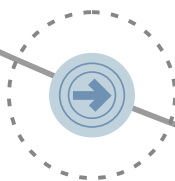
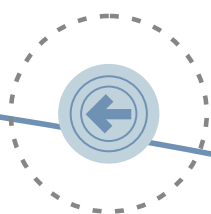
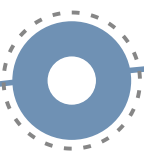
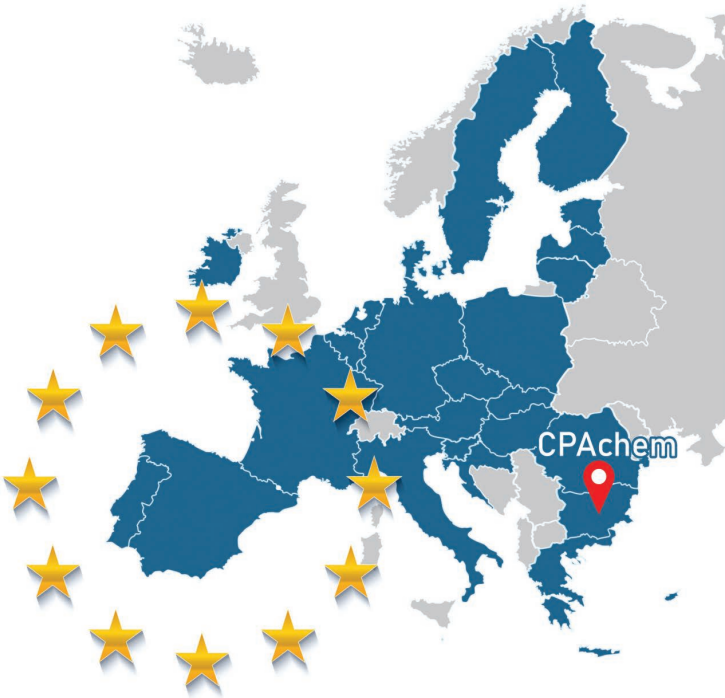


# INORGANIC CUSTOM-MADE&STOCK CERTIFIED REFERENCE MATERIALS





# CPAchem



- CPAchem is a Bulgarian-French company, founded in 2001 when it started offering custom-made standards, prepared to specific customer requirements;
- Nowadays more than 7000 laboratories worldwide use products manufactured both under CPAchem's own brand name or under private labels - since 2002 the quality of CPAchem's products has enabled the company to become and remain an OEM manufacturer for large international suppliers



5400 square meters (58 125 square feet)  
including modern manufacturing  
and R&D laboratories, storage,  
office and recreational space

ISO 17034    ISO/IEC 17025    ISO 9001

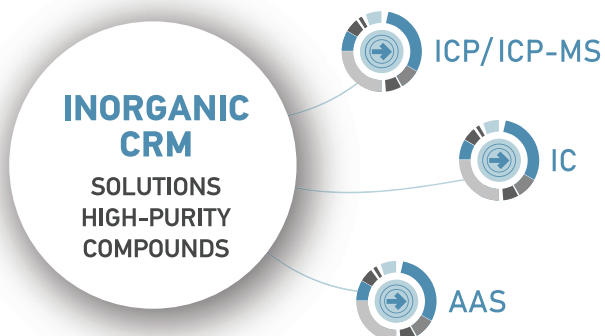
[www.cpachem.com](http://www.cpachem.com)

# CPAchem in brief

2020	<p>Certification according to ISO 17025 and ISO 17034 of the Pharmacopoeia products (European, British, US, Japanese, Chinese, Indian and International) – available upon request.</p> <p>Started offering TIC&amp;TOC and UV-VIS standards as CRM</p>
2019	<p>Moved to its new building with 5400 square meters (58 125 square feet) modern manufacturing and R&amp;D laboratories, storage, office and recreational space</p> <p>Started offering organic substances with certified weight</p>
2018	<p>ISO 17034 accredited</p> <p>Started production of turbidity standards, Chinese Pharmacopoeia products</p>
2017	<p>Started production of Karl Fischer standards</p>
2016	<p>Started production of inorganic substances</p>
2015	<p>Started production of organic substances</p>
2014	<p>ISO 17025 (testing laboratory), ISO Guide 34 (CRM producer) accredited</p>
2012	<p>Started production of standards according to US, British, Indian, Japanese and International Pharmacopoeia</p>
2005	<p>Started production of organic standards</p>
2003	<p>Started production of standards according to European Pharmacopoeia</p>
2002	<p>ISO 9001 certified</p>
2001	<p>Founded, started producing and offering custom multi-component inorganic solutions</p>

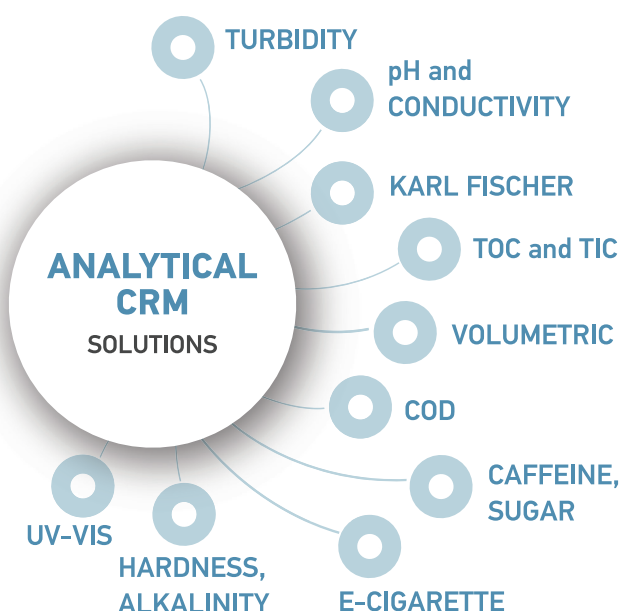
# PRODUCT PORTFOLIO

CPAchem produces both Inorganic and Organic Certified Reference Materials.



Decades of experience are brought in the production of certified reference materials to various analytical techniques.

CPAchem is the only producer in the world offering products according to seven different pharmacopoeias. Pharmacopoeia reagents are prepared according to the latest Pharmacopoeia edition recipes.



## CUSTOM PRODUCTS

CPAchem is the world leader in production of Custom-made standards, which are prepared to exactly match clients' needs and give them opportunities to quickly achieve their goals.

Custom-made products specifications include: various components, various component concentrations, various matrices, various packaging.

Cost-effective solutions



Short lead time for preparation



2-5 business days delivery



24 hour Emergency orders



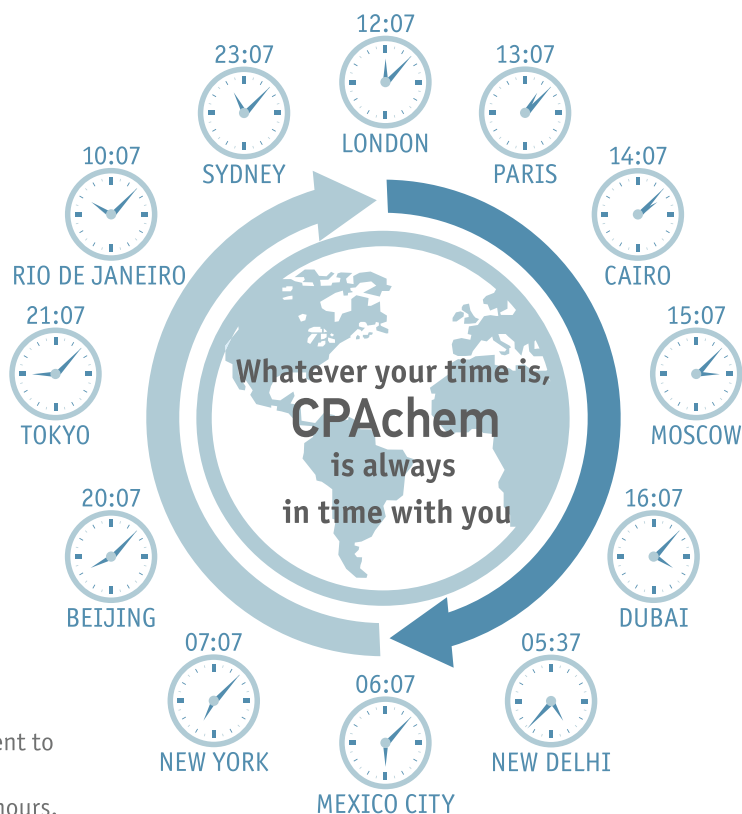
ISO 17034 ISO/IEC 17025 ISO 9001

[www.cpachem.com](http://www.cpachem.com)

# TECHNOLOGY

CPAchem relies mainly on a very knowledgeable and creative team of chemists who together with software engineers developed unique Computer-Aided Manufacturing software which performs and controls the whole production process. The company has been constantly investing in high-tech apparatus.

All these guarantee that CPAchem is always in time with its customers.



All customer inquiries sent to [sales@cpachem.com](mailto:sales@cpachem.com) are answered within 24 hours.

## ACCREDITATION AND QUALITY

CPAchem has the highest achievable quality level for reference material producers with one of the broadest accreditation scopes in the world.

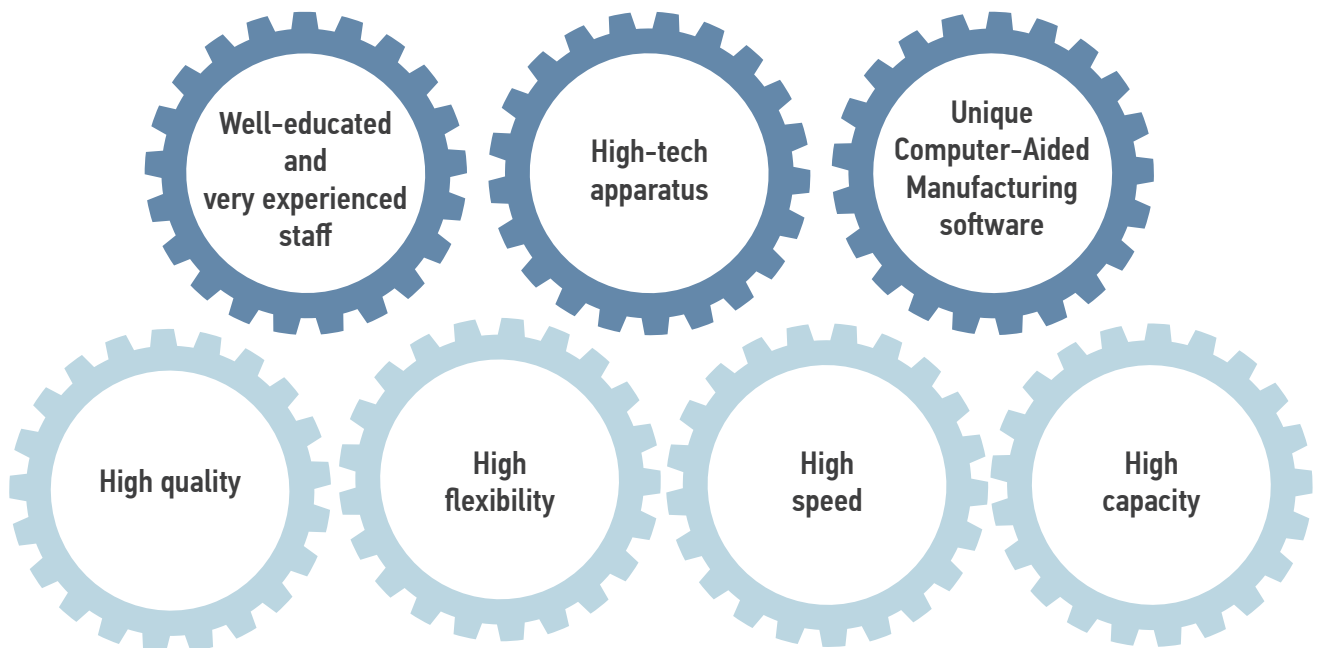


The main priority of CPAchem's management is to guarantee the best professional practice and quality throughout all stages of the production process, storage and distribution. The biggest proof for the quality of our products is that the percentage of valid claims has always been kept below 0.3%.

## What makes CPChem different as a CRM producer?

- We answer every inquiry extremely fast – within the same day, not later than 24 hours
- We produce and ship an order (incl. for custom-made products) within 3-7 working days and process emergency orders within 24 hours when it is needed
- High capacity – ability to produce more than 200 different custom-made products per day without volume and quantity limits
- We guarantee high-quality of products – the number of valid claims has never exceeded 0.3% of the total number of orders per year
- CPChem has the widest accreditation scope in the industry
- The control of all the processes is fully automated by our dedicated Computer Aided Manufacturing (CAM) software
- The software system performs and controls the whole working process:
  - starting from the raw materials' incoming control through
  - products preparation
  - certified values and uncertainties budget calculation
  - certificates generation
  - packaging and expedition

## What are CPChem's main advantages?



# CPAchem Inorganic Standards Certification

Fully in tune with our company's philosophy we have been constantly trying to make our certificates more precise, detailed and easily accessible, meeting even the toughest demands of every user.

## Get it online, be green

The users could access 24/7 each product's certificate and download it from our web-site simply using the QR code printed on products' labels;

Sample CoAs for all stock products are also available on the web-site

## Main certificates features

- All certified values and their uncertainties are obtained analytically;
  - The Certificate of Analysis, report the actual values and not simply the calculated ones;
  - Several methods are used to obtain the certified values of the produced certified reference materials:
    - Instrumental - Ion Chromatography, ICP/OES or ICP/MS calibration;
    - Classical volumetric analysis;
    - Gravimetric dilution of a concentrate, which had been calibrated by instrumental and/or classical analysis;
    - Weighted mean of the results of two independent calibration methods among: Instrumental (ICP/OES, ICP/MS or IC), Classical volumetric and Primary gravimetric\*
- \* Primary gravimetric method is used only if the other methods are not usable. If it is possible the gravimetric preparation is always checked analytically for correct dilutions and eventual contamination*
- The uncertainties refer to each of the components separately and not to the uncertainty of the whole mixture
  - Certified values and uncertainties for each component are traceable to SI (NIST, BAM)
  - The CoAs show full traceability including Lot numbers of the raw materials and or reference standards
  - All products lot numbers are unique and are related to given distributor's order
  - Each solution is barcode identified. The barcodes determine products batches
  - The shelf-life starts on the date the product is sent to the customer, i.e. customers always receive products with 100% shelf-life
  - Compliant with ISO Guide 31 and ISO Guide 35

## MSDS

All products Safety Data Sheets could be accessed and downloaded from our web-page. The information is available in all most used languages. Altogether our language database includes 20 different languages.





# CERTIFICATION EXAMPLE

## CERTIFIED REFERENCE MATERIAL

Solution of 4 components : 1000 mg/l each of Ca, Mg, K, Na; Matrix: 2% HNO<sub>3</sub>

Lot N: 271425 Barcode: 87945782 Ref N: 91C8.1K.2N.L1

Certification Date: 28.02.2020

Description of the Reference Material (CRM): Solution of: Ca 1000mg/l; Mg 1000mg/l; K 1000mg/l; Na 1000mg/l; Matrix: 2% HNO<sub>3</sub>

Ref N: 91C8.1K.2N.L1

Component	Certified Value and uncertainty [mg/l]	Metrological traceability
Ca	1001.7 ± 2.0 (y)	NIST SRM No 3109a Lot 130213
Mg	1001.6 ± 2.2 (y)	NIST SRM No 3131a Lot 050302
K	1005.4 ± 3.5 (y)	NIST SRM No 3141a Lot 140813
Na	996.1 ± 2.2 (y)	NIST SRM No 3152a Lot 120715

### Notes:

(y) WQP 5.15.1.24 The certified value was obtained by a weighted mean of the results of two independent calibration methods among: Classical Volumetric, Primary Gravimetric, Instrumental (ICP/OES, ICP/MS or IC)

Density\* 1.019 g/cm<sup>3</sup> at 20°C

Starting Material, Purity*	Batch
CaCO <sub>3</sub> 99.995%	82089085
Mg(NO <sub>3</sub> ) <sub>2</sub> 99.999%	82089726
KNO <sub>3</sub> 99.999%	82085568
NaNO <sub>3</sub> 99.999%	82085612

\* These values are not certified

Storage Conditions: Stored under normal laboratory conditions

Shelf-life: 28.03.2022 Date of opening: .....

(Recommended period of use should not exceed 12 months from date of opening)

### 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 standard uncertainty of measurement has been determined in accordance with EA 4/02

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)  
The metrological traceability is assured through calibration on ICP/OES. The calibration curve is drawn using a

# CERTIFICATION EXAMPLE

series of standard solutions prepared from a certified reference material traceable to SI of NIST (SRM) or BAM (CRM). All contributions in relation to the certification of standard solutions are considered when evaluating the uncertainty.

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 checked daily.

Class A laboratory glassware is used.

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.

## Intended use: For Laboratory Use Only

Calibration of ICP/OES, AAS

Validation of analytical methods

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 (in mg/l) after dilution is a result from the multiplication of certified value of CRM concentration and the CRM's volume used for dilution and divided into the flask's volume used for dilution.

## Stability and storage:

This CRM is with a guaranteed stability until  $\pm 0.5\%$  of the certified concentration within its shelf life. Stability is guaranteed, provided that the solution is kept in its original packaging, tightly closed stored, as written in the section: Storage Conditions. The laboratory performs stability tests according to MQP 5.14.1 therefore solutions with one and the same bar-code number might have different expiration dates.

## Hazardous situation:

The normal laboratory safety precautions should be observed when working with this CRM. Further details for the handling of this CRM are available as safety data sheet.

## Level of homogeneity:

This solution was mixed according to an in-house procedure and is guaranteed to be homogeneous. To ensure sufficient homogeneity of the sample prior to use thoroughly mix by inversion.

## Names of certifying officers:

Laboratory:

Manager:

*This document QF 5.17.1/1 version 1 is designed and the certified value(s) and uncertainty(ies) are determined in accordance with ISO Guide 31, ISO Guide 35, and Eurachem / CITAC Guides*

*This certificate relates solely to the lot number given above.*

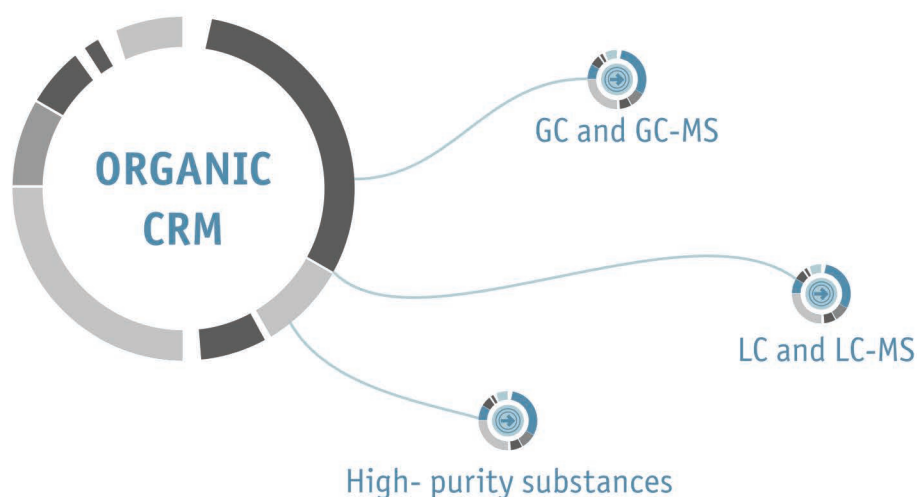
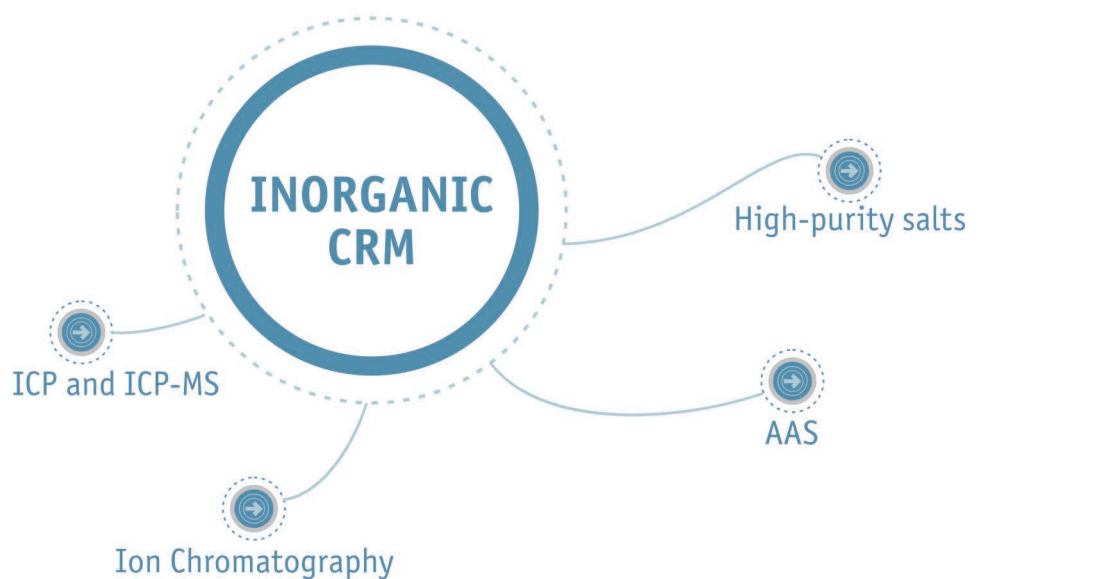
*All processes (including generating of this certificate) are completely controlled by the specialized Computer-Aided-Manufacturing (CAM) software.*

*This Certified Reference Material was produced under a quality management system that is:*

- Registered to ISO 9001 Quality Management System (Lloyd's Register Quality Assurance Ltd Cert No 0039638)
- Accredited according to ISO/IEC 17025 – Testing (ANAB Cert No AT-1836)
- Accredited according to ISO 17034 - Reference Material Producer (ANAB Cert No AR-1835)

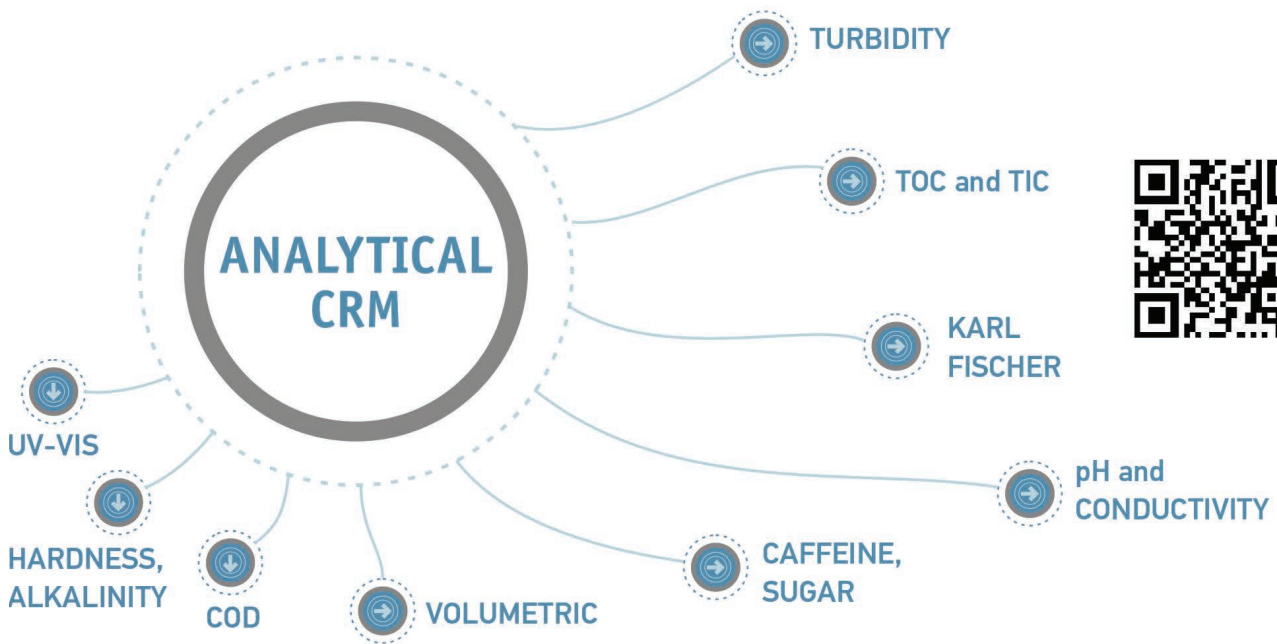
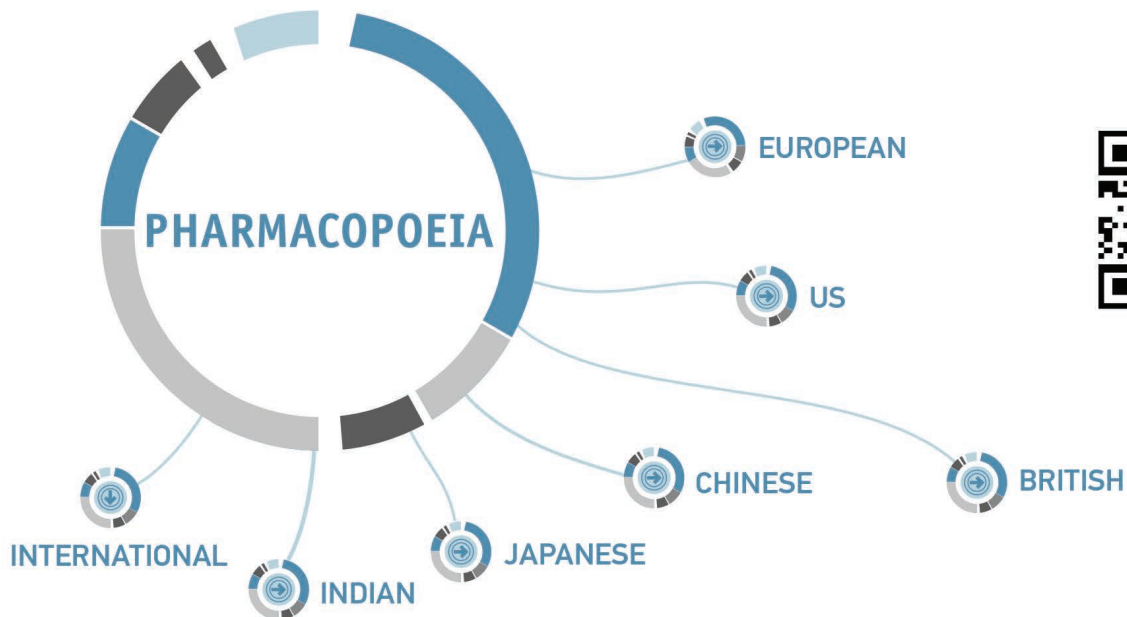
# BROWSE PRODUCTS AND PRICES

As CPChem has been constantly adding products to its portfolio, browse the actual products and prices at [www.cpachem.com](http://www.cpachem.com)



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**CUSTOM ANALYTICAL PRODUCTS  
INQUIRIES**



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# AAS Standards & Modifiers

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ISO 17034    ISO/IEC 17025    ISO 9001

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**CPA chem**  
*The experts in custom-made Certified Reference Materials*





## Single-Element Standards for AAS

All AAS Single-element Standards are Certified Reference Materials, produced and calibrated under CPAchem's quality system that is:

- ISO 9001 certified
- accredited according to ISO/IEC 17025 - Testing
- accredited according to ISO/IEC 17034 - Reference Material Producer

## Single-Element Standards for AAS

*1000 mg/l for AAS Flame*

Ref. Number	Description	Volume	Msr. Unit	Shelf-life (months)	ISO 17034 ISO 17025
A001.2NP.L1	Silver Ag - 1 g/l in diluted HNO <sub>3</sub> for AAS	100	ml	12	Yes
A001.2NP.L5	Silver Ag - 1 g/l in diluted HNO <sub>3</sub> for AAS	500	ml	12	Yes
A002.2CP.L1	Aluminium Al - 1 g/l in diluted HCl for AAS	100	ml	12	Yes
A002.2CP.L5	Aluminium Al - 1 g/l in diluted HCl for AAS	500	ml	12	Yes
A002.2NP.L1	Aluminium Al - 1 g/l in diluted HNO <sub>3</sub> for AAS	100	ml	12	Yes
A002.2NP.L5	Aluminium Al - 1 g/l in diluted HNO <sub>3</sub> for AAS	500	ml	12	Yes
A003.2CP.L1	Arsenic As - 1 g/l in diluted HCl for AAS	100	ml	12	Yes
A003.2CP.L5	Arsenic As - 1 g/l in diluted HCl for AAS	500	ml	12	Yes
A003.2NP.L1	Arsenic As - 1 g/l in diluted HNO <sub>3</sub> for AAS	100	ml	12	Yes
A003.2NP.L5	Arsenic As - 1 g/l in diluted HNO <sub>3</sub> for AAS	500	ml	12	Yes
A004.2CP.L1	Gold Au - 1g/l in diluted HCl for AAS	100	ml	12	Yes
A004.2CP.L5	Gold Au - 1g/l in diluted HCl for AAS	500	ml	12	Yes
A005.W.L1	Boron B - 1 g/l in H <sub>2</sub> O for AAS	100	ml	12	Yes
A005.W.L5	Boron B - 1 g/l in H <sub>2</sub> O for AAS	500	ml	12	Yes
A006.2CP.L1	Barium Ba - 1 g/l in diluted HCl for AAS	100	ml	12	Yes
A006.2CP.L5	Barium Ba - 1 g/l in diluted HCl for AAS	500	ml	12	Yes
A006.2NP.L1	Barium Ba - 1 g/l in diluted HNO <sub>3</sub> for AAS	100	ml	12	Yes
A006.2NP.L5	Barium Ba - 1 g/l in diluted HNO <sub>3</sub> for AAS	500	ml	12	Yes
A007.2CP.L1	Beryllium Be - 1 g/l in diluted HCl for AAS	100	ml	12	Yes
A007.2CP.L5	Beryllium Be - 1 g/l in diluted HCl for AAS	500	ml	12	Yes
A007.2N1FP.L1	Beryllium Be - 1 g/l in diluted HNO <sub>3</sub> /HF for AAS	100	ml	12	Yes
A007.2N1FP.L5	Beryllium Be - 1 g/l in diluted HNO <sub>3</sub> /HF for AAS	500	ml	12	Yes
A008.10NP.L1	Bismuth Bi - 1 g/l in diluted HNO <sub>3</sub> for AAS	100	ml	12	Yes
A008.10NP.L5	Bismuth Bi - 1 g/l in diluted HNO <sub>3</sub> for AAS	500	ml	12	Yes
A009.2CP.L1	Calcium Ca - 1 g/l in diluted HCl for AAS	100	ml	12	Yes
A009.2CP.L5	Calcium Ca - 1 g/l in diluted HCl for AAS	500	ml	12	Yes
A009.2NP.L1	Calcium Ca - 1 g/l in diluted HNO <sub>3</sub> for AAS	100	ml	12	Yes
A009.2NP.L5	Calcium Ca - 1 g/l in diluted HNO <sub>3</sub> for AAS	500	ml	12	Yes
A010.2CP.L1	Cadmium Cd - 1 g/l in diluted HCl for AAS	100	ml	12	Yes
A010.2CP.L5	Cadmium Cd - 1 g/l in diluted HCl for AAS	500	ml	12	Yes
A010.2NP.L1	Cadmium Cd - 1 g/l in diluted HNO <sub>3</sub> for AAS	100	ml	12	Yes
A010.2NP.L5	Cadmium Cd - 1 g/l in diluted HNO <sub>3</sub> for AAS	500	ml	12	Yes
A011.2NP.L1	Cerium Ce - 1 g/l in diluted HNO <sub>3</sub> for AAS	100	ml	12	Yes

Ref. Number	Description	Volume	Msr. Unit	Shelf-life (months)	ISO 17034 ISO 17025
A011.2NP.L5	Cerium Ce - 1 g/l in diluted HNO3 for AAS	500	ml	12	Yes
A012.2CP.L1	Cobalt Co - 1 g/l in diluted HCl for AAS	100	ml	12	Yes
A012.2CP.L5	Cobalt Co - 1 g/l in diluted HCl for AAS	500	ml	12	Yes
A012.2NP.L1	Cobalt Co - 1 g/l in diluted HNO3 for AAS	100	ml	12	Yes
A012.2NP.L5	Cobalt Co - 1 g/l in diluted HNO3 for AAS	500	ml	12	Yes
A013.2CP.L1	Chromium Cr - 1g/l in diluted HCl for AAS	100	ml	12	Yes
A013.2CP.L5	Chromium Cr - 1g/l in diluted HCl for AAS	500	ml	12	Yes
A013.2NP.L1	Chromium Cr - 1 g/l in diluted HNO3 for AAS	100	ml	12	Yes
A013.2NP.L5	Chromium Cr - 1 g/l in diluted HNO3 for AAS	500	ml	12	Yes
A014.2NP.L1	Cesium Cs - 1g/l in diluted HNO3 for AAS	100	ml	12	Yes
A014.2NP.L5	Cesium Cs - 1g/l in diluted HNO3 for AAS	500	ml	12	Yes
A015.2CP.L1	Copper Cu - 1 g/l in diluted HCl for AAS	100	ml	12	Yes
A015.2CP.L5	Copper Cu - 1 g/l in diluted HCl for AAS	500	ml	12	Yes
A015.2NP.L1	Cu Copper - 1g/l in diluted HNO3 for AAS	100	ml	12	Yes
A015.2NP.L5	Cu Copper - 1g/l in diluted HNO3 for AAS	500	ml	12	Yes
A016.2NP.L1	Dysprosium Dy - 1 g/l in diluted HNO3 for AAS	100	ml	12	Yes
A016.2NP.L5	Dysprosium Dy - 1 g/l in diluted HNO3 for AAS	500	ml	12	Yes
A017.2NP.L1	Erbium Er - 1 g/l in diluted HNO3 for AAS	100	ml	12	Yes
A017.2NP.L5	Erbium Er - 1 g/l in diluted HNO3 for AAS	500	ml	12	Yes
A018.2NP.L1	Europium Eu - 1 g/l in diluted HNO3 for AAS	100	ml	12	Yes
A018.2NP.L5	Europium Eu - 1 g/l in diluted HNO3 for AAS	500	ml	12	Yes
A019.2CP.L1	Iron Fe - 1 g/l in diluted HCl for AAS	100	ml	12	Yes
A019.2CP.L5	Iron Fe - 1 g/l in diluted HCl for AAS	500	ml	12	Yes
A019.2NP.L1	Iron Fe - 1g/l in diluted HNO3 for AAS	100	ml	12	Yes
A019.2NP.L5	Iron Fe - 1g/l in diluted HNO3 for AAS	500	ml	12	Yes
A020.2NP.L1	Gallium Ga - 1 g/l in diluted HNO3 for AAS	100	ml	12	Yes
A020.2NP.L5	Gallium Ga - 1 g/l in diluted HNO3 for AAS	500	ml	12	Yes
A021.2NP.L1	Gadolinium Gd - 1 g/l in diluted HNO3 for AAS	100	ml	12	Yes
A021.2NP.L5	Gadolinium Gd - 1 g/l in diluted HNO3 for AAS	500	ml	12	Yes
A022.5N1FP.L1	Germanium Ge - 1g/l in diluted HNO3/HF for AAS	100	ml	12	Yes
A022.5N1FP.L5	Germanium Ge - 1g/l in diluted HNO3/HF for AAS	500	ml	12	Yes
A023.2N1FP.L1	Hafnium Hf - 1 g/l in diluted HNO3/HF for AAS	100	ml	12	Yes
A023.2N1FP.L5	Hafnium Hf - 1 g/l in diluted HNO3/HF for AAS	500	ml	12	Yes
A024.10NP.L1	Mercury Hg - 1g/l in diluted HNO3 for AAS	100	ml	12	Yes
A024.10NP.L5	Mercury Hg - 1g/l in diluted HNO3 for AAS	500	ml	12	Yes
A025.2NP.L1	Holmium Ho - 1 g/l in diluted HNO3 for AAS	100	ml	12	Yes
A025.2NP.L5	Holmium Ho - 1 g/l in diluted HNO3 for AAS	500	ml	12	Yes
A026.2NP.L1	Indium In - 1g/l in diluted HNO3 for AAS	100	ml	12	Yes
A026.2NP.L5	Indium In - 1g/l in diluted HNO3 for AAS	500	ml	12	Yes
A027.10CP.L1	Iridium Ir - 1 g/l in diluted HCl for AAS	100	ml	12	Yes
A027.10CP.L5	Iridium Ir - 1 g/l in diluted HCl for AAS	500	ml	12	Yes
A028.2CP.L1	Potassium K - 1 g/l in diluted HCl for AAS	100	ml	12	Yes
A028.2CP.L5	Potassium K - 1 g/l in diluted HCl for AAS	500	ml	12	Yes
A028.2NP.L1	Potassium K - 1g/l in diluted HNO3 for AAS	100	ml	12	Yes
A028.2NP.L5	Potassium K - 1g/l in diluted HNO3 for AAS	500	ml	12	Yes
A029.2CP.L1	Lanthanum La - 1 g/l in diluted HCl for AAS	100	ml	12	Yes
A029.2CP.L5	Lanthanum La - 1 g/l in diluted HCl for AAS	500	ml	12	Yes

