
K	50 mg/l	Mn	10 mg/l		

UV Wavecal Solution - 11 components		Reference: N0681470.L25	
		Volume: 100 ml	
		Matrix: in 5 % HCl	
Element	Concentration	Element	Concentration
P	100 mg/l	Sc	20 mg/l
S	100 mg/l	As	20 mg/l
K	100 mg/l	Na	20 mg/l
Mn	20 mg/l	La	20 mg/l
Mo	20 mg/l	Li	20 mg/l
Ni	20 mg/l		

UV Wavecal Solution - 12 components		Reference: N0582152.L5	
		Volume: 500 ml	
		Matrix: in 5 % HCl	
Element	Concentration	Element	Concentration
P	100 mg/l	Sc	20 mg/l
S	100 mg/l	As	20 mg/l
K	100 mg/l	Na	20 mg/l
Mn	20 mg/l	La	20 mg/l
Mo	20 mg/l	Li	20 mg/l
Ni	20 mg/l	Ca	1 mg/l

Low UV Standard - 3 components		Reference: N0691580.L1		Reference: N0691580.L25		Reference: N0691580.L5	
		Volume: 100 ml		Volume: 500 ml		Volume: 500 ml	
		Matrix: in 2 % HNO ₃		Matrix: in 2 % HNO ₃		Matrix: in 2 % HNO ₃	
Element	Concentration	Element	Concentration	Element	Concentration		
Al	10 mg/l	P	10 mg/l	S	10 mg/l		

Calcium Stray Light Standard		Reference: N0691581.L1	
		Volume: 100 ml	
		Matrix: in H ₂ O	
Element	Concentration		
Ca	10 000 mg/l		

Spike Sample Standard I (water) - 17 components		Reference: N9303839.L1	
		Volume: 100 ml	
		Matrix: in 5 % HNO ₃ / tr Tart Ac/tr HF	
Element	Concentration	Element	Concentration
Fe	500 mg/l	V	100 mg/l
Ba	250 mg/l	As	50 mg/l
Zn	250 mg/l	Pb	50 mg/l
Co	100 mg/l	Ag	25 mg/l
Cr	100 mg/l	Be	25 mg/l
Cu	100 mg/l	Cd	25 mg/l
Mn	100 mg/l	Se	25 mg/l
Ni	100 mg/l	Tl	25 mg/l
Sb	100 mg/l		

Spike Sample Standard I - 18 components		Reference: N9300230.L1	
		Volume: 100 ml	
		Matrix: in 5 % HNO ₃ / tr Tart Ac/tr HF	
Element	Concentration	Element	Concentration
Al	200 mg/l	Pb	50 mg/l
As	200 mg/l	Sb	50 mg/l
Ba	200 mg/l	V	50 mg/l
Se	200 mg/l	Zn	50 mg/l
Tl	200 mg/l	Cu	25 mg/l
Fe	200 mg/l	Cr	20 mg/l
Co	50 mg/l	Ag	5 mg/l
Mn	50 mg/l	Be	5 mg/l
Ni	50 mg/l	Cd	5 mg/l

Spike Sample Standard 2 (soil) - 15 components		Reference: N9303840.L1	
		Volume: 100 ml	
		Matrix: in 5 % HNO ₃ / tr Tart Ac/tr HF	
Element	Concentration	Element	Concentration
Ba	250 mg/l	Sb	100 mg/l
Cr	250 mg/l	As	50 mg/l
Cu	250 mg/l	Cd	50 mg/l
Zn	250 mg/l	Ag	25 mg/l
V	150 mg/l	Be	25 mg/l
Ni	125 mg/l	Se	25 mg/l
Co	100 mg/l	Tl	25 mg/l
Pb	100 mg/l		



Spike Sample Standard 3 (for ILM 05.2) - 17 components		Reference: N9303841.L1	
		Volume: 100 ml	
		Matrix: in 5 % HNO ₃ / tr Tart Ac/tr HF	
Element	Concentration	Element	Concentration
Al	200 mg/l	Sb	10 mg/l
Ba	200 mg/l	Be	5 mg/l
Co	50 mg/l	Cd	5 mg/l
Mn	50 mg/l	Ag	5 mg/l
Ni	50 mg/l	Tl	5 mg/l
V	50 mg/l	As	4 mg/l
Zn	50 mg/l	Pb	2 mg/l
Cu	25 mg/l	Se	1 mg/l
Cr	20 mg/l		

Multi-Element Solution - 4 components		Reference: N9307113.L1		Reference: N9307113.L5			
		Volume: 100 ml		Volume: 500 ml			
		Matrix: in 5 % HNO ₃		Matrix: in 5 % HNO ₃			
Element	Concentration	Element	Concentration	Element	Concentration	Element	Concentration
Al	1000 mg/l	Ca	1000 mg/l	Fe	1000 mg/l	Mg	1000 mg/l

Low UV Standard - 3 components		Reference: N9307114.L1		Reference: N9307114.L5			
		Volume: 100 ml		Volume: 500 ml			
		Matrix: in 2 % HNO ₃		Matrix: in 2 % HNO ₃			
Element	Concentration	Element	Concentration	Element	Concentration		
K	1000 mg/l	Na	1000 mg/l	P	1000 mg/l		

Multi-Element Solution - 5 components		Reference: N9307115.L1		Reference: N9307115.L5			
		Volume: 100 ml		Volume: 500 ml			
		Matrix: in 5 % HNO ₃		Matrix: in 5 % HNO ₃			
Element	Concentration	Element	Concentration	Element	Concentration		
Mo	1000 mg/l	Sb	1000 mg/l	Zr	1000 mg/l		
Sn	1000 mg/l	W	1000 mg/l				

Multi-Element Solution - 17 components		Reference: N9307116.L1		Reference: N9307116.L5			
		Volume: 100 ml		Volume: 500 ml			
		Matrix: in 5 % HNO ₃		Matrix: in 5 % HNO ₃			
Element	Concentration	Element	Concentration	Element	Concentration	Element	Concentration
As	1000 mg/l	Co	1000 mg/l	Mn	1000 mg/l	Y	1000 mg/l
Ba	1000 mg/l	Cu	1000 mg/l	Ni	1000 mg/l	Zn	1000 mg/l
Be	1000 mg/l	La	1000 mg/l	Sc	1000 mg/l		
Cr	1000 mg/l	Pb	1000 mg/l	Sr	1000 mg/l		
Cd	1000 mg/l	Li	1000 mg/l	V	1000 mg/l		

Perkin Elmer Pure 4 (Quality Control Standard 23)		Reference: N9303941.L1	
		Volume: 100 ml	
		Matrix: in 2 %HNO ₃	
Element	Concentration	Element	Concentration
Al	1000 mg/l	Pb	1000 mg/l
Ba	1000 mg/l	Li	1000 mg/l
Bi	1000 mg/l	Mg	1000 mg/l
B	1000 mg/l	Mn	1000 mg/l
Cd	1000 mg/l	Ni	1000 mg/l
Ca	1000 mg/l	K	1000 mg/l
Cr	1000 mg/l	Ag	1000 mg/l
Co	1000 mg/l	Na	1000 mg/l
Cu	1000 mg/l	Sr	1000 mg/l
Ga	1000 mg/l	Tl	1000 mg/l
In	1000 mg/l	Zn	1000 mg/l
Fe	1000 mg/l		

PerkinElmer Pure VIII - 24 components		Reference: N9303942.L1	
		Volume: 100 ml	
		Matrix: in 5 % HNO ₃	
Element	Concentration	Element	Concentration
Al	100 mg/l	Pb	100 mg/l
Ba	100 mg/l	Li	100 mg/l
Be	100 mg/l	Mg	100 mg/l
Bi	100 mg/l	Mn	100 mg/l
B	100 mg/l	Ni	100 mg/l
Cd	100 mg/l	K	100 mg/l
Ca	100 mg/l	Se	100 mg/l
Cr	100 mg/l	Na	100 mg/l
Co	100 mg/l	Sr	100 mg/l
Cu	100 mg/l	Te	100 mg/l
Ga	100 mg/l	Tl	100 mg/l
Fe	100 mg/l	Zn	100 mg/l

PerkinElmer Pure IX - 4 components		Reference: N9303943.L1	
		Volume: 100 ml	
		Matrix: in 5 % HNO ₃	
Element	Concentration	Element	Concentration
As	100 mg/l	Pb	100 mg/l
Be	100 mg/l	Cd	100 mg/l

PerkinElmer Pure X		Reference: N9303944.L1	
		Volume: 100 ml	
		Matrix: in 2 % HNO ₃	
Element	Concentration	Element	Concentration
Ca	35 000 mg/l	Zn	50 mg/l
Mg	15 000 mg/l	Mn	30 mg/l
Na	8 000 mg/l	Co	25 mg/l
K	3 000 mg/l	Pb	25 mg/l
B	100 mg/l	Be	20 mg/l
Fe	100 mg/l	Cd	20 mg/l
Mo	100 mg/l	Cr	20 mg/l
Sr	100 mg/l	Cu	20 mg/l
As	50 mg/l	Bi	10 mg/l
Ba	50 mg/l	Se	10 mg/l
Ni	50 mg/l	Tl	10 mg/l
V	50 mg/l		

8 mg/L Mercury in 5% HNO ₃		Reference: N9303954.L1	
		Volume: 100 ml	
		Matrix: in 5 % HNO ₃	
Element	Concentration		
Hg	8 mg/l		