Ref. Number	Description	Volume	Msr. Unit	Shelf-life (months)	ISO 17034 ISO 17025
A029.2NP.L1	Lanthanum La - 1 g/l in diluted HNO <sub>3</sub> for AAS	100	ml	12	Yes
A029.2NP.L5	Lanthanum La - 1 g/l in diluted HNO <sub>3</sub> for AAS	500	ml	12	Yes
A030.2NP.L1	Lithium Li - 1g/l in diluted HNO <sub>3</sub> for AAS	100	ml	12	Yes
A030.2NP.L5	Lithium Li - 1g/l in diluted HNO <sub>3</sub> for AAS	500	ml	12	Yes
A032.2CP.L1	Magnesium Mg - 1 g/l in diluted HCl for AAS	100	ml	12	Yes
A032.2CP.L5	Magnesium Mg - 1 g/l in diluted HCl for AAS	500	ml	12	Yes
A032.2NP.L1	Magnesium Mg - 1g/l in diluted HNO <sub>3</sub> for AAS	100	ml	12	Yes
A032.2NP.L5	Magnesium Mg - 1g/l in diluted HNO <sub>3</sub> for AAS	500	ml	12	Yes
A033.2CP.L1	Manganese Mn - 1g/l in diluted HCl for AAS	100	ml	12	Yes
A033.2CP.L5	Manganese Mn - 1g/l in diluted HCl for AAS	500	ml	12	Yes
A033.2NP.L1	Manganese Mn - 1 g/l in diluted HNO <sub>3</sub> for AAS	100	ml	12	Yes
A033.2NP.L5	Manganese Mn - 1 g/l in diluted HNO <sub>3</sub> for AAS	500	ml	12	Yes
A034.1N1FP.L1	Molybdenum Mo - 1 g/l in diluted HNO <sub>3</sub> /HF for AAS	100	ml	12	Yes
A034.1N1FP.L5	Molybdenum Mo - 1 g/l in diluted HNO <sub>3</sub> /HF for AAS	500	ml	12	Yes
A034.W.L1	Molybdenum Mo - 1g/l in H <sub>2</sub> O for AAS	100	ml	12	Yes
A034.W.L5	Molybdenum Mo - 1g/l in H <sub>2</sub> O for AAS	500	ml	12	Yes
A035.1CP.L1	Sodium Na - 1g/l in diluted HCl for AAS	100	ml	12	Yes
A035.1CP.L5	Sodium Na - 1g/l in diluted HCl for AAS	500	ml	12	Yes
A035.2NP.L1	Sodium Na - 1g/l in diluted HNO <sub>3</sub> for AAS	100	ml	12	Yes
A035.2NP.L5	Sodium Na - 1g/l in diluted HNO <sub>3</sub> for AAS	500	ml	12	Yes
A035.W.L1	Sodium Na - 1 g/l in H <sub>2</sub> O for AAS	100	ml	12	Yes
A035.W.L5	Sodium Na - 1 g/l in H <sub>2</sub> O for AAS	500	ml	12	Yes
A036.5N1FPL1	Niobium Nb - 1g/l in diluted HNO <sub>3</sub> /HF for AAS	100	ml	12	Yes
A036.5N1FPL5	Niobium Nb - 1g/l in diluted HNO <sub>3</sub> /HF for AAS	500	ml	12	Yes
A037.2NP.L1	Neodymium Nd - 1 g/l in diluted HNO <sub>3</sub> for AAS	100	ml	12	Yes
A037.2NP.L5	Neodymium Nd - 1 g/l in diluted HNO <sub>3</sub> for AAS	500	ml	12	Yes
A038.2NP.L1	Nickel Ni - 1g/l in diluted HNO <sub>3</sub> for AAS	100	ml	12	Yes
A038.2NP.L5	Nickel Ni - 1g/l in diluted HNO <sub>3</sub> for AAS	500	ml	12	Yes
A040.W.L1	Phosphorous P - 1g/l in H <sub>2</sub> O for AAS	100	ml	12	Yes
A040.W.L5	Phosphorous P - 1g/l in H <sub>2</sub> O for AAS	500	ml	12	Yes
A041.2NP.L1	Lead Pb - 1g/l in diluted HNO <sub>3</sub> for AAS	100	ml	12	Yes
A041.2NP.L5	Lead Pb - 1g/l in diluted HNO <sub>3</sub> for AAS	500	ml	12	Yes
A042.5CP.L1	Palladium Pd - 1 g/l in diluted HCl for AAS	100	ml	12	Yes
A042.5CP.L5	Palladium Pd - 1 g/l in diluted HCl for AAS	500	ml	12	Yes
A042.5NP.L1	Palladium Pd - 1g/l in diluted HNO <sub>3</sub> for AAS	100	ml	12	Yes
A042.5NP.L5	Palladium Pd - 1g/l in diluted HNO <sub>3</sub> for AAS	500	ml	12	Yes
A044.10CP.L1	Platinum Pt - 1g/l in diluted HCl for AAS	100	ml	12	Yes
A044.10CP.L5	Platinum Pt - 1g/l in diluted HCl for AAS	500	ml	12	Yes
A045.2NP.L1	Rubidium Rb - 1g/l in diluted HNO <sub>3</sub> for AAS	100	ml	12	Yes
A045.2NP.L5	Rubidium Rb - 1g/l in diluted HNO <sub>3</sub> for AAS	500	ml	12	Yes
A046.5NP.L1	Rhenium Re - 1 g/l in diluted HNO <sub>3</sub> for AAS	100	ml	12	Yes
A046.5NP.L5	Rhenium Re - 1 g/l in diluted HNO <sub>3</sub> for AAS	500	ml	12	Yes
A047.5CP.L1	Rhodium Rh - 1 g/l in diluted HCl for AAS	100	ml	12	Yes
A047.5CP.L5	Rhodium Rh - 1 g/l in diluted HCl for AAS	500	ml	12	Yes
A048.5CP.L1	Ruthenium Ru - 1 g/l in diluted HCl for AAS	100	ml	12	Yes
A048.5CP.L5	Ruthenium Ru - 1 g/l in diluted HCl for AAS	500	ml	12	Yes
A049.W.L1	Sulphur S - 1 g/l in H <sub>2</sub> O for AAS	100	ml	12	Yes

Ref. Number	Description	Volume	Msr. Unit	Shelf-life (months)	ISO 17034 ISO 17025
A049.W.L5	Sulphur S - 1 g/l in H2O for AAS	500	ml	12	Yes
A050.20CP.L1	Antimony Sb - 1 g/l in diluted HCl for AAS	100	ml	12	Yes
A050.20CP.L5	Antimony Sb - 1 g/l in diluted HCl for AAS	500	ml	12	Yes
A050.5N1FP.L1	Antimony Sb - 1 g/l in diluted HNO3/HF for AAS	100	ml	12	Yes
A050.5N1FP.L5	Antimony Sb - 1 g/l in diluted HNO3/HF for AAS	500	ml	12	Yes
A051.2NP.L1	Scandium Sc - 1 g/l in diluted HNO3 for AAS	100	ml	12	Yes
A051.2NP.L5	Scandium Sc - 1 g/l in diluted HNO3 for AAS	500	ml	12	Yes
A052.2NP.L1	Selenium Se - 1 g/l in diluted HNO3 for AAS	100	ml	12	Yes
A052.2NP.L5	Selenium Se - 1 g/l in diluted HNO3 for AAS	500	ml	12	Yes
A053.W.L1	Silicon Si - 1 g/l in H2O for AAS	100	ml	12	Yes
A053.W.L5	Silicon Si - 1 g/l in H2O for AAS	500	ml	12	Yes
A054.2NP.L1	Samarium Sm - 1 g/l in diluted HNO3 for AAS	100	ml	12	Yes
A054.2NP.L5	Samarium Sm - 1 g/l in diluted HNO3 for AAS	500	ml	12	Yes
A055.1N1FP.L1	Tin Sn - 1 g/l in diluted HNO3/HF for AAS	100	ml	12	Yes
A055.1N1FP.L5	Tin Sn - 1 g/l in diluted HNO3/HF for AAS	500	ml	12	Yes
A055.20CP.L1	Tin Sn - 1 g/l in diluted HCl for AAS	100	ml	12	Yes
A055.20CP.L5	Tin Sn - 1 g/l in diluted HCl for AAS	500	ml	12	Yes
A056.2CP.L1	Strontium Sr - 1 g/l in diluted HCl for AAS	100	ml	12	Yes
A056.2CP.L5	Strontium Sr - 1 g/l in diluted HCl for AAS	500	ml	12	Yes
A056.2NP.L1	Strontium Sr - 1 g/l in diluted HNO3 for AAS	100	ml	12	Yes
A056.2NP.L5	Strontium Sr - 1 g/l in diluted HNO3 for AAS	500	ml	12	Yes
A057.5N1FP.L1	Tantalum Ta - 1 g/l in diluted HNO3/HF for AAS	100	ml	12	Yes
A057.5N1FP.L5	Tantalum Ta - 1 g/l in diluted HNO3/HF for AAS	500	ml	12	Yes
A059.10NP.L1	Tellurium Te - 1 g/l in diluted HNO3 for AAS	100	ml	12	Yes
A059.10NP.L5	Tellurium Te - 1 g/l in diluted HNO3 for AAS	500	ml	12	Yes
A059.20CP.L1	Tellurium Te - 1 g/l in diluted HCl for AAS	100	ml	12	Yes
A059.20CP.L5	Tellurium Te - 1 g/l in diluted HCl for AAS	500	ml	12	Yes
A061.5N05FP.L1	Titanium Ti - 1 g/l in diluted HNO3/HF for AAS	100	ml	12	Yes
A061.5N05FP.L5	Titanium Ti - 1 g/l in diluted HNO3/HF for AAS	500	ml	12	Yes
A062.2NP.L1	Thallium Tl - 1 g/l in diluted HNO3 for AAS	100	ml	12	Yes
A062.2NP.L5	Thallium Tl - 1 g/l in diluted HNO3 for AAS	500	ml	12	Yes
A063.2NP.L1	Thulium Tm - 1 g/l in diluted HNO3 for AAS	100	ml	12	Yes
A063.2NP.L5	Thulium Tm - 1 g/l in diluted HNO3 for AAS	500	ml	12	Yes
A065.2NP.L1	Vanadium V - 1 g/l in diluted HNO3 for AAS	100	ml	12	Yes
A065.2NP.L5	Vanadium V - 1 g/l in diluted HNO3 for AAS	500	ml	12	Yes
A065.2SP.L1	Vanadium V - 1 g/l in diluted H2SO4 for AAS	100	ml	12	Yes
A065.2SP.L5	Vanadium V - 1 g/l in diluted H2SO4 for AAS	500	ml	12	Yes
A066.1N2FP.L1	Tungsten W - 1 g/l in diluted HNO3/HF for AAS	100	ml	12	Yes
A066.1N2FP.L5	Tungsten W - 1 g/l in diluted HNO3/HF for AAS	500	ml	12	Yes
A067.2NP.L1	Yttrium Y - 1 g/l in diluted HNO3 for AAS	100	ml	12	Yes
A067.2NP.L5	Yttrium Y - 1 g/l in diluted HNO3 for AAS	500	ml	12	Yes
A068.2NP.L1	Ytterbium Yb - 1 g/l in diluted HNO3 for AAS	100	ml	12	Yes
A068.2NP.L5	Ytterbium Yb - 1 g/l in diluted HNO3 for AAS	500	ml	12	Yes
A069.2CP.L1	Zinc Zn - 1 g/l in diluted HCl for AAS	100	ml	12	Yes
A069.2CP.L5	Zinc Zn - 1 g/l in diluted HCl for AAS	500	ml	12	Yes
A069.2NP.L1	Zinc Zn - 1 g/l in diluted HNO3 for AAS	100	ml	12	Yes
A069.2NP.L5	Zinc Zn - 1 g/l in diluted HNO3 for AAS	500	ml	12	Yes
A070.2N05FP.L1	Zirconium Zr - 1 g/l in diluted HNO3/HF for AAS	100	ml	12	Yes

Ref. Number	Description	Volume	Msr. Unit	Shelf-life (months)	ISO 17034 ISO 17025
A070.2N05FP.L5	Zirconium Zr - 1 g/l in diluted HNO <sub>3</sub> /HF for AAS	500	ml	12	Yes
A070.5C05FP.L1	Zirconium Zr - 1 g/l in diluted HCl/HF for AAS	100	ml	12	Yes
A070.5C05FP.L5	Zirconium Zr - 1 g/l in diluted HCl/HF for AAS	500	ml	12	Yes

## Single-Element Standards for AAS 10 000 mg/l for AAS Flame

Ref. Number	Description	Volume	Msr. Unit	Shelf-life (months)	ISO 17034 ISO 17025
S101.5NP.L02	Ag 10 000mg/l in diluted HNO <sub>3</sub> for AAS	20	ml	12	Yes
S102.5CP.L02	Al 10 000mg/l in diluted HCl for AAS	20	ml	12	Yes
S103.5NP.L02	As 10 000mg/l in diluted HNO <sub>3</sub> for AAS	20	ml	12	Yes
S105.W.L02	B 10 000mg/l in H <sub>2</sub> O for AAS	20	ml	12	Yes
S106.5NP.L02	Ba 10 000mg/l in diluted HNO <sub>3</sub> for AAS	20	ml	12	Yes
S107.5N1FP.L02	Be 10 000mg/l in diluted HNO <sub>3</sub> /HF for AAS	20	ml	12	Yes
S108.10NP.L02	Bi 10 000mg/l in diluted HNO <sub>3</sub> for AAS	20	ml	12	Yes
S109.5NP.L02	Ca 10 000mg/l in diluted HNO <sub>3</sub> for AAS	20	ml	12	Yes
S110.5NP.L02	Cd 10 000mg/l in diluted HNO <sub>3</sub> for AAS	20	ml	12	Yes
S112.5NP.L02	Co 10 000mg/l in diluted HNO <sub>3</sub> for AAS	20	ml	12	Yes
S113.5NP.L02	Cr 10 000mg/l in diluted HNO <sub>3</sub> for AAS	20	ml	12	Yes
S114.2NP.L02	Cs 10 000mg/l in diluted HNO <sub>3</sub> for AAS	20	ml	12	Yes
S115.5NP.L02	Cu 10 000mg/l in diluted HNO <sub>3</sub> for AAS	20	ml	12	Yes
S119.5NP.L02	Fe 10 000mg/l in diluted HNO <sub>3</sub> for AAS	20	ml	12	Yes
S128.2NP.L02	K 10 000mg/l in diluted HNO <sub>3</sub> for AAS	20	ml	12	Yes
S130.2NP.L02	Li 10 000mg/l in diluted HNO <sub>3</sub> for AAS	20	ml	12	Yes
S132.5NP.L02	Mg 10 000mg/l in diluted HNO <sub>3</sub> for AAS	20	ml	12	Yes
S133.5NP.L02	Mn 10 000mg/l in diluted HNO <sub>3</sub> for AAS	20	ml	12	Yes
S134.5N4FP.L02	Mo 10 000mg/l in diluted HNO <sub>3</sub> / HF for AAS	20	ml	12	Yes
S135.2NP.L02	Na 10 000mg/l in diluted HNO <sub>3</sub> for AAS	20	ml	12	Yes
S138.5NP.L02	Ni 10 000mg/l in diluted HNO <sub>3</sub> for AAS	20	ml	12	Yes
S140.W.L02	P 10 000mg/l in H <sub>2</sub> O for AAS	20	ml	12	Yes
S141.5NP.L02	Pb 10 000mg/l in diluted HNO <sub>3</sub> for AAS	20	ml	12	Yes
S145.2NP.L02	Rb 10 000mg/l in diluted HNO <sub>3</sub> for AAS	20	ml	12	Yes
S150.5N2FP.L02	Sb 10 000mg/l in diluted HNO <sub>3</sub> /HF for AAS	20	ml	12	Yes
S151.5NP.L02	Sc 10 000mg/l in diluted HNO <sub>3</sub> for AAS	20	ml	12	Yes
S152.5NP.L02	Se 10 000mg/l in diluted HNO <sub>3</sub> for AAS	20	ml	12	Yes
S153.W.L02	Si 10 000mg/l in H <sub>2</sub> O for AAS	20	ml	12	Yes
S155.5N2FP.L02	Sn 10 000mg/l in diluted HNO <sub>3</sub> / HF for AAS	20	ml	12	Yes
S156.5NP.L02	Sr 10 000mg/l in diluted HNO <sub>3</sub> for AAS	20	ml	12	Yes
S159.20NP.L02	Te 10 000mg/l in diluted HNO <sub>3</sub> for AAS	20	ml	12	Yes
S161.5N2FP.L02	Ti 10 000mg/l in diluted HNO <sub>3</sub> / HF for AAS	20	ml	12	Yes
S162.5NP.L02	Tl 10 000mg/l in diluted HNO <sub>3</sub> for AAS	20	ml	12	Yes
S165.5NP.L02	V 10 000mg/l in diluted HNO <sub>3</sub> for AAS	20	ml	12	Yes
S166.2N5FP.L02	W 10 000mg/l in diluted HNO <sub>3</sub> / HF for AAS	20	ml	12	Yes
S167.5NP.L02	Y 10 000mg/l in diluted HNO <sub>3</sub> for AAS	20	ml	12	Yes
S169.5NP.L02	Zn 10 000mg/l in diluted HNO <sub>3</sub> for AAS	20	ml	12	Yes
S170.5N2FP.L02	Zr 10 000mg/l in diluted HNO <sub>3</sub> / HF for AAS	20	ml	12	Yes

## Concentrates for AAS Flame

AAS concentrates combine the convenience of having prepared AAS solutions with the benefits of reduced shipping costs and lower storage space needed. Concentrates are designed to be quantitatively transferred and brought to volume. Certificates of Analysis show actual content, lot number, expiry date and traceability to SI of NIST (SRM) or CRM. Concentrated solutions are provided in sealed bottles. No ampoules to break. Easy to use. No need for pipetting, just empty the bottle in a volumetric flask, rinse and complete to volume.

Ref. Number	Description	Volume	Msr. Unit	Shelf-life (months)	ISO 17034 ISO 17025
A101.20NP.L1	Silver - concentrate to make 1L 1 g/l Ag in diluted HNO <sub>3</sub>	100	ml	12	No
A102.5NP.L1	Aluminium - concentrate to make 1L 1 g/l Al in diluted HNO <sub>3</sub>	100	ml	12	No
A103.5CP.L1	Arsenic - concentrate to make 1L 1 g/l As in diluted HCl	100	ml	12	No
A103.5NP.L1	Arsenic - concentrate to make 1L 1 g/l As in diluted HNO <sub>3</sub>	100	ml	12	No
A105.2AP.L1	Boron - concentrate to make 1L 1 g/l B in NH <sub>3</sub>	100	ml	12	No
A106.5CP.L1	Barium - concentrate to make 1L 1 g/l Ba in diluted HCl	100	ml	12	No
A107.5CP.L1	Beryllium - concentrate to make 1L 1 g/l Be in diluted HCl	100	ml	12	No
A107.5N1FP.L1	Beryllium - concentrate to make 1L 1 g/l Be in diluted HNO <sub>3</sub> /HF	100	ml	12	No
A108.10NP.L1	Bismuth - concentrate to make 1L 1 g/l Bi in diluted HNO <sub>3</sub>	100	ml	12	No
A109.5CP.L1	Calcium - concentrate to make 1L 1 g/l Ca in diluted HCl	100	ml	12	No
A109.5NP.L1	Calcium - concentrate to make 1L 1 g/l Ca in diluted HNO <sub>3</sub>	100	ml	12	No
A110.5CP.L1	Cadmium - concentrate to make 1L 1 g/l Cd in diluted HCl	100	ml	12	No
A110.5NP.L1	Cadmium - concentrate to make 1L 1 g/l Cd in diluted HNO <sub>3</sub>	100	ml	12	No
A112.5CP.L1	Cobalt - concentrate to make 1L 1 g/l Co in diluted HCl	100	ml	12	No
A112.5NP.L1	Cobalt - concentrate to make 1L 1 g/l Co in diluted HNO <sub>3</sub>	100	ml	12	No
A113.5CP.L1	Chromium - concentrate to make 1L 1 g/l Cr in diluted HCl	100	ml	12	No
A113.5NP.L1	Chromium - concentrate to make 1L 1 g/l Cr in diluted HNO <sub>3</sub>	100	ml	12	No
A114.2NP.L1	Cesium - concentrate to make 1L 1 g/l Cs in diluted HNO <sub>3</sub>	100	ml	12	No
A115.5NP.L1	Copper - concentrate to make 1L 1 g/l Cu in diluted HNO <sub>3</sub>	100	ml	12	No
A119.5CP.L1	Iron - concentrate to make 1L 1 g/l Fe in diluted HCl	100	ml	12	No
A119.5NP.L1	Iron - concentrate to make 1L 1 g/l Fe in diluted HNO <sub>3</sub>	100	ml	12	No

Ref. Number	Description	Volume	Msr. Unit	Shelf-life (months)	ISO 17034 ISO 17025
A122.5N1FP.L1	Germanium - concentrate to make 1L 1 g/l Ge in diluted HNO <sub>3</sub> /HF	100	ml	12	No
A124.10NP.L1	Mercury - concentrate to make 1L 1 g/l Hg in diluted HNO <sub>3</sub>	100	ml	12	No
A128.2CP.L1	Potassium - concentrate to make 1L 1 g/l K in diluted HCl	100	ml	12	No
A128.2NP.L1	Potassium - concentrate to make 1L 1 g/l K in diluted HNO <sub>3</sub>	100	ml	12	No
A130.2CP.L1	Lithium - concentrate to make 1L 1 g/l Li in diluted HCl	100	ml	12	No
A130.2NP.L1	Lithium - concentrate to make 1L 1 g/l Li in diluted HNO <sub>3</sub>	100	ml	12	No
A132.5CP.L1	Magnesium - concentrate to make 1L 1 g/l Mg in diluted HCl	100	ml	12	No
A132.5NP.L1	Magnesium - concentrate to make 1L 1 g/l Mg in diluted HNO <sub>3</sub>	100	ml	12	No
A133.5NP.L1	Manganese - concentrate to make 1L 1 g/l Mn in diluted HNO <sub>3</sub>	100	ml	12	No
A134.5N4FP.L1	Molybdenum - concentrate to make 1L 1 g/l Mo in diluted HNO <sub>3</sub> /HF	100	ml	12	No
A135.2CP.L1	Sodium - concentrate to make 1L 1 g/l Na in diluted HCl	100	ml	12	No
A135.2NP.L1	Sodium - concentrate to make 1L 1 g/l Na in diluted HNO <sub>3</sub>	100	ml	12	No
A138.5NP.L1	Nickel - concentrate to make 1L 1 g/l Ni in diluted HNO <sub>3</sub>	100	ml	12	No
A140.W.L1	Phosphorus - concentrate to make 1L 1 g/l P in H <sub>2</sub> O	100	ml	12	No
A141.5NP.L1	Lead - concentrate to make 1L 1 g/l Pb in diluted HNO <sub>3</sub>	100	ml	12	No
A145.2NP.L1	Rubidium - concentrate to make 1L 1 g/l Rb in diluted HNO <sub>3</sub>	100	ml	12	No
A150.10N2FP.L1	Antimony - concentrate to make 1L 1 g/l Sb in diluted HNO <sub>3</sub> /HF	100	ml	12	No
A150.20CP.L1	Antimony - concentrate to make 1L 1 g/l Sb in diluted HCl	100	ml	12	No
A151.5NP.L1	Scandium - concentrate to make 1L 1 g/l Sc in diluted HNO <sub>3</sub>	100	ml	12	No
A152.5NP	Selenium - concentrate to make 1L 1 g/l Se in diluted HNO <sub>3</sub>	100	ml	12	No
A153.W.L1	Silicon - concentrate to make 1L 1 g/l Si in H <sub>2</sub> O	100	ml	12	No
A155.2N2FP.L1	Tin - concentrate to make 1L Sn 1 g/l in diluted HNO <sub>3</sub> /HF	100	ml	12	No
A155.5CP.L1	Tin - concentrate to make 1L 1 g/l Sn in diluted HCl	100	ml	12	No
A156.2CP.L1	Strontium - concentrate to make 1L 1 g/l Sr in diluted HCl	100	ml	12	No
A156.5NP.L1	Strontium - concentrate to make 1L 1 g/l Sr in diluted HNO <sub>3</sub>	100	ml	12	No
A159.20CP.L1	Tellurium - concentrate to make 1L 1 g/l Te in diluted HCl	100	ml	12	No
A159.20NP.L1	Tellurium - concentrate to make 1L 1 g/l Te in diluted HNO <sub>3</sub>	100	ml	12	No
A161.5N2FP.L1	Titanium - concentrate to make 1L 1 g/l Ti in diluted HNO <sub>3</sub> /HF	100	ml	12	No
A162.5NP.L1	Thallium - concentrate to make 1L 1 g/l Tl in diluted HNO <sub>3</sub>	100	ml	12	No
A165.5NP.L1	Vanadium - concentrate to make 1L 1 g/l V in diluted HNO <sub>3</sub>	100	ml	12	No
A166.2N5FP.L1	Tungsten - concentrate to make 1L 1 g/l W in diluted HNO <sub>3</sub> /HF	100	ml	12	No
A167.5NP.L1	Yttrium - concentrate to make 1L 1 g/l Y in diluted HNO <sub>3</sub>	100	ml	12	No
A169.5CP.L1	Zinc - concentrate to make 1L 1 g/l Zn in diluted HCl	100	ml	12	No
A169.5NP.L1	Zinc - concentrate to make 1L 1 g/l Zn in diluted HNO <sub>3</sub>	100	ml	12	No
A170.5C2FP.L1	Zirconium - concentrate to make 1L 1 g/l Zr in diluted HCl/HF	100	ml	12	No

## Single-Element Standards in Alcohol, KCN, and for Graphite Furnace

All Single-element Standards in alcohol, KCN and the ones for graphite furnace are Certified Reference Materials, produced and calibrated under CPAchem's quality system that is:

- ISO 9001 certified
- accredited according to ISO/IEC 17025 - Testing
- accredited according to ISO/IEC 17034 - Reference Material Producer

### Single-Element Standards in Alcohol

Ref. Number	Description	Volume	Msr. Unit	Shelf-life (months)	ISO 17034 ISO 17025
A009.2C12EL.L1	Calcium Ca - 1 g/l in HCl 2%; C2H5OH 12%;	100	ml	12	Yes
A009.2C12EL.L5	Calcium Ca - 1 g/l in HCl 2%; C2H5OH 12%;	500	ml	12	Yes
A015.2C12EL.L1	Copper Cu - 1g/l in HCl 2%; C2H5OH 12%;	100	ml	12	Yes
A015.2C12EL.L5	Copper Cu - 1g/l in HCl 2%; C2H5OH 12%;	500	ml	12	Yes
A019.2C12EL.L1	Iron Fe - 1 g/l in HCl 2%; C2H5OH 12%;	100	ml	12	Yes
A019.2C12EL.L5	Iron Fe - 1 g/l in HCl 2%; C2H5OH 12%;	500	ml	12	Yes
A028.2C12EL.L1	Potassium K - 1g/l in HCl 2%; C2H5OH 12%;	100	ml	12	Yes
A028.2C12EL.L5	Potassium K - 1g/l in HCl 2%; C2H5OH 12%;	500	ml	12	Yes
A035.2C12EL.L1	Sodium Na - 1g/l in 2% HCl; 12% C2H5OH	100	ml	12	Yes
A035.2C12EL.L5	Sodium Na - 1g/l in 2% HCl; 12% C2H5OH	500	ml	12	Yes
A069.2C12EL.L1	Zinc Zn - 1g/l in HCl 2%; C2H5OH 12%;	100	ml	12	Yes
A069.2C12EL.L5	Zinc Zn - 1g/l in HCl 2%; C2H5OH 12%;	500	ml	12	Yes

### Single-Element Standards in KCN

Ref. Number	Description	Volume	Msr. Unit	Shelf-life (months)	ISO 17034 ISO 17025
691C.1K.04.L1	Copper Cu 1000mg/l in KCN 0.4% for AAS	100	ml	12	Yes
691C.1K.04.L5	Copper Cu 1000mg/l in KCN 0.4% for AAS	500	ml	12	Yes
A965.1K.04.L1	Gold Au - 1 g/l in KCN 0.4% for AAS	100	ml	12	Yes
A965.1K.04.L5	Gold Au - 1 g/l in KCN 0.4% for AAS	500	ml	12	Yes

### Single-Element Standards for Graphite Furnace

Ref. Number	Description	Volume	Msr. Unit	Shelf-life (months)	ISO 17034 ISO 17025
F2165.D02.1N.L05	Arsenic 0.020mg/l; Nitric Acid 1%;	50	ml	6	Yes
F5519.D002.1N.L05	Cadmium 0.002mg/l; Nitric Acid 1%;	50	ml	6	Yes
F1E9C.D02.1N.L05	Lead 0.020mg/l; Nitric Acid 1%;	50	ml	6	Yes
F4C73.D01.1N.L05	Manganese 0.010mg/l; Nitric Acid 1%	50	ml	6	Yes
F3836.D03.1N.L05	Nickel 0.030mg/l; Nitric Acid 1%	50	ml	6	Yes
F1ED8.D02.1N.L05	Antimony 0.020mg/l; Nitric Acid 1%;	50	ml	6	Yes



## Matrix Modifiers and Ionisation Buffers

All Matrix Modifiers for GFAAS and Ionisation buffers, produced by CPAchem, use high-purity metals or salts in sub-boiling distilled acids. CPAchem's quality system is currently ISO 9001 certified. CPAchem's quality control laboratory is ISO 17025:2005 registered/certified. CPAchem is 17034:2016 registered/certified while demonstrating technical competence in the field of Reference Material Production.