PerkinElmer Pure XI		Reference: N9303945.L1	
		Volume: 100 ml	
		Matrix: in 5 % HNO ₃	
Element	Concentration	Element	Concentration
Zn	2500 mg/l	Cu	800 mg/l
Cr	900 mg/l	Ni	200 mg/l
Pb	900 mg/l	Cd	10 mg/l

PerkinElmer Pure XIII - 14 components		Reference: N9303946.L1	
		Volume: 100 ml	
		Matrix: in 5 % HNO ₃	
Element	Concentration	Element	Concentration
Al	500 mg/l	Fe	100 mg/l
V	250 mg/l	Mn	100 mg/l
As	100 mg/l	Ni	100 mg/l
Be	100 mg/l	Pb	100 mg/l
Co	100 mg/l	Zn	100 mg/l
Cr	100 mg/l	Cd	25 mg/l
Cu	100 mg/l	Se	25 mg/l

5 mg/L Mercury in 5% HNO ₃		Reference: N9303949.L1	
		Volume: 100 ml	
		Matrix: in 5 % HNO ₃	
Element	Concentration		
Hg	5 mg/l		



PerkinElmer Pure XVII - 7 components		Reference: N9303948.L1	
		Volume: 100 ml	
		Matrix: in 15 % HCl/ tr. HF	
Element	Concentration	Element	Concentration
Hf	100 mg/l	Ta	100 mg/l
Ir	100 mg/l	Tl	100 mg/l
Sb	100 mg/l	Zr	100 mg/l
Sn	100 mg/l		

PerkinElmer Pure VIII - 24 components		Reference: 109492.L1	
		Volume: 100 ml	
		Matrix: in 5 % HNO ₃	
Element	Concentration	Element	Concentration
Al	100 mg/l	Pb	100 mg/l
Ba	100 mg/l	Li	100 mg/l
Be	100 mg/l	Mg	100 mg/l
Bi	100 mg/l	Mn	100 mg/l
B	100 mg/l	Ni	100 mg/l
Cd	100 mg/l	K	100 mg/l
Ca	100 mg/l	Se	100 mg/l
Cr	100 mg/l	Na	100 mg/l
Co	100 mg/l	Sr	100 mg/l
Cu	100 mg/l	Te	100 mg/l
Ga	100 mg/l	Tl	100 mg/l
Fe	100 mg/l	Zn	100 mg/l

Instrument Calibration Standard 3 - 5 components		Reference: N9303818.L1	
		Volume: 100 ml	
		Matrix: in 5 % HNO ₃	
Element	Concentration	Element	Concentration
Ca	1000 mg/l	Mg	1000 mg/l
Fe	1000 mg/l	Na	1000 mg/l
K	1000 mg/l		

Contract Lab Program Modification Standard - 12 components		Reference: N9303843.L1	
		Volume: 100 ml	
		Matrix: in 2 % HNO ₃ / 5 % HCl	
Element	Concentration	Element	Concentration
Ba	10 mg/l	Mg	10 mg/l
Be	10 mg/l	Pb	10 mg/l
Ce	10 mg/l	Rh	10 mg/l
Co	10 mg/l	Tl	10 mg/l
In	10 mg/l	U	10 mg/l
Li	10 mg/l	Y	10 mg/l

Instrument Calibration Standard 1 - 20 components		Reference: N9303816.L1	
		Volume: 100 ml	
		Matrix: in 5 % HNO ₃ / tr. Tart. Ac.	
Element	Concentration	Element	Concentration
Ag	20 mg/l	Mo	20 mg/l
Al	20 mg/l	Ni	20 mg/l
As	20 mg/l	Pb	20 mg/l
Ba	20 mg/l	Sb	20 mg/l
Be	20 mg/l	Se	20 mg/l
Cd	20 mg/l	Th	20 mg/l
Co	20 mg/l	Tl	20 mg/l
Cr	20 mg/l	U	20 mg/l
Cu	20 mg/l	V	20 mg/l
Mn	20 mg/l	Zn	20 mg/l

Instrument Calibration Standard 2 - 26 components		Reference: N9301721.L1	
		Volume: 100 ml	
		Matrix: in 5 % HNO ₃ / tr. Tart. Ac./ tr.HF	
Element	Concentration	Element	Concentration
Ag	100 mg/l	Mn	100 mg/l
Al	100 mg/l	Mo	100 mg/l
As	100 mg/l	Na	100 mg/l
Ba	100 mg/l	Ni	100 mg/l
Be	100 mg/l	Pb	100 mg/l
Ca	100 mg/l	Sb	100 mg/l
Cd	100 mg/l	Se	100 mg/l
Co	100 mg/l	Sn	100 mg/l
Cr	100 mg/l	Sr	100 mg/l
Cu	100 mg/l	Ti	100 mg/l
Fe	100 mg/l	Tl	100 mg/l
K	100 mg/l	V	100 mg/l
Mg	100 mg/l	Zn	100 mg/l

Contract Required Detection Limit - 22 components		Reference: N9303819.L1	
		Volume: 100 ml	
		Matrix: in 5 % HNO ₃	
Element	Concentration	Element	Concentration
Ca	500 mg/l	Cu	2.5 mg/l
K	500 mg/l	Zn	2 mg/l
Mg	500 mg/l	Mn	1.5 mg/l
Na	500 mg/l	Ag	1 mg/l
Al	20 mg/l	As	1 mg/l
Ba	20 mg/l	Cr	1 mg/l
Fe	10 mg/l	Tl	1 mg/l
Sb	6 mg/l	Be	0.5 mg/l
Co	5 mg/l	Cd	0.5 mg/l
V	5 mg/l	Se	0.5 mg/l
Ni	4 mg/l	Pb	0.3 mg/l

Contract Lab Program Modification Standard - 26 components		Reference: N9301721MS.L1 Volume: 100 ml Matrix: in 5 % HNO ₃ / tr. HF/ tr. Tart. Ac.	
Element	Concentration	Element	Concentration
Ag	100 mg/l	Mn	100 mg/l
Al	100 mg/l	Mo	100 mg/l
As	100 mg/l	Na	100 mg/l
Ba	100 mg/l	Ni	100 mg/l
Be	100 mg/l	Pb	100 mg/l
Ca	100 mg/l	Sb	100 mg/l
Cd	100 mg/l	Se	100 mg/l
Co	100 mg/l	Sn	100 mg/l
Cr	100 mg/l	Sr	100 mg/l
Cu	100 mg/l	Ti	100 mg/l
Fe	100 mg/l	Tl	100 mg/l
K	100 mg/l	V	100 mg/l
Mg	100 mg/l	Zn	100 mg/l

Contract Lab Program Modification Standard - 1 component		Reference: N9300253.L1 Volume: 100 ml Matrix: in 5 % HNO ₃	
Element	Concentration		
Hg	10 mg/l		

Contract Lab Program Modification Standard - 12 components		Reference: N9303827.L1 Volume: 100 ml Matrix: in 5 % HNO ₃ / tr Tart Ac	
Element	Concentration	Element	Concentration
Cl-	21215 mg/l	Mg	1000 mg/l
Ca	3000 mg/l	P	1000 mg/l
Fe	2500 mg/l	K	1000 mg/l
Na	2500 mg/l	S	1000 mg/l
C	2000 mg/l	Mo	20 mg/l
Al	1000 mg/l	Ti	20 mg/l

Analytes B - 11 components		Reference: N9303829.L1 Volume: 100 ml Matrix: in 2 % HNO ₃	
Element	Concentration	Element	Concentration
Cr	20 mg/l	As	10 mg/l
Co	20 mg/l	Cd	10 mg/l
Cu	20 mg/l	Se	10 mg/l
Mn	20 mg/l	Zn	10 mg/l
Ni	20 mg/l	Ag	5 mg/l
V	20 mg/l		

Memory Test 2 - 7 components		Reference: N9303836.L1 Volume: 100 ml Matrix: in H ₂ O/tr. HF/tr. HNO ₃	
Element	Concentration	Element	Concentration
Cl-	7200 mg/l	Mo	20 mg/l
C	2000 mg/l	Sb	20 mg/l
P	1000 mg/l	Ti	20 mg/l
S	1000 mg/l		

Memory Test 1 - 21 components		Reference: N9303835.L1 Volume: 100 ml Matrix: in 2 % HNO ₃	
Element	Concentration	Element	Concentration
Al	1000 mg/l	Co	20 mg/l
Ca	1000 mg/l	Cr	20 mg/l
Fe	1000 mg/l	Cu	20 mg/l
K	1000 mg/l	Mn	20 mg/l
Mg	1000 mg/l	Ni	20 mg/l
Na	1000 mg/l	Pb	20 mg/l
Ag	20 mg/l	Se	20 mg/l
As	20 mg/l	Tl	20 mg/l
Ba	20 mg/l	V	20 mg/l
Be	20 mg/l	Zn	20 mg/l
Cd	20 mg/l		

Environmental EPA Standard - Mercury		Reference: N9300223.L1 Volume: 100 ml Matrix: in 5 % HNO ₃	
Element	Concentration		
Hg	100 mg/l		

Environmental EPA Standard - 6 components		Reference: N9300200.L1 Volume: 100 ml Matrix: in 2 % HNO ₃	
Element	Concentration	Element	Concentration
Pb	500 mg/l	Zn	150 mg/l
Se	200 mg/l	Mn	100 mg/l
Cd	150 mg/l	Be	50 mg/l