## Matrix Modifiers for Graphite Furnace

Ref. Number	Description	Volume	Msr. Unit	Shelf-life (months)	ISO 17034 ISO 17025
MM2F6A.10K.W.L05	Mg(NO <sub>3</sub> ) <sub>2</sub> (99.999%) 10 g/l in H <sub>2</sub> O	50	ml	24	No
MM2F6A.20K.W.L05	Mg(NO <sub>3</sub> ) <sub>2</sub> (99.999%) 20 g/l in H <sub>2</sub> O	50	ml	24	No
MM909D.50K.W.L05	NH <sub>4</sub> NO <sub>3</sub> (99.999%) 50 g/l in H <sub>2</sub> O	50	ml	24	No
MMCFE0.20K.1N.L05	NH <sub>4</sub> H <sub>2</sub> PO <sub>4</sub> (99.999%) 20 g/l in 1% HNO <sub>3</sub>	50	ml	24	No
MMCFE0.100K.1N.L05	NH <sub>4</sub> H <sub>2</sub> PO <sub>4</sub> (99.999%) 100 g/l in 1% HNO <sub>3</sub>	50	ml	24	No
MM9E04.10K.1N.L05	Ni(NO <sub>3</sub> ) <sub>2</sub> (99.999%) 10 g/l in 1% HNO <sub>3</sub>	50	ml	24	No
MM2323.10K.1N.L05	Pd(NO <sub>3</sub> ) <sub>2</sub> (99.999%) 2 g/l + Mg(NO <sub>3</sub> ) <sub>2</sub> (99.999%) 10 g/l in 1% HNO <sub>3</sub>	50	ml	24	No
MM4CF5.2K.1N.L05	Pd(NO <sub>3</sub> ) <sub>2</sub> (99.999%) 2 g/l in 1% HNO <sub>3</sub>	50	ml	24	No
MM4CF5.5K.1N.L05	Pd(NO <sub>3</sub> ) <sub>2</sub> (99.999%) 5 g/l in 1% HNO <sub>3</sub>	50	ml	24	No
MM4CF5.10K.15N.L05	Pd(NO <sub>3</sub> ) <sub>2</sub> (99.999%) 10 g/l in diluted HNO <sub>3</sub> (~ 15 %)	50	ml	12	No

## Ionisation Buffers

Ref. Number	Description	Volume	Msr. Unit	Shelf-life (months)	ISO 17034 ISO 17025
IB514.1N.L1	Cesium Cs 2% in HNO <sub>3</sub> 1%	100	ml	12	No
IB514.1N.L5	Cesium Cs 2% in HNO <sub>3</sub> 1%	500	ml	12	No
IB529.2C.L1	Lanthanum La 2% in HCl 2%	100	ml	12	No
IB529.2C.L5	Lanthanum La 2% in HCl 2%	500	ml	12	No
IB530.1N.L1	Lithium Li 2% i in HNO <sub>3</sub> 1%	100	ml	12	No
IB530.1N.L5	Lithium Li 2% i in HNO <sub>3</sub> 1%	500	ml	12	No
IB556.2N.L1	Strontium Sr 2% in HNO <sub>3</sub> 2%	100	ml	12	No
IB556.2N.L5	Strontium Sr 2% in HNO <sub>3</sub> 2%	500	ml	12	No
IB556.2C.L1	Strontium Sr 2% in HCl 2%	100	ml	12	No
IB556.2C.L5	Strontium Sr 2% in HCl 2%	500	ml	12	No

## Blanks & dilution matrices

Ref. Number	Description	Volume	Msr. Unit	Shelf-life (months)	ISO 17034 ISO 17025
AW.5CP.L1	Water 5% HCl for AAS and UV-VIS	100	ml	12	No
AW.5CP.L5	Water 5% HCl for AAS and UV-VIS	500	ml	12	No
AW.5CP.1L	Water 5% HCl for AAS and UV-VIS	1000	ml	12	No
AW.5NP.L1	Water 5% HNO <sub>3</sub> for AAS and UV-VIS	100	ml	12	No
AW.5NP.L5	Water 5% HNO <sub>3</sub> for AAS and UV-VIS	500	ml	12	No
AW.5NP.1L	Water 5% HNO <sub>3</sub> for AAS and UV-VIS	1000	ml	12	No
DI01.L1	High purity deionised water	100	ml	6	No
DI01.L5	High purity deionised water	500	ml	6	No
DI01.1L	High purity deionised water	1000	ml	6	No



# ICP Standards

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## ICP Standards

All ICP Standards produced by CPAchem use high-purity metals or salts in sub-boiling distilled acids. The Standards are produced and calibrated under CPAchem's quality system that is:

- ISO 9001 certified
- accredited according to ISO/IEC 17025 - Testing
- accredited according to ISO/IEC 17034 - Reference Material Producer

## ICP Single-Element Standards

1000 mg/l

Ref. Number	Description	Volume	Msr. Unit	Shelf-life (months)	ISO 17034 ISO 17025
C001.2NP.L03	Silver Ag - 1000 mg/l in diluted HNO <sub>3</sub> for ICP	30	ml	12	Yes
C001.2NP.L1	Silver Ag - 1000 mg/l in diluted HNO <sub>3</sub> for ICP	100	ml	12	Yes
C001.2NP.L25	Silver Ag - 1000 mg/l in diluted HNO <sub>3</sub> for ICP	250	ml	12	Yes
C001.2NP.L5	Silver Ag - 1000 mg/l in diluted HNO <sub>3</sub> for ICP	500	ml	12	Yes
C002.2CP.L03	Aluminium Al - 1000 mg/l in diluted HCl for ICP	30	ml	12	Yes
C002.2CP.L1	Aluminium Al - 1000 mg/l in diluted HCl for ICP	100	ml	12	Yes
C002.2CP.L25	Aluminium Al - 1000 mg/l in diluted HCl for ICP	250	ml	12	Yes
C002.2CP.L5	Aluminium Al - 1000 mg/l in diluted HCl for ICP	500	ml	12	Yes
C002.2NP.L03	Aluminium Al - 1000 mg/l in diluted HNO <sub>3</sub> for ICP	30	ml	12	Yes
C002.2NP.L1	Aluminium Al - 1000 mg/l in diluted HNO <sub>3</sub> for ICP	100	ml	12	Yes
C002.2NP.L25	Aluminium Al - 1000 mg/l in diluted HNO <sub>3</sub> for ICP	250	ml	12	Yes
C002.2NP.L5	Aluminium Al - 1000 mg/l in diluted HNO <sub>3</sub> for ICP	500	ml	12	Yes
C003.2NP.L03	Arsenic As - 1000 mg/l in diluted HNO <sub>3</sub> for ICP	30	ml	12	Yes
C003.2NP.L1	Arsenic As - 1000 mg/l in diluted HNO <sub>3</sub> for ICP	100	ml	12	Yes
C003.2NP.L25	Arsenic As - 1000 mg/l in diluted HNO <sub>3</sub> for ICP	250	ml	12	Yes
C003.2NP.L5	Arsenic As - 1000 mg/l in diluted HNO <sub>3</sub> for ICP	500	ml	12	Yes
C004.2CP.L03	Gold Au - 1000 mg/l in diluted HCl for ICP	30	ml	12	Yes
C004.2CP.L1	Gold Au - 1000 mg/l in diluted HCl for ICP	100	ml	12	Yes
C004.2CP.L25	Gold Au - 1000 mg/l in diluted HCl for ICP	250	ml	12	Yes
C004.2CP.L5	Gold Au - 1000 mg/l in diluted HCl for ICP	500	ml	12	Yes
C005.W.L03	Boron B - 1000 mg/l in H <sub>2</sub> O for ICP	30	ml	12	Yes
C005.W.L1	Boron B - 1000 mg/l in H <sub>2</sub> O for ICP	100	ml	12	Yes
C005.W.L25	Boron B - 1000 mg/l in H <sub>2</sub> O for ICP	250	ml	12	Yes
C005.W.L5	Boron B - 1000 mg/l in H <sub>2</sub> O for ICP	500	ml	12	Yes
C006.2CP.L03	Barium Ba - 1000 mg/l in diluted HCl for ICP	30	ml	12	Yes
C006.2CP.L1	Barium Ba - 1000 mg/l in diluted HCl for ICP	100	ml	12	Yes
C006.2CP.L25	Barium Ba - 1000 mg/l in diluted HCl for ICP	250	ml	12	Yes
C006.2CP.L5	Barium Ba - 1000 mg/l in diluted HCl for ICP	500	ml	12	Yes
C006.2NP.L03	Barium Ba - 1000 mg/l in diluted HNO <sub>3</sub> for ICP	30	ml	12	Yes
C006.2NP.L1	Barium Ba - 1000 mg/l in diluted HNO <sub>3</sub> for ICP	100	ml	12	Yes
C006.2NP.L25	Barium Ba - 1000 mg/l in diluted HNO <sub>3</sub> for ICP	250	ml	12	Yes
C006.2NP.L5	Barium Ba - 1000 mg/l in diluted HNO <sub>3</sub> for ICP	500	ml	12	Yes
C007.2CP.L03	Beryllium Be - 1000 mg/l in diluted HCl for ICP	30	ml	12	Yes
C007.2CP.L1	Beryllium Be - 1000 mg/l in diluted HCl for ICP	100	ml	12	Yes

Ref. Number	Description	Volume	Msr. Unit	Shelf-life (months)	ISO 17034 ISO 17025
C007.2CP.L25	Beryllium Be - 1000 mg/l in diluted HCl for ICP	250	ml	12	Yes
C007.2CP.L5	Beryllium Be - 1000 mg/l in diluted HCl for ICP	500	ml	12	Yes
C007.2N05FP.L03	Beryllium Be - 1000 mg/l in diluted HNO3 for ICP	30	ml	12	Yes
C007.2N05FP.L1	Beryllium Be - 1000 mg/l in diluted HNO3 for ICP	100	ml	12	Yes
C007.2N05FP.L25	Beryllium Be - 1000 mg/l in diluted HNO3 for ICP	250	ml	12	Yes
C007.2N05FP.L5	Beryllium Be - 1000 mg/l in diluted HNO3 for ICP	500	ml	12	Yes
C008.10NP.L03	Bismuth Bi - 1000 mg/l in diluted HNO3 for ICP	30	ml	12	Yes
C008.10NP.L1	Bismuth Bi - 1000 mg/l in diluted HNO3 for ICP	100	ml	12	Yes
C008.10NP.L25	Bismuth Bi - 1000 mg/l in diluted HNO3 for ICP	250	ml	12	Yes
C008.10NP.L5	Bismuth Bi - 1000 mg/l in diluted HNO3 for ICP	500	ml	12	Yes
C009.2CP.L03	Calcium Ca - 1000 mg/l in diluted HCl for ICP	30	ml	12	Yes
C009.2CP.L1	Calcium Ca - 1000 mg/l in diluted HCl for ICP	100	ml	12	Yes
C009.2CP.L25	Calcium Ca - 1000 mg/l in diluted HCl for ICP	250	ml	12	Yes
C009.2CP.L5	Calcium Ca - 1000 mg/l in diluted HCl for ICP	500	ml	12	Yes
C009.2NP.L03	Calcium Ca - 1000 mg/l in diluted HNO3 for ICP	30	ml	12	Yes
C009.2NP.L1	Calcium Ca - 1000 mg/l in diluted HNO3 for ICP	100	ml	12	Yes
C009.2NP.L25	Calcium Ca - 1000 mg/l in diluted HNO3 for ICP	250	ml	12	Yes
C009.2NP.L5	Calcium Ca - 1000 mg/l in diluted HNO3 for ICP	500	ml	12	Yes
C010.2NP.L03	Cadmium Cd - 1000 mg/l in diluted HNO3 for ICP	30	ml	12	Yes
C010.2NP.L1	Cadmium Cd - 1000 mg/l in diluted HNO3 for ICP	100	ml	12	Yes
C010.2NP.L25	Cadmium Cd - 1000 mg/l in diluted HNO3 for ICP	250	ml	12	Yes
C010.2NP.L5	Cadmium Cd - 1000 mg/l in diluted HNO3 for ICP	500	ml	12	Yes
C011.2NP.L03	Cerium Ce - 1000 mg/l in diluted HNO3 for ICP	30	ml	12	Yes
C011.2NP.L1	Cerium Ce - 1000 mg/l in diluted HNO3 for ICP	100	ml	12	Yes
C011.2NP.L25	Cerium Ce - 1000 mg/l in diluted HNO3 for ICP	250	ml	12	Yes
C011.2NP.L5	Cerium Ce - 1000 mg/l in diluted HNO3 for ICP	500	ml	12	Yes
C012.2NP.L03	Cobalt Co - 1000 mg/l in diluted HNO3 for ICP	30	ml	12	Yes
C012.2NP.L1	Cobalt Co - 1000 mg/l in diluted HNO3 for ICP	100	ml	12	Yes
C012.2NP.L25	Cobalt Co - 1000 mg/l in diluted HNO3 for ICP	250	ml	12	Yes
C012.2NP.L5	Cobalt Co - 1000 mg/l in diluted HNO3 for ICP	500	ml	12	Yes
C013.2CP.L03	Chromium Cr - 1000 mg/l in diluted HCl for ICP	30	ml	12	Yes
C013.2CP.L1	Chromium Cr - 1000 mg/l in diluted HCl for ICP	100	ml	12	Yes
C013.2CP.L25	Chromium Cr - 1000 mg/l in diluted HCl for ICP	250	ml	12	Yes
C013.2CP.L5	Chromium Cr - 1000 mg/l in diluted HCl for ICP	500	ml	12	Yes
C013.2NP.L03	Chromium Cr - 1000 mg/l in diluted HNO3 for ICP	30	ml	12	Yes
C013.2NP.L1	Chromium Cr - 1000 mg/l in diluted HNO3 for ICP	100	ml	12	Yes
C013.2NP.L25	Chromium Cr - 1000 mg/l in diluted HNO3 for ICP	250	ml	12	Yes
C013.2NP.L5	Chromium Cr - 1000 mg/l in diluted HNO3 for ICP	500	ml	12	Yes
C014.2NP.L03	Cesium Cs - 1000 mg/l in diluted HNO3 for ICP	30	ml	12	Yes
C014.2NP.L1	Cesium Cs - 1000 mg/l in diluted HNO3 for ICP	100	ml	12	Yes
C014.2NP.L25	Cesium Cs - 1000 mg/l in diluted HNO3 for ICP	250	ml	12	Yes
C014.2NP.L5	Cesium Cs - 1000 mg/l in diluted HNO3 for ICP	500	ml	12	Yes
C014.W.L03	Cesium Cs - 1000 mg/l in H2O for ICP	30	ml	12	Yes
C014.W.L1	Cesium Cs - 1000 mg/l in H2O for ICP	100	ml	12	Yes
C014.W.L25	Cesium Cs - 1000 mg/l in H2O for ICP	250	ml	12	Yes
C014.W.L5	Cesium Cs - 1000 mg/l in H2O for ICP	500	ml	12	Yes
C015.2NP.L03	Copper Cu - 1000 mg/l in diluted HNO3 for ICP	30	ml	12	Yes
C015.2NP.L1	Copper Cu - 1000 mg/l in diluted HNO3 for ICP	100	ml	12	Yes

Ref. Number	Description	Volume	Msr. Unit	Shelf-life (months)	ISO 17034 ISO 17025
C015.2NP.L25	Copper Cu - 1000 mg/l in diluted HNO3 for ICP	250	ml	12	Yes
C015.2NP.L5	Copper Cu - 1000 mg/l in diluted HNO3 for ICP	500	ml	12	Yes
C016.2NP.L03	Dysprosium Dy - 1000 mg/l in diluted HNO3 for ICP	30	ml	12	Yes
C016.2NP.L1	Dysprosium Dy - 1000 mg/l in diluted HNO3 for ICP	100	ml	12	Yes
C016.2NP.L25	Dysprosium Dy - 1000 mg/l in diluted HNO3 for ICP	250	ml	12	Yes
C016.2NP.L5	Dysprosium Dy - 1000 mg/l in diluted HNO3 for ICP	500	ml	12	Yes
C017.2NP.L03	Erbium Er - 1000 mg/l in diluted HNO3 for ICP	30	ml	12	Yes
C017.2NP.L1	Erbium Er - 1000 mg/l in diluted HNO3 for ICP	100	ml	12	Yes
C017.2NP.L25	Erbium Er - 1000 mg/l in diluted HNO3 for ICP	250	ml	12	Yes
C017.2NP.L5	Erbium Er - 1000 mg/l in diluted HNO3 for ICP	500	ml	12	Yes
C018.2NP.L03	Europium Eu - 1000 mg/l in diluted HNO3 for ICP	30	ml	12	Yes
C018.2NP.L1	Europium Eu - 1000 mg/l in diluted HNO3 for ICP	100	ml	12	Yes
C018.2NP.L25	Europium Eu - 1000 mg/l in diluted HNO3 for ICP	250	ml	12	Yes
C018.2NP.L5	Europium Eu - 1000 mg/l in diluted HNO3 for ICP	500	ml	12	Yes
C019.2CP.L03	Iron Fe - 1000 mg/l in diluted HCl for ICP	30	ml	12	Yes
C019.2CP.L1	Iron Fe - 1000 mg/l in diluted HCl for ICP	100	ml	12	Yes
C019.2CP.L25	Iron Fe - 1000 mg/l in diluted HCl for ICP	250	ml	12	Yes
C019.2CP.L5	Iron Fe - 1000 mg/l in diluted HCl for ICP	500	ml	12	Yes
C019.2NP.L03	Iron Fe - 1000 mg/l in diluted HNO3 for ICP	30	ml	12	Yes
C019.2NP.L1	Iron Fe - 1000 mg/l in diluted HNO3 for ICP	100	ml	12	Yes
C019.2NP.L25	Iron Fe - 1000 mg/l in diluted HNO3 for ICP	250	ml	12	Yes
C019.2NP.L5	Iron Fe - 1000 mg/l in diluted HNO3 for ICP	500	ml	12	Yes
C020.2NP.L03	Gallium Ga - 1000 mg/l in diluted HNO3 for ICP	30	ml	12	Yes
C020.2NP.L1	Gallium Ga - 1000 mg/l in diluted HNO3 for ICP	100	ml	12	Yes
C020.2NP.L25	Gallium Ga - 1000 mg/l in diluted HNO3 for ICP	250	ml	12	Yes
C020.2NP.L5	Gallium Ga - 1000 mg/l in diluted HNO3 for ICP	500	ml	12	Yes
C021.2NP.L03	Gadolinium Gd - 1000 mg/l in diluted HNO3 for ICP	30	ml	12	Yes
C021.2NP.L1	Gadolinium Gd - 1000 mg/l in diluted HNO3 for ICP	100	ml	12	Yes
C021.2NP.L25	Gadolinium Gd - 1000 mg/l in diluted HNO3 for ICP	250	ml	12	Yes
C021.2NP.L5	Gadolinium Gd - 1000 mg/l in diluted HNO3 for ICP	500	ml	12	Yes
C022.5N1FP.L03	Germanium Ge - 1000 mg/l in diluted HNO3/HF for ICP	30	ml	12	Yes
C022.5N1FP.L1	Germanium Ge - 1000 mg/l in diluted HNO3/HF for ICP	100	ml	12	Yes
C022.5N1FP.L25	Germanium Ge - 1000 mg/l in diluted HNO3/HF for ICP	250	ml	12	Yes
C022.5N1FP.L5	Germanium Ge - 1000 mg/l in diluted HNO3/HF for ICP	500	ml	12	Yes
C023.2C05FP.L03	Hafnium Hf - 1000 mg/l in diluted HCl/HF for ICP	30	ml	12	Yes
C023.2C05FP.L1	Hafnium Hf - 1000 mg/l in diluted HCl/HF for ICP	100	ml	12	Yes
C023.2C05FP.L25	Hafnium Hf - 1000 mg/l in diluted HCl/HF for ICP	250	ml	12	Yes
C023.2C05FP.L5	Hafnium Hf - 1000 mg/l in diluted HCl/HF for ICP	500	ml	12	Yes
C023.2N1FP.L03	Hafnium Hf - 1000 mg/l in diluted HNO3/HF for ICP	30	ml	12	Yes
C023.2N1FP.L1	Hafnium Hf - 1000 mg/l in diluted HNO3/HF for ICP	100	ml	12	Yes
C023.2N1FP.L25	Hafnium Hf - 1000 mg/l in diluted HNO3/HF for ICP	250	ml	12	Yes
C023.2N1FP.L5	Hafnium Hf - 1000 mg/l in diluted HNO3/HF for ICP	500	ml	12	Yes
C024.10NP.L03	Mercury Hg - 1000 mg/l in diluted HNO3 for ICP	30	ml	12	Yes
C024.10NP.L1	Mercury Hg - 1000 mg/l in diluted HNO3 for ICP	100	ml	12	Yes
C024.10NP.L25	Mercury Hg - 1000 mg/l in diluted HNO3 for ICP	250	ml	12	Yes
C024.10NP.L5	Mercury Hg - 1000 mg/l in diluted HNO3 for ICP	500	ml	12	Yes
C025.2NP.L03	Holmium Ho - 1000 mg/l in diluted HNO3 for ICP	30	ml	12	Yes
C025.2NP.L1	Holmium Ho - 1000 mg/l in diluted HNO3 for ICP	100	ml	12	Yes

Ref. Number	Description	Volume	Msr. Unit	Shelf-life (months)	ISO 17034 ISO 17025
C025.2NP.L25	Holmium Ho - 1000 mg/l in diluted HNO3 for ICP	250	ml	12	Yes
C025.2NP.L5	Holmium Ho - 1000 mg/l in diluted HNO3 for ICP	500	ml	12	Yes
C026.2NP.L03	Indium In - 1000 mg/l in diluted HNO3 for ICP	30	ml	12	Yes
C026.2NP.L1	Indium In - 1000 mg/l in diluted HNO3 for ICP	100	ml	12	Yes
C026.2NP.L25	Indium In - 1000 mg/l in diluted HNO3 for ICP	250	ml	12	Yes
C026.2NP.L5	Indium In - 1000 mg/l in diluted HNO3 for ICP	500	ml	12	Yes
C027.10CP.L03	Iridium Ir - 1000 mg/l in diluted HCl for ICP	30	ml	12	Yes
C027.10CP.L1	Iridium Ir - 1000 mg/l in diluted HCl for ICP	100	ml	12	Yes
C027.10CP.L25	Iridium Ir - 1000 mg/l in diluted HCl for ICP	250	ml	12	Yes
C027.10CP.L5	Iridium Ir - 1000 mg/l in diluted HCl for ICP	500	ml	12	Yes
C028.2NP.L03	Potassium K - 1000 mg/l in diluted HNO3 for ICP	30	ml	12	Yes
C028.2NP.L1	Potassium K - 1000 mg/l in diluted HNO3 for ICP	100	ml	12	Yes
C028.2NP.L25	Potassium K - 1000 mg/l in diluted HNO3 for ICP	250	ml	12	Yes
C028.2NP.L5	Potassium K - 1000 mg/l in diluted HNO3 for ICP	500	ml	12	Yes
C028.W.L03	Potassium K - 1000 mg/l in H2O for ICP	30	ml	12	Yes
C028.W.L1	Potassium K - 1000 mg/l in H2O for ICP	100	ml	12	Yes
C028.W.L25	Potassium K - 1000 mg/l in H2O for ICP	250	ml	12	Yes
C028.W.L5	Potassium K - 1000 mg/l in H2O for ICP	500	ml	12	Yes
C029.2NP.L03	Lanthanum La - 1000 mg/l in diluted HNO3 for ICP	30	ml	12	Yes
C029.2NP.L1	Lanthanum La - 1000 mg/l in diluted HNO3 for ICP	100	ml	12	Yes
C029.2NP.L25	Lanthanum La - 1000 mg/l in diluted HNO3 for ICP	250	ml	12	Yes
C029.2NP.L5	Lanthanum La - 1000 mg/l in diluted HNO3 for ICP	500	ml	12	Yes
C030.2CP.L03	Lithium Li - 1000 mg/l in diluted HCl for ICP	30	ml	12	Yes
C030.2CP.L1	Lithium Li - 1000 mg/l in diluted HCl for ICP	100	ml	12	Yes
C030.2CP.L25	Lithium Li - 1000 mg/l in diluted HCl for ICP	250	ml	12	Yes
C030.2CP.L5	Lithium Li - 1000 mg/l in diluted HCl for ICP	500	ml	12	Yes
C030.2NP.L03	Lithium Li - 1000 mg/l in diluted HNO3 for ICP	30	ml	12	Yes
C030.2NP.L1	Lithium Li - 1000 mg/l in diluted HNO3 for ICP	100	ml	12	Yes
C030.2NP.L25	Lithium Li - 1000 mg/l in diluted HNO3 for ICP	250	ml	12	Yes
C030.2NP.L5	Lithium Li - 1000 mg/l in diluted HNO3 for ICP	500	ml	12	Yes
C031.2NP.L03	Lutetium Lu - 1000 mg/l in diluted HNO3 for ICP	30	ml	12	Yes
C031.2NP.L1	Lutetium Lu - 1000 mg/l in diluted HNO3 for ICP	100	ml	12	Yes
C031.2NP.L25	Lutetium Lu - 1000 mg/l in diluted HNO3 for ICP	250	ml	12	Yes
C031.2NP.L5	Lutetium Lu - 1000 mg/l in diluted HNO3 for ICP	500	ml	12	Yes
C032.2NP.L03	Magnesium Mg - 1000 mg/l in diluted HNO3 for ICP	30	ml	12	Yes
C032.2NP.L1	Magnesium Mg - 1000 mg/l in diluted HNO3 for ICP	100	ml	12	Yes
C032.2NP.L25	Magnesium Mg - 1000 mg/l in diluted HNO3 for ICP	250	ml	12	Yes
C032.2NP.L5	Magnesium Mg - 1000 mg/l in diluted HNO3 for ICP	500	ml	12	Yes
C033.2CP.L03	Manganese Mn - 1000 mg/l in diluted HCl for ICP	30	ml	12	Yes
C033.2CP.L1	Manganese Mn - 1000 mg/l in diluted HCl for ICP	100	ml	12	Yes
C033.2CP.L25	Manganese Mn - 1000 mg/l in diluted HCl for ICP	250	ml	12	Yes
C033.2CP.L5	Manganese Mn - 1000 mg/l in diluted HCl for ICP	500	ml	12	Yes
C033.2NP.L03	Manganese Mn - 1000 mg/l in diluted HNO3 for ICP	30	ml	12	Yes
C033.2NP.L1	Manganese Mn - 1000 mg/l in diluted HNO3 for ICP	100	ml	12	Yes
C033.2NP.L25	Manganese Mn - 1000 mg/l in diluted HNO3 for ICP	250	ml	12	Yes
C033.2NP.L5	Manganese Mn - 1000 mg/l in diluted HNO3 for ICP	500	ml	12	Yes
C034.1N1FP.L03	Molybdenum Mo - 1000 mg/l in diluted HNO3/HF for ICP	30	ml	12	Yes
C034.1N1FP.L1	Molybdenum Mo - 1000 mg/l in diluted HNO3/HF for ICP	100	ml	12	Yes



Ref. Number	Description	Volume	Msr. Unit	Shelf-life (months)	ISO 17034 ISO 17025
C034.1N1FP.L25	Molybdenum Mo - 1000 mg/l in diluted HNO3/HF for ICP	250	ml	12	Yes
C034.1N1FP.L5	Molybdenum Mo - 1000 mg/l in diluted HNO3/HF for ICP	500	ml	12	Yes
C034.4AP.L03	Molybdenum Mo - 1000 mg/l in diluted NH3 for ICP	30	ml	12	Yes
C034.4AP.L1	Molybdenum Mo - 1000 mg/l in diluted NH3 for ICP	100	ml	12	Yes
C034.4AP.L25	Molybdenum Mo - 1000 mg/l in diluted NH3 for ICP	250	ml	12	Yes
C034.4AP.L5	Molybdenum Mo - 1000 mg/l in diluted NH3 for ICP	500	ml	12	Yes
C035.2NP.L03	Sodium Na - 1000 mg/l in diluted HNO3 for ICP	30	ml	12	Yes
C035.2NP.L1	Sodium Na - 1000 mg/l in diluted HNO3 for ICP	100	ml	12	Yes
C035.2NP.L25	Sodium Na - 1000 mg/l in diluted HNO3 for ICP	250	ml	12	Yes
C035.2NP.L5	Sodium Na - 1000 mg/l in diluted HNO3 for ICP	500	ml	12	Yes
C035.W.L03	Sodium Na - 1000 mg/l in Water for ICP	30	ml	12	Yes
C035.W.L1	Sodium Na - 1000 mg/l in Water for ICP	100	ml	12	Yes
C035.W.L25	Sodium Na - 1000 mg/l in Water for ICP	250	ml	12	Yes
C035.W.L5	Sodium Na - 1000 mg/l in Water for ICP	500	ml	12	Yes
C036.5N1FP.L03	Niobium Nb - 1000 mg/l in diluted HNO3/HF for ICP	30	ml	12	Yes
C036.5N1FP.L1	Niobium Nb - 1000 mg/l in diluted HNO3/HF for ICP	100	ml	12	Yes
C036.5N1FP.L25	Niobium Nb - 1000 mg/l in diluted HNO3/HF for ICP	250	ml	12	Yes
C036.5N1FP.L5	Niobium Nb - 1000 mg/l in diluted HNO3/HF for ICP	500	ml	12	Yes
C037.2NP.L03	Neodimium Nd - 1000 mg/l in diluted HNO3 for ICP	30	ml	12	Yes
C037.2NP.L1	Neodimium Nd - 1000 mg/l in diluted HNO3 for ICP	100	ml	12	Yes
C037.2NP.L25	Neodimium Nd - 1000 mg/l in diluted HNO3 for ICP	250	ml	12	Yes
C037.2NP.L5	Neodimium Nd - 1000 mg/l in diluted HNO3 for ICP	500	ml	12	Yes
C038.2NP.L03	Nickel Ni - 1000 mg/l in diluted HNO3 for ICP	30	ml	12	Yes
C038.2NP.L1	Nickel Ni - 1000 mg/l in diluted HNO3 for ICP	100	ml	12	Yes
C038.2NP.L25	Nickel Ni - 1000 mg/l in diluted HNO3 for ICP	250	ml	12	Yes
C038.2NP.L5	Nickel Ni - 1000 mg/l in diluted HNO3 for ICP	500	ml	12	Yes
C039.2CP.L03	Osmium Os - 1000 mg/l in diluted HCl for ICP	30	ml	12	Yes
C039.2CP.L1	Osmium Os - 1000 mg/l in diluted HCl for ICP	100	ml	12	Yes
C039.2CP.L25	Osmium Os - 1000 mg/l in diluted HCl for ICP	250	ml	12	Yes
C039.2CP.L5	Osmium Os - 1000 mg/l in diluted HCl for ICP	500	ml	12	Yes
C040.05SP.L03	Phosphorus P -1000 mg/l in diluted H2SO4 for ICP	30	ml	12	Yes
C040.05SP.L1	Phosphorus P -1000 mg/l in diluted H2SO4 for ICP	100	ml	12	Yes
C040.05SP.L25	Phosphorus P -1000 mg/l in diluted H2SO4 for ICP	250	ml	12	Yes
C040.05SP.L5	Phosphorus P -1000 mg/l in diluted H2SO4 for ICP	500	ml	12	Yes
C040.W.L03	Phosphorus P - 1000 mg/l in H2O for ICP	30	ml	12	Yes
C040.W.L1	Phosphorus P - 1000 mg/l in H2O for ICP	100	ml	12	Yes
C040.W.L25	Phosphorus P - 1000 mg/l in H2O for ICP	250	ml	12	Yes
C040.W.L5	Phosphorus P - 1000 mg/l in H2O for ICP	500	ml	12	Yes
C041.2NP.L03	Lead Pb - 1000 mg/l in diluted HNO3 for ICP	30	ml	12	Yes
C041.2NP.L1	Lead Pb - 1000 mg/l in diluted HNO3 for ICP	100	ml	12	Yes
C041.2NP.L25	Lead Pb - 1000 mg/l in diluted HNO3 for ICP	250	ml	12	Yes
C041.2NP.L5	Lead Pb - 1000 mg/l in diluted HNO3 for ICP	500	ml	12	Yes
C042.5CP.L03	Palladium Pd - 1000 mg/l in diluted HCl for ICP	30	ml	12	Yes
C042.5CP.L1	Palladium Pd - 1000 mg/l in diluted HCl for ICP	100	ml	12	Yes
C042.5CP.L25	Palladium Pd - 1000 mg/l in diluted HCl for ICP	250	ml	12	Yes
C042.5CP.L5	Palladium Pd - 1000 mg/l in diluted HCl for ICP	500	ml	12	Yes
C042.5NP.L03	Palladium Pd - 1000 mg/l in diluted HNO3 for ICP	30	ml	12	Yes
C042.5NP.L1	Palladium Pd - 1000 mg/l in diluted HNO3 for ICP	100	ml	12	Yes

Ref. Number	Description	Volume	Msr. Unit	Shelf-life (months)	ISO 17034 ISO 17025
C042.5NP.L25	Palladium Pd - 1000 mg/l in diluted HNO3 for ICP	250	ml	12	Yes
C042.5NP.L5	Palladium Pd - 1000 mg/l in diluted HNO3 for ICP	500	ml	12	Yes
C043.2NP.L03	Praseodymium Pr - 1000 mg/l in diluted HNO3 for ICP	30	ml	12	Yes
C043.2NP.L1	Praseodymium Pr - 1000 mg/l in diluted HNO3 for ICP	100	ml	12	Yes
C043.2NP.L25	Praseodymium Pr - 1000 mg/l in diluted HNO3 for ICP	250	ml	12	Yes
C043.2NP.L5	Praseodymium Pr - 1000 mg/l in diluted HNO3 for ICP	500	ml	12	Yes
C044.10CP.L03	Platinum Pt - 1000 mg/l in diluted HCl for ICP	30	ml	12	Yes
C044.10CP.L1	Platinum Pt - 1000 mg/l in diluted HCl for ICP	100	ml	12	Yes
C044.10CP.L25	Platinum Pt - 1000 mg/l in diluted HCl for ICP	250	ml	12	Yes
C044.10CP.L5	Platinum Pt - 1000 mg/l in diluted HCl for ICP	500	ml	12	Yes
C045.2NP.L03	Rubidium Rb - 1000 mg/l in diluted HNO3 for ICP	30	ml	12	Yes
C045.2NP.L1	Rubidium Rb - 1000 mg/l in diluted HNO3 for ICP	100	ml	12	Yes
C045.2NP.L25	Rubidium Rb - 1000 mg/l in diluted HNO3 for ICP	250	ml	12	Yes
C045.2NP.L5	Rubidium Rb - 1000 mg/l in diluted HNO3 for ICP	500	ml	12	Yes
C045.W.L03	Rubidium Rb - 1000 mg/l in H2O for ICP	30	ml	12	Yes
C045.W.L1	Rubidium Rb - 1000 mg/l in H2O for ICP	100	ml	12	Yes
C045.W.L25	Rubidium Rb - 1000 mg/l in H2O for ICP	250	ml	12	Yes
C045.W.L5	Rubidium Rb - 1000 mg/l in H2O for ICP	500	ml	12	Yes
C046.2NP.L03	Rhenium Re - 1000 mg/l in diluted HNO3 for ICP	30	ml	12	Yes
C046.2NP.L1	Rhenium Re - 1000 mg/l in diluted HNO3 for ICP	100	ml	12	Yes
C046.2NP.L25	Rhenium Re - 1000 mg/l in diluted HNO3 for ICP	250	ml	12	Yes
C046.2NP.L5	Rhenium Re - 1000 mg/l in diluted HNO3 for ICP	500	ml	12	Yes
C046.W.L03	Rhenium Re - 1000 mg/l in H2O for ICP	30	ml	12	Yes
C046.W.L1	Rhenium Re - 1000 mg/l in H2O for ICP	100	ml	12	Yes
C046.W.L25	Rhenium Re - 1000 mg/l in H2O for ICP	250	ml	12	Yes
C046.W.L5	Rhenium Re - 1000 mg/l in H2O for ICP	500	ml	12	Yes
C047.5CP.L03	Rhodium Rh - 1000 mg/l in diluted HCl for ICP	30	ml	12	Yes
C047.5CP.L1	Rhodium Rh - 1000 mg/l in diluted HCl for ICP	100	ml	12	Yes
C047.5CP.L25	Rhodium Rh - 1000 mg/l in diluted HCl for ICP	250	ml	12	Yes
C047.5CP.L5	Rhodium Rh - 1000 mg/l in diluted HCl for ICP	500	ml	12	Yes
C048.5CP.L03	Ruthenium Ru - 1000 mg/l in diluted HCl for ICP	30	ml	12	Yes
C048.5CP.L1	Ruthenium Ru - 1000 mg/l in diluted HCl for ICP	100	ml	12	Yes
C048.5CP.L25	Ruthenium Ru - 1000 mg/l in diluted HCl for ICP	250	ml	12	Yes
C048.5CP.L5	Ruthenium Ru - 1000 mg/l in diluted HCl for ICP	500	ml	12	Yes
C049.W.L03	Sulphur S - 1000 mg/l in H2O for ICP	30	ml	12	Yes
C049.W.L1	Sulphur S - 1000 mg/l in H2O for ICP	100	ml	12	Yes
C049.W.L25	Sulphur S - 1000 mg/l in H2O for ICP	250	ml	12	Yes
C049.W.L5	Sulphur S - 1000 mg/l in H2O for ICP	500	ml	12	Yes
C050.20CP.L03	Antimony Sb - 1000 mg/l in diluted HCl for ICP	30	ml	12	Yes
C050.20CP.L1	Antimony Sb - 1000 mg/l in diluted HCl for ICP	100	ml	12	Yes
C050.20CP.L25	Antimony Sb - 1000 mg/l in diluted HCl for ICP	250	ml	12	Yes
C050.20CP.L5	Antimony Sb - 1000 mg/l in diluted HCl for ICP	500	ml	12	Yes
C050.5N1FPL03	Antimony Sb - 1000 mg/l in diluted HNO3/HF for ICP	30	ml	12	Yes
C050.5N1FPL1	Antimony Sb - 1000 mg/l in diluted HNO3/HF for ICP	100	ml	12	Yes
C050.5N1FPL25	Antimony Sb - 1000 mg/l in diluted HNO3/HF for ICP	250	ml	12	Yes
C050.5N1FPL5	Antimony Sb - 1000 mg/l in diluted HNO3/HF for ICP	500	ml	12	Yes
C051.2NP.L03	Scandium Sc - 1000 mg/l in diluted HNO3 for ICP	30	ml	12	Yes
C051.2NP.L1	Scandium Sc - 1000 mg/l in diluted HNO3 for ICP	100	ml	12	Yes