TCLP Standard 1 - 8 components		Reference: N9300241.L1		Reference: N9300241.L5			
		Volume: 100 ml		Volume: 500 ml			
		Matrix: in 2 % HNO ₃		Matrix: in 2 % HNO ₃			
Element	Concentration	Element	Concentration	Element	Concentration	Element	Concentration
Ba	500 mg/l	As	25 mg/l	Pb	25 mg/l	Cd	5 mg/l
Ag	25 mg/l	Cr	25 mg/l	Hg	100 mg/l	Se	5 mg/l

Selenium Solution		<u>Reference:</u> N8125039.L1		<u>Reference:</u> N8125039.L5	
		Volume: 100 ml		Volume: 500 ml	
		Matrix: in 5 % HNO ₃		Matrix: in 5 % HNO ₃	
Element	Concentration				
Se	10 mg/l				

USP Elemental Impurities Solution 1 - 10 components		Reference: N9303957A.L1	
		Volume: 100 ml	
		Matrix: in 5 % HNO ₃	
Element	Concentration	Element	Concentration
Cu	2500 mg/kg	V	250 mg/kg
Mn	2500 mg/kg	As	15 mg/kg
Cr	250 mg/kg	Hg	15 mg/kg
Mo	250 mg/kg	Pb	10 mg/kg
Ni	250 mg/kg	Cd	5 mg/kg

USP Elemental Impurities Solution 2 - 6 components		Reference: N9303957B.L1	
		Volume: 100 ml	
		Matrix: in 15 % HCl	
Element	Concentration	Element	Concentration
Pt	100 mg/l	Os	100 mg/l
Pd	100 mg/l	Ru	100 mg/l
Ir	100 mg/l	Rh	100 mg/l

Primary Drinking Water Metals - 8 components		Reference: N9300216.L1	
		Volume: 100 ml	
		Matrix: in 2 % HNO ₃ /tr. HF	
Element	Concentration	Element	Concentration
Ba	100 mg/l	Hg	10 mg/l
Ag	10 mg/l	Pb	10 mg/l
As	10 mg/l	Cd	5 mg/l
Cr	10 mg/l	Se	5 mg/l

Secondary Drinking Water Metals - 4 components		Reference: N9300217.L1	
		Volume: 100 ml	
		Matrix: in 2 % HNO ₃ /tr. HF	
Element	Concentration	Element	Concentration
Zn	500 mg/l	Fe	30 mg/l
Cu	100 mg/l	Mn	5 mg/l

Trace Metals III - 6 components		Reference: N9300213.L1	
		Volume: 100 ml	
		Matrix: in 2 % HNO ₃	
Element	Concentration	Element	Concentration
Ba	500 mg/l	Na	500 mg/l
Ca	500 mg/l	K	100 mg/l
Mo	500 mg/l	Mg	100 mg/l

Trace Metals I - 15 components		Reference: N9300211.L1	
		Volume: 100 ml	
		Matrix: in 5 % HNO ₃	
Element	Concentration	Element	Concentration
Al	500 mg/l	Mn	100 mg/l
V	250 mg/l	Ni	100 mg/l
As	100 mg/l	Pb	100 mg/l
Be	100 mg/l	Zn	100 mg/l
Co	100 mg/l	Cd	25 mg/l
Cr	100 mg/l	Se	25 mg/l
Cu	100 mg/l	Hg	10 mg/l
Fe	100 mg/l		

Trace Metals II - 3 components		Reference: N9300212.L1	
		Volume: 100 ml	
		Matrix: in 2 % HNO ₃	
Element	Concentration	Element	Concentration
Sb	20 mg/l	Ag	10 mg/l
Tl	20 mg/l		

Alternate Metals I - 11 components		Reference: N9300214.L1	
		Volume: 100 ml	
		Matrix: in 2 % HNO ₃	
Element	Concentration	Element	Concentration
Al	20 mg/l	Ni	10 mg/l
Fe	20 mg/l	Zn	10 mg/l
V	20 mg/l	Be	5 mg/l
Co	10 mg/l	Sb	5 mg/l
Cu	10 mg/l	Tl	5 mg/l
Mn	10 mg/l		

Alternate Metals II - 4 components		Reference: N9300215.L1		Reference: N9303952.L5	
		Volume: 100 ml		Volume: 500 ml	
		Matrix: in 2 % HNO ₃		Matrix: in 2 % HNO ₃	
Element	Concentration	Element	Concentration	Element	Concentration
Ca	500 mg/l	Na	500 mg/l	K	100 mg/l
				Mg	100 mg/l

Internal Standard Mix - 7 components		Reference: N9303832.L1		Reference: N9303832.L5	
		Volume: 100 ml		Volume: 500 ml	
		Matrix: in 5 % HNO ₃		Matrix: in 5 % HNO ₃	
Element	Concentration	Element	Concentration	Element	Concentration
Bi	10 mg/l	In	10 mg/l	Sc	10 mg/l
Ge	10 mg/l	6Li	10 mg/l	Tb	10 mg/l

Universal Data Acquisition Standard 2 - 29 components		Reference: N9300233.L1	
		Volume: 100 ml	
		Matrix: in 5 % HNO ₃	
Element	Concentration	Element	Concentration
Al	10 mg/l	Li	10 mg/l
As	10 mg/l	Mg	10 mg/l
Ba	10 mg/l	Mn	10 mg/l
Be	10 mg/l	Ni	10 mg/l
Bi	10 mg/l	K	10 mg/l
Cd	10 mg/l	Rb	10 mg/l
Ca	10 mg/l	Se	10 mg/l
Cs	10 mg/l	Ag	10 mg/l
Cr	10 mg/l	Na	10 mg/l
Co	10 mg/l	Sr	10 mg/l
Cu	10 mg/l	Ti	10 mg/l
Ga	10 mg/l	U	10 mg/l
In	10 mg/l	V	10 mg/l
Fe	10 mg/l	Zn	10 mg/l
Pb	10 mg/l		

Universal Data Acquisition Standard 1 - 17 components		Reference: N9300232.L1	
		Volume: 100 ml	
		Matrix: in 5 % HNO ₃	
Element	Concentration	Element	Concentration
Ce	10 mg/l	Pr	10 mg/l
Dy	10 mg/l	Sc	10 mg/l
Er	10 mg/l	Sm	10 mg/l
Eu	10 mg/l	Tb	10 mg/l
Gd	10 mg/l	Th	10 mg/l
Ho	10 mg/l	Tm	10 mg/l
La	10 mg/l	Y	10 mg/l
Lu	10 mg/l	Yb	10 mg/l
Nd	10 mg/l		

Universal Data Acquisition Standard 3 - 9 components		Reference: N9300234.L1	
		Volume: 100 ml	
		Matrix: in 5 % HNO ₃	
Element	Concentration	Element	Concentration
Sb	10 mg/l	Pt	10 mg/l
Au	10 mg/l	Rh	10 mg/l
Hf	10 mg/l	Ru	10 mg/l
Ir	10 mg/l	Te	10 mg/l
Pd	10 mg/l		



Multi-Element Internal Standard - 7 components		Reference: N9303834.L1	
		Volume: 100 ml	
		Matrix: in 2 % HNO ₃	
Element	Concentration	Element	Concentration
Bi	10 mg/l	Sc	10 mg/l
Ho	10 mg/l	Tb	10 mg/l
In	10 mg/l	Y	10 mg/l
6Li	10 mg/l		

Multi-Element Solution 3 with Hg - 29 components		Reference: N9301720.L1	
		Volume: 100 ml	
		Matrix: in 5 % HNO ₃	
Element	Concentration	Element	Concentration
Al	10 mg/l	Li	10 mg/l
As	10 mg/l	Mg	10 mg/l
Ba	10 mg/l	Mn	10 mg/l
Be	10 mg/l	Ni	10 mg/l
Bi	10 mg/l	K	10 mg/l
Cd	10 mg/l	Rb	10 mg/l
Ca	10 mg/l	Se	10 mg/l
Cs	10 mg/l	Ag	10 mg/l
Cr	10 mg/l	Na	10 mg/l
Co	10 mg/l	Sr	10 mg/l
Cu	10 mg/l	Ti	10 mg/l
Ga	10 mg/l	U	10 mg/l
In	10 mg/l	V	10 mg/l
Fe	10 mg/l	Zn	10 mg/l
Pb	10 mg/l		

Initial Calibration Verification Standard 2 - 2 components		Reference: N9303826.L1	
		Volume: 100 ml	
		Matrix: in 2 % HNO ₃ /tr. HF	
Element	Concentration	Element	Concentration
Sn	10 mg/l	Ti	10 mg/l

Elan 6100 DRC Setup/ Stab/Masscal Solution - 12 components		Reference: N8125035.L1		Reference: N8125035.L5			
		Volume: 100 ml					
		Matrix: in 0.5 % HNO ₃					
Element	Concentration	Element	Concentration	Element	Concentration	Element	Concentration
Ba	10 ug/l	Ce	1 ug/l	In	1 ug/l	Mn	1 ug/l
Al	1 ug/l	Cr	1 ug/l	Pb	1 ug/l	Rh	1 ug/l
Cd	1 ug/l	Cu	1 ug/l	Mg	1 ug/l	Th	1 ug/l

Multi-Element Solution 1 - 9 components		Reference: N9300231.L1	
		Volume: 100 ml	
		Matrix: in 2 % HNO ₃	
Element	Concentration	Element	Concentration
Be	10 mg/l	Mg	10 mg/l
Bi	10 mg/l	Ni	10 mg/l
Ce	10 mg/l	Pb	10 mg/l
Co	10 mg/l	U	10 mg/l
In	10 mg/l		

Perkin Elmer Pure I - 19 components		Reference: N9303940.L1	
		Volume: 100 ml	
		Matrix: in 5 % HNO ₃	
Element	Concentration	Element	Concentration
Tl	400 mg/l	Co	20 mg/l
Bi	200 mg/l	Cu	20 mg/l
In	200 mg/l	Zn	20 mg/l
Pb	200 mg/l	B	15 mg/l
Ga	150 mg/l	Fe	15 mg/l
Al	100 mg/l	Ba	5 mg/l
Ni	50 mg/l	Mn	5 mg/l
Ag	50 mg/l	Be	1 mg/l
Cr	25 mg/l	Sr	1 mg/l
Cd	20 mg/l		

Initial Calibration Verification Standard 1 - 26 components		Reference: N9303825.L1	
		Volume: 100 ml	
		Matrix: in 5 % HNO ₃ /tr. Tart. Ac.	
Element	Concentration	Element	Concentration
Ca	1000 mg/l	Cr	10 mg/l
Fe	1000 mg/l	Cu	10 mg/l
K	1000 mg/l	Mn	10 mg/l
Mg	1000 mg/l	Mo	10 mg/l
Na	1000 mg/l	Ni	10 mg/l
Sr	1000 mg/l	Pb	10 mg/l
Ag	10 mg/l	Sb	10 mg/l
Al	10 mg/l	Se	10 mg/l
As	10 mg/l	Tl	10 mg/l
Ba	10 mg/l	V	10 mg/l
Be	10 mg/l	Zn	10 mg/l
Cd	10 mg/l	Th	10 mg/l
Co	10 mg/l	U	10 mg/l

Elan 9000/6100 Setup/ Stability/Masscal Solution - 9 components		Reference: N8125030.L1 Volume: 100 ml Matrix: in 1 % HNO ₃		Reference: N8125030.1L Volume: 1000 ml Matrix: in 1 % HNO ₃	
Element	Concentration	Element	Concentration	Element	Concentration
Mg	10 ug/l	Cd	10 ug/l	Ce	10 ug/l
Cu	10 ug/l	In	10 ug/l	Pb	10 ug/l
Rh	10 ug/l	Ba	10 ug/l	U	10 ug/l

Elan 9000/6X00 Dual- Detector Calibration Solution - 5 components		Reference: N8125032.L1 Volume: 100 ml Matrix: in 1 % HNO ₃		Reference: N8125032.1L Volume: 1000 ml Matrix: in 1 % HNO ₃	
Element	Concentration	Element	Concentration	Element	Concentration
Cd	200 ug/l	Pb	200 ug/l	Rh	200 ug/l
Cu	200 ug/l	Mg	200 ug/l		

Elan 6000/5000 Plasma Setup Solution - 11 components		Reference: N8122014.L1 Volume: 100 ml Matrix: in 1 % HNO ₃		Reference: N8122014.L5 Volume: 500 ml Matrix: in 1 % HNO ₃			
Element	Concentration	Element	Concentration	Element	Concentration	Element	Concentration
Ba	10 ug/l	Cu	10 ug/l	Mg	10 ug/l	Tb	10 ug/l
Cd	10 ug/l	Ge	10 ug/l	Rh	10 ug/l	Tl	10 ug/l
Ce	10 ug/l	Pb	10 ug/l	Sc	10 ug/l		

SmartTune Solution for Standard ELANs/ DRC-e - 9 components		Reference: N8125040.L1 Volume: 100 ml Matrix: in 1 % HNO ₃	
Element	Concentration	Element	Concentration
Be	10 ug/l	Ce	10 ug/l
Mg	10 ug/l	Ba	10 ug/l
Co	10 ug/l	Pb	10 ug/l
In	10 ug/l	U	10 ug/l
Rh	10 ug/l		

SmartTune Solution for DRC/DRCplus/DRC II - 10 components		Reference: N8125041.L5 Volume: 500 ml Matrix: in 0.5 % HNO ₃		Reference: N8125041.1L Volume: 1000 ml Matrix: in 0.5 % HNO ₃			
Element	Concentration	Element	Concentration	Element	Concentration	Element	Concentration
Ba	10 ug/l	Co	1 ug/l	Pb	1 ug/l	U	1 ug/l
Be	1 ug/l	In	1 ug/l	Mg	1 ug/l		
Ce	1 ug/l	Fe	1 ug/l	Th	1 ug/l		

NexION Setup Solution - 8 components		Reference: N8145051.L1 Volume: 100 ml Matrix: in 2 % HNO ₃ /5 % HCl		Reference: N8145051.L5 Volume: 500 ml Matrix: in 2 % HNO ₃ /5 % HCl			
Element	Concentration	Element	Concentration	Element	Concentration	Element	Concentration
Be	1 ug/l	Fe	1 ug/l	Li	1 ug/l	Pb	1 ug/l
Ce	1 ug/l	In	1 ug/l	Mg	1 ug/l	U	1 ug/l



NexION KED Setup Solution - 2 components		Reference: N8145052.L1		Reference: N8145052.L5	
		Volume: 100 ml Matrix: in 1 % HCl		Volume: 500 ml Matrix: in 1 % HCl	
Element	Concentration	Element	Concentration		
Co	10 ug/l	Ce	1 ug/l		

NexION 300Q Non-cell Stability Solution - 4 components		Reference: N8145053.L5	
		Volume: 500 ml Matrix: in 1 % HNO ₃	
Element	Concentration	Element	Concentration
Cd	1 ug/l	Mg	1 ug/l
Cu	1 ug/l	Pb	1 ug/l

NexION Standard/DRC Mode Detection Limit Blank Solution		Reference: N8145055.L1	
		Volume: 100 ml Matrix: in 0.5 % HNO ₃	

NexION KED Mode Detection Limit Solution - 3 components		Reference: N8145058.L1	
		Volume: 500 ml Matrix: in 1 % HCl	
Element	Concentration	Element	Concentration
V	10 ug/l	Se	10 ug/l
As	10 ug/l		

NexION AFT Multi-Element Solution - 29 components		Reference: N8145061.L1	
		Volume: 100 ml Matrix: in 2 % HNO ₃	
Element	Concentration	Element	Concentration
Ag	2 ug/l	K	2 ug/l
Al	2 ug/l	Li	2 ug/l
As	2 ug/l	Mg	2 ug/l
Ba	2 ug/l	Mn	2 ug/l
Be	2 ug/l	Na	2 ug/l
Bi	2 ug/l	Ni	2 ug/l
Ca	2 ug/l	Pb	2 ug/l
Cd	2 ug/l	Rb	2 ug/l
Cr	2 ug/l	Se	2 ug/l
Co	2 ug/l	Sr	2 ug/l
Cs	2 ug/l	Tl	2 ug/l
Cu	2 ug/l	U	2 ug/l
Fe	2 ug/l	V	2 ug/l
Ga	2 ug/l	Zn	2 ug/l
In	2 ug/l		

NexION 300X/D/S Cell Stability Solution - 9 components		Reference: N8145054.L5	
		Volume: 500 ml Matrix: in 1 % HNO ₃	
Element	Concentration	Element	Concentration
Cd	1 ug/l	Pb	1 ug/l
Cr	1 ug/l	Co	10 ug/l
Fe	1 ug/l	Cu	10 ug/l
In	1 ug/l	Se	10 ug/l
Mg	1 ug/l		

NexION Standard/DRC Mode Detection Limit Solution - 6 components		Reference: N8145056.L1	
		Volume: 100 ml Matrix: in 0.5 % HNO ₃	
Element	Concentration	Element	Concentration
Be	1 ug/l	Fe	1 ug/l
Ca	1 ug/l	In	1 ug/l
Co	1 ug/l	U	1 ug/l

NexION Dual Detector Solution - 13 components		Reference: N8145059.L1	
		Volume: 100 ml Matrix: in 2 % HNO ₃	
Element	Concentration	Element	Concentration
Al	50 ug/l	Mn	50 ug/l
Ba	50 ug/l	Ni	50 ug/l
Ce	50 ug/l	Pb	50 ug/l
Co	50 ug/l	Tb	50 ug/l
In	50 ug/l	U	50 ug/l
Li	50 ug/l	Zn	50 ug/l
Mg	50 ug/l		

NexION AFT Single-Element Solution - 1 components		Reference: N8145060.L1	
		Volume: 100 ml Matrix: in 2 % HNO ₃	
Element	Concentration		
Fe	2 ug/l		

NexION KED Mode Detection Limit Blank Solution		Reference: N8145057.L1	
		Volume: 100 ml Matrix: in 1 % HCl	

Environmental Standard - 2 components		Reference: N9307806.L1	
		Volume: 80 ml	
		Matrix: in 5 % HNO ₃	
Element	Concentration	Element	Concentration
Al	1000 mg/l	Fe	1000 mg/l

Environmental Standard - 3 components		Reference: N9307807.L1	
		Volume: 500 ml	
		Matrix: in 2 % HNO ₃	
Element	Concentration	Element	Concentration
B	100 mg/l	U	100 mg/l
Th	100 mg/l		

Internal Standard Mix - 8 components		Reference: N9307808.L1	
		Volume: 100 ml	
		Matrix: in 2 % HNO ₃	
Element	Concentration	Element	Concentration
Sc	50 mg/l	6Li	10 mg/l
Ge	20 mg/l	Rh	10 mg/l
In	10 mg/l	Tb	10 mg/l
Ir	10 mg/l	Y	10 mg/l