Ref. Number	Description	Volume	Msr. Unit	Shelf-life (months)	ISO 17034 ISO 17025
C051.2NP.L25	Scandium Sc - 1000 mg/l in diluted HNO3 for ICP	250	ml	12	Yes
C051.2NP.L5	Scandium Sc - 1000 mg/l in diluted HNO3 for ICP	500	ml	12	Yes
C052.2NP.L03	Selenium Se - 1000 mg/l in diluted HNO3 for ICP	30	ml	12	Yes
C052.2NP.L1	Selenium Se - 1000 mg/l in diluted HNO3 for ICP	100	ml	12	Yes
C052.2NP.L25	Selenium Se - 1000 mg/l in diluted HNO3 for ICP	250	ml	12	Yes
C052.2NP.L5	Selenium Se - 1000 mg/l in diluted HNO3 for ICP	500	ml	12	Yes
C053.W.L03	Silicon Si - 1000 mg/l in H2O for ICP	30	ml	12	Yes
C053.W.L1	Silicon Si - 1000 mg/l in H2O for ICP	100	ml	12	Yes
C053.W.L25	Silicon Si - 1000 mg/l in H2O for ICP	250	ml	12	Yes
C053.W.L5	Silicon Si - 1000 mg/l in H2O for ICP	500	ml	12	Yes
C054.2NP.L03	Samarium Sm - 1000 mg/l in diluted HNO3 for ICP	30	ml	12	Yes
C054.2NP.L1	Samarium Sm - 1000 mg/l in diluted HNO3 for ICP	100	ml	12	Yes
C054.2NP.L25	Samarium Sm - 1000 mg/l in diluted HNO3 for ICP	250	ml	12	Yes
C054.2NP.L5	Samarium Sm - 1000 mg/l in diluted HNO3 for ICP	500	ml	12	Yes
C055.1N1FP.L03	Tin Sn - 1000 mg/l in diluted HNO3/HF for ICP	30	ml	12	Yes
C055.1N1FP.L1	Tin Sn - 1000 mg/l in diluted HNO3/HF for ICP	100	ml	12	Yes
C055.1N1FP.L25	Tin Sn - 1000 mg/l in diluted HNO3/HF for ICP	250	ml	12	Yes
C055.1N1FP.L5	Tin Sn - 1000 mg/l in diluted HNO3/HF for ICP	500	ml	12	Yes
C055.20CP.L03	Tin Sn - 1000 mg/l in diluted HCl for ICP	30	ml	12	Yes
C055.20CP.L1	Tin Sn - 1000 mg/l in diluted HCl for ICP	100	ml	12	Yes
C055.20CP.L25	Tin Sn - 1000 mg/l in diluted HCl for ICP	250	ml	12	Yes
C055.20CP.L5	Tin Sn - 1000 mg/l in diluted HCl for ICP	500	ml	12	Yes
C056.2CP.L03	Strontium Sr - 1000 mg/l in diluted HCl for ICP	30	ml	12	Yes
C056.2CP.L1	Strontium Sr - 1000 mg/l in diluted HCl for ICP	100	ml	12	Yes
C056.2CP.L25	Strontium Sr - 1000 mg/l in diluted HCl for ICP	250	ml	12	Yes
C056.2CP.L5	Strontium Sr - 1000 mg/l in diluted HCl for ICP	500	ml	12	Yes
C056.2NP.L03	Strontium Sr - 1000 mg/l in diluted HNO3 for ICP	30	ml	12	Yes
C056.2NP.L1	Strontium Sr - 1000 mg/l in diluted HNO3 for ICP	100	ml	12	Yes
C056.2NP.L25	Strontium Sr - 1000 mg/l in diluted HNO3 for ICP	250	ml	12	Yes
C056.2NP.L5	Strontium Sr - 1000 mg/l in diluted HNO3 for ICP	500	ml	12	Yes
C057.5N1FP.L03	Tantalum Ta - 1000 mg/l in diluted HNO3/HF for ICP	30	ml	12	Yes
C057.5N1FP.L1	Tantalum Ta - 1000 mg/l in diluted HNO3/HF for ICP	100	ml	12	Yes
C057.5N1FP.L25	Tantalum Ta - 1000 mg/l in diluted HNO3/HF for ICP	250	ml	12	Yes
C057.5N1FP.L5	Tantalum Ta - 1000 mg/l in diluted HNO3/HF for ICP	500	ml	12	Yes
C058.2NP.L03	Terbium Tb - 1000 mg/l in diluted HNO3 for ICP	30	ml	12	Yes
C058.2NP.L1	Terbium Tb - 1000 mg/l in diluted HNO3 for ICP	100	ml	12	Yes
C058.2NP.L25	Terbium Tb - 1000 mg/l in diluted HNO3 for ICP	250	ml	12	Yes
C058.2NP.L5	Terbium Tb - 1000 mg/l in diluted HNO3 for ICP	500	ml	12	Yes
C059.20CP.L03	Tellurium Te - 1000 mg/l in diluted HCl for ICP	30	ml	12	Yes
C059.20CP.L1	Tellurium Te - 1000 mg/l in diluted HCl for ICP	100	ml	12	Yes
C059.20CP.L25	Tellurium Te - 1000 mg/l in diluted HCl for ICP	250	ml	12	Yes
C059.20CP.L5	Tellurium Te - 1000 mg/l in diluted HCl for ICP	500	ml	12	Yes
C059.20NP.L03	Tellurium Te - 1000 mg/l in diluted HNO3 for ICP	30	ml	12	Yes
C059.20NP.L1	Tellurium Te - 1000 mg/l in diluted HNO3 for ICP	100	ml	12	Yes
C059.20NP.L25	Tellurium Te - 1000 mg/l in diluted HNO3 for ICP	250	ml	12	Yes
C059.20NP.L5	Tellurium Te - 1000 mg/l in diluted HNO3 for ICP	500	ml	12	Yes
C060.2NP.L03	Thorium Th - 1000 mg/l in diluted HNO3 for ICP	30	ml	12	Yes
C060.2NP.L1	Thorium Th - 1000 mg/l in diluted HNO3 for ICP	100	ml	12	Yes

Ref. Number	Description	Volume	Msr. Unit	Shelf-life (months)	ISO 17034 ISO 17025
C060.2NP.L25	Thorium Th - 1000 mg/l in diluted HNO3 for ICP	250	ml	12	Yes
C060.2NP.L5	Thorium Th - 1000 mg/l in diluted HNO3 for ICP	500	ml	12	Yes
C061.5C05FP.L03	Titanium Ti - 1000 mg/l in diluted HCl/HF for ICP	30	ml	12	Yes
C061.5C05FP.L1	Titanium Ti - 1000 mg/l in diluted HCl/HF for ICP	100	ml	12	Yes
C061.5C05FP.L25	Titanium Ti - 1000 mg/l in diluted HCl/HF for ICP	250	ml	12	Yes
C061.5C05FP.L5	Titanium Ti - 1000 mg/l in diluted HCl/HF for ICP	500	ml	12	Yes
C061.5N05FP.L03	Titanium Ti - 1000 mg/l in diluted HNO3/HF for ICP	30	ml	12	Yes
C061.5N05FP.L1	Titanium Ti - 1000 mg/l in diluted HNO3/HF for ICP	100	ml	12	Yes
C061.5N05FP.L25	Titanium Ti - 1000 mg/l in diluted HNO3/HF for ICP	250	ml	12	Yes
C061.5N05FP.L5	Titanium Ti - 1000 mg/l in diluted HNO3/HF for ICP	500	ml	12	Yes
C062.2NP.L03	Thallium Tl - 1000 mg/l in diluted HNO3 for ICP	30	ml	12	Yes
C062.2NP.L1	Thallium Tl - 1000 mg/l in diluted HNO3 for ICP	100	ml	12	Yes
C062.2NP.L25	Thallium Tl - 1000 mg/l in diluted HNO3 for ICP	250	ml	12	Yes
C062.2NP.L5	Thallium Tl - 1000 mg/l in diluted HNO3 for ICP	500	ml	12	Yes
C063.2NP.L03	Thulium Tm - 1000 mg/l in diluted HNO3 for ICP	30	ml	12	Yes
C063.2NP.L1	Thulium Tm - 1000 mg/l in diluted HNO3 for ICP	100	ml	12	Yes
C063.2NP.L25	Thulium Tm - 1000 mg/l in diluted HNO3 for ICP	250	ml	12	Yes
C063.2NP.L5	Thulium Tm - 1000 mg/l in diluted HNO3 for ICP	500	ml	12	Yes
C064.2NP.L03	Uranium U - 1000 mg/l in diluted HNO3 for ICP	30	ml	12	Yes
C064.2NP.L1	Uranium U - 1000 mg/l in diluted HNO3 for ICP	100	ml	12	Yes
C064.2NP.L25	Uranium U - 1000 mg/l in diluted HNO3 for ICP	250	ml	12	Yes
C064.2NP.L5	Uranium U - 1000 mg/l in diluted HNO3 for ICP	500	ml	12	Yes
C065.2NP.L03	Vanadium V - 1000 mg/l in diluted HNO3 for ICP	30	ml	12	Yes
C065.2NP.L1	Vanadium V - 1000 mg/l in diluted HNO3 for ICP	100	ml	12	Yes
C065.2NP.L25	Vanadium V - 1000 mg/l in diluted HNO3 for ICP	250	ml	12	Yes
C065.2NP.L5	Vanadium V - 1000 mg/l in diluted HNO3 for ICP	500	ml	12	Yes
C065.2SP.L03	Vanadium V - 1000 mg/l in diluted H2SO4 for ICP	30	ml	12	Yes
C065.2SP.L1	Vanadium V - 1000 mg/l in diluted H2SO4 for ICP	100	ml	12	Yes
C065.2SP.L25	Vanadium V - 1000 mg/l in diluted H2SO4 for ICP	250	ml	12	Yes
C065.2SP.L5	Vanadium V - 1000 mg/l in diluted H2SO4 for ICP	500	ml	12	Yes
C066.1N2FP.L03	Tungsten W - 1000 mg/l in diluted HNO3/HF for ICP	30	ml	12	Yes
C066.1N2FP.L1	Tungsten W - 1000 mg/l in diluted HNO3/HF for ICP	100	ml	12	Yes
C066.1N2FP.L25	Tungsten W - 1000 mg/l in diluted HNO3/HF for ICP	250	ml	12	Yes
C066.1N2FP.L5	Tungsten W - 1000 mg/l in diluted HNO3/HF for ICP	500	ml	12	Yes
C066.4AP.L03	Tungsten W - 1000 mg/l in NH3 for ICP	30	ml	12	Yes
C066.4AP.L1	Tungsten W - 1000 mg/l in NH3 for ICP	100	ml	12	Yes
C066.4AP.L25	Tungsten W - 1000 mg/l in NH3 for ICP	250	ml	12	Yes
C066.4AP.L5	Tungsten W - 1000 mg/l in NH3 for ICP	500	ml	12	Yes
C067.2NP.L03	Yttrium Y - 1000 mg/l in diluted HNO3 for ICP	30	ml	12	Yes
C067.2NP.L1	Yttrium Y - 1000 mg/l in diluted HNO3 for ICP	100	ml	12	Yes
C067.2NP.L25	Yttrium Y - 1000 mg/l in diluted HNO3 for ICP	250	ml	12	Yes
C067.2NP.L5	Yttrium Y - 1000 mg/l in diluted HNO3 for ICP	500	ml	12	Yes
C068.2NP.L03	Ytterbium Yb - 1000 mg/l in diluted HNO3 for ICP	30	ml	12	Yes
C068.2NP.L1	Ytterbium Yb - 1000 mg/l in diluted HNO3 for ICP	100	ml	12	Yes
C068.2NP.L25	Ytterbium Yb - 1000 mg/l in diluted HNO3 for ICP	250	ml	12	Yes
C068.2NP.L5	Ytterbium Yb - 1000 mg/l in diluted HNO3 for ICP	500	ml	12	Yes
C069.2CP.L03	Zinc Zn - 1000 mg/l in diluted HCl for ICP	30	ml	12	Yes
C069.2CP.L1	Zinc Zn - 1000 mg/l in diluted HCl for ICP	100	ml	12	Yes

Ref. Number	Description	Volume	Msr. Unit	Shelf-life (months)	ISO 17034 ISO 17025
C069.2CP.L25	Zinc Zn - 1000 mg/l in diluted HCl for ICP	250	ml	12	Yes
C069.2CP.L5	Zinc Zn - 1000 mg/l in diluted HCl for ICP	500	ml	12	Yes
C069.2NP.L03	Zinc Zn - 1000 mg/l in diluted HNO3 for ICP	30	ml	12	Yes
C069.2NP.L1	Zinc Zn - 1000 mg/l in diluted HNO3 for ICP	100	ml	12	Yes
C069.2NP.L25	Zinc Zn - 1000 mg/l in diluted HNO3 for ICP	250	ml	12	Yes
C069.2NP.L5	Zinc Zn - 1000 mg/l in diluted HNO3 for ICP	500	ml	12	Yes
C070.2N05FP.L03	Zirconium Zr - 1000 mg/l in diluted HNO3/HF for ICP	30	ml	12	Yes
C070.2N05FP.L1	Zirconium Zr - 1000 mg/l in diluted HNO3/HF for ICP	100	ml	12	Yes
C070.2N05FP.L25	Zirconium Zr - 1000 mg/l in diluted HNO3/HF for ICP	250	ml	12	Yes
C070.2N05FP.L5	Zirconium Zr - 1000 mg/l in diluted HNO3/HF for ICP	500	ml	12	Yes
C070.5C05FP.L03	Zirconium Zr - 1000 mg/l in diluted HCl/HF for ICP	30	ml	12	Yes
C070.5C05FP.L1	Zirconium Zr - 1000 mg/l in diluted HCl/HF for ICP	100	ml	12	Yes
C070.5C05FP.L25	Zirconium Zr - 1000 mg/l in diluted HCl/HF for ICP	250	ml	12	Yes
C070.5C05FP.L5	Zirconium Zr - 1000 mg/l in diluted HCl/HF for ICP	500	ml	12	Yes

## ICP Single-Element Standards

10 000 mg/l

Ref. Number	Description	Volume	Msr. Unit	Shelf-life (months)	ISO 17034 ISO 17025
C101.5NP.L03	Silver Ag - 10 g/l in diluted HNO3 for ICP	30	ml	12	Yes
C101.5NP.L1	Silver Ag - 10 g/l in diluted HNO3 for ICP	100	ml	12	Yes
C101.5NP.L25	Silver Ag - 10 g/l in diluted HNO3 for ICP	250	ml	12	Yes
C101.5NP.L5	Silver Ag - 10 g/l in diluted HNO3 for ICP	500	ml	12	Yes
C102.5CP.L03	Aluminium Al - 10.00 +/- 0.02 g/l in diluted HCl for ICP	30	ml	12	Yes
C102.5CP.L1	Aluminium Al - 10.00 +/- 0.02 g/l in diluted HCl for ICP	100	ml	12	Yes
C102.5CP.L25	Aluminium Al - 10.00 +/- 0.02 g/l in diluted HCl for ICP	250	ml	12	Yes
C102.5CP.L5	Aluminium Al - 10.00 +/- 0.02 g/l in diluted HCl for ICP	500	ml	12	Yes
C102.5NP.L03	Aluminium Al - 10 g/l in diluted HNO3 for ICP	30	ml	12	Yes
C102.5NP.L1	Aluminium Al - 10 g/l in diluted HNO3 for ICP	100	ml	12	Yes
C102.5NP.L25	Aluminium Al - 10 g/l in diluted HNO3 for ICP	250	ml	12	Yes
C102.5NP.L5	Aluminium Al - 10 g/l in diluted HNO3 for ICP	500	ml	12	Yes
C103.5NP.L03	Arsenic As - 10 g/l in diluted HNO3 for ICP	30	ml	12	Yes
C103.5NP.L1	Arsenic As - 10 g/l in diluted HNO3 for ICP	100	ml	12	Yes
C103.5NP.L25	Arsenic As - 10 g/l in diluted HNO3 for ICP	250	ml	12	Yes
C103.5NP.L5	Arsenic As - 10 g/l in diluted HNO3 for ICP	500	ml	12	Yes
C104.5CP.L03	Gold Au - 10 g/l in diluted HCl for ICP	30	ml	12	Yes
C104.5CP.L1	Gold Au - 10 g/l in diluted HCl for ICP	100	ml	12	Yes
C104.5CP.L25	Gold Au - 10 g/l in diluted HCl for ICP	250	ml	12	Yes
C104.5CP.L5	Gold Au - 10 g/l in diluted HCl for ICP	500	ml	12	Yes
C105.W.L03	Boron B - 10 g/l in H2O for ICP	30	ml	12	Yes
C105.W.L1	Boron B - 10 g/l in H2O for ICP	100	ml	12	Yes
C105.W.L25	Boron B - 10 g/l in H2O for ICP	250	ml	12	Yes
C105.W.L5	Boron B - 10 g/l in H2O for ICP	500	ml	12	Yes
C106.1NP.L1	Barium Ba - 10 g/l in diluted HNO3 for ICP	100	ml	12	Yes
C106.1NP.L25	Barium Ba - 10 g/l in diluted HNO3 for ICP	250	ml	12	Yes
C106.1NP.L5	Barium Ba - 10 g/l in diluted HNO3 for ICP	500	ml	12	Yes
C106.1NP.L03	Barium Ba - 10 g/l in diluted HNO3 for ICP	30	ml	12	Yes

Ref. Number	Description	Volume	Msr. Unit	Shelf-life (months)	ISO 17034 ISO 17025
C106.5CP.L03	Barium Ba - 10 g/l in diluted HCl for ICP	30	ml	12	Yes
C106.5CP.L1	Barium Ba - 10 g/l in diluted HCl for ICP	100	ml	12	Yes
C106.5CP.L25	Barium Ba - 10 g/l in diluted HCl for ICP	250	ml	12	Yes
C106.5CP.L5	Barium Ba - 10 g/l in diluted HCl for ICP	500	ml	12	Yes
C107.5N1FP.L03	Beryllium Be - 10 g/l in diluted HNO3 for ICP	30	ml	12	Yes
C107.5N1FP.L1	Beryllium Be - 10 g/l in diluted HNO3 for ICP	100	ml	12	Yes
C107.5N1FP.L25	Beryllium Be - 10 g/l in diluted HNO3 for ICP	250	ml	12	Yes
C107.5N1FP.L5	Beryllium Be - 10 g/l in diluted HNO3 for ICP	500	ml	12	Yes
C108.10NP.L03	Bismuth Bi - 10 g/l in diluted HNO3 for ICP	30	ml	12	Yes
C108.10NP.L1	Bismuth Bi - 10 g/l in diluted HNO3 for ICP	100	ml	12	Yes
C108.10NP.L25	Bismuth Bi - 10 g/l in diluted HNO3 for ICP	250	ml	12	Yes
C108.10NP.L5	Bismuth Bi - 10 g/l in diluted HNO3 for ICP	500	ml	12	Yes
C109.2NP.L03	Calcium Ca - 10 g/l in diluted HNO3 for ICP	30	ml	12	Yes
C109.2NP.L1	Calcium Ca - 10 g/l in diluted HNO3 for ICP	100	ml	12	Yes
C109.2NP.L25	Calcium Ca - 10 g/l in diluted HNO3 for ICP	250	ml	12	Yes
C109.2NP.L5	Calcium Ca - 10 g/l in diluted HNO3 for ICP	500	ml	12	Yes
C110.5NP.L03	Cadmium Cd - 10 g/l in diluted HNO3 for ICP	30	ml	12	Yes
C110.5NP.L1	Cadmium Cd - 10 g/l in diluted HNO3 for ICP	100	ml	12	Yes
C110.5NP.L25	Cadmium Cd - 10 g/l in diluted HNO3 for ICP	250	ml	12	Yes
C110.5NP.L5	Cadmium Cd - 10 g/l in diluted HNO3 for ICP	500	ml	12	Yes
C111.5NP.L03	Cerium Ce - 10 g/l in diluted HNO3 for ICP	30	ml	12	Yes
C111.5NP.L1	Cerium Ce - 10 g/l in diluted HNO3 for ICP	100	ml	12	Yes
C111.5NP.L25	Cerium Ce - 10 g/l in diluted HNO3 for ICP	250	ml	12	Yes
C111.5NP.L5	Cerium Ce - 10 g/l in diluted HNO3 for ICP	500	ml	12	Yes
C112.5NP.L03	Cobalt Co - 10 g/l in diluted HNO3 for ICP	30	ml	12	Yes
C112.5NP.L1	Cobalt Co - 10 g/l in diluted HNO3 for ICP	100	ml	12	Yes
C112.5NP.L25	Cobalt Co - 10 g/l in diluted HNO3 for ICP	250	ml	12	Yes
C112.5NP.L5	Cobalt Co - 10 g/l in diluted HNO3 for ICP	500	ml	12	Yes
C113.5CP.L03	Chromium Cr - 10 g/l in diluted HCl for ICP	30	ml	12	Yes
C113.5CP.L1	Chromium Cr - 10 g/l in diluted HCl for ICP	100	ml	12	Yes
C113.5CP.L25	Chromium Cr - 10 g/l in diluted HCl for ICP	250	ml	12	Yes
C113.5CP.L5	Chromium Cr - 10 g/l in diluted HCl for ICP	500	ml	12	Yes
C113.5NP.L03	Chromium Cr - 10 g/l in diluted HNO3 for ICP	30	ml	12	Yes
C113.5NP.L1	Chromium Cr - 10 g/l in diluted HNO3 for ICP	100	ml	12	Yes
C113.5NP.L25	Chromium Cr - 10 g/l in diluted HNO3 for ICP	250	ml	12	Yes
C113.5NP.L5	Chromium Cr - 10 g/l in diluted HNO3 for ICP	500	ml	12	Yes
C114.2NP.L03	Cesium Cs - 10 g/l in diluted HNO3 for ICP	30	ml	12	Yes
C114.2NP.L1	Cesium Cs - 10 g/l in diluted HNO3 for ICP	100	ml	12	Yes
C114.2NP.L25	Cesium Cs - 10 g/l in diluted HNO3 for ICP	250	ml	12	Yes
C114.2NP.L5	Cesium Cs - 10 g/l in diluted HNO3 for ICP	500	ml	12	Yes
C114.W.L03	Cesium Cs - 10 g/l in H2O for ICP	30	ml	12	Yes
C114.W.L1	Cesium Cs - 10 g/l in H2O for ICP	100	ml	12	Yes
C114.W.L25	Cesium Cs - 10 g/l in H2O for ICP	250	ml	12	Yes
C114.W.L5	Cesium Cs - 10 g/l in H2O for ICP	500	ml	12	Yes
C115.5NP.L03	Copper Cu - 10 g/l in diluted HNO3 for ICP	30	ml	12	Yes
C115.5NP.L1	Copper Cu - 10 g/l in diluted HNO3 for ICP	100	ml	12	Yes
C115.5NP.L25	Copper Cu - 10 g/l in diluted HNO3 for ICP	250	ml	12	Yes
C115.5NP.L5	Copper Cu - 10 g/l in diluted HNO3 for ICP	500	ml	12	Yes

Ref. Number	Description	Volume	Msr. Unit	Shelf-life (months)	ISO 17034 ISO 17025
C116.5NP.L03	Dysprosium Dy - 10 g/l in diluted HNO <sub>3</sub> for ICP	30	ml	12	Yes
C116.5NP.L1	Dysprosium Dy - 10 g/l in diluted HNO <sub>3</sub> for ICP	100	ml	12	Yes
C116.5NP.L25	Dysprosium Dy - 10 g/l in diluted HNO <sub>3</sub> for ICP	250	ml	12	Yes
C116.5NP.L5	Dysprosium Dy - 10 g/l in diluted HNO <sub>3</sub> for ICP	500	ml	12	Yes
C117.5NP.L03	Erbium Er - 10 g/l in diluted HNO <sub>3</sub> for ICP	30	ml	12	Yes
C117.5NP.L1	Erbium Er - 10 g/l in diluted HNO <sub>3</sub> for ICP	100	ml	12	Yes
C117.5NP.L25	Erbium Er - 10 g/l in diluted HNO <sub>3</sub> for ICP	250	ml	12	Yes
C117.5NP.L5	Erbium Er - 10 g/l in diluted HNO <sub>3</sub> for ICP	500	ml	12	Yes
C118.2NP.L03	Europium Eu - 10 g/l in diluted HNO <sub>3</sub> for ICP	30	ml	12	Yes
C118.2NP.L1	Europium Eu - 10 g/l in diluted HNO <sub>3</sub> for ICP	100	ml	12	Yes
C118.2NP.L25	Europium Eu - 10 g/l in diluted HNO <sub>3</sub> for ICP	250	ml	12	Yes
C118.2NP.L5	Europium Eu - 10 g/l in diluted HNO <sub>3</sub> for ICP	500	ml	12	Yes
C119.5CP.L03	Iron Fe - 10 g/l in diluted HCl for ICP	30	ml	12	Yes
C119.5CP.L1	Iron Fe - 10 g/l in diluted HCl for ICP	100	ml	12	Yes
C119.5CP.L25	Iron Fe - 10 g/l in diluted HCl for ICP	250	ml	12	Yes
C119.5CP.L5	Iron Fe - 10 g/l in diluted HCl for ICP	500	ml	12	Yes
C119.5NP.L03	Iron Fe - 10 g/l in diluted HNO <sub>3</sub> for ICP	30	ml	12	Yes
C119.5NP.L1	Iron Fe - 10 g/l in diluted HNO <sub>3</sub> for ICP	100	ml	12	Yes
C119.5NP.L25	Iron Fe - 10 g/l in diluted HNO <sub>3</sub> for ICP	250	ml	12	Yes
C119.5NP.L5	Iron Fe - 10 g/l in diluted HNO <sub>3</sub> for ICP	500	ml	12	Yes
C120.5NP.L03	Gallium Ga - 10 g/l in diluted HNO <sub>3</sub> for ICP	30	ml	12	Yes
C120.5NP.L1	Gallium Ga - 10 g/l in diluted HNO <sub>3</sub> for ICP	100	ml	12	Yes
C120.5NP.L25	Gallium Ga - 10 g/l in diluted HNO <sub>3</sub> for ICP	250	ml	12	Yes
C120.5NP.L5	Gallium Ga - 10 g/l in diluted HNO <sub>3</sub> for ICP	500	ml	12	Yes
C121.5NP.L03	Gadolinium Gd - 10 g/l in diluted HNO <sub>3</sub> for ICP	30	ml	12	Yes
C121.5NP.L1	Gadolinium Gd - 10 g/l in diluted HNO <sub>3</sub> for ICP	100	ml	12	Yes
C121.5NP.L25	Gadolinium Gd - 10 g/l in diluted HNO <sub>3</sub> for ICP	250	ml	12	Yes
C121.5NP.L5	Gadolinium Gd - 10 g/l in diluted HNO <sub>3</sub> for ICP	500	ml	12	Yes
C122.5N1FP.L03	Germanium Ge - 10 g/l in diluted HNO <sub>3</sub> /HF for ICP	30	ml	12	Yes
C122.5N1FP.L1	Germanium Ge - 10 g/l in diluted HNO <sub>3</sub> /HF for ICP	100	ml	12	Yes
C122.5N1FP.L25	Germanium Ge - 10 g/l in diluted HNO <sub>3</sub> /HF for ICP	250	ml	12	Yes
C122.5N1FP.L5	Germanium Ge - 10 g/l in diluted HNO <sub>3</sub> /HF for ICP	500	ml	12	Yes
C123.5N2FP.L03	Hafnium Hf - 10 g/l in diluted HNO <sub>3</sub> /HF for ICP	30	ml	12	Yes
C123.5N2FP.L1	Hafnium Hf - 10 g/l in diluted HNO <sub>3</sub> /HF for ICP	100	ml	12	Yes
C123.5N2FP.L25	Hafnium Hf - 10 g/l in diluted HNO <sub>3</sub> /HF for ICP	250	ml	12	Yes
C123.5N2FP.L5	Hafnium Hf - 10 g/l in diluted HNO <sub>3</sub> /HF for ICP	500	ml	12	Yes
C124.10NP.L03	Mercury Hg - 10 g/l in diluted HNO <sub>3</sub> for ICP	30	ml	12	Yes
C124.10NP.L1	Mercury Hg - 10 g/l in diluted HNO <sub>3</sub> for ICP	100	ml	12	Yes
C124.10NP.L25	Mercury Hg - 10 g/l in diluted HNO <sub>3</sub> for ICP	250	ml	12	Yes
C124.10NP.L5	Mercury Hg - 10 g/l in diluted HNO <sub>3</sub> for ICP	500	ml	12	Yes
C125.5NP.L03	Holmium Ho - 10 g/l in diluted HNO <sub>3</sub> for ICP	30	ml	12	Yes
C125.5NP.L1	Holmium Ho - 10 g/l in diluted HNO <sub>3</sub> for ICP	100	ml	12	Yes
C125.5NP.L25	Holmium Ho - 10 g/l in diluted HNO <sub>3</sub> for ICP	250	ml	12	Yes
C125.5NP.L5	Holmium Ho - 10 g/l in diluted HNO <sub>3</sub> for ICP	500	ml	12	Yes
C126.5NP.L03	Indium In - 10 g/l in diluted HNO <sub>3</sub> for ICP	30	ml	12	Yes
C126.5NP.L1	Indium In - 10 g/l in diluted HNO <sub>3</sub> for ICP	100	ml	12	Yes
C126.5NP.L25	Indium In - 10 g/l in diluted HNO <sub>3</sub> for ICP	250	ml	12	Yes
C126.5NP.L5	Indium In - 10 g/l in diluted HNO <sub>3</sub> for ICP	500	ml	12	Yes

Ref. Number	Description	Volume	Msr. Unit	Shelf-life (months)	ISO 17034 ISO 17025
C127.10CP.L03	Iridium Ir - 10 g/l in diluted HCl for ICP	30	ml	12	Yes
C127.10CP.L1	Iridium Ir - 10 g/l in diluted HCl for ICP	100	ml	12	Yes
C127.10CP.L25	Iridium Ir - 10 g/l in diluted HCl for ICP	250	ml	12	Yes
C127.10CP.L5	Iridium Ir - 10 g/l in diluted HCl for ICP	500	ml	12	Yes
C128.2NP.L03	Potassium K - 10 g/l in diluted HNO3 for ICP	30	ml	12	Yes
C128.2NP.L1	Potassium K - 10 g/l in diluted HNO3 for ICP	100	ml	12	Yes
C128.2NP.L25	Potassium K - 10 g/l in diluted HNO3 for ICP	250	ml	12	Yes
C128.2NP.L5	Potassium K - 10 g/l in diluted HNO3 for ICP	500	ml	12	Yes
C128.W.L03	Potassium K - 10 g/l in H2O for ICP	30	ml	12	Yes
C128.W.L1	Potassium K - 10 g/l in H2O for ICP	100	ml	12	Yes
C128.W.L25	Potassium K - 10 g/l in H2O for ICP	250	ml	12	Yes
C128.W.L5	Potassium K - 10 g/l in H2O for ICP	500	ml	12	Yes
C129.5NP.L03	Lanthanum La - 10 g/l in diluted HNO3 for ICP	30	ml	12	Yes
C129.5NP.L1	Lanthanum La - 10 g/l in diluted HNO3 for ICP	100	ml	12	Yes
C129.5NP.L25	Lanthanum La - 10 g/l in diluted HNO3 for ICP	250	ml	12	Yes
C129.5NP.L5	Lanthanum La - 10 g/l in diluted HNO3 for ICP	500	ml	12	Yes
C130.5NP.L03	Lithium Li - 10 g/l in diluted HNO3 for ICP	30	ml	12	Yes
C130.5NP.L1	Lithium Li - 10 g/l in diluted HNO3 for ICP	100	ml	12	Yes
C130.5NP.L25	Lithium Li - 10 g/l in diluted HNO3 for ICP	250	ml	12	Yes
C130.5NP.L5	Lithium Li - 10 g/l in diluted HNO3 for ICP	500	ml	12	Yes
C131.5NP.L03	Lutetium Lu - 10 g/l in diluted HNO3 for ICP	30	ml	12	Yes
C131.5NP.L1	Lutetium Lu - 10 g/l in diluted HNO3 for ICP	100	ml	12	Yes
C131.5NP.L25	Lutetium Lu - 10 g/l in diluted HNO3 for ICP	250	ml	12	Yes
C131.5NP.L5	Lutetium Lu - 10 g/l in diluted HNO3 for ICP	500	ml	12	Yes
C132.2NP.L03	Magnesium Mg - 10 g/l in diluted HNO3 for ICP	30	ml	12	Yes
C132.2NP.L1	Magnesium Mg - 10 g/l in diluted HNO3 for ICP	100	ml	12	Yes
C132.2NP.L25	Magnesium Mg - 10 g/l in diluted HNO3 for ICP	250	ml	12	Yes
C132.2NP.L5	Magnesium Mg - 10 g/l in diluted HNO3 for ICP	500	ml	12	Yes
C133.5CP.L03	Manganese Mn - 10 g/l in diluted HCl for ICP	30	ml	12	Yes
C133.5CP.L1	Manganese Mn - 10 g/l in diluted HCl for ICP	100	ml	12	Yes
C133.5CP.L25	Manganese Mn - 10 g/l in diluted HCl for ICP	250	ml	12	Yes
C133.5CP.L5	Manganese Mn - 10 g/l in diluted HCl for ICP	500	ml	12	Yes
C133.5NP.L03	Manganese Mn - 10 g/l in diluted HNO3 for ICP	30	ml	12	Yes
C133.5NP.L1	Manganese Mn - 10 g/l in diluted HNO3 for ICP	100	ml	12	Yes
C133.5NP.L25	Manganese Mn - 10 g/l in diluted HNO3 for ICP	250	ml	12	Yes
C133.5NP.L5	Manganese Mn - 10 g/l in diluted HNO3 for ICP	500	ml	12	Yes
C134.4AP.L03	Molybdenum Mo - 10 g/l in NH3 for ICP	30	ml	12	Yes
C134.4AP.L1	Molybdenum Mo - 10 g/l in NH3 for ICP	100	ml	12	Yes
C134.4AP.L25	Molybdenum Mo - 10 g/l in NH3 for ICP	250	ml	12	Yes
C134.4AP.L5	Molybdenum Mo - 10 g/l in NH3 for ICP	500	ml	12	Yes
C134.5N4FP.L03	Molybdenum Mo - 10 g/l in diluted HNO3/HF for ICP	30	ml	12	Yes
C134.5N4FP.L1	Molybdenum Mo - 10 g/l in diluted HNO3/HF for ICP	100	ml	12	Yes
C134.5N4FP.L25	Molybdenum Mo - 10 g/l in diluted HNO3/HF for ICP	250	ml	12	Yes
C134.5N4FP.L5	Molybdenum Mo - 10 g/l in diluted HNO3/HF for ICP	500	ml	12	Yes
C135.2NP.L03	Sodium Na - 10 g/l in diluted HNO3 for ICP	30	ml	12	Yes
C135.2NP.L1	Sodium Na - 10 g/l in diluted HNO3 for ICP	100	ml	12	Yes
C135.2NP.L25	Sodium Na - 10 g/l in diluted HNO3 for ICP	250	ml	12	Yes
C135.2NP.L5	Sodium Na - 10 g/l in diluted HNO3 for ICP	500	ml	12	Yes