Internal Standard Mix - 6 components		Reference: N9307738.L1	
		Volume: 100 ml	
		Matrix: in 2 % HNO ₃	
Element	Concentration	Element	Concentration
Sc	200 mg/l	Ir	10 mg/l
Ga	20 mg/l	Rh	10 mg/l
In	10 mg/l	Tm	10 mg/l

GF AAS Multi element standard XVIII - 16 components		Reference: N9300244.L1	
		Volume: 100 ml	
		Matrix: in 5 % HNO ₃ /tr. HF	
Element	Concentration	Element	Concentration
Sb	100 mg/l	Cu	50 mg/l
Al	100 mg/l	Ni	50 mg/l
As	100 mg/l	Cr	20 mg/l
Pb	100 mg/l	Fe	20 mg/l
Se	100 mg/l	Mn	20 mg/l
Tl	100 mg/l	Ag	10 mg/l
Ba	50 mg/l	Be	5 mg/l
Co	50 mg/l	Cd	5 mg/l

AA Test Mix		Reference: 02900540.L1	
		Volume: 100 ml	
		Matrix: in 2 % HCl	
Element	Concentration	Element	Concentration
Ca	50 mg/l	Ni	50 mg/l
Cr	50 mg/l	K	20 mg/l
Cu	50 mg/l	Na	10 mg/l
Fe	50 mg/l	Zn	10 mg/l

Environmental Standards - 4 components		Reference: N9307805.L1	
		Volume: 100 ml	
		Matrix: in 5 % HNO ₃	
Element	Concentration	Element	Concentration
Ca	1000 mg/l	Mg	1002 mg/l
K	1001 mg/l	Na	1003 mg/l



Standards equivalent to Merck

Calibration Standard (I) - 19 components		Reference: 115474.L1	
		Volume: 100 ml	
		Matrix: in 5 % HNO ₃	
Element	Concentration	Element	Concentration
Tl	400 mg/l	Co	20 mg/l
Bi	200 mg/l	Cu	20 mg/l
In	200 mg/l	Zn	20 mg/l
Pb	200 mg/l	B	15 mg/l
Ga	150 mg/l	Fe	15 mg/l
Al	100 mg/l	Ba	5 mg/l
Ni	50 mg/l	Mn	5 mg/l
Ag	50 mg/l	Be	1 mg/l
Cr	25 mg/l	Sr	1 mg/l
Cd	20 mg/l		

ICP multi-element standard solution II - 3 components		Reference: 115708.L1	
		Volume: 100 ml	
		Matrix: in 2 % HNO ₃	
Element	Concentration	Element	Concentration
Li	250 mg/l	Na	1000 mg/l
K	10000 mg/l		

Calibration Standard Earth Alkali components (III) - 4 components		Reference: 115626.L1	
		Volume: 100 ml	
		Matrix: in 5 % HNO ₃	
Element	Concentration	Element	Concentration
Ba	1000 mg/l	Mg	1000 mg/l
Ca	1000 mg/l	Sr	1000 mg/l

Calibration Standard (IV) - 23 components		Reference: 111355.L1	
		Volume: 100 ml	
		Matrix: in 2 % HNO ₃	
Element	Concentration	Element	Concentration
Al	1000 mg/l	Pb	1000 mg/l
Ba	1000 mg/l	Li	1000 mg/l
Bi	1000 mg/l	Mg	1000 mg/l
B	1000 mg/l	Mn	1000 mg/l
Cd	1000 mg/l	Ni	1000 mg/l
Ca	1000 mg/l	K	1000 mg/l
Cr	1000 mg/l	Ag	1000 mg/l
Co	1000 mg/l	Na	1000 mg/l
Cu	1000 mg/l	Sr	1000 mg/l
Ga	1000 mg/l	Tl	1000 mg/l
In	1000 mg/l	Zn	1000 mg/l
Fe	1000 mg/l		

ICP multi-element standard solution VI - 30 components		Reference: 110580.L1	
		Volume: 100 ml	
		Matrix: in 5 % HNO ₃	
Element	Concentration	Element	Concentration
Ca	1000 mg/l	K	10 mg/l
As	100 mg/l	Pb	10 mg/l
B	100 mg/l	Li	10 mg/l
Be	100 mg/l	Mg	10 mg/l
Fe	100 mg/l	Mn	10 mg/l
Se	100 mg/l	Mo	10 mg/l
Zn	100 mg/l	Ni	10 mg/l
Al	10 mg/l	Rb	10 mg/l
Ba	10 mg/l	Na	10 mg/l
Bi	10 mg/l	Ag	10 mg/l
Cd	10 mg/l	Sr	10 mg/l
Co	10 mg/l	Te	10 mg/l
Cr	10 mg/l	Tl	10 mg/l
Cu	10 mg/l	U	10 mg/l
Ga	10 mg/l	V	10 mg/l

ICP multi-element standard IX - 9 components		Reference: 109494.L1	
		Volume: 100 ml	
		Matrix: in 5 % HNO ₃	
Element	Concentration	Element	Concentration
As	100 mg/l	Hg	100 mg/l
Be	100 mg/l	Ni	100 mg/l
Cd	100 mg/l	Se	100 mg/l
Cr	100 mg/l	Tl	100 mg/l
Pb	100 mg/l		

Merck ICP Multi-element standard XI - 7 components		Reference: 109491.L1	
		Volume: 100 ml	
		Matrix: in 5 % HNO ₃	
Element	Concentration	Element	Concentration
Zn	2 500 mg/l	Ni	200 mg/l
Cr	900 mg/l	Cd	10 mg/l
Pb	900 mg/l	Hg	8 mg/l
Cu	800 mg/l		

Calibration Standard (VIII) - 24 components		Reference: 109492.L1	
		Volume: 100 ml	
		Matrix: in 2 % HNO ₃ /tr.HCl	
Element	Concentration	Element	Concentration
Al	100 mg/l	Pb	100 mg/l
Ba	100 mg/l	Li	100 mg/l
Be	100 mg/l	Mg	100 mg/l
Bi	100 mg/l	Mn	100 mg/l
B	100 mg/l	Ni	100 mg/l
Cd	100 mg/l	K	100 mg/l
Ca	100 mg/l	Se	100 mg/l
Cr	100 mg/l	Na	100 mg/l
Co	100 mg/l	Sr	100 mg/l
Cu	100 mg/l	Te	100 mg/l
Ga	100 mg/l	Tl	100 mg/l
Fe	100 mg/l	Zn	100 mg/l

ICP multi-element standard solution X - 23 components		Reference: 109493.L1	
		Volume: 100 ml	
		Matrix: in 5 % HNO ₃ /tr. HF	
Element	Concentration	Element	Concentration
Ca	35 000 mg/l	Zn	50 mg/l
Mg	15 000 mg/l	Mn	30 mg/l
Na	8 000 mg/l	Co	25 mg/l
K	3 000 mg/l	Pb	25 mg/l
B	100 mg/l	Be	20 mg/l
Fe	100 mg/l	Cd	20 mg/l
Mo	100 mg/l	Cr	20 mg/l
Sr	100 mg/l	Cu	20 mg/l
As	50 mg/l	Bi	10 mg/l
Ba	50 mg/l	Se	10 mg/l
Ni	50 mg/l	Tl	10 mg/l
V	50 mg/l		

ICP Multi-element standard Solution (XII) - 8 components		Reference: 109490.L1	
		Volume: 100 ml	
		Matrix: in 5 % HCl	
Element	Concentration	Element	Concentration
As	1000 mg/l	Si	1000 mg/l
Mo	1000 mg/l	W	1000 mg/l
P	1000 mg/l	V	1000 mg/l
S	1000 mg/l	Zr	1000 mg/l

Calibration Standard Trace Metals (XIII) - 15 components		Reference: 109480.L1	
		Volume: 100 ml	
		Matrix: in 5 % HNO ₃ /tr. HF	
Element	Concentration	Element	Concentration
Al	500 mg/l	Pb	100 mg/l
V	250 mg/l	Mn	100 mg/l
As	100 mg/l	Ni	100 mg/l
Be	100 mg/l	Zn	100 mg/l
Cr	100 mg/l	Cd	25 mg/l
Co	100 mg/l	Se	25 mg/l
Cu	100 mg/l	Hg	5 mg/l
Fe	100 mg/l		

Wavelength Calibration Standard (XIV) - 11 components		Reference: 109481.L1			Reference: 109481.L5		
		Volume: 100 ml			Volume: 500 ml		
		Matrix: in 2 % HCl/tr. HNO ₃			Matrix: in 2 % HCl/tr. HNO ₃		
Element	Concentration	Element	Concentration	Element	Concentration	Element	Concentration
P	100 mg/l	As	20 mg/l	Mn	20 mg/l	Na	20 mg/l
K	100 mg/l	La	20 mg/l	Mo	20 mg/l	Sc	20 mg/l
S	100 mg/l	Li	20 mg/l	Ni	20 mg/l		

ICP Multi-Element Standard Solution XV - 8 components		Reference: 109482.L1		Reference: 109482.L5	
		Volume: 100 ml		Volume: 500 ml	
		Matrix: in 2 % HNO ₃		Matrix: in 2 % HNO ₃	
Element	Concentration	Element	Concentration	Element	Concentration
Ba	1 mg/l	La	10 mg/l	Na	10 mg/l
Ca	1 mg/l	Li	10 mg/l	Sr	10 mg/l
K	50 mg/l	Mn	10 mg/l		