Ref. Number	Description	Volume	Msr. Unit	Shelf-life (months)	ISO 17034 ISO 17025
C135.W.L03	Sodium Na - 10 g/l in H2O for ICP	30	ml	12	Yes
C135.W.L1	Sodium Na - 10 g/l in H2O for ICP	100	ml	12	Yes
C135.W.L25	Sodium Na - 10 g/l in H2O for ICP	250	ml	12	Yes
C135.W.L5	Sodium Na - 10 g/l in H2O for ICP	500	ml	12	Yes
C136.5N5FP.L03	Niobium Nb - 10 g/l in diluted HNO3/HF for ICP	30	ml	12	Yes
C136.5N5FP.L1	Niobium Nb - 10 g/l in diluted HNO3/HF for ICP	100	ml	12	Yes
C136.5N5FP.L25	Niobium Nb - 10 g/l in diluted HNO3/HF for ICP	250	ml	12	Yes
C136.5N5FP.L5	Niobium Nb - 10 g/l in diluted HNO3/HF for ICP	500	ml	12	Yes
C137.5NP.L03	Neodimium Nd - 10 g/l in diluted HNO3 for ICP	30	ml	12	Yes
C137.5NP.L1	Neodimium Nd - 10 g/l in diluted HNO3 for ICP	100	ml	12	Yes
C137.5NP.L25	Neodimium Nd - 10 g/l in diluted HNO3 for ICP	250	ml	12	Yes
C137.5NP.L5	Neodimium Nd - 10 g/l in diluted HNO3 for ICP	500	ml	12	Yes
C138.5NP.L03	Nickel Ni - 10 g/l in diluted HNO3 for ICP	30	ml	12	Yes
C138.5NP.L1	Nickel Ni - 10 g/l in diluted HNO3 for ICP	100	ml	12	Yes
C138.5NP.L25	Nickel Ni - 10 g/l in diluted HNO3 for ICP	250	ml	12	Yes
C138.5NP.L5	Nickel Ni - 10 g/l in diluted HNO3 for ICP	500	ml	12	Yes
C140.005SP.L03	Phosphorus P -10 g/l in diluted H2SO4 for ICP	30	ml	12	Yes
C140.005SP.L1	Phosphorus P -10 g/l in diluted H2SO4 for ICP	100	ml	12	Yes
C140.005SP.L25	Phosphorus P -10 g/l in diluted H2SO4 for ICP	250	ml	12	Yes
C140.005SP.L5	Phosphorus P -10 g/l in diluted H2SO4 for ICP	500	ml	12	Yes
C140.W.L03	Phosphorus P -10 g/l in H2O for ICP	30	ml	12	Yes
C140.W.L1	Phosphorus P -10 g/l in H2O for ICP	100	ml	12	Yes
C140.W.L25	Phosphorus P -10 g/l in H2O for ICP	250	ml	12	Yes
C140.W.L5	Phosphorus P -10 g/l in H2O for ICP	500	ml	12	Yes
C141.5NP.L03	Lead Pb - 10 g/l in diluted HNO3 for ICP	30	ml	12	Yes
C141.5NP.L1	Lead Pb - 10 g/l in diluted HNO3 for ICP	100	ml	12	Yes
C141.5NP.L25	Lead Pb - 10 g/l in diluted HNO3 for ICP	250	ml	12	Yes
C141.5NP.L5	Lead Pb - 10 g/l in diluted HNO3 for ICP	500	ml	12	Yes
C142.10NP.L03	Palladium Pd - 10 g/l in diluted HNO3 for ICP	30	ml	12	Yes
C142.10NP.L1	Palladium Pd - 10 g/l in diluted HNO3 for ICP	100	ml	12	Yes
C142.10NP.L25	Palladium Pd - 10 g/l in diluted HNO3 for ICP	250	ml	12	Yes
C142.10NP.L5	Palladium Pd - 10 g/l in diluted HNO3 for ICP	500	ml	12	Yes
C142.5CP.L03	Palladium Pd - 10 g/l in diluted HCl for ICP	30	ml	12	Yes
C142.5CP.L1	Palladium Pd - 10 g/l in diluted HCl for ICP	100	ml	12	Yes
C142.5CP.L25	Palladium Pd - 10 g/l in diluted HCl for ICP	250	ml	12	Yes
C142.5CP.L5	Palladium Pd - 10 g/l in diluted HCl for ICP	500	ml	12	Yes
C143.5NP.L03	Praseodymium Pr - 10 g/l in diluted HNO3 for ICP	30	ml	12	Yes
C143.5NP.L1	Praseodymium Pr - 10 g/l in diluted HNO3 for ICP	100	ml	12	Yes
C143.5NP.L25	Praseodymium Pr - 10 g/l in diluted HNO3 for ICP	250	ml	12	Yes
C143.5NP.L5	Praseodymium Pr - 10 g/l in diluted HNO3 for ICP	500	ml	12	Yes
C144.10CP.L03	Platinum Pt - 10 g/l in diluted HCl for ICP	30	ml	12	Yes
C144.10CP.L1	Platinum Pt - 10 g/l in diluted HCl for ICP	100	ml	12	Yes
C144.10CP.L25	Platinum Pt - 10 g/l in diluted HCl for ICP	250	ml	12	Yes
C144.10CP.L5	Platinum Pt - 10 g/l in diluted HCl for ICP	500	ml	12	Yes
C145.2NP.L03	Rubidium Rb - 10 g/l in diluted HNO3 for ICP	30	ml	12	Yes
C145.2NP.L1	Rubidium Rb - 10 g/l in diluted HNO3 for ICP	100	ml	12	Yes
C145.2NP.L25	Rubidium Rb - 10 g/l in diluted HNO3 for ICP	250	ml	12	Yes
C145.2NP.L5	Rubidium Rb - 10 g/l in diluted HNO3 for ICP	500	ml	12	Yes

Ref. Number	Description	Volume	Msr. Unit	Shelf-life (months)	ISO 17034 ISO 17025
C145.W.L03	Rubidium Rb - 10 g/l in H2O for ICP	30	ml	12	Yes
C145.W.L1	Rubidium Rb - 10 g/l in H2O for ICP	100	ml	12	Yes
C145.W.L25	Rubidium Rb - 10 g/l in H2O for ICP	250	ml	12	Yes
C145.W.L5	Rubidium Rb - 10 g/l in H2O for ICP	500	ml	12	Yes
C146.5NP.L03	Rhenium Re - 10 g/l in diluted HNO3 for ICP	30	ml	12	Yes
C146.5NP.L1	Rhenium Re - 10 g/l in diluted HNO3 for ICP	100	ml	12	Yes
C146.5NP.L25	Rhenium Re - 10 g/l in diluted HNO3 for ICP	250	ml	12	Yes
C146.5NP.L5	Rhenium Re - 10 g/l in diluted HNO3 for ICP	500	ml	12	Yes
C146.W.L03	Rhenium Re - 10 g/l in H2O for ICP	30	ml	12	Yes
C146.W.L1	Rhenium Re - 10 g/l in H2O for ICP	100	ml	12	Yes
C146.W.L25	Rhenium Re - 10 g/l in H2O for ICP	250	ml	12	Yes
C146.W.L5	Rhenium Re - 10 g/l in H2O for ICP	500	ml	12	Yes
C148.10CP.L03	Ruthenium Ru - 10 g/l in diluted HCl for ICP	30	ml	12	Yes
C148.10CP.L1	Ruthenium Ru - 10 g/l in diluted HCl for ICP	100	ml	12	Yes
C148.10CP.L25	Ruthenium Ru - 10 g/l in diluted HCl for ICP	250	ml	12	Yes
C148.10CP.L5	Ruthenium Ru - 10 g/l in diluted HCl for ICP	500	ml	12	Yes
C149.W.L03	Sulphur S - 10.00 +/- 0.02 g/l in H2O for ICP	30	ml	12	Yes
C149.W.L1	Sulphur S - 10.00 +/- 0.02 g/l in H2O for ICP	100	ml	12	Yes
C149.W.L25	Sulphur S - 10.00 +/- 0.02 g/l in H2O for ICP	250	ml	12	Yes
C149.W.L5	Sulphur S - 10.00 +/- 0.02 g/l in H2O for ICP	500	ml	12	Yes
C150.10N2FP.L03	Antimony Sb - 10 g/l in diluted HNO3/HF for ICP	30	ml	12	Yes
C150.10N2FP.L1	Antimony Sb - 10 g/l in diluted HNO3/HF for ICP	100	ml	12	Yes
C150.10N2FP.L25	Antimony Sb - 10 g/l in diluted HNO3/HF for ICP	250	ml	12	Yes
C150.10N2FP.L5	Antimony Sb - 10 g/l in diluted HNO3/HF for ICP	500	ml	12	Yes
C150.20CP.L03	Antimony Sb - 10 g/l in diluted HCl for ICP	30	ml	12	Yes
C150.20CP.L1	Antimony Sb - 10 g/l in diluted HCl for ICP	100	ml	12	Yes
C150.20CP.L25	Antimony Sb - 10 g/l in diluted HCl for ICP	250	ml	12	Yes
C150.20CP.L5	Antimony Sb - 10 g/l in diluted HCl for ICP	500	ml	12	Yes
C151.5NP.L03	Scandium Sc - 10 g/l in diluted HNO3 for ICP	30	ml	12	Yes
C151.5NP.L1	Scandium Sc - 10 g/l in diluted HNO3 for ICP	100	ml	12	Yes
C151.5NP.L25	Scandium Sc - 10 g/l in diluted HNO3 for ICP	250	ml	12	Yes
C151.5NP.L5	Scandium Sc - 10 g/l in diluted HNO3 for ICP	500	ml	12	Yes
C152.5NP.L03	Selenium Se - 10 g/l in diluted HNO3 for ICP	30	ml	12	Yes
C152.5NP.L1	Selenium Se - 10 g/l in diluted HNO3 for ICP	100	ml	12	Yes
C152.5NP.L25	Selenium Se - 10 g/l in diluted HNO3 for ICP	250	ml	12	Yes
C152.5NP.L5	Selenium Se - 10 g/l in diluted HNO3 for ICP	500	ml	12	Yes
C153.W.L03	Silicon Si - 10 g/l in H2O for ICP	30	ml	12	Yes
C153.W.L1	Silicon Si - 10 g/l in H2O for ICP	100	ml	12	Yes
C153.W.L25	Silicon Si - 10 g/l in H2O for ICP	250	ml	12	Yes
C153.W.L5	Silicon Si - 10 g/l in H2O for ICP	500	ml	12	Yes
C154.2NP.L03	Samarium Sm - 10 g/l in diluted HNO3 for ICP	30	ml	12	Yes
C154.2NP.L1	Samarium Sm - 10 g/l in diluted HNO3 for ICP	100	ml	12	Yes
C154.2NP.L25	Samarium Sm - 10 g/l in diluted HNO3 for ICP	250	ml	12	Yes
C154.2NP.L5	Samarium Sm - 10 g/l in diluted HNO3 for ICP	500	ml	12	Yes
C155.20CP.L03	Tin Sn - 10 g/l in diluted HCl for ICP	30	ml	12	Yes
C155.20CP.L1	Tin Sn - 10 g/l in diluted HCl for ICP	100	ml	12	Yes
C155.20CP.L25	Tin Sn - 10 g/l in diluted HCl for ICP	250	ml	12	Yes
C155.20CP.L5	Tin Sn - 10 g/l in diluted HCl for ICP	500	ml	12	Yes

Ref. Number	Description	Volume	Msr. Unit	Shelf-life (months)	ISO 17034 ISO 17025
C155.2N2FP.L03	Tin Sn - 10 g/l in diluted HNO <sub>3</sub> /HF for ICP	30	ml	12	Yes
C155.2N2FP.L1	Tin Sn - 10 g/l in diluted HNO <sub>3</sub> /HF for ICP	100	ml	12	Yes
C155.2N2FP.L25	Tin Sn - 10 g/l in diluted HNO <sub>3</sub> /HF for ICP	250	ml	12	Yes
C155.2N2FP.L5	Tin Sn - 10 g/l in diluted HNO <sub>3</sub> /HF for ICP	500	ml	12	Yes
C156.2CP.L03	Strontium Sr - 10 g/l in diluted HCl for ICP	30	ml	12	Yes
C156.2CP.L1	Strontium Sr - 10 g/l in diluted HCl for ICP	100	ml	12	Yes
C156.2CP.L25	Strontium Sr - 10 g/l in diluted HCl for ICP	250	ml	12	Yes
C156.2CP.L5	Strontium Sr - 10 g/l in diluted HCl for ICP	500	ml	12	Yes
C156.2NP.L03	Strontium Sr - 10 g/l in diluted HNO <sub>3</sub> for ICP	30	ml	12	Yes
C156.2NP.L1	Strontium Sr - 10 g/l in diluted HNO <sub>3</sub> for ICP	100	ml	12	Yes
C156.2NP.L25	Strontium Sr - 10 g/l in diluted HNO <sub>3</sub> for ICP	250	ml	12	Yes
C156.2NP.L5	Strontium Sr - 10 g/l in diluted HNO <sub>3</sub> for ICP	500	ml	12	Yes
C157.5N2FP.L03	Tantalum Ta - 10 g/l in diluted HNO <sub>3</sub> /HF for ICP	30	ml	12	Yes
C157.5N2FP.L1	Tantalum Ta - 10 g/l in diluted HNO <sub>3</sub> /HF for ICP	100	ml	12	Yes
C157.5N2FP.L25	Tantalum Ta - 10 g/l in diluted HNO <sub>3</sub> /HF for ICP	250	ml	12	Yes
C157.5N2FP.L5	Tantalum Ta - 10 g/l in diluted HNO <sub>3</sub> /HF for ICP	500	ml	12	Yes
C158.5NP.L03	Terbium Tb - 10 g/l in diluted HNO <sub>3</sub> for ICP	30	ml	12	Yes
C158.5NP.L1	Terbium Tb - 10 g/l in diluted HNO <sub>3</sub> for ICP	100	ml	12	Yes
C158.5NP.L25	Terbium Tb - 10 g/l in diluted HNO <sub>3</sub> for ICP	250	ml	12	Yes
C158.5NP.L5	Terbium Tb - 10 g/l in diluted HNO <sub>3</sub> for ICP	500	ml	12	Yes
C159.20NP.L03	Tellurium Te - 10 g/l in diluted HNO <sub>3</sub> for ICP	30	ml	12	Yes
C159.20NP.L1	Tellurium Te - 10 g/l in diluted HNO <sub>3</sub> for ICP	100	ml	12	Yes
C159.20NP.L25	Tellurium Te - 10 g/l in diluted HNO <sub>3</sub> for ICP	250	ml	12	Yes
C159.20NP.L5	Tellurium Te - 10 g/l in diluted HNO <sub>3</sub> for ICP	500	ml	12	Yes
C161.5C05FP.L03	Titanium Ti - 10 g/l in diluted HCl/HF for ICP	30	ml	12	Yes
C161.5C05FP.L1	Titanium Ti - 10 g/l in diluted HCl/HF for ICP	100	ml	12	Yes
C161.5C05FP.L25	Titanium Ti - 10 g/l in diluted HCl/HF for ICP	250	ml	12	Yes
C161.5C05FP.L5	Titanium Ti - 10 g/l in diluted HCl/HF for ICP	500	ml	12	Yes
C161.5N2FP.L03	Titanium Ti - 10 g/l in diluted HNO <sub>3</sub> /HF for ICP	30	ml	12	Yes
C161.5N2FP.L1	Titanium Ti - 10 g/l in diluted HNO <sub>3</sub> /HF for ICP	100	ml	12	Yes
C161.5N2FP.L25	Titanium Ti - 10 g/l in diluted HNO <sub>3</sub> /HF for ICP	250	ml	12	Yes
C161.5N2FP.L5	Titanium Ti - 10 g/l in diluted HNO <sub>3</sub> /HF for ICP	500	ml	12	Yes
C162.5NP.L03	Thallium Tl - 10 g/l in diluted HNO <sub>3</sub> for ICP	30	ml	12	Yes
C162.5NP.L1	Thallium Tl - 10 g/l in diluted HNO <sub>3</sub> for ICP	100	ml	12	Yes
C162.5NP.L25	Thallium Tl - 10 g/l in diluted HNO <sub>3</sub> for ICP	250	ml	12	Yes
C162.5NP.L5	Thallium Tl - 10 g/l in diluted HNO <sub>3</sub> for ICP	500	ml	12	Yes
C163.5NP.L03	Thulium Tm - 10 g/l in diluted HNO <sub>3</sub> for ICP	30	ml	12	Yes
C163.5NP.L1	Thulium Tm - 10 g/l in diluted HNO <sub>3</sub> for ICP	100	ml	12	Yes
C163.5NP.L25	Thulium Tm - 10 g/l in diluted HNO <sub>3</sub> for ICP	250	ml	12	Yes
C163.5NP.L5	Thulium Tm - 10 g/l in diluted HNO <sub>3</sub> for ICP	500	ml	12	Yes
C164.5NP.L03	Uranium U - 10 g/l in diluted HNO <sub>3</sub> for ICP	30	ml	12	Yes
C164.5NP.L1	Uranium U - 10 g/l in diluted HNO <sub>3</sub> for ICP	100	ml	12	Yes
C164.5NP.L25	Uranium U - 10 g/l in diluted HNO <sub>3</sub> for ICP	250	ml	12	Yes
C164.5NP.L5	Uranium U - 10 g/l in diluted HNO <sub>3</sub> for ICP	500	ml	12	Yes
C165.5NP.L03	Vanadium V - 10 g/l in diluted HNO <sub>3</sub> for ICP	30	ml	12	Yes
C165.5NP.L1	Vanadium V - 10 g/l in diluted HNO <sub>3</sub> for ICP	100	ml	12	Yes
C165.5NP.L25	Vanadium V - 10 g/l in diluted HNO <sub>3</sub> for ICP	250	ml	12	Yes
C165.5NP.L5	Vanadium V - 10 g/l in diluted HNO <sub>3</sub> for ICP	500	ml	12	Yes

Ref. Number	Description	Volume	Msr. Unit	Shelf-life (months)	ISO 17034 ISO 17025
C165.5SP.L03	Vanadium V - 10 g/l in diluted H <sub>2</sub> SO <sub>4</sub> for ICP	30	ml	12	Yes
C165.5SP.L1	Vanadium V - 10 g/l in diluted H <sub>2</sub> SO <sub>4</sub> for ICP	100	ml	12	Yes
C165.5SP.L25	Vanadium V - 10 g/l in diluted H <sub>2</sub> SO <sub>4</sub> for ICP	250	ml	12	Yes
C165.5SP.L5	Vanadium V - 10 g/l in diluted H <sub>2</sub> SO <sub>4</sub> for ICP	500	ml	12	Yes
C166.10AP.L03	Tungsten W - 10 g/l in diluted NH <sub>3</sub> for ICP	30	ml	12	Yes
C166.10AP.L1	Tungsten W - 10 g/l in diluted NH <sub>3</sub> for ICP	100	ml	12	Yes
C166.10AP.L25	Tungsten W - 10 g/l in diluted NH <sub>3</sub> for ICP	250	ml	12	Yes
C166.10AP.L5	Tungsten W - 10 g/l in diluted NH <sub>3</sub> for ICP	500	ml	12	Yes
C166.2N5FP.L03	Tungsten W - 10 g/l in diluted HNO <sub>3</sub> for ICP	30	ml	12	Yes
C166.2N5FP.L1	Tungsten W - 10 g/l in diluted HNO <sub>3</sub> for ICP	100	ml	12	Yes
C166.2N5FP.L25	Tungsten W - 10 g/l in diluted HNO <sub>3</sub> for ICP	250	ml	12	Yes
C166.2N5FP.L5	Tungsten W - 10 g/l in diluted HNO <sub>3</sub> for ICP	500	ml	12	Yes
C167.5NP.L03	Yttrium Y - 10 g/l in diluted HNO <sub>3</sub> for ICP	30	ml	12	Yes
C167.5NP.L1	Yttrium Y - 10 g/l in diluted HNO <sub>3</sub> for ICP	100	ml	12	Yes
C167.5NP.L25	Yttrium Y - 10 g/l in diluted HNO <sub>3</sub> for ICP	250	ml	12	Yes
C167.5NP.L5	Yttrium Y - 10 g/l in diluted HNO <sub>3</sub> for ICP	500	ml	12	Yes
C168.5NP.L03	Ytterbium Yb - 10 g/l in diluted HNO <sub>3</sub> for ICP	30	ml	12	Yes
C168.5NP.L1	Ytterbium Yb - 10 g/l in diluted HNO <sub>3</sub> for ICP	100	ml	12	Yes
C168.5NP.L25	Ytterbium Yb - 10 g/l in diluted HNO <sub>3</sub> for ICP	250	ml	12	Yes
C168.5NP.L5	Ytterbium Yb - 10 g/l in diluted HNO <sub>3</sub> for ICP	500	ml	12	Yes
C169.5CP.L03	Zinc Zn - 10 g/l in diluted HCl for ICP	30	ml	12	Yes
C169.5CP.L1	Zinc Zn - 10 g/l in diluted HCl for ICP	100	ml	12	Yes
C169.5CP.L25	Zinc Zn - 10 g/l in diluted HCl for ICP	250	ml	12	Yes
C169.5CP.L5	Zinc Zn - 10 g/l in diluted HCl for ICP	500	ml	12	Yes
C169.5NP.L03	Zinc Zn - 10 g/l in diluted HNO <sub>3</sub> for ICP	30	ml	12	Yes
C169.5NP.L1	Zinc Zn - 10 g/l in diluted HNO <sub>3</sub> for ICP	100	ml	12	Yes
C169.5NP.L25	Zinc Zn - 10 g/l in diluted HNO <sub>3</sub> for ICP	250	ml	12	Yes
C169.5NP.L5	Zinc Zn - 10 g/l in diluted HNO <sub>3</sub> for ICP	500	ml	12	Yes
C170.5C2FP.L03	Zirconium Zr - 10 g/l in diluted HCl/HF for ICP	30	ml	12	Yes
C170.5C2FP.L1	Zirconium Zr - 10 g/l in diluted HCl/HF for ICP	100	ml	12	Yes
C170.5C2FP.L25	Zirconium Zr - 10 g/l in diluted HCl/HF for ICP	250	ml	12	Yes
C170.5C2FP.L5	Zirconium Zr - 10 g/l in diluted HCl/HF for ICP	500	ml	12	Yes
C170.5N2FP.L03	Zirconium Zr - 10 g/l in diluted HNO <sub>3</sub> /HF for ICP	30	ml	12	Yes
C170.5N2FP.L1	Zirconium Zr - 10 g/l in diluted HNO <sub>3</sub> /HF for ICP	100	ml	12	Yes
C170.5N2FP.L25	Zirconium Zr - 10 g/l in diluted HNO <sub>3</sub> /HF for ICP	250	ml	12	Yes
C170.5N2FP.L5	Zirconium Zr - 10 g/l in diluted HNO <sub>3</sub> /HF for ICP	500	ml	12	Yes

## Speciation Standards

Ref. Number	Description	Volume	Msr. Unit	Shelf-life (months)	ISO 17034 ISO 17025
SP071.05001NC.L1	Arsenic (III) 1000mg/l in Sodium Hydroxide/ Sodium Chloride	100	ml	12	Yes
SP072.W.L1	Arsenic (V) 1000mg/l in Water	100	ml	12	Yes
SP371.05001NC.L1	Arsenic (III) 100mg/l in Sodium Hydroxide/Sodium Chloride	100	ml	12	Yes
SP372.W.L1	Arsenic (V) 100mg/l in Water	100	ml	12	Yes
SP073.2N.L1	Chromium (III) 1000mg/l in diluted Nitric Acid	100	ml	12	Yes
SP074.W.L1	Chromium (VI) 1000mg/l in Water	100	ml	12	Yes
SP373.5N.L1	Chromium (III) 100mg/l in Nitric Acid	100	ml	12	Yes
SP374.W.L1	Chromium (VI) 100mg/l in Water	100	ml	12	Yes
SP473.5N.L1	Chromium (III) 10mg/l in Nitric Acid	100	ml	6	Yes
SP075.2N.L1	Selenium (IV) 1000mg/l in diluted Nitric Acid	100	ml	12	Yes
SP076.01N.L1	Selenium (VI) 1000mg/l in diluted Nitric Acid	100	ml	12	Yes
SP375.2N.L1	Selenium (IV) 100mg/l in Nitric Acid	100	ml	12	Yes
SP376.01N.L1	Selenium (VI) 100mg/l in Nitric Acid	100	ml	12	Yes

## Multi-element Standards for ICP

### Instrument Check Standards

Ref. Number	Description	Volume	Msr. Unit	Shelf-life (months)	ISO 17034 ISO 17025
1ED8.K2.2N.L1	Spiking Standard 4R - 1 component; Sb 200mg/l in HNO3 2%	100	ml	12	Yes
91C8.10K.2N.L1	Spiking Standard 2R - 4 components; 10 000mg/l each of Ca ; Mg ; K ; Na in HNO3 2%	100	ml	12	Yes
4554.50.5N.L1	Spiking Standard 3 - 12 components; Al 2000mg/l ; Ba 2000mg/l ; Fe 1000mg/l ; Co 500mg/l ; Mn 500mg/l ; Ni 500mg/l ; V 500mg/l ; Zn 500mg/l ; Cu 250mg/l ; Cr 200mg/l ; Be 50mg/l ; Ag 50mg/l in HNO3 5%	100	ml	6	Yes

### EPA and ISO Methods

Ref. Number	Description	Volume	Msr. Unit	Shelf-life (months)	ISO 17034 ISO 17025
AE93.20.5N.L1	EPA 200.7 - Mixed Calibration Standard 3 - 4 components; P 100mg/l ; Ce 20mg/l ; Co 20mg/l ; V 20mg/l in HNO3 5%	100	ml	6	Yes
AE93.K2.5N.L1	EPA 200.7 Calibration - CAL 3 - 4 components; P 1000mg/l ; Ce 200mg/l ; Co 200mg/l ; V 200mg/l in HNO3 5%	100	ml	12	Yes
58DA.K1.5N.L1	EPA 200.7 - Mixed Calibration Standard 4 - 5 components; Al 100mg/l ; Si 100mg/l ; Cr 50mg/l ; Zn 50mg/l ; Sn 40mg/l in HNO3 5%	100	ml	6	Yes
FE99.10.5N.L1	EPA 200.7 - Mixed Calibration Standard 5 - 6 components; Fe 100mg/l ; Pb 100mg/l ; Mg 100mg/l ; Tl 50mg/l ; Ni 20mg/l ; Be 10mg/l in HNO3 5%	100	ml	6	Yes
87EA.5.5N.L1	EPA 200.7 - Mixed Calibration Standard 1 - 10 components; As 100mg/l ; Ca 100mg/l ; Sb 50mg/l ; Se 50mg/l ; B 20mg/l ; Cd 20mg/l ; Cu 20mg/l ; Mn 20mg/l ; Ba 10mg/l ; Ag 5mg/l in HNO3 5%	100	ml	6	Yes
0F81.5.5N.L1	EPA 200.7 - Laboratory Performance Check Standard - 29 components; P 100mg/l ; K 100mg/l ; Si 100mg/l ; Al 20mg/l ; Sb 20mg/l ; As 20mg/l ; Ba 20mg/l ; Be 20mg/l ; B 20mg/l ; Cd 20mg/l ; Ca 20mg/l ; Cr 20mg/l ; Co 20mg/l ; Cu 20mg/l ; Fe 20mg/l ; Pb 20mg/l ; Li 20mg/l ; Mg 20mg/l ; Mn 20mg/l ; Mo 20mg/l ; Ni 20mg/l ; Se 20mg/l ; Na 20mg/l ; Sr 20mg/l ; Tl 20mg/l ; Sn 20mg/l ; V 20mg/l ; Zn 20mg/l ; Ag 5mg/l in HNO3 5% ; HF tr%	100	ml	6	Yes
1ED8.K5.2N.L1	EPA 6010 - Interference Check Standard 3 - 1 component; Sb 500mg/l in HNO3 2% ; HF tr%	100	ml	12	Yes
7CF2.5.5N.L1	EPA 6010 - Laboratory Performance Check Standard - 30 components; P 100mg/l ; K 100mg/l ; Si 100mg/l ; Al 20mg/l ; Sb 20mg/l ; As 20mg/l ; Ba 20mg/l ; Be 20mg/l ; B 20mg/l ; Cd 20mg/l ; Ca 20mg/l ; Cr 20mg/l ; Co 20mg/l ; Cu 20mg/l ; Fe 20mg/l ; Pb 20mg/l ; Li 20mg/l ; Mg 20mg/l ; Mn 20mg/l ; Mo 20mg/l ; Ni 20mg/l ; Se 20mg/l ; Na 20mg/l ; Sr 20mg/l ; Tl 20mg/l ; Sn 20mg/l ; Ti 20mg/l ; V 20mg/l ; Zn 20mg/l ; Ag 5mg/l in HNO3 5% ; HF tr%	100	ml	6	Yes

Ref. Number	Description	Volume	Msr. Unit	Shelf-life (months)	ISO 17034 ISO 17025
FDA4.15.7N.L1	ICP standard according to USP 232 dietary supplements - 4 components; Cd 5mg/l ; Pb 10mg/l ; As 15mg/l ; Hg 15mg/l in HNO3 7%	100	ml	6	Yes
7F97.10.15C.L1	ICP standard according to USP 232 parenteral dose 10 mg/l - 6 components each of Ir ; Pt ; Os ; Rh ; Pd ; Ru in HCl 15%	100	ml	6	Yes
121E.1D5.7N.L1	ICP standard according to USP 232 Parenteral Elemental Impurities: - 8 components; Cd 2.5mg/l ; Pb 5mg/l ; As 1.5mg/l ; Hg 1.5mg/l ; Mo 10mg/l ; Ni 50mg/l ; V 10mg/l ; Cu 100mg/l in HNO3 7%	100	ml	6	Yes
E13C.1D5.7N.L1	ICP standard according to USP 232 Parenteral Elemental Impurities - 8 components; Cd 25mg/l ; Pb 5mg/l ; As 1.5mg/l ; Hg 15mg/l ; Mo 100mg/l ; Ni 500mg/l ; V 100mg/l ; Cu 1000mg/l in HNO3 7%	100	ml	6	Yes

## Standards for Water Quality

Ref. Number	Description	Volume	Msr. Unit	Shelf-life (months)	ISO 17034 ISO 17025
SSW.L1	ICP Water Quality standard - Synthetic Sea Water acc. to ASTM D665 : 10 components; NaCl 24.54g/l ; MgCl2x-6H2O 5.2g/l ; Na2SO4 4.09g/l ; CaCl2 1.16g/l ; KCl 0.69g/l ; NaHCO3 0.20g/l ; KBr 0.1g/l ; H3BO3 0.03g/l ; SrCl2 0.024g/l ; NaF 0.003g/l in H2O	100	ml	12	No
SSW.L5	ICP Water Quality standard - Synthetic Sea Water acc. to ASTM D665 : 10 components; NaCl 24.54g/l ; MgCl2x-6H2O 5.2g/l ; Na2SO4 4.09g/l ; CaCl2 1.16g/l ; KCl 0.69g/l ; NaHCO3 0.20g/l ; KBr 0.1g/l ; H3BO3 0.03g/l ; SrCl2 0.024g/l ; NaF 0.003g/l in H2O	500	ml	12	No
QCCPAWater1.4L1	ICP Water Quality standard 1 - 31 elements (supplied in two different solutions) - Ca 1mg/l ; Mg 0.2mg/l ; Na 0.5mg/l ; K 0.5mg/l ; P 0.5mg/l ; S 2mg/l ; Si 1mg/l ; Al 0.005mg/l ; Ag 0.005mg/l ; As 0.01mg/l ; B 0.05mg/l ; Ba 0.005mg/l ; Be 0.002mg/l ; Bi 0.01mg/l ; Cd 0.0005mg/l ; Co 0.002mg/l ; Cr 0.002mg/l ; Cu 0.005mg/l ; Fe 0.01mg/l ; Li 0.05mg/l ; Mn 0.002mg/l ; Mo 0.005mg/l ; Ni 0.005mg/l ; Pb 0.005mg/l ; Sb 0.01mg/l ; Se 0.01mg/l ; Sr 0.005mg/l ; Ti 0.002mg/l ; Tl 0.01mg/l ; V 0.005mg/l ; Zn 0.01mg/l in H2O/ tr. HNO3	800	ml	6	Yes
QCCPAWater1.L1	ICP Water Quality standard 1 - 31 elements (supplied in two different solutions) - Ca 1mg/l ; Mg 0.2mg/l ; Na 0.5mg/l ; K 0.5mg/l ; P 0.5mg/l ; S 2mg/l ; Si 1mg/l ; Al 0.005mg/l ; Ag 0.005mg/l ; As 0.01mg/l ; B 0.05mg/l ; Ba 0.005mg/l ; Be 0.002mg/l ; Bi 0.01mg/l ; Cd 0.0005mg/l ; Co 0.002mg/l ; Cr 0.002mg/l ; Cu 0.005mg/l ; Fe 0.01mg/l ; Li 0.05mg/l ; Mn 0.002mg/l ; Mo 0.005mg/l ; Ni 0.005mg/l ; Pb 0.005mg/l ; Sb 0.01mg/l ; Se 0.01mg/l ; Sr 0.005mg/l ; Ti 0.002mg/l ; Tl 0.01mg/l ; V 0.005mg/l ; Zn 0.01mg/l in H2O/ tr. HNO3	200	ml	6	Yes
WCEBF.D005.005N.L1	ICP Water Quality standard 1 - 31 elements (supplied in two different solutions) - Ca 1mg/l ; Mg 0.2mg/l ; Na 0.5mg/l ; K 0.5mg/l ; P 0.5mg/l ; S 2mg/l ; Si 1mg/l ; Al 0.005mg/l ; Ag 0.005mg/l ; As 0.01mg/l ; B 0.05mg/l ; Ba 0.005mg/l ; Be 0.002mg/l ; Bi 0.01mg/l ; Cd 0.0005mg/l ; Co 0.002mg/l ; Cr 0.002mg/l ; Cu 0.005mg/l ; Fe 0.01mg/l ; Li 0.05mg/l ; Mn 0.002mg/l ; Mo 0.005mg/l ; Ni 0.005mg/l ; Pb 0.005mg/l ; Sb 0.01mg/l ; Se 0.01mg/l ; Sr 0.005mg/l ; Ti 0.002mg/l ; Tl 0.01mg/l ; V 0.005mg/l ; Zn 0.01mg/l in HNO3 0.05%	200	ml	6	Yes