Calibration Standard - Quality Control (XVI) - 21 components		Reference: 109487.L1	
		Volume: 100 ml	
		Matrix: in 2 % HNO ₃	
Element	Concentration	Element	Concentration
Sb	100 mg/l	Mg	100 mg/l
As	100 mg/l	Mn	100 mg/l
Be	100 mg/l	Mo	100 mg/l
Cd	100 mg/l	Ni	100 mg/l
Ca	100 mg/l	Sr	100 mg/l
Cr	100 mg/l	Tl	100 mg/l
Co	100 mg/l	Ti	100 mg/l
Cu	100 mg/l	Se	100 mg/l
Fe	100 mg/l	V	100 mg/l
Pb	100 mg/l	Zn	100 mg/l
Li	100 mg/l		

Wavelength Calibration Standard (V) - 26 components		Reference: 110714.L1	
		Volume: 100 ml	
		Matrix: in 5 % HCl	
Element	Concentration	Element	Concentration
K	100 mg/l	Cd	2 mg/l
Al	20 mg/l	Cr	2 mg/l
As	20 mg/l	Cu	2 mg/l
Pb	20 mg/l	Fe	2 mg/l
Se	20 mg/l	Li	2 mg/l
Na	20 mg/l	Ti	2 mg/l
Te	20 mg/l	Zn	2 mg/l
Ca	10 mg/l	Be	1 mg/l
P	10 mg/l	Mg	1 mg/l
Hg	5 mg/l	Mn	1 mg/l
Ni	5 mg/l	Sc	1 mg/l
B	2 mg/l	Sr	1 mg/l
Ba	2 mg/l	Y	1 mg/l

ICP multi-element standard solution XVII - 7 components		Reference: 109495.L1	
		Volume: 100 ml	
		Matrix: in 15 % HCl	
Element	Concentration	Element	Concentration
Sb	100 mg/l	Sn	100 mg/l
Hf	100 mg/l	Ti	100 mg/l
Ir	100 mg/l	Zr	100 mg/l
Ta	100 mg/l		

GF AAS Multi element standard XVIII - 16 components		Reference: 109500.L1	
		Volume: 100 ml	
		Matrix: in 5 % HNO ₃	
Element	Concentration	Element	Concentration
Sb	100 mg/l	Cu	50 mg/l
Al	100 mg/l	Ni	50 mg/l
As	100 mg/l	Cr	20 mg/l
Pb	100 mg/l	Fe	20 mg/l
Se	100 mg/l	Mn	20 mg/l
Tl	100 mg/l	Ag	10 mg/l
Ba	50 mg/l	Be	5 mg/l
Co	50 mg/l	Cd	5 mg/l

IC Multi-element standard VII - 9 components		Reference: 110322.L1	
		Volume: 100 ml	
		Matrix: in 0.1 % HNO ₃	
Element	Concentration	Element	Concentration
NH ₄ ⁺	100 mg/l	Mg ²⁺	100 mg/l
Ba ²⁺	100 mg/l	Mn ²⁺	100 mg/l
Ca ²⁺	100 mg/l	Na ⁺	100 mg/l
K ⁺	100 mg/l	Sr ²⁺	100 mg/l
Li ⁺	100 mg/l		

Tuning Standard (XXIV) - 15 components		Reference: 109411.L1			Reference: 109411.L5		
		Volume: 100 ml			Volume: 500 ml		
		Matrix: in 1 % HNO ₃			Matrix: in 1 % HNO ₃		
Element	Concentration	Element	Concentration	Element	Concentration	Element	Concentration
K	500 mg/l	Cd	50 mg/l	Pb	50 mg/l	Se	50 mg/l
Al	50 mg/l	Cr	50 mg/l	Mn	50 mg/l	Sr	50 mg/l
As	50 mg/l	Co	50 mg/l	Mo	50 mg/l	Zn	50 mg/l
Ba	50 mg/l	Cu	50 mg/l	Ni	50 mg/l		

ICP-MS Detection Limit Standard (XIX) - 5 components		Reference: 109496.L1	
		Volume: 100 ml	
		Matrix: in 1 % HNO ₃	
Element	Concentration	Element	Concentration
Be	10 µg/l	Tl	10 µg/l
Co	10 µg/l	U	10 µg/l
In	10 µg/l		

ICP-MS Optimization Standard (XXII) - 5 components		Reference: 109499.L1	
		Volume: 100 ml	
		Matrix: in 2 % HNO ₃ /tr HCl	
Element	Concentration	Element	Concentration
Cd	200 µg/l	Mg	200 µg/l
Cu	200 µg/l	Rh	200 µg/l
Pb	200 µg/l		

ICP-MS Calibration Standard (XXI) - 29 components		Reference: 109498.L1	
		Volume: 100 ml	
		Matrix: in 5 % HNO ₃	
Element	Concentration	Element	Concentration
Al	10 mg/l	Li	10 mg/l
As	10 mg/l	Mg	10 mg/l
Ba	10 mg/l	Mn	10 mg/l
Be	10 mg/l	Ni	10 mg/l
Bi	10 mg/l	K	10 mg/l
Ca	10 mg/l	Se	10 mg/l
Cd	10 mg/l	Ag	10 mg/l
Co	10 mg/l	Na	10 mg/l
Cr	10 mg/l	Rb	10 mg/l
Cs	10 mg/l	Sr	10 mg/l
Cu	10 mg/l	Tl	10 mg/l
Fe	10 mg/l	U	10 mg/l
Ga	10 mg/l	V	10 mg/l
In	10 mg/l	Zn	10 mg/l
Pb	10 mg/l		

ICP multi-element standard solution XX - 11 components		Reference: 109497.L1		Reference: 109497.L5	
		Volume: 100 ml		Volume: 500 ml	
		Matrix: in 1 % HNO ₃		Matrix: in 1 % HNO ₃	
Element	Concentration	Element	Concentration	Element	Concentration
Mg	10 µg/l	Pb	10 µg/l	Tl	10 µg/l
Cu	10 µg/l	Sc	10 µg/l	Ce	10 µg/l
Cd	10 µg/l	Rh	10 µg/l	Ge	10 µg/l
				Tb	10 µg/l
				Ba	10 µg/l

Mass Calibration Standard (XXIII)- 15 components		Reference: 109410.L1		Reference: 109411.L5	
		Volume: 100 ml		Volume: 500 ml	
		Matrix: in 5 % HNO ₃ /tr HCl		Matrix: in 5 % HNO ₃ /tr HCl	
Element	Concentration	Element	Concentration	Element	Concentration
Ba	1 µg/l	In	1 µg/l	K	1 µg/l
B	1 µg/l	Fe	1 µg/l	Rh	1 µg/l
Co	1 µg/l	Li	1 µg/l	Sc	1 µg/l
Ga	1 µg/l	Lu	1 µg/l	Na	1 µg/l
				Tl	1 µg/l
				U	1 µg/l
				Y	1 µg/l



Standards equivalent to Jobin Yvon

Standard Quality Control for ICP Ultima family - 5 components		Reference: JYICP-QC1.L1 Volume: 100 ml Matrix: in 5 % HNO ₃		Reference: JYICP-QC1.L5 Volume: 500 ml Matrix: in 5 % HNO ₃	
Element	Concentration	Element	Concentration	Element	Concentration
K	1500 mg/l	Al	500 mg/l	Cd	100 mg/l
Pb	1000 mg/l	Mg	500 mg/l		

Standard Quality Control for Chlorine		Reference: JYICP-QC2.L1 Volume: 100 ml Matrix: in H ₂ O		Reference: JYICP-QC2.L5 Volume: 500 ml Matrix: in H ₂ O	
Element	Concentration				
Cl ⁻	10 000 mg/l				

Standard Quality Control for Testing ICP Activa Family - 5 components		Reference: JYICP-QCACT.L1 Volume: 100 ml Matrix: in 5 % HNO ₃	
Element	Concentration	Element	Concentration
Al	100 mg/l	Mg	100 mg/l
Cd	100 mg/l	Pb	100 mg/l
K	100 mg/l		

Standard for Semi-quantitative Method - 7 components		Reference: JYICP-MIX7.L1 Volume: 100 ml Matrix: in 5 % HNO ₃ / tr. HF	
Element	Concentration	Element	Concentration
K	1000 mg/l	B	100 mg/l
Ag	100 mg/l	Na	100 mg/l
Al	100 mg/l	Si	50 mg/l
Ba	100 mg/l		

Instrument Check Standard - 9 components		Reference: JYICP-MIX9.L1 Volume: 100 ml Matrix: in 5 % HNO ₃		Reference: JYICP-MIX9.L5 Volume: 500 ml Matrix: in 5 % HNO ₃	
Element	Concentration	Element	Concentration	Element	Concentration
Al	50 mg/l	Cr	50 mg/l	P	50 mg/l
As	50 mg/l	Cu	50 mg/l	K	50 mg/l
Co	50 mg/l	Pb	50 mg/l	Na	50 mg/l

Instrument Check Standard - 3 components		Reference: JYICP-DIAG.L1 Volume: 100 ml Matrix: in 5 % HNO ₃		Reference: JYICP-DIAG.L5 Volume: 500 ml Matrix: in 5 % HNO ₃	
Element	Concentration	Element	Concentration	Element	Concentration
Ba	1000 mg/l	Mg	1000 mg/l	Zn	1000 mg/l

Standard for determination of 4 main components		Reference: JYICP-MIXMAJ.L1 Volume: 100 ml Matrix: in 5 % HNO ₃		Reference: JYICP-MIXMAJ.L5 Volume: 500 ml Matrix: in 5 % HNO ₃			
Element	Concentration	Element	Concentration	Element	Concentration	Element	Concentration
Ca	5000 mg/l	K	5000 mg/l	Na	5000 mg/l	Mg	5000 mg/l