Ref. Number	Description	Volume	Msr. Unit	Shelf-life (months)	ISO 17034 ISO 17025
WCEBF.D05.05N.L1	ICP Water Quality standard 2 - 31 elements (supplied in two different solutions) - (Ca 10 000 $\mu\text{g/l}$ ; Ca 10mg/l ; Mg 2mg/l; Na 5mg/l; K 5mg/l; P 5mg/l; S 20mg/l ; Si 10mg/l; Al 0.05mg/l; Ag 0.05mg/l; As 0.1mg/l; B 0.5mg/l; Ba 0.05mg/l; Be 0.02mg/l; Bi 0.1mg/l; Cd 0.005mg/l; Co 0.02mg/l; Cr 0.02mg/l; Cu 0.05mg/l ; Fe 0.1mg/l; Li 0.5mg/l; Mn 0.02mg/l; Mo 0.05mg/l ; Ni 0.05mg/l; Pb 0.05mg/l; Sb 0.1mg/l; Se 0.1mg/l; Sr 0.05mg/l; Ti 0.02mg/l; Tl 0.1mg/l; V 0.05mg/l; Zn 0.1mg/l in HNO <sub>3</sub> 0.5%	200	ml	6	Yes
WCEBF.D5.5N.L1	ICP Water Quality standard 2 - 31 elements (supplied in two different solutions) - Ca 100mg/l; Mg 20mg/l ; Na 50mg/l; K 50mg/l; P 50mg/l; S 200mg/l; Si 100mg/l; Al 0.5mg/l; Ag 0.5mg/l; As 1mg/l; B 5mg/l ; Ba 0.5mg/l; Be 0.2mg/l; Bi 1mg/l; Cd 0.05mg/l; Co 0.2mg/l; Cr 0.2mg/l; Cu 0.5mg/l; Fe 1mg/l; Li 5mg/l; Mn 0.2mg/l; Mo 0.5mg/l; Ni 0.5mg/l; Pb 0.5mg/l; Sb 1mg/l; Se 1mg/l; Sr 0.5mg/l; Ti 0.2mg/l; Tl 1mg/l; V 0.5mg/l; Zn 1mg/l in HNO <sub>3</sub> 5%	200	ml	6	Yes
QCCPAWater2.4L1	ICP Water Quality standard 2 - 31 elements (supplied in two different solutions) - Ca 10mg/l; Mg 2mg/l; Na 5mg/l; K 5mg/l; P 5mg/l; S 20mg/l; Si 10mg/l; Al 0.05mg/l; Ag 0.05mg/l; As 0.1mg/l; B 0.5mg/l; Ba 0.05mg/l; Be 0.02mg/l; Bi 0.1mg/l; Cd 0.005mg/l; Co 0.02mg/l; Cr 0.02mg/l; Cu 0.05mg/l; Fe 0.1mg/l; Li 0.5mg/l; Mn 0.02mg/l; Mo 0.05mg/l; Ni 0.05mg/l; Pb 0.05mg/l; Sb 0.1mg/l; Se 0.1mg/l; Sr 0.05mg/l; Ti 0.02mg/l; Tl 0.1mg/l; V 0.05mg/l; Zn 0.1mg/l in H <sub>2</sub> O/tr. HNO <sub>3</sub>	800	ml	6	Yes
QCCPAWater2.L1	ICP Water Quality standard 2 - 31 elements (supplied in two different solutions) - Ca 10mg/l; Mg 2mg/l; Na 5mg/l; K 5mg/l; P 5mg/l; S 20mg/l; Si 10mg/l; Al 0.05mg/l; Ag 0.05mg/l; As 0.1mg/l; B 0.5mg/l; Ba 0.05mg/l; Be 0.02mg/l; Bi 0.1mg/l; Cd 0.005mg/l; Co 0.02mg/l; Cr 0.02mg/l; Cu 0.05mg/l; Fe 0.1mg/l; Li 0.5mg/l; Mn 0.02mg/l; Mo 0.05mg/l; Ni 0.05mg/l; Pb 0.05mg/l; Sb 0.1mg/l; Se 0.1mg/l; Sr 0.05mg/l; Ti 0.02mg/l; Tl 0.1mg/l; V 0.05mg/l; Zn 0.1mg/l in H <sub>2</sub> O/tr. HNO <sub>3</sub>	200	ml	6	Yes
CPAWater3.L1	ICP Water Quality standard 3 - 31 elements (supplied in two different solutions) - Ca 100mg/l; Mg 20mg/l; Na 5mg/l; K 5mg/l; P 5mg/l; S 20mg/l; Si 10mg/l; Al 0.05mg/l; Ag 0.05mg/l; As 0.1mg/l; B 0.5mg/l; Ba 0.05mg/l; Be 0.02mg/l; Bi 0.1mg/l; Cd 0.005mg/l; Co 0.02mg/l; Cr 0.02mg/l; Cu 0.05mg/l; Fe 0.1mg/l; Li 0.5mg/l; Mn 0.02mg/l; Mo 0.05mg/l; Ni 0.05mg/l; Pb 0.05mg/l; Sb 0.1mg/l; Se 0.1mg/l; Sr 0.05mg/l; Ti 0.02mg/l; Tl 0.1mg/l; V 0.05mg/l; Zn 0.1mg/l in HNO <sub>3</sub> 2%	200	ml	6	Yes
WCEBF.5.5N.L1	ICP Water Quality standard 4 - 31 elements (supplied in two different solutions) - Ca 1000mg/l; Mg 200mg/l; Na 500mg/l; K 500mg/l; P 500mg/l; S 2000mg/l; Si 1000mg/l; Al 5mg/l; Ag 5mg/l; As 10mg/l; B 50mg/l; Ba 5mg/l; Be 2mg/l; Bi 10mg/l; Cd 0.5mg/l; Co 2mg/l ; Cr 2mg/l; Cu 5mg/l; Fe 10mg/l; Li 50mg/l; Mn 2mg/l; Mo 5mg/l; Ni 5mg/l; Pb 5mg/l; Sb 10mg/l; Se 10mg/l; Sr 5mg/l; Ti 2mg/l; Tl 10mg/l; V 5mg/l; Zn 10mg/l in HNO <sub>3</sub> 5%	200	ml	6	Yes
CPAWater4.L1	ICP Water Quality standard 4 - 31 elements (supplied in two different solutions) - Ca 1000mg/l; Mg 200mg/l ; Na 50mg/l; K 50mg/l; P 50mg/l; S 200mg/l; Si 100mg/l; Al 0.5mg/l; Ag 0.5mg/l; As 1mg/l; B 5mg/l ; Ba 0.5mg/l; Be 0.2mg/l; Bi 1mg/l; Cd 0.05mg/l; Co 0.2mg/l; Cr 0.2mg/l; Cu 0.5mg/l; Fe 1mg/l; Li 5mg/l; Mn 0.2mg/l; Mo 0.5mg/l; Ni 0.5mg/l; Pb 0.5mg/l; Sb 1mg/l; Se 1mg/l; Sr 0.5mg/l; Ti 0.2mg/l; Tl 1mg/l; V 0.5mg/l; Zn 1mg/l in HNO <sub>3</sub> 2%	200	ml	6	Yes



Ref. Number	Description	Volume	Msr. Unit	Shelf-life (months)	ISO 17034 ISO 17025
CPAWater5.L1	ICP Water Quality standard 5 - 31 elements (supplied in two different solutions) - Ca 2000mg/l ; Mg 400mg/l ; Na 100mg/l ; K 100mg/l ; P 100mg/l ; S 400mg/l ; Si 200mg/l ; Al 1mg/l ; Ag 1mg/l ; As 2mg/l ; B 10mg/l ; Ba 1mg/l ; Be 0.4mg/l ; Bi 2mg/l ; Cd 0.1mg/l ; Co 0.4mg/l ; Cr 0.4mg/l ; Cu 1mg/l ; Fe 2mg/l ; Li 10mg/l ; Mn 0.4mg/l ; Mo 1mg/l ; Ni 1mg/l ; Pb 1mg/l ; Sb 2mg/l ; Se 2mg/l ; Sr 1mg/l ; Ti 0.4mg/l ; Tl 2mg/l ; V 1mg/l ; Zn 2mg/l in HNO3 5%	200	ml	6	Yes
WCEBF.10.5N.L1	ICP Water Quality standard 5 - 31 elements (supplied in two different solutions) - Ca 2000mg/l ; Mg 400mg/l ; Na 1000mg/l ; K 1000mg/l ; P 1000mg/l ; S 4000mg/l ; Si 2000mg/l ; Al 10mg/l ; Ag 10mg/l ; As 20mg/l ; B 100mg/l ; Ba 10mg/l ; Be 4mg/l ; Bi 20mg/l ; Cd 1mg/l ; Co 4mg/l ; Cr 4mg/l ; Cu 10mg/l ; Fe 20mg/l ; Li 100mg/l ; Mn 4mg/l ; Mo 10mg/l ; Ni 10mg/l ; Pb 10mg/l ; Sb 20mg/l ; Se 20mg/l ; Sr 10mg/l ; Ti 4mg/l ; Tl 20mg/l ; V 10mg/l ; Zn 20mg/l in HNO3 5%	200	ml	6	Yes
D0BC.20.5N.L1	TCLP Standard 2 - 1 component; Hg 20mg/l in HNO3 5%	100	ml	6	Yes

## ICP Calibration Standards

Ref. Number	Description	Volume	Msr. Unit	Shelf-life (months)	ISO 17034 ISO 17025
F4AD.1K.W.L1	ICP Calibration Standard - 2 components; 1000mg/l each of P ; S in H2O	100	ml	12	Yes
F4AD.1K.W.L5	ICP Calibration Standard - 2 components; 1000mg/l each of P ; S in H2O	500	ml	12	Yes
F4AD.K1.W.L1	ICP Calibration Standard - 2 components; 100mg/l each of P ; S in H2O	100	ml	12	Yes
F4AD.K1.W.L5	ICP Calibration Standard - 2 components; 100mg/l each of P ; S in H2O	500	ml	12	Yes
1B92.D2.2N.L1	ICP Calibration Standard - 2 components; 200ug/l each of Cd ; Pb in HNO3 2%	100	ml	4	Yes
1B92.D2.2N.L5	ICP Calibration Standard - 2 components; 200ug/l each of Cd ; Pb in HNO3 2%	500	ml	4	Yes
C56D.K1.5C.L1	ICP Calibration Standard - 3 components; 100mg/l each of Au ; Pd ; Pt in HCl 5%	100	ml	12	Yes
91C8.1K.2N.L1	ICP Calibration Standard - 4 components; 1000mg/l each of Ca ; Mg ; K ; Na in HNO3 2%	100	ml	12	Yes
91C8.1K.2N.L5	ICP Calibration Standard - 4 components; 1000mg/l each of Ca ; Mg ; K ; Na in HNO3 2%	500	ml	12	Yes
M591930.L1	ICP Calibration Standard - 4 components; K 200mg/l ; Mg 400mg/l ; Na 1000mg/l ; Ca 2000mg/l in HNO3 5%	100	ml	12	Yes
8E66.K1.5N.L1	ICP Calibration Standard - Toxic Elements - 7 components; 100mg/l each of As ; Be ; Cd ; Ni ; Pb ; Se ; Tl in HNO3 5%	100	ml	12	Yes
A2E5.K1.5C.L1	ICP Calibration Standard - 8 components; 100mg/l each of Au ; Ir ; Os ; Pd ; Pt ; Re ; Rh ; Ru in HCl 5%	100	ml	12	Yes
1E1E.1.2N.L1	ICP Calibration Standard - 10 components; P 10mg/l ; Ni 5mg/l ; K 5mg/l ; Al 1mg/l ; Cu 1mg/l ; Mn 1mg/l ; Ba 0.2mg/l ; Ca 0.2mg/l ; Mg 0.2mg/l ; Zn 0.2mg/l in HNO3 2%	100	ml	6	Yes
F8AA.30.2N.L1	ICP Calibration Standard - 12 components; Ca 3000mg/l ; Mg 450mg/l ; K 1200mg/l ; Na 3000mg/l ; SO42- 3000mg/l ; P 234.8mg/l ; Fe 30mg/l ; Mn 30mg/l ; Cu 15mg/l ; Zn 15mg/l ; B 30mg/l ; Mo 6mg/l in HNO3 2%	100	ml	6	Yes

Ref. Number	Description	Volume	Msr. Unit	Shelf-life (months)	ISO 17034 ISO 17025
F8AA.30.2N.L5	ICP Calibration Standard - 12 components; Ca 3000mg/l ; Mg 450mg/l ; K 1200mg/l ; Na 3000mg/l ; SO42- 3000mg/l ; P 234.8mg/l ; Fe 30mg/l ; Mn 30mg/l ; Cu 15mg/l ; Zn 15mg/l ; B 30mg/l ; Mo 6mg/l in HNO3 2%	500	ml	6	Yes
9C24.30.2N.L1	ICP Calibration Standard - 12 components; Ca 3000mg/l ; Mg 450mg/l ; K 1200mg/l ; Na 150mg/l ; SO42- 3000mg/l ; P 234.8mg/l ; Fe 30mg/l ; Mn 30mg/l ; Cu 15mg/l ; Zn 15mg/l ; B 30mg/l ; Mo 6mg/l in HNO3 2%	100	ml	6	Yes
9C24.30.2N.L5	ICP Calibration Standard - 12 components; Ca 3000mg/l ; Mg 450mg/l ; K 1200mg/l ; Na 150mg/l ; SO42- 3000mg/l ; P 234.8mg/l ; Fe 30mg/l ; Mn 30mg/l ; Cu 15mg/l ; Zn 15mg/l ; B 30mg/l ; Mo 6mg/l in HNO3 2%	500	ml	6	Yes
9E24.D02.5N.L1	ICP Calibration Standard - 13 components; Ca 100mg/l ; Mg 25mg/l ; Cu 0.2mg/l ; Zn 0.2mg/l ; Mn 0.2mg/l ; Fe 0.1mg/l ; Na 50mg/l ; K 25mg/l ; Al 0.02mg/l ; Ba 0.2mg/l ; V 0.2mg/l ; Mo 0.2mg/l ; Be 0.2mg/l in HNO3 5%	100	ml	4	Yes
9E24.D02.5N.L5	ICP Calibration Standard - 13 components; Ca 100mg/l ; Mg 25mg/l ; Cu 0.2mg/l ; Zn 0.2mg/l ; Mn 0.2mg/l ; Fe 0.1mg/l ; Na 50mg/l ; K 25mg/l ; Al 0.02mg/l ; Ba 0.2mg/l ; V 0.2mg/l ; Mo 0.2mg/l ; Be 0.2mg/l in HNO3 5%	500	ml	4	Yes
MU01060100	ICP Calibration Standard - 16 components; Al 100mg/l ; Ba 5mg/l ; Be 2mg/l ; B 20mg/l ; Cd 20mg/l ; Cr 20mg/l ; Co 50mg/l ; Cu 20mg/l ; Fe 20mg/l ; Pb 200mg/l ; Mn 10mg/l ; Ni 50mg/l ; Se 5mg/l ; Tl 100mg/l ; V 50mg/l ; Zn 50mg/l in HNO3 10%	100	ml	6	Yes
006B.2.2N.L1	ICP Calibration Standard - 17 components; Ag 2mg/l ; Al 20mg/l ; As 2mg/l ; Ba 5mg/l ; Cd 0.2mg/l ; Cr 3mg/l ; Cu 4mg/l ; Fe 20mg/l ; Mn 10mg/l ; Mo 1mg/l ; Ni 2mg/l ; Pb 5mg/l ; Se 0.5mg/l ; Sb 2mg/l ; Sn 5mg/l ; Tl 2mg/l ; Zn 10mg/l in HNO3 2%	100	ml	4	Yes
006B.2.2N.L5	ICP Calibration Standard - 17 components; Ag 2mg/l ; Al 20mg/l ; As 2mg/l ; Ba 5mg/l ; Cd 0.2mg/l ; Cr 3mg/l ; Cu 4mg/l ; Fe 20mg/l ; Mn 10mg/l ; Mo 1mg/l ; Ni 2mg/l ; Pb 5mg/l ; Se 0.5mg/l ; Sb 2mg/l ; Sn 5mg/l ; Tl 2mg/l ; Zn 10mg/l in HNO3 2%	500	ml	4	Yes
M592020.L1	ICP Calibration Standard - 17 components; Be 10mg/l ; Cd 10mg/l ; Co 10mg/l ; Mn 10mg/l ; Cr 20mg/l ; Cu 20mg/l ; Ni 20mg/l ; Al 40mg/l ; As 40mg/l ; Ba 40mg/l ; Pb 40mg/l ; V 40mg/l ; B 100mg/l ; Fe 100mg/l ; Se 100mg/l ; Tl 100mg/l ; Zn 100mg/l in HNO3 10%	100	ml	12	Yes
B09A.1K.4N.L1	ICP Calibration Standard - 21 components; 1000mg/l each of Ag ; As ; Al ; B ; Ba ; Bi ; Cd ; Co ; Cr ; Cu ; Fe ; Ga ; In ; Li ; Mn ; Ni ; Pb ; Sr ; Tl ; Zn ; Si in HNO3 4%	100	ml	12	Yes
B09A.1K.4N.L5	ICP Calibration Standard - 21 components; 1000mg/l each of Ag ; As ; Al ; B ; Ba ; Bi ; Cd ; Co ; Cr ; Cu ; Fe ; Ga ; In ; Li ; Mn ; Ni ; Pb ; Sr ; Tl ; Zn ; Si in HNO3 4%	500	ml	12	Yes
BE89.K1.5N.L1	ICP Calibration Standard - 21 components; 100mg/l each of Al ; As ; B ; Ca ; Cd ; Cr ; Co ; Cu ; Fe ; K ; Mg ; Mn ; Mo ; Na ; Ni ; Pb ; P ; Ti ; Zn ; Si ; S in HNO3 5%	100	ml	12	Yes
BE89.K1.5N.L5	ICP Calibration Standard - 21 components; 100mg/l each of Al ; As ; B ; Ca ; Cd ; Cr ; Co ; Cu ; Fe ; K ; Mg ; Mn ; Mo ; Na ; Ni ; Pb ; P ; Ti ; Zn ; Si ; S in HNO3 5%	500	ml	12	Yes
M52B5.K1.5N.L05	ICP Calibration Standard - 22 components - 100 mg/l each of As, Be, Bi, Ca, Cd, Co, Cr, Cu, Fe, Li, Mg, Mn, Mo, Ni, Pb, Sb, Se, Sr, Ti, Tl, V, Zn, all in 5% HNO3	50	ml	12	Yes
M52B5.K1.5N.L1	ICP Calibration Standard - 22 components - 100 mg/l each of As, Be, Bi, Ca, Cd, Co, Cr, Cu, Fe, Li, Mg, Mn, Mo, Ni, Pb, Sb, Se, Sr, Ti, Tl, V, Zn, all in 5% HNO3	100	ml	12	Yes
M52B5.K1.5N.L5	ICP Calibration Standard - 22 components - 100 mg/l each of As, Be, Bi, Ca, Cd, Co, Cr, Cu, Fe, Li, Mg, Mn, Mo, Ni, Pb, Sb, Se, Sr, Ti, Tl, V, Zn, all in 5% HNO3	500	ml	12	Yes

Ref. Number	Description	Volume	Msr. Unit	Shelf-life (months)	ISO 17034 ISO 17025
MU01100100	ICP Calibration Standard - 26 components; 100ppm each of Al ; As ; Ba ; Be ; Bi ; B ; Cd ; Ca ; Cr ; Co ; Cu ; Fe ; Pb ; Li ; Mg ; Mn ; Mo ; Ni ; K ; Se ; Na ; Sr ; Tl ; Ti ; V ; Zn in HNO3 5%	100	ml	12	Yes
0D7B.K1.5NtrF.L1	ICP Calibration Standard - 26 components; Al 100ug/ml ; Sb 100ug/ml ; As 100ug/ml ; Ba 100ug/ml ; Be 100ug/ml ; B 100ug/ml ; Cd 100ug/ml ; Ca 100ug/ml ; Cr 100ug/ml ; Co 100ug/ml ; Cu 100ug/ml ; Fe 100ug/ml ; Pb 100ug/ml ; Mg 100ug/ml ; Mn 100ug/ml ; Mo 100ug/ml ; Ni 100ug/ml ; K 1000ug/ml ; Se 100ug/ml ; Si 50ug/ml ; Ag 100ug/ml ; Na 100ug/ml ; Tl 100ug/ml ; Ti 100ug/ml ; V 100ug/ml ; Zn 100ug/ml in HNO3 5% ; HF tr	100	ml	6	Yes
0D7B.K1.5NtrF.L25	ICP Calibration Standard - 26 components; Al 100ug/ml ; Sb 100ug/ml ; As 100ug/ml ; Ba 100ug/ml ; Be 100ug/ml ; B 100ug/ml ; Cd 100ug/ml ; Ca 100ug/ml ; Cr 100ug/ml ; Co 100ug/ml ; Cu 100ug/ml ; Fe 100ug/ml ; Pb 100ug/ml ; Mg 100ug/ml ; Mn 100ug/ml ; Mo 100ug/ml ; Ni 100ug/ml ; K 1000ug/ml ; Se 100ug/ml ; Si 50ug/ml ; Ag 100ug/ml ; Na 100ug/ml ; Tl 100ug/ml ; Ti 100ug/ml ; V 100ug/ml ; Zn 100ug/ml in HNO3 5% ; HF tr	250	ml	6	Yes
0D7B.K1.5NtrF.L5	ICP Calibration Standard - 26 components; Al 100ug/ml ; Sb 100ug/ml ; As 100ug/ml ; Ba 100ug/ml ; Be 100ug/ml ; B 100ug/ml ; Cd 100ug/ml ; Ca 100ug/ml ; Cr 100ug/ml ; Co 100ug/ml ; Cu 100ug/ml ; Fe 100ug/ml ; Pb 100ug/ml ; Mg 100ug/ml ; Mn 100ug/ml ; Mo 100ug/ml ; Ni 100ug/ml ; K 1000ug/ml ; Se 100ug/ml ; Si 50ug/ml ; Ag 100ug/ml ; Na 100ug/ml ; Tl 100ug/ml ; Ti 100ug/ml ; V 100ug/ml ; Zn 100ug/ml in HNO3 5% ; HF tr	500	ml	6	Yes
M592090.L1	ICP Calibration Standard - 27 components; Al 10mg/l ; Ba 10mg/l ; Be 10mg/l ; Bi 10mg/l ; Cd 10mg/l ; Ca 100mg/l ; Cs 10mg/l ; Cr 10mg/l ; Co 10mg/l ; Cu 10mg/l ; Ga 10mg/l ; In 10mg/l ; Fe 100mg/l ; Pb 10mg/l ; Li 10mg/l ; Mg 10mg/l ; Mn 10mg/l ; Mo 10mg/l ; Ni 10mg/l ; K 100mg/l ; Rb 10mg/l ; Ag 10mg/l ; Na 100mg/l ; Sr 10mg/l ; Tl 10mg/l ; V 10mg/l ; Zn 10mg/l in HNO3 2%	100	ml	6	Yes
MB56A.K1.5N.L05	ICP Calibration Standard - 28 components - 100 mg/l Al, Ag, As, B, Ba, Be, Bi, Ca, Cd, Co, Cr, Cu, Fe, K, Li, Mg, Mn, Mo, Na, Ni, Pb, Sb, Se, Sr, Ti, Tl, V, Zn, in HNO3 5%	50	ml	12	Yes
MB56A.K1.5N.L1	ICP Calibration Standard - 28 components - 100 mg/l Al, Ag, As, B, Ba, Be, Bi, Ca, Cd, Co, Cr, Cu, Fe, K, Li, Mg, Mn, Mo, Na, Ni, Pb, Sb, Se, Sr, Ti, Tl, V, Zn, in HNO3 5%	100	ml	12	Yes
MB56A.K1.5N.L5	ICP Calibration Standard - 28 components - 100 mg/l Al, Ag, As, B, Ba, Be, Bi, Ca, Cd, Co, Cr, Cu, Fe, K, Li, Mg, Mn, Mo, Na, Ni, Pb, Sb, Se, Sr, Ti, Tl, V, Zn, in HNO3 5%	500	ml	12	Yes
0C6A.K1.5N.L1	ICP Calibration Standard - 32 components; 100mg/l each of Ag ; Al ; Ba ; Bi ; Ca ; Cd ; Co ; Cr ; Cu ; Fe ; Ga ; Ge ; In ; K ; Li ; Mg ; Mn ; Mo ; Na ; Nb ; Ni ; P ; Pb ; Re ; Sb ; Si ; Sn ; Ta ; Ti ; V ; W ; Zn in HNO3 5%	100	ml	12	Yes
0C6A.K1.5N.L5	ICP Calibration Standard - 32 components; 100mg/l each of Ag ; Al ; Ba ; Bi ; Ca ; Cd ; Co ; Cr ; Cu ; Fe ; Ga ; Ge ; In ; K ; Li ; Mg ; Mn ; Mo ; Na ; Nb ; Ni ; P ; Pb ; Re ; Sb ; Si ; Sn ; Ta ; Ti ; V ; W ; Zn in HNO3 5%	500	ml	12	Yes
M8A96.K1.5N.L05	ICP Calibration Standard - 33 components - 100 mg/l Al, Ag, As, B, Ba, Be, Bi, Ca, Cd, Cs, Co, Cr, Cu, Fe, In, K, Li, Mg, Mn, Mo, Na, Ni, Nb, Pb, Rb, Sb, Se, Sr, Ti, Tl, V, U, Zn in HNO3 5%	50	ml	12	Yes
M8A96.K1.5N.L1	ICP Calibration Standard - 33 components - 100 mg/l Al, Ag, As, B, Ba, Be, Bi, Ca, Cd, Cs, Co, Cr, Cu, Fe, In, K, Li, Mg, Mn, Mo, Na, Ni, Nb, Pb, Rb, Sb, Se, Sr, Ti, Tl, V, U, Zn in HNO3 5%	100	ml	12	Yes
M8A96.K1.5N.L5	ICP Calibration Standard - 33 components - 100 mg/l Al, Ag, As, B, Ba, Be, Bi, Ca, Cd, Cs, Co, Cr, Cu, Fe, In, K, Li, Mg, Mn, Mo, Na, Ni, Nb, Pb, Rb, Sb, Se, Sr, Ti, Tl, V, U, Zn in HNO3 5%	500	ml	12	Yes

Ref. Number	Description	Volume	Msr. Unit	Shelf-life (months)	ISO 17034 ISO 17025
3256.10.2N.L1	ICP Calibration Standard - 36 components; 10mg/l each of Ag ; Al ; As ; Ba ; B ; Ca ; Cd ; Ce ; Co ; Cr ; Cu ; Dy ; Er ; Eu ; Fe ; Gd ; Ho ; K ; La ; Li ; Lu ; Mg ; Mn ; Na ; Nd ; Ni ; P ; Pb ; Rb ; Se ; Sm ; Sr ; Tl ; Tm ; V ; Zn in HNO3 2%	100	ml	6	Yes
3256.10.2N.L5	ICP Calibration Standard - 36 components; 10mg/l each of Ag ; Al ; As ; Ba ; B ; Ca ; Cd ; Ce ; Co ; Cr ; Cu ; Dy ; Er ; Eu ; Fe ; Gd ; Ho ; K ; La ; Li ; Lu ; Mg ; Mn ; Na ; Nd ; Ni ; P ; Pb ; Rb ; Se ; Sm ; Sr ; Tl ; Tm ; V ; Zn in HNO3 2%	500	ml	6	Yes
7027.K1.5N.L1	MISA Standard 1 - Rare Earth Metals - 18 components; 100mg/l each of Ce ; Dy ; Er ; Eu ; Gd ; Ho ; La ; Lu ; Nd ; Pr ; Sc ; Sm ; Tb ; Th ; Tm ; U ; Y ; Yb in HNO3 5%	100	ml	12	Yes
397C.K1.10C.L1	MISA Standard 2 - Precious Metals - 6 components; 100mg/l each of Au ; Ir ; Pd ; Pt ; Rh ; Ru in HCl 10%	100	ml	12	Yes
AA6C.K1.10C.L1	MISA Standard 3 - Tellurium - 1 component; Te 100mg/l in HCl 10%	100	ml	12	Yes
E579.K1.10N.L1	MISA Standard 6 - Transition Metals - 13 components; 100mg/l each of Cd ; Co ; Cu ; Cr ; Fe ; Pb ; Mn ; Hg ; Ni ; Ag ; Tl ; V ; Zn in HNO3 10%	100	ml	12	Yes
32D7.K1.5NF.L1	MISA Standard 5 - Fluoride Soluble Group 15 components; 100mg/l each of Sb ; B ; Ge ; Hf ; Mo ; Nb ; P ; Re ; Si ; S ; Ta ; Sn ; Ti ; W ; Zr in HNO3 5% ; HF tr%	100	ml	12	Yes
942A.K1.10N.L1	MISA Standard 4 - Alkali, Alkaline Earth, Non-Transition Group - 16 components; 100mg/l each of Al ; As ; Ba ; Bi ; Be ; Ca ; Cs ; Ga ; In ; Li ; Mg ; K ; Rb ; Se ; Na ; Sr in HNO3 10%	100	ml	12	Yes
FC4C.5K.5N.L1	Solids 1B CCV Solution for ICP-OES - 6 components; Al 5000mg/l ; Ca 5000mg/l ; Fe 5000mg/l ; Mg 5000mg/l ; Na 5000mg/l ; K 2000mg/l in HNO3 5%	100	ml	12	Yes
F679.1K.5N.L1	Solids Mix 3A solution for ICP-OES - 11 components; Mn 2500mg/l ; Zn 2500mg/l ; As 1000mg/l ; Co 1000mg/l ; Cr 1000mg/l ; Cu 1000mg/l ; Ni 1000mg/l ; Pb 1000mg/l ; V 1000mg/l ; Be 100mg/l ; Cd 100mg/l in HNO3 5%	100	ml	12	Yes

## Quality Control Standards for ICP

Ref. Number	Description	Volume	Msr. Unit	Shelf-life (months)	ISO 17034 ISO 17025
F9B8.1K.2N.L1	ICP QC standard 6 - 4 components; 1000mg/l each of Ba ; Ca ; Mg ; Sr in HNO3 2%	100	ml	12	Yes
M397C.1.2C.L1	ICP QC standard - 6 components - 1 mg/l each of: Au, Ir, Pd, Pt, Rh, Ru all in 2% HCl	100	ml	6	Yes
M397C.1.2C.L5	ICP QC standard - 6 components - 1 mg/l each of: Au, Ir, Pd, Pt, Rh, Ru all in 2% HCl	500	ml	6	Yes
01EC.K1.5N.L1	ICP QC standard 2R - 7 components - 100mg/l each of Al ; Ba ; B ; K ; Si ; Ag ; Na in HNO3 5% ; HF tr%	100	ml	12	Yes
CF34.K1.5N.L1	ICP QC standard 3 - 15 components - 100mg/l each of Al ; Ba ; Cd ; Ca ; Cr ; Co ; Cu ; Fe ; Pb ; Mg ; Mn ; Ni ; Na ; Ti ; Zn in HNO3 5% ; HF tr%	100	ml	12	Yes
M52B5.1.5N.L1	ICP QC standard - 22 components - 1 mg/l each of: As, Be, Bi, Ca, Cd, Co, Cr, Cu, Fe, Li, Mg, Mn, Mo, Ni, Pb, Sb, Se, Sr, Ti, Tl, V, Zn 1mg/l; all in 5% HNO3	100	ml	6	Yes

Ref. Number	Description	Volume	Msr. Unit	Shelf-life (months)	ISO 17034 ISO 17025
M52B5.1.5N.L5	ICP QC standard - 22 components - 1 mg/l each of: As, Be, Bi, Ca, Cd, Co, Cr, Cu, Fe, Li, Mg, Mn, Mo, Ni, Pb, Sb, Se, Sr, Ti, Tl, V, Zn 1mg/l; all in 5% HNO3	500	ml	6	Yes
B0D3.K1.5N.L1	ICP QC standard 1 - 23 components - 100mg/l each of Sb ; As ; Be ; Cd ; Ca ; Cr ; Co ; Cu ; Fe ; Pb ; Li ; Mg ; Mn ; Mo ; Ni ; P ; Se ; Sr ; Sn ; Tl ; Ti ; V ; Zn in HNO3 5% ; HF tr%	100	ml	12	Yes
64F7.10.2N.L1	ICP QC standard - 25 components -10mg/l each of Ag ; Al ; As ; Ba ; Be ; Ca ; Cd ; Co ; Cr ; Cu ; Fe ; K ; Mg ; Mn ; Mo ; Na ; Ni ; Pb ; Sb ; Se ; Th ; Tl ; U ; V ; Zn in HNO3 2%	100	ml	6	Yes
MB56A.1.2N.L1	ICP QC standard - 28 components - 1mg/l each of Al ; Ag ; As ; B ; Ba ; Be ; Bi ; Ca ; Cd ; Co ; Cr ; Cu ; Fe ; K ; Li ; Mg ; Mn ; Mo ; Na ; Ni ; Pb ; Sb ; Se ; Sr ; Ti ; Tl ; V ; Zn in HNO3 2%	100	ml	6	Yes
MB56A.1.2N.L5	ICP QC standard - 28 components - 1mg/l each of Al ; Ag ; As ; B ; Ba ; Be ; Bi ; Ca ; Cd ; Co ; Cr ; Cu ; Fe ; K ; Li ; Mg ; Mn ; Mo ; Na ; Ni ; Pb ; Sb ; Se ; Sr ; Ti ; Tl ; V ; Zn in HNO3 2%	500	ml	6	Yes
M8A96.1.5N.L1	ICP QC standard - 33 components - 1 mg/l each of Ag, Al, As, B, Ba, Be, Bi, Ca, Cd, Cs, Co, Cr, Cu, Fe, In, K, Li, Mg, Mn, Mo, Na, Ni, Nb, Pb, Rb, Sb, Se, Sr, Ti, Tl, V, U, Zn, in HNO3 5%	100	ml	6	Yes
M8A96.1.5N.L5	ICP QC standard - 33 components - 1 mg/l each of Ag, Al, As, B, Ba, Be, Bi, Ca, Cd, Cs, Co, Cr, Cu, Fe, In, K, Li, Mg, Mn, Mo, Na, Ni, Nb, Pb, Rb, Sb, Se, Sr, Ti, Tl, V, U, Zn, in HNO3 5%	500	ml	6	Yes

## Elemental Impurities acc to ICH

Ref. Number	Description	Volume	Msr. Unit	Shelf-life (months)	ISO 17034 ISO 17025
RM006928L1	USP 232/ ICH Q3D Elemental Impurities Standard 1 - 4 components; Cd 5ug/ml ; Pb 5ug/ml ; As 15ug/ml ; Hg 30ug/ml in HNO3 2%	100	ml	12	Yes
RM015155L1	USP 232/ ICH Q3D Elemental Impurities Standard 2-1: 6 components; Co 50ug/ml ; V 100ug/ml ; Ni 200ug/ml ; Tl 8ug/ml ; Se 150ug/ml ; Ag 150ug/ml in HNO3 2%	100	ml	12	Yes
RM009107L1	ICH/USP Oral Target Elements Standard C - 7 components; 100mg/l each of Au ; Ir ; Os ; Pd ; Pt ; Rh ; Ru in HCl 15%	100	ml	12	Yes
RM016220L1	USP 232/ ICH Q3D Elemental Impurities Standard 3 - 7 components; Li 550ug/ml ; Sb 1200ug/ml ; Ba 1400ug/ml ; Mo 3000ug/ml ; Cu 3000ug/ml ; Sn 6000ug/ml ; Cr 11000ug/ml in HNO3 5% ; HF 0.1%	100	ml	12	Yes
RM000168L1	Elemental Impurities acc. to ICH - Q3D - Oral Concentrations Standard 3:7 components; 10ug/g each of Au ; Pd ; Ir ; Os ; Rh ; Ru ; Pt in HCl 5%	100	ml	6	Yes
RM000174L1	ICH - Q3D - Inhalation Concentrations Standard 3: 7 components; 0.1ug/g each of Au ; Pd ; Ir ; Os ; Rh ; Ru ; Pt in HCl 5%	100	ml	6	Yes
RM000765L1	ICH Q3D parenteral, Standard 2 - 7 components; Au 100mg/l ; Ir 10mg/l ; Os 10mg/l ; Pd 10mg/l ; Pt 10mg/l ; Rh 10mg/l ; Ru 10mg/l in HCl 10%	100	ml	6	Yes
RM009912L1	ICH Q3D parenteral, Standard 3 - 7 components; Ba 70mg/l ; Cr 110mg/l ; Cu 30mg/l ; Li 25mg/l ; Mo 150mg/l ; Sb 9mg/l ; Sn 60mg/l in HNO3 5% ; HF 0.2%	100	ml	6	Yes
RM000172L1	ICH - Q3D - Inhalation Concentrations Standard 1: 10 components; Cd 0.2ug/g ; Pb 0.5ug/g ; As 0.2ug/g ; Hg 0.1ug/g ; Co 0.3ug/g ; V 0.1ug/g ; Ni 0.5ug/g ; Tl 0.8ug/g ; Se 13ug/g ; Ag 0.7ug/g in HNO3 2%	100	ml	6	Yes

Ref. Number	Description	Volume	Msr. Unit	Shelf-life (months)	ISO 17034 ISO 17025
RM000165L1	ICH - Q3D - Oral Concentrations Standard 1: 10 components; Cd 0.5ug/g ; Pb 0.5ug/g ; As 1.5ug/g ; Hg 3ug/g ; Co 5ug/g ; V 10ug/g ; Ni 20ug/g ; Tl 0.8ug/g ; Se 15ug/g ; Ag 15ug/g in HNO3 2%	100	ml	6	Yes
RM000169L1	ICH - Q3D - Parenteral Concentrations Standard 1:10 components; Cd 0.2ug/g ; Pb 0.5ug/g ; As 1.5ug/g ; Hg 0.3ug/g ; Co 0.5ug/g ; V 1ug/g ; Ni 2ug/g ; Tl 0.8ug/g ; Se 8ug/g ; Ag 1ug/g in HNO3 2%	100	ml	6	Yes
RM009830L1	ICH Q3D parenteral, Standard 1 - 10 components; Ag 10mg/l ; As 15mg/l ; Cd 2mg/l ; Co 5mg/l ; Hg 3mg/l ; Ni 20mg/l ; Pb 5mg/l ; Se 80mg/l ; Tl 8mg/l ; V 10mg/l in HNO3 12%	100	ml	6	Yes



# ICP-MS Standards

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## ICP-MS Standards

All ICP-MS Standards produced by CPAchem use high-purity metals or salts in sub-boiling distilled acids. The Standards are produced and calibrated under CPAchem's quality system that is:

- ISO 9001 certified
- accredited according to ISO/IEC 17025 - Testing
- accredited according to ISO/IEC 17034 - Reference Material Producer

## ICP-MS Single-Element Standards

10 mg/l

Ref. Number	Description	Volume	Msr. Unit	Shelf-life (months)	ISO 17034 ISO 17025
M401.2NP.L1	Silver Ag - 10 mg/l in HNO <sub>3</sub> for ICP-MS (Ag 99.999%)	100	ml	12	Yes
M402.2NP.L1	Aluminium Al - 10 mg/l in HNO <sub>3</sub> for ICP-MS (Al(NO <sub>3</sub> ) <sub>3</sub> - 99.999%)	100	ml	12	Yes
M403.2NP.L1	Arsenic As - 10 mg/l in HNO <sub>3</sub> for ICP-MS (As 99.9995%)	100	ml	12	Yes
M404.2CP.L1	Gold Au - 10 mg/l in HCl for ICP-MS (Au 99.999%)	100	ml	12	Yes
M405.W.L1	Boron B - 10 mg/l in H <sub>2</sub> O for ICP-MS ((NH <sub>4</sub> ) <sub>2</sub> B <sub>4</sub> O <sub>7</sub> 99.999%)	100	ml	12	Yes
M406.2NP.L1	Barium Ba - 10 mg/l in HNO <sub>3</sub> for ICP-MS (BaCO <sub>3</sub> 99.999%)	100	ml	12	Yes
M407.2NP.L1	Beryllium Be - 10 mg/l in HNO <sub>3</sub> for ICP-MS (Be <sub>4</sub> O(C <sub>2</sub> H <sub>3</sub> O <sub>2</sub> ) <sub>6</sub> , 99.999%)	100	ml	12	Yes
M408.2NP.L1	Bismuth Bi - 10 mg/l in HNO <sub>3</sub> for ICP-MS (Bi 99.999%)	100	ml	12	Yes
M409.2NP.L1	Calcium Ca - 10 mg/l in HNO <sub>3</sub> for ICP-MS (CaCO <sub>3</sub> 99.999%)	100	ml	12	Yes
M410.2NP.L1	Cadmium Cd - 10 mg/l in HNO <sub>3</sub> for ICP-MS (Cd 99.9999%)	100	ml	12	Yes
M411.2NP.L1	Cerium Ce - 10 mg/l in 2% HNO <sub>3</sub> for ICP-MS (Ce(NO <sub>3</sub> ) <sub>3</sub> 99.999%)	100	ml	12	Yes
M412.2NP.L1	Cobalt Co - 10 mg/l in HNO <sub>3</sub> for ICP-MS (Co 99.999%)	100	ml	12	Yes
M413.2NP.L1	Chromium Cr - 10 mg/l in HNO <sub>3</sub> for ICP-MS (Cr(NO <sub>3</sub> ) <sub>3</sub> 99.999%)	100	ml	12	Yes
M414.2NP.L1	Cesium Cs - 10 mg/l in HNO <sub>3</sub> for ICP-MS (CsNO <sub>3</sub> 99.999%)	100	ml	12	Yes
M415.2NP.L1	Copper Cu - 10 mg/l in HNO <sub>3</sub> for ICP-MS (Cu 99.999%)	100	ml	12	Yes
M416.2NP.L1	Dysprosium Dy - 10 mg/l in 2% HNO <sub>3</sub> for ICP-MS (Dy <sub>2</sub> O <sub>3</sub> 99.999%)	100	ml	12	Yes
M417.2NP.L1	Erbium Er - 10 mg/l in 2% HNO <sub>3</sub> for ICP-MS (Er <sub>2</sub> O <sub>3</sub> 99.999%)	100	ml	12	Yes
M418.2NP.L1	Europium Eu - 10 mg/l in 2% HNO <sub>3</sub> for ICP-MS (Eu <sub>2</sub> O <sub>3</sub> 99.999%)	100	ml	12	Yes
M419.2NP.L1	Iron Fe - 10 mg/l in HNO <sub>3</sub> for ICP-MS (Fe(NO <sub>3</sub> ) <sub>3</sub> , 99.9995%)	100	ml	12	Yes
M420.2NP.L1	Gallium Ga - 10 mg/l in HNO <sub>3</sub> for ICP-MS (Ga 99.999%)	100	ml	12	Yes
M421.2NP.L1	Gadolinium Gd - 10 mg/l in 2% HNO <sub>3</sub> for ICP-MS (Gd <sub>2</sub> O <sub>3</sub> 99.999%)	100	ml	12	Yes
M422.2N02FP.L1	Germanium Ge - 10 mg/l in HNO <sub>3</sub> /tr.HF for ICP-MS (Ge 99.999%)	100	ml	12	Yes
M423.2N05FP.L1	Hafnium Hf - 10 mg/l in 2% HNO <sub>3</sub> /0.5% HF for ICP-MS (HfO <sub>2</sub> 99.995%)	100	ml	12	Yes
M424.5NP.L1	Mercury Hg - 10 mg/l in 5% HNO <sub>3</sub> for ICP-MS (HgO 99.999+%)	100	ml	12	Yes
M425.2NP.L1	Holmium Ho - 10 mg/l in HNO <sub>3</sub> for ICP-MS (HoO <sub>3</sub> 99.99%)	100	ml	12	Yes
M426.2NP.L1	Indium In - 10 mg/l in HNO <sub>3</sub> for ICP-MS (In 99.999%)	100	ml	12	Yes

Ref. Number	Description	Volume	Msr. Unit	Shelf-life (months)	ISO 17034 ISO 17025
M427.2CP.L1	Iridium Ir - 10 mg/l in 2% HCl for ICP-MS ((NH <sub>4</sub> ) <sub>2</sub> IrCl <sub>6</sub> 99.99%)	100	ml	12	Yes
M428.2NP.L1	Potassium K - 10 mg/l in HNO <sub>3</sub> for ICP-MS (KNO <sub>3</sub> 99.999%)	100	ml	12	Yes
M429.2NP.L1	Lanthanum La - 10 mg/l in HNO <sub>3</sub> for ICP-MS (La <sub>2</sub> O <sub>3</sub> 99.999%)	100	ml	12	Yes
M430.2NP.L1	Lithium Li - 10 mg/l in HNO <sub>3</sub> for ICP-MS (Li <sub>2</sub> CO <sub>3</sub> 99.999%)	100	ml	12	Yes
M431.2NP.L1	Lutetium Lu - 10 mg/l in HNO <sub>3</sub> for ICP-MS (Lu <sub>2</sub> O <sub>3</sub> 99.99%)	100	ml	12	Yes
M432.2NP.L1	Magnesium Mg - 10 mg/l in HNO <sub>3</sub> for ICP-MS (Mg(NO <sub>3</sub> ) <sub>2</sub> , 99.999%)	100	ml	12	Yes
M433.2NP.L1	Manganese Mn - 10 mg/l in HNO <sub>3</sub> for ICP-MS (Mn(NO <sub>3</sub> ) <sub>2</sub> , 99.999%)	100	ml	12	Yes
M434.W.L1	Molybdenum Mo - 10 mg/l in H <sub>2</sub> O for ICP-MS ((NH <sub>4</sub> ) <sub>2</sub> MoO <sub>4</sub> , 99.999%)	100	ml	12	Yes
M435.2NP.L1	Sodium Na - 10 mg/l in HNO <sub>3</sub> for ICP-MS (NaNO <sub>3</sub> 99.999%)	100	ml	12	Yes
M436.2N05FP.L1	Niobium Nb - 10 mg/l in 2% HNO <sub>3</sub> / 0.5% HF for ICP-MS (Nb 99.9+%)	100	ml	12	Yes
M437.2NP.L1	Neodymium Nd - 10 mg/l in 2% HNO <sub>3</sub> for ICP-MS (Nd <sub>2</sub> O <sub>3</sub> 99.999%)	100	ml	12	Yes
M438.2NP.L1	Nickel Ni - 10 mg/l in HNO <sub>3</sub> for ICP-MS (Ni(NO <sub>3</sub> ) <sub>2</sub> 99.9998%)	100	ml	12	Yes
M440.W.L1	Phosphorus P - 10 mg/l in H <sub>2</sub> O for ICP-MS (NH <sub>4</sub> H <sub>2</sub> PO <sub>4</sub> 99.999%)	100	ml	12	Yes
M441.2NP.L1	Lead Pb - 10 mg/l in HNO <sub>3</sub> for ICP-MS (Pb(NO <sub>3</sub> ) <sub>2</sub> 99.9995%)	100	ml	12	Yes
M442.2NP.L1	Palladium Pd - 10 mg/l in 2% HNO <sub>3</sub> for ICP-MS (Pd 99.999%)	100	ml	12	Yes
M443.2NP.L1	Praseodymium Pr - 10 mg/l in HNO <sub>3</sub> for ICP-MS (Pr <sub>6</sub> O <sub>11</sub> 99.999%)	100	ml	12	Yes
M444.2CP.L1	Platinum Pt - 10 mg/l in HCl for ICP-MS (Pt 99.999%)	100	ml	12	Yes
M445.2NP.L1	Rubidium Rb - 10 mg/l in 2% HNO <sub>3</sub> for ICP-MS (RbNO <sub>3</sub> 99.99%)	100	ml	12	Yes
M446.2NP.L1	Rhenium Re - 10 mg/l in HNO <sub>3</sub> for ICP-MS (Re 99.995+%)	100	ml	12	Yes
M447.2CP.L1	Rhodium Rh - 10 mg/l in 2% HCl for ICP-MS (RhCl <sub>3</sub> 99.99%)	100	ml	12	Yes
M448.2CP.L1	Ruthenium Ru - 10 mg/l in 2% HCl for ICP-MS (RuCl <sub>3</sub> 99.99%)	100	ml	12	Yes
M449.W.L1	Sulphur S - 10 mg/l in H <sub>2</sub> O for ICP-MS ((NH <sub>4</sub> ) <sub>2</sub> SO <sub>4</sub> 99.999%)	100	ml	12	Yes
M450.2N05FP.L1	Antimony Sb - 10 mg/l in HNO <sub>3</sub> /tr.HF for ICP-MS (Sb 99.999%)	100	ml	12	Yes
M451.2NP.L1	Scandium Sc - 10 mg/l in HNO <sub>3</sub> for ICP-MS (Sc(NO <sub>3</sub> ) <sub>3</sub> 99.999%)	100	ml	12	Yes
M452.2NP.L1	Selenium Se - 10 mg/l in HNO <sub>3</sub> for ICP-MS (Se 99.999%)	100	ml	12	Yes
M453.W.L1	Silicon Si - 10 mg/l in H <sub>2</sub> O for ICP-MS ((NH <sub>4</sub> ) <sub>2</sub> SiF <sub>6</sub> 99.999%)	100	ml	12	Yes
M454.2NP.L1	Samarium Sm - 10 mg/l in 2% HNO <sub>3</sub> for ICP-MS (Sm <sub>2</sub> O <sub>3</sub> 99.999%)	100	ml	12	Yes
M455.1N05FP.L1	Tin Sn - 10 mg/l in HNO <sub>3</sub> /tr.HF for ICP-MS (Sn 99.9999%)	100	ml	12	Yes
M456.2NP.L1	Strontium Sr - 10 mg/l in HNO <sub>3</sub> for ICP-MS (SrCO <sub>3</sub> 99.999%)	100	ml	12	Yes
M457.2N05FP.L1	Tantalum Ta - 10 mg/l in 2% HNO <sub>3</sub> /0.5% HF for ICP-MS (Ta 99.99+%)	100	ml	12	Yes
M458.2NP.L1	Terbium Tb - 10 mg/l in HNO <sub>3</sub> for ICP-MS (Tb(NO <sub>3</sub> ) <sub>3</sub> 99.999%)	100	ml	12	Yes
M459.2NP.L1	Tellurium Te - 10 mg/l in HNO <sub>3</sub> for ICP-MS (Te 99.999%)	100	ml	12	Yes
M461.2N02FP.L1	Titanium Ti - 10 mg/l in HNO <sub>3</sub> /tr.HF for ICP-MS ((NH <sub>4</sub> ) <sub>2</sub> TiF <sub>6</sub> , 99.998%)	100	ml	12	Yes
M462.2NP.L1	Thallium Tl - 10 mg/l in HNO <sub>3</sub> for ICP-MS (TlNO <sub>3</sub> 99.999%)	100	ml	12	Yes
M463.2NP.L1	Thulium Tm - 10 mg/l in HNO <sub>3</sub> for ICP-MS (Tm <sub>2</sub> O <sub>3</sub> 99.999%)	100	ml	12	Yes
M464.2NP.L1	Uranium U - 10 mg/l in HNO <sub>3</sub> for ICP-MS (UO <sub>2</sub> (OOCCH <sub>3</sub> ) <sub>2</sub> 99.99%)	100	ml	12	Yes
M465.2NP.L1	Vanadium V - 10 mg/l in HNO <sub>3</sub> for ICP-MS (NH <sub>4</sub> VO <sub>3</sub> 99.999%)	100	ml	12	Yes
M466.W.L1	Tungsten W - 10 mg/l in 0.05% NH <sub>3</sub> for ICP-MS (WO <sub>3</sub> 99.999%)	100	ml	12	Yes
M467.2NP.L1	Yttrium Y - 10 mg/l in HNO <sub>3</sub> for ICP-MS (Y <sub>2</sub> O <sub>3</sub> 99.999%)	100	ml	12	Yes
M468.2NP.L1	Ytterbium Yb - 10 mg/l in HNO <sub>3</sub> for ICP-MS (Yb <sub>2</sub> O <sub>3</sub> 99.999%)	100	ml	12	Yes

Ref. Number	Description	Volume	Msr. Unit	Shelf-life (months)	ISO 17034 ISO 17025
M469.2NP.L1	Zinc Zn - 10 mg/l in HNO <sub>3</sub> for ICP-MS (Zn 99.999%)	100	ml	12	Yes
M470.2N05FP.L1	Zirconium Zr - 10 mg/l in HNO <sub>3</sub> /HF for ICP-MS (ZrO(NO <sub>3</sub> ) <sub>2</sub> 99.99%)	100	ml	12	Yes

## ICP-MS Single-Element Standards

*100 mg/l*

Ref. Number	Description	Volume	Msr. Unit	Shelf-life (months)	ISO 17034 ISO 17025
M301.2NP.L1	Silver Ag - 100 mg/l in HNO <sub>3</sub> for ICP-MS (Ag 99.999%)	100	ml	12	Yes
M302.2NP.L1	Aluminium Al - 100 mg/l in HNO <sub>3</sub> for ICP-MS (Al(NO <sub>3</sub> ) <sub>3</sub> - 99.999%)	100	ml	12	Yes
M303.2NP.L1	Arsenic As - 100 mg/l in HNO <sub>3</sub> for ICP-MS (As 99.999%)	100	ml	12	Yes
M304.2CP.L1	Gold Au - 100 mg/l in HCl for ICP-MS (Au 99.999%)	100	ml	12	Yes
M305.W.L1	Boron B - 100 mg/l in H <sub>2</sub> O for ICP-MS ((NH <sub>4</sub> ) <sub>2</sub> B <sub>4</sub> O <sub>7</sub> 99.999%)	100	ml	12	Yes
M306.2NP.L1	Barium Ba - 100 mg/l in HNO <sub>3</sub> for ICP-MS (BaCO <sub>3</sub> 99.999%)	100	ml	12	Yes
M307.2NP.L1	Beryllium Be - 100 mg/l in 2% HNO <sub>3</sub> for ICP-MS (Be <sub>4</sub> O(C <sub>2</sub> H <sub>3</sub> O <sub>2</sub> ) <sub>6</sub> 99.999%)	100	ml	12	Yes
M308.2NP.L1	Bismuth Bi - 100 mg/l in HNO <sub>3</sub> for ICP-MS (Bi 99.999%)	100	ml	12	Yes
M309.2NP.L1	Calcium Ca - 100 mg/l in HNO <sub>3</sub> for ICP-MS (CaCO <sub>3</sub> 99.999%)	100	ml	12	Yes
M310.2NP.L1	Cadmium Cd - 100 mg/l in HNO <sub>3</sub> for ICP-MS (Cd 99.9999%)	100	ml	12	Yes
M311.2NP.L1	Cerium Ce - 100 mg/l in HNO <sub>3</sub> for ICP-MS (Ce(NO <sub>3</sub> ) <sub>3</sub> 99.999%)	100	ml	12	Yes
M312.2NP.L1	Cobalt Co - 100 mg/l in HNO <sub>3</sub> for ICP-MS (Co(NO <sub>3</sub> ) <sub>2</sub> 99.999%)	100	ml	12	Yes
M313.2NP.L1	Chromium Cr - 100 mg/l in HNO <sub>3</sub> for ICP-MS (Cr(NO <sub>3</sub> ) <sub>3</sub> 99.999%)	100	ml	12	Yes
M314.2NP.L1	Cesium Cs - 100 mg/l in HNO <sub>3</sub> for ICP-MS (CsNO <sub>3</sub> 99.999%)	100	ml	12	Yes
M315.2NP.L1	Copper Cu - 100 mg/l in HNO <sub>3</sub> for ICP-MS (Cu 99.999%)	100	ml	12	Yes
M316.2NP.L1	Dysprosium Dy - 100 mg/l in HNO <sub>3</sub> for ICP-MS (Dy <sub>2</sub> O <sub>3</sub> 99.999%)	100	ml	12	Yes
M317.2NP.L1	Erbium Er - 100 mg/l in HNO <sub>3</sub> for ICP-MS (Er <sub>2</sub> O <sub>3</sub> 99.999%)	100	ml	12	Yes
M318.2NP.L1	Europium Eu - 100 mg/l in HNO <sub>3</sub> for ICP-MS (Eu <sub>2</sub> O <sub>3</sub> 99.99%)	100	ml	12	Yes
M319.2NP.L1	Iron Fe - 100 mg/l in HNO <sub>3</sub> for ICP-MS (Fe(NO <sub>3</sub> ) <sub>3</sub> 99.9995%)	100	ml	12	Yes
M320.2NP.L1	Gallium Ga - 100 mg/l in HNO <sub>3</sub> for ICP-MS (Ga 99.999+%)	100	ml	12	Yes
M321.2NP.L1	Gadolinium Gd - 100 mg/l in HNO <sub>3</sub> for ICP-MS (Gd <sub>2</sub> O <sub>3</sub> 99.999%)	100	ml	12	Yes
M322.2N02FP.L1	Germanium Ge - 100 mg/l in HNO <sub>3</sub> /tr.HF for ICP-MS (Ge 99.999%)	100	ml	12	Yes
M323.2N05FP.L1	Hafnium Hf - 100 mg/l in HNO <sub>3</sub> /trHF for ICP-MS (HfO <sub>2</sub> 99.995%)	100	ml	12	Yes
M324.5NP.L1	Mercury Hg - 100 mg/l in 5% HNO <sub>3</sub> for ICP-MS (HgO 99.999+%)	100	ml	12	Yes
M325.2NP.L1	Holmium Ho - 100 mg/l in HNO <sub>3</sub> for ICP-MS (Ho <sub>2</sub> O <sub>3</sub> 99.99%)	100	ml	12	Yes
M326.2NP.L1	Indium In - 100 mg/l in HNO <sub>3</sub> for ICP-MS (In 99.999%)	100	ml	12	Yes
M327.2CP.L1	Iridium Ir - 100 mg/l in HCl for ICP-MS ((NH <sub>4</sub> ) <sub>2</sub> IrCl <sub>6</sub> 99.99%)	100	ml	12	Yes
M328.2NP.L1	Potassium K - 100 mg/l in HNO <sub>3</sub> for ICP-MS (KNO <sub>3</sub> 99.999%)	100	ml	12	Yes
M329.2NP.L1	Lanthanum La - 100 mg/l in HNO <sub>3</sub> for ICP-MS (La <sub>2</sub> O <sub>3</sub> 99.999%)	100	ml	12	Yes
M330.2NP.L1	Lithium Li - 100 mg/l in HNO <sub>3</sub> for ICP-MS (Li <sub>2</sub> CO <sub>3</sub> 99.999%)	100	ml	12	Yes
M331.2NP.L1	Lutetium Lu - 100 mg/l in HNO <sub>3</sub> for ICP-MS (Lu <sub>2</sub> O <sub>3</sub> 99.99%)	100	ml	12	Yes
M332.2NP.L1	Magnesium Mg - 100 mg/l in HNO <sub>3</sub> for ICP-MS (Mg(NO <sub>3</sub> ) <sub>2</sub> , 99.9995%)	100	ml	12	Yes
M333.2NP.L1	Manganese Mn - 100 mg/l in HNO <sub>3</sub> for ICP-MS (Mn(NO <sub>3</sub> ) <sub>2</sub> , 99.999%)	100	ml	12	Yes
M334.W.L1	Molybdenum Mo - 100 mg/l in H <sub>2</sub> O for ICP-MS ((NH <sub>4</sub> ) <sub>2</sub> MoO <sub>4</sub> , 99.999%)	100	ml	12	Yes

Ref. Number	Description	Volume	Msr. Unit	Shelf-life (months)	ISO 17034 ISO 17025
M335.2NP.L1	Sodium Na - 100 mg/l in HNO <sub>3</sub> for ICP-MS (NaNO <sub>3</sub> 99.999%)	100	ml	12	Yes
M336.2N05FP.L1	Niobium Nb - 100 mg/l in HNO <sub>3</sub> / tr.HF for ICP-MS (Nb 99.9+%)	100	ml	12	Yes
M337.2NP.L1	Neodimium Nd - 100 mg/l in HNO <sub>3</sub> for ICP-MS (Nd <sub>2</sub> O <sub>3</sub> 99.999%)	100	ml	12	Yes
M338.2NP.L1	Nickel Ni - 100 mg/l in HNO <sub>3</sub> for ICP-MS (Ni, 99.9998%)	100	ml	12	Yes
M340.W.L1	Phosphorus P - 100 mg/l in H <sub>2</sub> O for ICP-MS (NH <sub>4</sub> H <sub>2</sub> PO <sub>4</sub> 99.999%)	100	ml	12	Yes
M341.2NP.L1	Lead Pb - 100 mg/l in HNO <sub>3</sub> for ICP-MS (Pb(NO <sub>3</sub> ) <sub>2</sub> 99.9995%)	100	ml	12	Yes
M342.2NP.L1	Palladium Pd - 100 mg/l in HNO <sub>3</sub> for ICP-MS (Pd 99.999%)	100	ml	12	Yes
M343.2NP.L1	Praseodymium Pr - 100 mg/l in HNO <sub>3</sub> for ICP-MS (Pr <sub>6</sub> O <sub>11</sub> 99.999%)	100	ml	12	Yes
M344.2CP.L1	Platinum Pt - 100 mg/l in HCl for ICP-MS (Pt 99.999%)	100	ml	12	Yes
M345.2NP.L1	Rubidium Rb - 100 mg/l in HNO <sub>3</sub> for ICP-MS (RbNO <sub>3</sub> 99.99%)	100	ml	12	Yes
M346.2NP.L1	Rhenium Re - 100 mg/l in HNO <sub>3</sub> for ICP-MS (Re 99.995+%)	100	ml	12	Yes
M347.2CP.L1	Rhodium Rh - 100 mg/l in HCl for ICP-MS ((RhCl <sub>3</sub> , 99.99%)	100	ml	12	Yes
M348.2CP.L1	Ruthenium Ru - 100 mg/l in HCl for ICP-MS (RuCl <sub>3</sub> 99.99%)	100	ml	12	Yes
M349.W.L1	Sulphur S - 100 mg/l in H <sub>2</sub> O for ICP-MS ((NH <sub>4</sub> ) <sub>2</sub> SO <sub>4</sub> 99.999%)	100	ml	12	Yes
M350.2N05FP.L1	Antimony Sb - 100 mg/l in HNO <sub>3</sub> /tr.HF for ICP-MS (Sb 99.999%)	100	ml	12	Yes
M351.2NP.L1	Scandium Sc - 100 mg/l in HNO <sub>3</sub> for ICP-MS (Sc <sub>2</sub> O <sub>3</sub> 99.999%)	100	ml	12	Yes
M352.2NP.L1	Selenium Se - 100 mg/l in HNO <sub>3</sub> for ICP-MS (Se 99.999%)	100	ml	12	Yes
M353.W.L1	Silicon Si - 100 mg/l in H <sub>2</sub> O for ICP-MS ((NH <sub>4</sub> ) <sub>2</sub> SiF <sub>6</sub> 99.999%)	100	ml	12	Yes
M354.2NP.L1	Samarium Sm - 100 mg/l in HNO <sub>3</sub> for ICP-MS (Sm <sub>2</sub> O <sub>3</sub> 99.999%)	100	ml	12	Yes
M355.1N05FP.L1	Tin Sn - 100 mg/l in HNO <sub>3</sub> /tr.HF for ICP-MS (Sn 99.9999%)	100	ml	12	Yes
M356.2NP.L1	Strontium Sr - 100 mg/l in HNO <sub>3</sub> for ICP-MS (SrCO <sub>3</sub> 99.999%)	100	ml	12	Yes
M357.2N05FP.L1	Tantalum Ta - 100 mg/l in HNO <sub>3</sub> /tr.HF for ICP-MS (Ta 99.99+%)	100	ml	12	Yes
M358.2NP.L1	Terbium Tb - 100 mg/l in HNO <sub>3</sub> for ICP-MS (Tb(NO <sub>3</sub> ) <sub>3</sub> , 99.999%)	100	ml	12	Yes
M359.2NP.L1	Tellurium Te - 100 mg/l in HNO <sub>3</sub> for ICP-MS (Te 99.999%)	100	ml	12	Yes
M361.2N02FP.L1	Titanium Ti - 100 mg/l in HNO <sub>3</sub> /tr.HF for ICP-MS ((NH <sub>4</sub> ) <sub>2</sub> TiF <sub>6</sub> , 99.998%)	100	ml	12	Yes
M362.2NP.L1	Thallium Tl - 100 mg/l in HNO <sub>3</sub> for ICP-MS (TlNO <sub>3</sub> 99.999%)	100	ml	12	Yes
M363.2NP.L1	Thulium Tm - 100 mg/l in HNO <sub>3</sub> for ICP-MS (Tm <sub>2</sub> O <sub>3</sub> 99.999%)	100	ml	12	Yes
M364.2NP.L1	Uranium U - 100 mg/l in HNO <sub>3</sub> for ICP-MS (UO <sub>2</sub> (OOCCH <sub>3</sub> ) <sub>2</sub> , 99.99%)	100	ml	12	Yes
M365.2NP.L1	Vanadium V - 100 mg/l in HNO <sub>3</sub> for ICP-MS (NH <sub>4</sub> VO <sub>3</sub> 99.999%)	100	ml	12	Yes
M366.W.L1	Tungsten W - 100 mg/l in 0.05% NH <sub>3</sub> for ICP-MS (WO <sub>3</sub> 99.999%)	100	ml	12	Yes
M367.2NP.L1	Yttrium Y - 100 mg/l in HNO <sub>3</sub> for ICP-MS (Y <sub>2</sub> O <sub>3</sub> 99.999%)	100	ml	12	Yes
M368.2NP.L1	Ytterbium Yb - 100 mg/l in HNO <sub>3</sub> for ICP-MS (Yb <sub>2</sub> O <sub>3</sub> 99.999%)	100	ml	12	Yes
M369.2NP.L1	Zinc Zn - 100 mg/l in HNO <sub>3</sub> for ICP-MS (Zn 99.9999%)	100	ml	12	Yes
M370.2N05FP.L1	Zirconium Zr - 100 mg/l in HNO <sub>3</sub> /tr.HF for ICP-MS (ZrO(NO <sub>3</sub> ) <sub>2</sub> 99.99%)	100	ml	12	Yes

## ICP-MS Single-Element Standards

1000 mg/l

Ref. Number	Description	Volume	Msr. Unit	Shelf-life (months)	ISO 17034 ISO 17025
M256.2NP.L1	Sr 1000mg/l in diluted HNO3 for ICP/MS	100	ml	12	Yes
M201.2NP.L1	Ag 1000mg/l in diluted HNO3 for ICP/MS	100	ml	12	Yes
M202.2NP.L1	Al 1000mg/l in diluted HNO3 for ICP/MS	100	ml	12	Yes
M203.2NP.L1	As 1000mg/l in diluted HNO3 for ICP/MS	100	ml	12	Yes
M204.2CP.L1	Au 1000mg/l in diluted HCl for ICP/MS	100	ml	12	Yes
M205.W.L1	B 1000mg/l in H2O for ICP/MS	100	ml	12	Yes
M206.2NP.L1	Ba 1000mg/l in diluted HNO3 for ICP/MS	100	ml	12	Yes
M207.2NP.L1	Be 1000mg/l in diluted HNO3 for ICP/MS	100	ml	12	Yes
M208.2NP.L1	Bi 1000mg/l in diluted HNO3 for ICP/MS	100	ml	12	Yes
M209.2NP.L1	Ca 1000mg/l in diluted HNO3 for ICP/MS	100	ml	12	Yes
M210.2NP.L1	Cd 1000mg/l in diluted HNO3 for ICP/MS	100	ml	12	Yes
M212.2NP.L1	Co 1000mg/l in diluted HNO3 for ICP/MS	100	ml	12	Yes
M213.2NP.L1	Cr 1000mg/l in diluted HNO3 for ICP/MS	100	ml	12	Yes
M215.2NP.L1	Cu 1000mg/l in diluted HNO3 for ICP/MS	100	ml	12	Yes
M219.2NP.L1	Fe 1000mg/l in diluted HNO3 for ICP/MS	100	ml	12	Yes
M220.2NP.L1	Ga 1000mg/l in diluted HNO3 for ICP/MS	100	ml	12	Yes
M222.2N2FP.L1	Ge 1000mg/l in diluted HNO3/ HF for ICP/MS	100	ml	12	Yes
M224.5N.L1	Hg 1000mg/l in diluted HNO3 for ICP/MS	100	ml	12	Yes
M226.2NP.L1	In 1000mg/l in diluted HNO3 for ICP/MS	100	ml	12	Yes
M228.2NP.L1	K 1000mg/l in diluted HNO3 for ICP/MS	100	ml	12	Yes
M229.2NP.L1	La 1000mg/l in diluted HNO3 for ICP/MS	100	ml	12	Yes
M230.2NP.L1	Li 1000mg/l in diluted HNO3 for ICP/MS	100	ml	12	Yes
M231.2NP.L1	Lu 1000mg/l in diluted HNO3 for ICP/MS	100	ml	12	Yes
M232.2NP.L1	Mg 1000mg/l in diluted HNO3 for ICP/MS	100	ml	12	Yes
M233.2NP.L1	Mn 1000mg/l in diluted HNO3 for ICP/MS	100	ml	12	Yes
M235.2NP.L1	Na 1000mg/l in diluted HNO3 for ICP/MS	100	ml	12	Yes
M238.2NP.L1	Ni 1000mg/l in diluted HNO3 for ICP/MS	100	ml	12	Yes
M240.W.L1	P 1000mg/l in Water for ICP/MS	100	ml	12	Yes
M241.2NP.L1	Pb 1000mg/l in diluted HNO3 for ICP/MS	100	ml	12	Yes
M244.2CP.L1	Pt 1000mg/l in diluted HCl for ICP/MS	100	ml	12	Yes
M247.2CP.L1	Rh 1000mg/l in diluted HCl for ICP/MS	100	ml	12	Yes
M249.W.L1	S 1000mg/l in Water for ICP/MS	100	ml	12	Yes
M250.2N05FP.L1	Sb 1000mg/l in diluted HNO3/HF for ICP/MS	100	ml	12	Yes
M251.2NP.L1	Sc 1000mg/l in diluted HNO3 for ICP/MS	100	ml	12	Yes
M252.2NP.L1	Se 1000mg/l in diluted HNO3 for ICP/MS	100	ml	12	Yes
M255.1N05FP.L1	Sn 1000mg/l in diluted HNO3/ HF for ICP/MS	100	ml	12	Yes
M258.2NP.L1	Tb 1000mg/l in diluted HNO3 for ICP/MS	100	ml	12	Yes
M261.2N2FP.L1	Ti 1000mg/l in diluted HNO3/ HF for ICP/MS	100	ml	12	Yes
M262.2NP.L1	Tl 1000mg/l in diluted HNO3 for ICP/MS	100	ml	12	Yes
M265.2NP.L1	V 1000mg/l in diluted HNO3 for ICP/MS	100	ml	12	Yes
M267.2NP.L1	Y 1000mg/l in diluted HNO3 for ICP/MS	100	ml	12	Yes
M269.2NP.L1	Zn 1000mg/l in diluted HNO3 for ICP/MS	100	ml	12	Yes

## ICP-MS Single-Element Standards

10 000 mg/l

Ref. Number	Description	Volume	Msr. Unit	Shelf-life (months)	ISO 17034 ISO 17025
M108.10NP.L1	Bi 10 000mg/l in diluted HNO3 for ICP/MS	100	ml	12	Yes
M109.2NP.L1	Ca 10 000mg/l in diluted HNO3 for ICP/MS	100	ml	12	Yes
M110.5NP.L1	Cd 10 000mg/l in diluted HNO3 for ICP/MS	100	ml	12	Yes
M112.5NP.L1	Co 10 000mg/l in diluted HNO3 for ICP/MS	100	ml	12	Yes
M113.5NP.L1	Cr 10 000mg/l in diluted HNO3 for ICP/MS	100	ml	12	Yes
M115.5NP.L1	Cu 10 000mg/l in diluted HNO3 for ICP/MS	100	ml	12	Yes
M119.5NP.L1	Fe 10 000mg/l in diluted HNO3 for ICP/MS	100	ml	12	Yes
M128.2NP.L1	K 10 000mg/l in diluted HNO3 for ICP/MS	100	ml	12	Yes
M130.2NP.L1	Li 10 000mg/l in diluted HNO3 for ICP/MS	100	ml	12	Yes
M132.2NP.L1	Mg 10 000mg/l in diluted HNO3 for ICP/MS	100	ml	12	Yes
M133.5NP.L1	Mn 10 000mg/l in diluted HNO3 for ICP/MS	100	ml	12	Yes
M135.2NP.L1	Na 10 000mg/l in diluted HNO3 for ICP/MS	100	ml	12	Yes
M140.W.L1	P 10 000mg/l in H2O for ICP/MS	100	ml	12	Yes
M149.W.L1	S 10 000mg/l in H2O for ICP/MS	100	ml	12	Yes
M150.10N2FP.L1	Sb 10 000mg/l in diluted HNO3/ HF for ICP/MS	100	ml	12	Yes
M155.2N2FP.L1	Sn 10 000mg/l in diluted HNO3/ HF for ICP/MS	100	ml	12	Yes
M169.5NP.L1	Zn 10 000mg/l in diluted HNO3 for ICP/MS	100	ml	12	Yes

## Blanks &amp; dilution matrices

Ref. Number	Description	Volume	Msr. Unit	Shelf-life (months)	ISO 17034 ISO 17025
MS6469.0.05N.L5	Blank- Nitric Acid 0.5%	500	ml	6	No
MS6469.0.05N.1L	Blank- Nitric Acid 0.5%	1000	ml	6	No
MS6469.0.5N.L5	Blank- Nitric Acid 5%	500	ml	6	No
MS6469.0.5N.1L	Blank- Nitric Acid 5%	1000	ml	6	No
MS6469.0.W.L5	High - purity Water for ICP-MS	500	ml	6	No
MS6469.0.W.1L	High - purity Water for ICP-MS	1000	ml	6	No