Standard for Semi-quantitative Method - 21 components		Reference: JYICP-MIX21.L1	
		Volume: 100 ml	
		Matrix: in 5 % HNO ₃	
Element	Concentration	Element	Concentration
As	100 mg/l	Mo	100 mg/l
Be	100 mg/l	Ni	100 mg/l
Ca	100 mg/l	Pb	100 mg/l
Cd	100 mg/l	Sb	100 mg/l
Co	100 mg/l	Se	100 mg/l
Cr	100 mg/l	Sr	100 mg/l
Cu	100 mg/l	Ti	100 mg/l
Fe	100 mg/l	Tl	100 mg/l
Li	100 mg/l	V	100 mg/l
Mg	100 mg/l	Zn	100 mg/l
Mn	100 mg/l		

Quality Control Standard - 7 components		Reference: JYICP-MIX7HSI.L1	
		Volume: 100 ml	
		Matrix: in 5 % HNO ₃	
Element	Concentration	Element	Concentration
K	1000 mg/l	Ba	100 mg/l
Si	500 mg/l	Na	100 mg/l
Al	100 mg/l	Ag	50 mg/l
B	100 mg/l		

Standard for the Determination of traces of 5 heavy metals		Reference: JYICP-MIXHM.L1	
		Volume: 100 ml	
		Matrix: in 5 % HNO ₃	
Element	Concentration	Element	Concentration
As	100 mg/l	Se	50 mg/l
Tl	100 mg/l	Pb	30 mg/l
Cd	50 mg/l		

Quality Control - 23 components		Reference: JYICP-MIX23.L1			Reference: JYICP-MIX23.L5		
		Volume: 100 ml			Volume: 500 ml		
		Matrix: in 10 % HNO ₃			Matrix: in 10 % HNO ₃		
Element	Concentration	Element	Concentration	Element	Concentration	Element	Concentration
Al	1000 mg/l	Cr	1000 mg/l	Pb	1000 mg/l	Ag	1000 mg/l
Ba	1000 mg/l	Co	1000 mg/l	Li	1000 mg/l	Na	1000 mg/l
Bi	1000 mg/l	Cu	1000 mg/l	Mg	1000 mg/l	Sr	1000 mg/l
B	1000 mg/l	Ga	1000 mg/l	Mn	1000 mg/l	Tl	1000 mg/l
Cd	1000 mg/l	In	1000 mg/l	Ni	1000 mg/l	Zn	1000 mg/l
Ca	1000 mg/l	Fe	1000 mg/l	K	1000 mg/l		

Standards equivalent to NIST

Trace metals in Water - 30 components		Reference: 1643.L1	
		Volume: 100 ml	
		Matrix: in 5 % HNO ₃	
Element	Concentration	Element	Concentration
Ag	1 ug/l	Mg	8000 ug/l
Al	142 ug/l	Mn	39 ug/l
As	60 ug/l	Mo	121 ug/l
B	158 ug/l	Na	21000 ug/l
Ba	544 ug/l	Ni	62 ug/l
Be	14 ug/l	Pb	20 ug/l
Bi	14 ug/l	Rb	14 ug/l
Ca	32000 ug/l	Re	113 ug/l
Cd	7 ug/l	Sb	58 ug/l
Co	27 ug/l	Se	12 ug/l
Cr	20 ug/l	Sr	323 ug/l
Cu	23 ug/l	Te	1 ug/l
Fe	98 ug/l	Tl	7 ug/l
K	2000 ug/l	V	38 ug/l
Li	17 ug/l	Zn	79 ug/l

Mercury In Water		Reference: 1641d.L1	
		Volume: 100 ml	
		Matrix: in 2 % HNO ₃	
Element	Concentration		
Hg	1.557 mg/kg		



Standards equivalent to Metrohm

Mixed Anions Standard - 7 components		Reference: REAIC1020.L1	
		Volume: 100 ml Matrix: in H ₂ O	
Element	Concentration	Element	Concentration
F-	2 mg/l	Br-	10 mg/l
P043-	10 mg/l	Cl-	5 mg/l
N02-	5 mg/l	S042-	10 mg/l
N03-	10 mg/l		

Mixed Anions Standard - 7 components		Reference: REAIC1025.L1	
		Volume: 100 ml Matrix: in H ₂ O	
Element	Concentration	Element	Concentration
F-	4 mg/l	Br-	8 mg/l
P043-	4 mg/l	Cl-	100 mg/l
N02-	8 mg/l	S042-	100 mg/l
N03-	8 mg/l		

Mixed Anions Standard - 7 components		Reference: REAIC1026.L1	
		Volume: 100 ml Matrix: in H ₂ O	
Element	Concentration	Element	Concentration
F-	0.5 mg/l	Br-	1 mg/l
P043-	0.5 mg/l	Cl-	12.5 mg/l
N02-	1 mg/l	S042-	12.5 mg/l
N03-	1 mg/l		

Mixed Anions Standard - 7 components		Reference: REAIC1035.L1	
		Volume: 100 ml Matrix: in H ₂ O	
Element	Concentration	Element	Concentration
F-	100 mg/l	Br-	100 mg/l
P043-	100 mg/l	Cl-	100 mg/l
N02-	100 mg/l	S042-	100 mg/l
N03-	100 mg/l		

Mixed Anions Standard - 7 components		Reference: REAIC1040.L1	
		Volume: 100 ml Matrix: in H ₂ O	
Element	Concentration	Element	Concentration
F-	100 ug/l	Br-	100 ug/l
P043-	100 ug/l	Cl-	100 ug/l
N02-	100 ug/l	S042-	100 ug/l
N03-	100 ug/l		

Metrohm Peak - chloride/sulfate standard - 2 components		Reference: REAIC105001.L5	
		Volume: 500 ml Matrix: in H ₂ O	
Element	Concentration	Element	Concentration
Cl-	0.5 mg/l	S042-	0.5 mg/l

Metrohm Peak - chloride/sulfate standard - 2 components		Reference: REAIC105002.L5	
		Volume: 500 ml Matrix: in H ₂ O	
Element	Concentration	Element	Concentration
Cl-	1 mg/l	S042-	1 mg/l

Metrohm Peak - chloride/sulfate standard - 2 components		Reference: REAIC10501.L5	
		Volume: 500 ml Matrix: in H ₂ O	
Element	Concentration	Element	Concentration
Cl-	2 mg/l	S042-	2 mg/l

Metrohm Peak - chloride/sulfate standard - 2 components		Reference: REAIC105004.L5	
		Volume: 500 ml Matrix: in H ₂ O	
Element	Concentration	Element	Concentration
Cl-	2.5 mg/l	S042-	2.5 mg/l

Metrohm Peak - chloride/sulfate standard - 2 components		Reference: REAIC105005.L5	
		Volume: 500 ml Matrix: in H ₂ O	
Element	Concentration	Element	Concentration
Cl-	5 mg/l	S042-	5 mg/l

Metrohm Peak - chloride/sulfate standard - 2 components		Reference: REAIC105006.L5	
		Volume: 500 ml Matrix: in H ₂ O	
Element	Concentration	Element	Concentration
Cl-	10 mg/l	S042-	10 mg/l

Metrohm Peak - chloride/sulfate standard - 2 components		Reference: REAIC10551.L5	
		Volume: 500 ml	
		Matrix: in H ₂ O	
Element	Concentration	Element	Concentration
Cl-	10 mg/l	S042-	10 mg/l

Calibration H3PO4 & S04		Reference: REAIC10551.L1	
		Volume: 100 ml	
		Matrix: in H ₂ O	
Element	Concentration	Element	Concentration
H3PO4	150 mg/l	S042-	10 mg/l

Calibration H3PO4 & S04		Reference: REAIC10552.L1	
		Volume: 100 ml	
		Matrix: in H ₂ O	
Element	Concentration	Element	Concentration
H3PO4	250 mg/l	S042-	10 mg/l

Calibration H3PO4 & S04		Reference: REAIC10553.L1	
		Volume: 100 ml	
		Matrix: in H ₂ O	
Element	Concentration	Element	Concentration
H3PO4	350 mg/l	S042-	10 mg/l

Calibration H3PO4 & S04		Reference: REAIC10554.L1	
		Volume: 100 ml	
		Matrix: in H ₂ O	
Element	Concentration	Element	Concentration
H3PO4	450 mg/l	S042-	10 mg/l

Calibration H3PO4 & S04		Reference: REAIC10555.L1	
		Volume: 100 ml	
		Matrix: in H ₂ O	
Element	Concentration	Element	Concentration
H3PO4	550 mg/l	S042-	10 mg/l

Calibration H3PO4 & S04		Reference: REAIC10556.L1	
		Volume: 100 ml	
		Matrix: in H ₂ O	
Element	Concentration	Element	Concentration
H3PO4	650 mg/l	S042-	10 mg/l

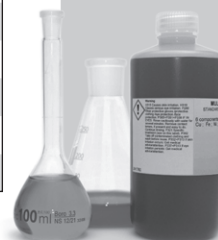
Calibration H3PO4 & S04 Check Standard		Reference: REAIC1056.L1	
		Volume: 100 ml	
		Matrix: in H ₂ O	
Element	Concentration	Element	Concentration
H3PO4	545 mg/l	S042-	10 mg/l

Mixed Cations Standard - 6 components		Reference: REAIC1220.L1	
		Volume: 100 ml	
		Matrix: in H ₂ O	
Element	Concentration	Element	Concentration
Li+	1 mg/l	K+	10 mg/l
Na+	5 mg/l	Ca 2+	10 mg/l
NH4+	5 mg/l	Mg 2+	10 mg/l

Mixed Cations Standard - 6 components		Reference: REAIC1230.L1	
		Volume: 100 ml	
		Matrix: in H ₂ O	
Element	Concentration	Element	Concentration
Li+	100 mg/l	K+	100 mg/l
Na+	100 mg/l	Ca 2+	100 mg/l
NH4+	100 mg/l	Mg 2+	100 mg/l

Mixed Cations Standard - 5 components		Reference: REAIC1225.L1	
		Volume: 100 ml	
		Matrix: in H ₂ O/tr. HNO ₃	
Element	Concentration	Element	Concentration
Cu 2+	1 mg/l	Ni 2+	1 mg/l
Fe 3+	1 mg/l	Zn 2+	1 mg/l
Mn 2+	1 mg/l		

Mixed Cations Standard - 11 components		Reference: REAIC1235.L1	
		Volume: 100 ml	
		Matrix: in H ₂ O/tr. HNO ₃	
Element	Concentration	Element	Concentration
Li+	0.1 mg/l	Mn 2+	0.1 mg/l
Na+	0.1 mg/l	Cu 2+	0.1 mg/l
NH4+	0.1 mg/l	Fe 3+	0.1 mg/l
K+	0.1 mg/l	Ni 2+	0.1 mg/l
Ca 2+	0.1 mg/l	Zn 2+	0.1 mg/l
Mg 2+	0.1 mg/l		



Standards equivalent to Dionex

Combined Seven Anion Standard		Reference: P/N056933.L05		Reference: P/N056933.L1			
		Volume: 50 ml		Volume: 100 ml			
		Matrix: in H ₂ O		Matrix: in H ₂ O			
Element	Concentration	Element	Concentration	Element	Concentration	Element	Concentration
F-	20 mg/l	N02-	100 mg/l	N03-	100 mg/l	S042-	150 mg/l
Cl-	30 mg/l	Br-	100 mg/l	P043-	150 mg/l		

Combined Seven Anion Standard II		Reference: P/N057590.L1	
		Volume: 100 ml	
		Matrix: in H ₂ O	
Element	Concentration	Element	Concentration
F-	20 mg/l	N03-	100 mg/l
Cl-	100 mg/l	P043-	200 mg/l
N02-	100 mg/l	S042-	100 mg/l
Br-	100 mg/l		

Combined Five Anion Standard		Reference: P/N037157.L1	
		Volume: 100 ml	
		Matrix: in H ₂ O/tr. HNO ₃	
Element	Concentration	Element	Concentration
F-	20 mg/l	P043-	150 mg/l
Cl-	30 mg/l	S042-	150 mg/l
N03-	100 mg/l		

Combined Six Cation Standard-I		Reference: P/N040187.L05		Reference: P/N040187.L1	
		Volume: 50 ml		Volume: 100 ml	
		Matrix: in H ₂ O		Matrix: in H ₂ O	
Element	Concentration	Element	Concentration	Element	Concentration
Li+	50 mg/l	NH4+	400 mg/l	Mg 2+	200 mg/l
Na+	200 mg/l	K+	200 mg/l	Ca 2+	1000 mg/l

Combined Six Cation Standard-II		Reference: P/N046070.L05	
		Volume: 100 ml	
		Matrix: in H ₂ O	
Element	Concentration	Element	Concentration
Li+	50 mg/l	K+	500 mg/l
Na+	200 mg/l	Mg 2+	250 mg/l
NH4+	250 mg/l	Ca 2+	500 mg/l

REQUEST FORM FOR CUSTOM-MADE
MULTI-ELEMENT STANDARD SOLUTIONS

1. Specify the concentration of the chosen element in mg/l.

ELEMENT	CONCENTR. in mg/l	ELEMENT	CONCENTR. in mg/l	ELEMENT	CONCENTR. in mg/l
Ag (HNO ₃)		Ho (HNO ₃ or HCl)		S (H ₂ O; HNO ₃ or HCl)	
Al (HNO ₃ or HCl)		In (HNO ₃ or HCl)		Sb (HNO ₃ /tr.HF or HCl)	
As (HNO ₃ or HCl)		Ir (HNO ₃ /HCl or HCl)		Sc (HNO ₃ or HCl)	
Au (HNO ₃ /HCl or HCl)		K (H ₂ O; HNO ₃ or HCl)		Se (HNO ₃ or HCl)	
B (H ₂ O; HNO ₃ or HCl)		La (HNO ₃ or HCl)		Si (H ₂ O; HNO ₃ /tr.HF or HCl)	
Ba (H ₂ O; HNO ₃ or HCl)		Li (H ₂ O; HNO ₃ or HCl)		Sm (HNO ₃ or HCl)	
Be (HNO ₃ /tr.HF or HCl)		Lu (HNO ₃ or HCl)		Sn (HNO ₃ /tr.HF or HCl)	
Bi (HNO ₃)		Mg (H ₂ O; HNO ₃ or HCl)		Sr (H ₂ O; HNO ₃ or HCl)	
Ca (H ₂ O; HNO ₃ or HCl)		Mn (HNO ₃ or HCl)		Ta (HNO ₃ /tr.HF or HCl/tr.HF)	
Cd (HNO ₃ or HCl)		Mo (H ₂ O; HNO ₃ /tr.HF or HCl)		Tb (HNO ₃ or HCl)	
Ce (HNO ₃ or HCl)		Na (H ₂ O; HNO ₃ or HCl)		Te (HNO ₃ or HCl)	
Co (HNO ₃ or HCl)		Nb (HNO ₃ /tr.HF or HCl/tr.HF)		Th (HNO ₃ or HCl)	
Cr (H ₂ O; HNO ₃ or HCl)		Nd (HNO ₃ or HCl)		Ti (HNO ₃ /tr.HF or HCl)	
Cs (H ₂ O; HNO ₃ or HCl)		Ni (HNO ₃ or HCl)		Tl (HNO ₃ or HCl)	
Cu (HNO ₃ or HCl)		Os (HCl)		Tm (HNO ₃ or HCl)	
Dy (HNO ₃ or HCl)		P (H ₂ O; HNO ₃ or HCl)		U (HNO ₃ or HCl)	
Er (HNO ₃ or HCl)		Pb (HNO ₃)		V (HNO ₃ or HCl)	
Eu (HNO ₃ or HCl)		Pd (HNO ₃ or HCl)		W (H ₂ O; HNO ₃ /tr.HF or HCl)	
Fe (HNO ₃ or HCl)		Pr (HNO ₃ or HCl)		Y (HNO ₃ or HCl)	
Ga (HNO ₃ or HCl)		Pt (HNO ₃ /HCl or HCl)		Yb (HNO ₃ or HCl)	
Gd (HNO ₃ or HCl)		Rb (H ₂ O; HNO ₃ or HCl)		Zn (HNO ₃ or HCl)	
Ge (HNO ₃ /tr.HF or HCl)		Re (H ₂ O; HNO ₃ or HCl)		Zr (HNO ₃ /tr.HF or HCl/tr.HF)	
Hf (HNO ₃ /tr.HF or HCl)		Rh (HNO ₃ /HCl or HCl)			
Hg (HNO ₃ or HCl)		Ru (HNO ₃ /HCl or HCl)			

2. Specify the concentration of the chosen matrix, needed volume and quantities.

MATRIX	CONCENTRATION in mg/l	VOLUME in ml	NUMBER OF BOTTLES
HNO ₃			
HCl			
H ₂ O			
OTHER			

3. Complete

Name*

Company*

City* State/Prov

Zip/Postal Code* Country*

Telephone* Fax

E-mail*

* Required

Please, photocopy for future use and fax it to your local distributor
or CPAchem at: +359 42 607 716

1. Specify the concentration of the chosen element in mg/l.

ELEMENT	CONCENTR. in mg/l	ELEMENT	CONCENTR. in mg/l	ELEMENT	CONCENTR. in mg/l
Acetate		Hydrogen Phtalate		Phosphate as P	
Ammonium		Iodate (IO ₃ ⁻)		Potassium	
Ammonium as N		Iodide (I ⁻)		Propionate	
Barium		Lactate		Silicate	
Benzoate		Lithium		Sodium	
Bromate (BrO ₃ ⁻)		Magnesium		Strontium	
Bromide (Br ⁻)		Maleate		Succinate	
Calcium		Methane sulphonate		Sulphate (SO ₄ ²⁻)	
Cesium		3-Methoxypropylamine		Sulphite	
Chromium (III)		Monoethalonamine		Tartrate	
Chromium (VI)		Monomethylamine		Thiocyanate	
Chlorate (ClO ₃ ⁻)		Nitriotriacetate		Thiosulphate	
Chloride (Cl ⁻)		Nitrate (NO ₃ ⁻)		Triethanolamine	
Citrate		Nitrate as N		Triethylamine	
Cyanide		Nitrite (NO ₂ ⁻)		Trimethylamine	
Diethanolamine		Nitrite as N		Other	
Fluoride		Oxalate		Other	
Formate		Perchlorate		Other	
Glycolate		Phosphate			

2. Specify the concentration of the chosen matrix, needed volume and quantities.

MATRIX	CONCENTRATION in mg/l	VOLUME in ml	NUMBER OF BOTTLES
HNO ₃			
CH ₃ CN			
HCl			
OTHER			

3. Complete

Name*

Company*

City* State/Prov

Zip/Postal Code* Country*

Telephone* Fax

E-mail*

* Required

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or CPAchem at: +359 42 607 716