## ICP-MS Calibration Standards

Ref. Number	Description	Volume	Msr. Unit	Shelf-life (months)	ISO 17034 ISO 17025
61D0.4.2N.L1	ICP-MS Calibration standard - 3 components; Cr 4mg/l ; Sr 4mg/l ; Fe 20mg/l in HNO3 2%	100	ml	6	Yes
61D0.4.2N.L5	ICP-MS Calibration standard - 3 components; Cr 4mg/l ; Sr 4mg/l ; Fe 20mg/l in HNO3 2%	500	ml	6	Yes
D298.10.2N01F.L1	ICP-MS Calibration standard - 4 components; 10mg/l each of Mo ; Sb ; Sn ; Ti in HNO3 2% ; HF 0.1%	100	ml	6	Yes
D298.10.2N01F.L5	ICP-MS Calibration standard - 4 components; 10mg/l each of Mo ; Sb ; Sn ; Ti in HNO3 2% ; HF 0.1%	500	ml	6	Yes
MS8675.10.10C.L1	ICP-MS Calibration standard - 4 components; 10mg/l each of Ir ; Pd ; Pt ; Ru in HCl 10%	100	ml	12	Yes
MS91C8.1K.2N.L1	ICP-MS Calibration standard - 4 components; 1000mg/l each of Ca ; Mg ; K ; Na in HNO3 2%	100	ml	12	Yes
MS91C8.1K.2N.L5	ICP-MS Calibration standard - 4 components; 1000mg/l each of Ca ; Mg ; K ; Na in HNO3 2%	500	ml	12	Yes
MS13BF.1K.2N.L1	ICP-MS Calibration standard - 5 components; 1000mg/l each of Ca ; Mg ; K ; Na ; Fe in HNO3 2%	100	ml	12	Yes
MS13BF.1K.2N.L25	ICP-MS Calibration standard - 5 components; 1000mg/l each of Ca ; Mg ; K ; Na ; Fe in HNO3 2%	250	ml	12	Yes
161D.D001.2.5N05C.L5	ICP-MS tuning solution B ICAP - 7 components; 1ug/l each of Ba ; Bi ; Ce ; Co ; In ; Li ; U in HNO3 2.5% ; HCl 0.5%	500	ml	4	Yes
2407.2.2N.L1	ICP-MS Calibration standard - 8 components; As 2mg/l ; Cd 2mg/l ; Cr 3mg/l ; Cu 10mg/l ; Fe 4mg/l ; Ni 2mg/l ; Pb 5mg/l ; Zn 10mg/l in HNO3 2%	100	ml	6	Yes
2407.2.2N.L25	ICP-MS Calibration standard - 8 components; As 2mg/l ; Cd 2mg/l ; Cr 3mg/l ; Cu 10mg/l ; Fe 4mg/l ; Ni 2mg/l ; Pb 5mg/l ; Zn 10mg/l in HNO3 2%	250	ml	6	Yes
2407.2.2N.L5	ICP-MS Calibration standard - 8 components; As 2mg/l ; Cd 2mg/l ; Cr 3mg/l ; Cu 10mg/l ; Fe 4mg/l ; Ni 2mg/l ; Pb 5mg/l ; Zn 10mg/l in HNO3 2%	500	ml	6	Yes
A2E5.10.5C.L1	ICP-MS Calibration Precious Metals Standard - 8 components; 10mg/l each of Au ; Ir ; Os ; Pd ; Pt ; Re ; Rh ; Ru in HCl 5%	100	ml	6	Yes
MSBD60.10.2N01F.L1	ICP-MS Calibration standard - 8 components: 10 mg/l each of Ge, Hf, Mo, Sb, Sn, Te, W, Zr, in HNO3 2%; HF 0.1%;	100	ml	6	Yes
MSBD60.10.2N01F.L5	ICP-MS Calibration standard - 8 components: 10 mg/l each of Ge, Hf, Mo, Sb, Sn, Te, W, Zr, in HNO3 2%; HF 0.1%;	500	ml	6	Yes
C304.50.2CtrF.L1	ICP-MS Calibration standard - 10 components; W 40mg/l ; Rh 40mg/l ; Pt 40mg/l ; Pd 40mg/l ; Te 40mg/l ; Zr 40mg/l ; Si 40mg/l ; Mo 50mg/l ; Sb 80mg/l ; Sn 80mg/l in HCl 2% ; HF tr	100	ml	6	Yes
C304.50.2CtrF.L5	ICP-MS Calibration standard - 10 components; W 40mg/l ; Rh 40mg/l ; Pt 40mg/l ; Pd 40mg/l ; Te 40mg/l ; Zr 40mg/l ; Si 40mg/l ; Mo 50mg/l ; Sb 80mg/l ; Sn 80mg/l in HCl 2% ; HF tr	500	ml	6	Yes
D743.10.2N.L1	ICP-MS Calibration standard - 10 components; 10mg/l each of Ba ; Be ; Bi ; Ce ; Co ; In ; Li ; Ni ; Pb ; U in HNO3 2%	100	ml	6	Yes
D743.10.2N.L5	ICP-MS Calibration standard - 10 components; 10mg/l each of Ba ; Be ; Bi ; Ce ; Co ; In ; Li ; Ni ; Pb ; U in HNO3 2%	500	ml	6	Yes

Ref. Number	Description	Volume	Msr. Unit	Shelf-life (months)	ISO 17034 ISO 17025
E9A6.2D5.2N.L1	ICP-MS Calibration standard - 12 components; As 2.5mg/l ; Cd 0.5mg/l ; Cr 5mg/l ; Hg 0.2mg/l ; Ni 5mg/l ; Pb 5mg/l ; Zn 5mg/l ; Ba 2.5mg/l ; Cu 5mg/l ; Mo 3mg/l ; Sb 0.5mg/l ; Se 0.7mg/l in HNO3 2%	100	ml	4	Yes
E9A6.2D5.2N.L5	ICP-MS Calibration standard - 12 components; As 2.5mg/l ; Cd 0.5mg/l ; Cr 5mg/l ; Hg 0.2mg/l ; Ni 5mg/l ; Pb 5mg/l ; Zn 5mg/l ; Ba 2.5mg/l ; Cu 5mg/l ; Mo 3mg/l ; Sb 0.5mg/l ; Se 0.7mg/l in HNO3 2%	500	ml	4	Yes
058E.10.5N.L1	ICP-MS Refractory Elements Standard - 12 components; 10mg/l each of Ge ; Hf ; Mo ; Nb ; Sb ; Si ; Sn ; Ta ; Te ; Ti ; W ; Zr in HNO3 5% ; HF tr%	100	ml	6	Yes
MSE5D8.10.5N.L1	ICP-MS Calibration standard - 16 components; 10ug/ml each of Cu ; Sr ; Mn ; Li ; Co ; As ; Zn ; Se ; Cs ; Rb ; Pb ; Sc ; Ni ; V ; Cr ; Be in HNO3 5%	100	ml	6	Yes
MSE5D8.10.5N.L5	ICP-MS Calibration standard - 16 components; 10ug/ml each of Cu ; Sr ; Mn ; Li ; Co ; As ; Zn ; Se ; Cs ; Rb ; Pb ; Sc ; Ni ; V ; Cr ; Be in HNO3 5%	500	ml	6	Yes
MSBEDC.10.2N.L1	ICP-MS Calibration standard - 18 components; 10mg/l each of Ag ; Al ; As ; Ba ; Be ; Cd ; Cr ; Co ; Cu ; Mn ; Ni ; Pb ; Se ; Th ; Tl ; U ; V ; Zn in HNO3 2%	100	ml	6	Yes
E5B8.K1.5N.L1	ICP-MS Calibration standard - 21 components; 100ug/ml each of Al ; Ag ; As ; Ba ; Be ; Cd ; Co ; Cr ; Cu ; Fe ; K ; Mn ; Mo ; Ni ; Pb ; Sb ; Se ; Tl ; V ; Zn ; Sn in HNO3 5%	100	ml	12	Yes
E5B8.K1.5N.L25	ICP-MS Calibration standard - 21 components; 100ug/ml each of Al ; Ag ; As ; Ba ; Be ; Cd ; Co ; Cr ; Cu ; Fe ; K ; Mn ; Mo ; Ni ; Pb ; Sb ; Se ; Tl ; V ; Zn ; Sn in HNO3 5%	250	ml	12	Yes
E5B8.K1.5N.L5	ICP-MS Calibration standard - 21 components; 100ug/ml each of Al ; Ag ; As ; Ba ; Be ; Cd ; Co ; Cr ; Cu ; Fe ; K ; Mn ; Mo ; Ni ; Pb ; Sb ; Se ; Tl ; V ; Zn ; Sn in HNO3 5%	500	ml	12	Yes
MS069C.5.2N.L1	ICP-MS Calibration standard - 22 components; Ag 5mg/l ; Al 30mg/l ; As 10mg/l ; B 30mg/l ; Ba 10mg/l ; Be 3mg/l ; Cd 3mg/l ; Co 5mg/l ; Cr 10mg/l ; Cu 10mg/l ; Mn 5mg/l ; Mo 3mg/l ; Ni 10mg/l ; Pb 5mg/l ; Se 5mg/l ; Sn 10mg/l ; Tl 2mg/l ; Te 10mg/l ; V 10mg/l ; Zn 100mg/l ; Sr 100mg/l ; Ti 3mg/l in HNO3 2%	100	ml	6	Yes
MS069C.5.2N.L5	ICP-MS Calibration standard - 22 components; Ag 5mg/l ; Al 30mg/l ; As 10mg/l ; B 30mg/l ; Ba 10mg/l ; Be 3mg/l ; Cd 3mg/l ; Co 5mg/l ; Cr 10mg/l ; Cu 10mg/l ; Mn 5mg/l ; Mo 3mg/l ; Ni 10mg/l ; Pb 5mg/l ; Se 5mg/l ; Sn 10mg/l ; Tl 2mg/l ; Te 10mg/l ; V 10mg/l ; Zn 100mg/l ; Sr 100mg/l ; Ti 3mg/l in HNO3 2%	500	ml	6	Yes
0F49.50.2N.L1	ICP-MS Calibration standard - 27 components; B 40mg/l ; Be 40mg/l ; Cd 40mg/l ; Se 40mg/l ; Tl 40mg/l ; Li 40mg/l ; Ti 40mg/l ; In 40mg/l ; Ag 50mg/l ; Ba 50mg/l ; Co 50mg/l ; Cr 50mg/l ; Cu 50mg/l ; Fe 50mg/l ; Mn 50mg/l ; Ni 50mg/l ; Sr 50mg/l ; V 50mg/l ; Zn 50mg/l ; Al 80mg/l ; As 80mg/l ; K 80mg/l ; Pb 80mg/l ; Na 80mg/l ; Mg 80mg/l ; Ca 80mg/l ; P 200mg/l in HNO3 2%	100	ml	6	Yes
0F49.50.2N.L5	ICP-MS Calibration standard - 27 components; B 40mg/l ; Be 40mg/l ; Cd 40mg/l ; Se 40mg/l ; Tl 40mg/l ; Li 40mg/l ; Ti 40mg/l ; In 40mg/l ; Ag 50mg/l ; Ba 50mg/l ; Co 50mg/l ; Cr 50mg/l ; Cu 50mg/l ; Fe 50mg/l ; Mn 50mg/l ; Ni 50mg/l ; Sr 50mg/l ; V 50mg/l ; Zn 50mg/l ; Al 80mg/l ; As 80mg/l ; K 80mg/l ; Pb 80mg/l ; Na 80mg/l ; Mg 80mg/l ; Ca 80mg/l ; P 200mg/l in HNO3 2%	500	ml	6	Yes



Ref. Number	Description	Volume	Msr. Unit	Shelf-life (months)	ISO 17034 ISO 17025
0956.D05.5N.L1	ICP-MS Calibration standard - 28 components; Al 0.050mg/l ; As 0.050mg/l ; B 0.2mg/l ; Ba 0.050mg/l ; Bi 0.050mg/l ; Ca 0.5mg/l ; Cd 0.005mg/l ; Co 0.050mg/l ; Cr 0.1mg/l ; Be 0.010mg/l ; Cu 0.050mg/l ; Fe 0.1mg/l ; K 0.2mg/l ; Na 0.5mg/l ; Li 0.020mg/l ; Mg 0.250mg/l ; Mn 0.050mg/l ; Mo 0.050mg/l ; Ni 0.1mg/l ; P 0.3mg/l ; Pb 0.050mg/l ; Se 0.05mg/l ; Si 1mg/l ; S 1mg/l ; Ti 0.050mg/l ; U 0.050mg/l ; V 0.050mg/l ; Zn 0.1mg/l in HNO3 5%	100	ml	4	Yes
0956.D05.5N.L5	ICP-MS Calibration standard - 28 components; Al 0.050mg/l ; As 0.050mg/l ; B 0.2mg/l ; Ba 0.050mg/l ; Bi 0.050mg/l ; Ca 0.5mg/l ; Cd 0.005mg/l ; Co 0.050mg/l ; Cr 0.1mg/l ; Be 0.010mg/l ; Cu 0.050mg/l ; Fe 0.1mg/l ; K 0.2mg/l ; Na 0.5mg/l ; Li 0.020mg/l ; Mg 0.250mg/l ; Mn 0.050mg/l ; Mo 0.050mg/l ; Ni 0.1mg/l ; P 0.3mg/l ; Pb 0.050mg/l ; Se 0.05mg/l ; Si 1mg/l ; S 1mg/l ; Ti 0.050mg/l ; U 0.050mg/l ; V 0.050mg/l ; Zn 0.1mg/l in HNO3 5%	500	ml	4	Yes
MSE194.10.2N.L1	ICP-MS Calibration standard - 31 components: 10mg/l each of Ag ; Al ; As ; Ba ; B ; Cd ; Ce ; Co ; Cr ; Cu ; Dy ; Er ; Gd ; Ho ; La ; Li ; Lu ; Mn ; Nd ; Ni ; P ; Pb ; Rb ; Se ; Sm ; Sr ; Tl ; Tm ; U ; V ; Zn in HNO3 2%	100	ml	6	Yes
MSE194.10.2N.L25	ICP-MS Calibration standard - 31 components: 10mg/l each of Ag ; Al ; As ; Ba ; B ; Cd ; Ce ; Co ; Cr ; Cu ; Dy ; Er ; Gd ; Ho ; La ; Li ; Lu ; Mn ; Nd ; Ni ; P ; Pb ; Rb ; Se ; Sm ; Sr ; Tl ; Tm ; U ; V ; Zn in HNO3 2%	250	ml	6	Yes

## Quality Control Standards for ICP-MS

Ref. Number	Description	Volume	Msr. Unit	Shelf-life (months)	ISO 17034 ISO 17025
MSD0BC.D01.2N.L1	ICP-MS QCS - 0.01 mg/l Hg in HNO3 2%	100	ml	6	Yes
MSD0BC.D01.2N.L5	ICP-MS QCS - 0.01 mg/l Hg in HNO3 2%	500	ml	6	Yes
MSBEDC.D01.1N.L1	ICP-MS QCS - 18 elements : 0.01 mg/l each of Ag, Al, As, Ba, Be, Cd, Cr, Co, Cu, Mn, Ni, Pb, Se, Th, Tl, U, V, Zn, in HNO3 1%	100	ml	6	Yes
MSBEDC.D01.1N.L5	ICP-MS QCS - 18 elements : 0.01 mg/l each of Ag, Al, As, Ba, Be, Cd, Cr, Co, Cu, Mn, Ni, Pb, Se, Th, Tl, U, V, Zn, in HNO3 1%	500	ml	6	Yes
A19C.D002.2N01F.L1	ICP-MS QCS - Trace Metals in Drinking Water Standard - 29 components; Al 120ug/l ; Sb 10ug/l ; As 80ug/l ; Ba 50ug/l ; Be 20ug/l ; Bi 10ug/l ; Cd 10ug/l ; Ca 35000ug/l ; Cr 20ug/l ; Co 25ug/l ; Cu 20ug/l ; Fe 100ug/l ; Pb 40ug/l ; Li 20ug/l ; Mg 9000ug/l ; Mn 40ug/l ; Mo 100ug/l ; Ni 60ug/l ; K 2500ug/l ; Rb 10ug/l ; Se 10ug/l ; Ag 2ug/l ; Na 6000ug/l ; Sr 250ug/l ; Te 3ug/l ; Tl 10ug/l ; U 10ug/l ; V 30ug/l ; Zn 70ug/l in HNO3 2% ; HF 0.1%	100	ml	4	Yes

Ref. Number	Description	Volume	Msr. Unit	Shelf-life (months)	ISO 17034 ISO 17025
A19C.D002.2N01F.L25	ICP-MS QCS - Trace Metals in Drinking Water Standard - 29 components; Al 120ug/l; Sb 10ug/l; As 80ug/l; Ba 50ug/l; Be 20ug/l; Bi 10ug/l; Cd 10ug/l; Ca 35000ug/l; Cr 20ug/l; Co 25ug/l; Cu 20ug/l; Fe 100ug/l; Pb 40ug/l; Li 20ug/l; Mg 9000ug/l; Mn 40ug/l; Mo 100ug/l; Ni 60ug/l; K 2500ug/l; Rb 10ug/l; Se 10ug/l; Ag 2ug/l; Na 6000ug/l; Sr 250ug/l; Te 3ug/l; Tl 10ug/l; U 10ug/l; V 30ug/l; Zn 70ug/l in HNO <sub>3</sub> 2%; HF 0.1%	250	ml	4	Yes
A19C.D002.2N01F.L5	ICP-MS QCS - Trace Metals in Drinking Water Standard - 29 components; Al 120ug/l; Sb 10ug/l; As 80ug/l; Ba 50ug/l; Be 20ug/l; Bi 10ug/l; Cd 10ug/l; Ca 35000ug/l; Cr 20ug/l; Co 25ug/l; Cu 20ug/l; Fe 100ug/l; Pb 40ug/l; Li 20ug/l; Mg 9000ug/l; Mn 40ug/l; Mo 100ug/l; Ni 60ug/l; K 2500ug/l; Rb 10ug/l; Se 10ug/l; Ag 2ug/l; Na 6000ug/l; Sr 250ug/l; Te 3ug/l; Tl 10ug/l; U 10ug/l; V 30ug/l; Zn 70ug/l in HNO <sub>3</sub> 2%; HF 0.1%	500	ml	4	Yes
MSE194.D01.1N.L1	ICP-MS QCS - 31 components; 0.01mg/l each of Ag; Al; As; B; Ba; Cd; Ce; Co; Cr; Cu; Dy; Er; Gd; Ho; La; Li; Lu; Mn; Nd; Ni; P; Pb; Rb; Se; Sm; Sr; Tl; Tm; U; V; Zn in HNO <sub>3</sub> 1%	100	ml	6	Yes
MSE194.D01.1N.L5	ICP-MS QCS - 31 components; 0.01mg/l each of Ag; Al; As; B; Ba; Cd; Ce; Co; Cr; Cu; Dy; Er; Gd; Ho; La; Li; Lu; Mn; Nd; Ni; P; Pb; Rb; Se; Sm; Sr; Tl; Tm; U; V; Zn in HNO <sub>3</sub> 1%	500	ml	6	Yes

## Internal Standards for ICP-MS

Ref. Number	Description	Volume	Msr. Unit	Shelf-life (months)	ISO 17034 ISO 17025
MSA965.K1.2C.L1	ICP-MS Internal Standard - Au 100 mg/l in HCl 2%	100	ml	12	Yes
MS6925.K1.2N.L1	ICP-MS Internal Standard - Be 100 mg/l in HNO <sub>3</sub> 2%	100	ml	12	Yes
MS3926.K1.2N.L1	ICP-MS Internal Standard - Bi 100 mg/l in HNO <sub>3</sub> 2%	100	ml	12	Yes
MSE11C.K1.2N.L1	ICP-MS Internal Standard - Cs 100 mg/l in HNO <sub>3</sub> 2%	100	ml	12	Yes
MS6994.K1.2N.L1	ICP-MS Internal Standard - Eu 100 mg/l in HNO <sub>3</sub> 2%	100	ml	12	Yes
MS59E8.K1.2N.L1	ICP-MS Internal Standard - Ga 100 mg/l in HNO <sub>3</sub> 2%	100	ml	12	Yes
MS69E9.K1.2N.L1	ICP-MS Internal Standard - Ge 100 mg/l in HNO <sub>3</sub> 2%/0.1% HF	100	ml	12	Yes
MSB0BE.K1.2N.L1	ICP-MS Internal Standard - Ho 100 mg/l in HNO <sub>3</sub> 2%	100	ml	12	Yes
MS8C82.K1.2N.L1	ICP-MS Internal Standard - In 100 mg/l in HNO <sub>3</sub> 2%	100	ml	12	Yes
MSDE98.K1.2N.L1	ICP-MS Internal Standard - Pr 100 mg/l in HNO <sub>3</sub> 2%	100	ml	12	Yes
MSAAE4.K1.2N.L1	ICP-MS Internal Standard - Re 100 mg/l in HNO <sub>3</sub> 2%	100	ml	12	Yes
MS06E6.K1.2C.L1	ICP-MS Internal Standard - Rh 100 mg/l in HCl 2%	100	ml	12	Yes
MSE2D9.K1.2N.L1	ICP-MS Internal Standard - Sc 100 mg/l in HNO <sub>3</sub> 2%	100	ml	12	Yes
MSDE6D.K1.2N.L1	ICP-MS Internal Standard - Tb 100 mg/l in HNO <sub>3</sub> 2%	100	ml	12	Yes
MS1837.K1.2N.L1	ICP-MS Internal Standard - Y 100 mg/l in HNO <sub>3</sub> 2%	100	ml	12	Yes
MS1F40.K1.2N.L1	ICP-MS Internal Standard - Yb 100 mg/l in HNO <sub>3</sub> 2%	100	ml	12	Yes
7556.10.N.L1	ICP-MS Internal Standard 2 - 8 components; 10mg/l each of Bi; Ho; In; <sup>6</sup> Li; Sc; Tb; Y; Rh in HNO <sub>3</sub> 2%	100	ml	6	Yes
5188-6525.L1	ICP-MS Alternate Internal Standard 2 - 8 components; 100mg/l each of Bi; Ge; In; <sup>6</sup> Li; Lu; Rh; Sc; Tb in HNO <sub>3</sub> 10%	100	ml	12	Yes

## Instrument Check Standards

Ref. Number	Description	Volume	Msr. Unit	Shelf-life (months)	ISO 17034 ISO 17025
MS4C39.10.2N.L1	ICP-MS ICS - Tuning Solution 4 elements : Cerium 10mg/l; Lithium 10mg/l; Thallium 10mg/l; Yttrium 10mg/l; Nitric Acid 2%;	100	ml	6	Yes
161D.1.2N05C.L1	ICP-MS ICS - Tuning Solution - Tune B ICAP - 7 components; 1mg/l each of Ba ; Bi ; Ce ; Co ; In ; Li ; U in HNO3 2% ; HCl 0.5%	100	ml	6	Yes
MS8AC1.10.2N.L1	ICP-MS ICS - Tuning Solution 9 elements: 10mg/l each of Ba ; Be ; Ce ; Co ; In ; Pb ; Mg ; Rh ; U in HNO3 2%	100	ml	12	Yes
9781.2.5NTF.L1	ICP-MS ICS - Contract Required Detection Limit Standard 2 - 22 components; Ca 1000mg/l ; Mg 1000mg/l ; K 1000mg/l ; Na 1000mg/l ; Fe 400mg/l ; Al 40mg/l ; Ba 20mg/l ; Se 10mg/l ; V 10mg/l ; Sb 4mg/l ; Cr 4mg/l ; Cu 4mg/l ; Zn 4mg/l ; As 2mg/l ; Be 2mg/l ; Cd 2mg/l ; Co 2mg/l ; Pb 2mg/l ; Mn 2mg/l ; Ni 2mg/l ; Ag 2mg/l ; Tl 2mg/l in HNO3 5% ; C4H6O6 tr% ; HF tr%	100	ml	6	Yes

## Plasma Setup Standards

Ref. Number	Description	Volume	Msr. Unit	Shelf-life (months)	ISO 17034 ISO 17025
MSD0BC.1.2N.L1	ICP-MS PSS - Mercury 1mg/l; Nitric Acid 2%;	100	ml	6	Yes
MS9562.D01.05N.L1	ICP-MS PSS - 13 components: 0.01 mg/l each of Mg, Al, Cr, Mn, Cu, Rh, In, Cd, Ce, Pb, Th, B, Ba, in HNO3 0.5%;	100	ml	6	Yes
MS9562.D01.05N.L5	ICP-MS PSS - 13 components: 0.01 mg/l each of Mg, Al, Cr, Mn, Cu, Rh, In, Cd, Ce, Pb, Th, B, Ba, in HNO3 0.5%;	500	ml	6	Yes





# **Ion Chromatography Standards**

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## Ion Chromatography Standards

All IC Standards are Certified Reference Materials, produced and calibrated under CPAchem's quality system that is:

- ISO 9001 certified
- accredited according to ISO/IEC 17025 - Testing
- accredited according to ISO/IEC 17034 - Reference Material Producer

## Single-Ion Standards

Ref. Number	Description	Volume	Msr. Unit	Shelf-life (months)	ISO 17034 ISO 17025
H016.W.L1	Acetates (CH <sub>3</sub> COO <sup>-</sup> ) 1000 mg/l in H <sub>2</sub> O for IC	100	ml	12	Yes
H016.W.L25	Acetates (CH <sub>3</sub> COO <sup>-</sup> ) 1000 mg/l in H <sub>2</sub> O for IC	250	ml	12	Yes
H016.W.L5	Acetates (CH <sub>3</sub> COO <sup>-</sup> ) 1000 mg/l in H <sub>2</sub> O for IC	500	ml	12	Yes
H059.W.L1	Adipates 1000mg/l in Water	100	ml	12	Yes
H059.W.L25	Adipates 1000mg/l in Water	250	ml	12	Yes
H059.W.L5	Adipates 1000mg/l in Water	500	ml	12	Yes
H011.W.L1	Ammonium (NH <sub>4</sub> <sup>+</sup> ) 1000 mg/l in H <sub>2</sub> O for IC	100	ml	12	Yes
H011.W.L25	Ammonium (NH <sub>4</sub> <sup>+</sup> ) 1000 mg/l in H <sub>2</sub> O for IC	250	ml	12	Yes
H011.W.L5	Ammonium (NH <sub>4</sub> <sup>+</sup> ) 1000 mg/l in H <sub>2</sub> O for IC	500	ml	12	Yes
H031.W.L1	Ammonium as N (NH <sub>4</sub> <sup>+</sup> (as N)) 1000 mg/l in H <sub>2</sub> O for IC	100	ml	12	Yes
H031.W.L25	Ammonium as N (NH <sub>4</sub> <sup>+</sup> (as N)) 1000 mg/l in H <sub>2</sub> O for IC	250	ml	12	Yes
H031.W.L5	Ammonium as N (NH <sub>4</sub> <sup>+</sup> (as N)) 1000 mg/l in H <sub>2</sub> O for IC	500	ml	12	Yes
H022.W.L1	Barium (Ba <sup>2+</sup> ) 1000 mg/l in H <sub>2</sub> O for IC	100	ml	12	Yes
H022.W.L25	Barium (Ba <sup>2+</sup> ) 1000 mg/l in H <sub>2</sub> O for IC	250	ml	12	Yes
H022.W.L5	Barium (Ba <sup>2+</sup> ) 1000 mg/l in H <sub>2</sub> O for IC	500	ml	12	Yes
H030.W.L1	Benzoates (C <sub>6</sub> H <sub>5</sub> CO <sub>2</sub> <sup>-</sup> ) 1000 mg/l in H <sub>2</sub> O for IC	100	ml	12	Yes
H030.W.L25	Benzoates (C <sub>6</sub> H <sub>5</sub> CO <sub>2</sub> <sup>-</sup> ) 1000 mg/l in H <sub>2</sub> O for IC	250	ml	12	Yes
H030.W.L5	Benzoates (C <sub>6</sub> H <sub>5</sub> CO <sub>2</sub> <sup>-</sup> ) 1000 mg/l in H <sub>2</sub> O for IC	500	ml	12	Yes
H020.W.L1	Bromates (BrO <sub>3</sub> <sup>-</sup> ) 1000 mg/l in H <sub>2</sub> O for IC	100	ml	12	Yes
H020.W.L25	Bromates (BrO <sub>3</sub> <sup>-</sup> ) 1000 mg/l in H <sub>2</sub> O for IC	250	ml	12	Yes
H020.W.L5	Bromates (BrO <sub>3</sub> <sup>-</sup> ) 1000 mg/l in H <sub>2</sub> O for IC	500	ml	12	Yes
H001.W.L1	Bromides (Br <sup>-</sup> ) 1000 mg/l in H <sub>2</sub> O for IC	100	ml	12	Yes
H001.W.L25	Bromides (Br <sup>-</sup> ) 1000 mg/l in H <sub>2</sub> O for IC	250	ml	12	Yes
H001.W.L5	Bromides (Br <sup>-</sup> ) 1000 mg/l in H <sub>2</sub> O for IC	500	ml	12	Yes
H060.W.L1	Butyrates (C <sub>4</sub> H <sub>7</sub> O <sub>2</sub> <sup>-</sup> ) 1000mg/l in Water	100	ml	12	Yes
H060.W.L25	Butyrates (C <sub>4</sub> H <sub>7</sub> O <sub>2</sub> <sup>-</sup> ) 1000mg/l in Water	250	ml	12	Yes
H060.W.L5	Butyrates (C <sub>4</sub> H <sub>7</sub> O <sub>2</sub> <sup>-</sup> ) 1000mg/l in Water	500	ml	12	Yes
H002.W.L1	Calcium (Ca <sup>2+</sup> ) 1000 mg/l in H <sub>2</sub> O for IC	100	ml	12	Yes
H002.W.L25	Calcium (Ca <sup>2+</sup> ) 1000 mg/l in H <sub>2</sub> O for IC	250	ml	12	Yes
H002.W.L5	Calcium (Ca <sup>2+</sup> ) 1000 mg/l in H <sub>2</sub> O for IC	500	ml	12	Yes
H061.W.L1	Carbonates (CO <sub>3</sub> <sup>2-</sup> ) 1000mg/l in H <sub>2</sub> O for IC	100	ml	12	Yes
H061.W.L5	Carbonates (CO <sub>3</sub> <sup>2-</sup> ) 1000mg/l in H <sub>2</sub> O for IC	500	ml	12	Yes

Ref. Number	Description	Volume	Msr. Unit	Shelf-life (months)	ISO 17034 ISO 17025
H027.W.L1	Cesium (Cs+) 1000 mg/l in H2O for IC	100	ml	12	Yes
H027.W.L25	Cesium (Cs+) 1000 mg/l in H2O for IC	250	ml	12	Yes
H027.W.L5	Cesium (Cs+) 1000 mg/l in H2O for IC	500	ml	12	Yes
H025.W.L1	Chlorates (ClO3-) 1000 mg/l in H2O for IC	100	ml	12	Yes
H025.W.L25	Chlorates (ClO3-) 1000 mg/l in H2O for IC	250	ml	12	Yes
H025.W.L5	Chlorates (ClO3-) 1000 mg/l in H2O for IC	500	ml	12	Yes
H003.W.L1	Chlorides (Cl-) 1000 mg/l in H2O for IC	100	ml	12	Yes
H003.W.L25	Chlorides (Cl-) 1000 mg/l in H2O for IC	250	ml	12	Yes
H003.W.L5	Chlorides (Cl-) 1000 mg/l in H2O for IC	500	ml	12	Yes
H028.010.L1	Chlorites (ClO2-) 1000 mg/l in H2O for IC	100	ml	12	Yes
H028.010.L25	Chlorites (ClO2-) 1000 mg/l in H2O for IC	250	ml	12	Yes
H028.010.L5	Chlorites (ClO2-) 1000 mg/l in H2O for IC	500	ml	12	Yes
H004.W.L1	Chromium (Cr6+) 1000 mg/l in H2O for IC	100	ml	12	Yes
H004.W.L25	Chromium (Cr6+) 1000 mg/l in H2O for IC	250	ml	12	Yes
H004.W.L5	Chromium (Cr6+) 1000 mg/l in H2O for IC	500	ml	12	Yes
H029.W.L1	Citrates (C6H5O73-) 1000 mg/l in H2O for IC	100	ml	12	Yes
H029.W.L25	Citrates (C6H5O73-) 1000 mg/l in H2O for IC	250	ml	12	Yes
H029.W.L5	Citrates (C6H5O73-) 1000 mg/l in H2O for IC	500	ml	12	Yes
H032.W.L1	Cyanides 1 g/l in Water/ tr. KOH for IC	100	ml	12	Yes
H032.W.L5	Cyanides 1 g/l in Water/ tr. KOH for IC	500	ml	12	Yes
H032.W.L25	Cyanides 1 g/l in Water/ tr. KOH for IC	250	ml	12	Yes
H033.W.L1	Diethanolamine ((HOC2H4)2NH2+) 1000 mg/l in H2O for IC	100	ml	12	Yes
H033.W.L25	Diethanolamine ((HOC2H4)2NH2+) 1000 mg/l in H2O for IC	250	ml	12	Yes
H033.W.L5	Diethanolamine ((HOC2H4)2NH2+) 1000 mg/l in H2O for IC	500	ml	12	Yes
H005.W.L1	Fluorides (F-) 1000 mg/l in H2O for IC	100	ml	12	Yes
H005.W.L25	Fluorides (F-) 1000 mg/l in H2O for IC	250	ml	12	Yes
H005.W.L5	Fluorides (F-) 1000 mg/l in H2O for IC	500	ml	12	Yes
H026.W.L1	Formates (HCOO-) 1000 mg/l in H2O for IC	100	ml	12	Yes
H026.W.L25	Formates (HCOO-) 1000 mg/l in H2O for IC	250	ml	12	Yes
H026.W.L5	Formates (HCOO-) 1000 mg/l in H2O for IC	500	ml	12	Yes
H034.W.L1	Glycolates (C2H3O3-) 1000 mg/l in H2O for IC	100	ml	12	Yes
H034.W.L25	Glycolates (C2H3O3-) 1000 mg/l in H2O for IC	250	ml	12	Yes
H034.W.L5	Glycolates (C2H3O3-) 1000 mg/l in H2O for IC	500	ml	12	Yes
H035.W.L1	Hydrogenphthalates (C6H4(COO)2H-) 1000 mg/l in H2O for IC	100	ml	12	Yes
H035.W.L25	Hydrogenphthalates (C6H4(COO)2H-) 1000 mg/l in H2O for IC	250	ml	12	Yes
H035.W.L5	Hydrogenphthalates (C6H4(COO)2H-) 1000 mg/l in H2O for IC	500	ml	12	Yes
H057.W.L1	Hydrogensulfites (HSO3-) 1000 mg/l in H2O for IC	100	ml	12	Yes
H057.W.L25	Hydrogensulfites (HSO3-) 1000 mg/l in H2O for IC	250	ml	12	Yes
H057.W.L5	Hydrogensulfites (HSO3-) 1000 mg/l in H2O for IC	500	ml	12	Yes
H036.W.L1	Iodates (IO3-) 1000 mg/l in H2O for IC	100	ml	12	Yes
H036.W.L25	Iodates (IO3-) 1000 mg/l in H2O for IC	250	ml	12	Yes
H036.W.L5	Iodates (IO3-) 1000 mg/l in H2O for IC	500	ml	12	Yes
H006.W.L1	Iodides (I-) 1000 mg/l in H2O for IC	100	ml	12	Yes
H006.W.L25	Iodides (I-) 1000 mg/l in H2O for IC	250	ml	12	Yes



Ref. Number	Description	Volume	Msr. Unit	Shelf-life (months)	ISO 17034 ISO 17025
H006.W.L5	Iodides (I <sup>-</sup> ) 1000 mg/l in H2O for IC	500	ml	12	Yes
H037.W.L1	Lactates (CH3CH(OH)COO <sup>-</sup> ) 1000 mg/l in H2O for IC	100	ml	12	Yes
H037.W.L25	Lactates (CH3CH(OH)COO <sup>-</sup> ) 1000 mg/l in H2O for IC	250	ml	12	Yes
H037.W.L5	Lactates (CH3CH(OH)COO <sup>-</sup> ) 1000 mg/l in H2O for IC	500	ml	12	Yes
H008.W.L1	Lithium (Li <sup>+</sup> ) 1000 mg/l in H2O for IC	100	ml	12	Yes
H008.W.L25	Lithium (Li <sup>+</sup> ) 1000 mg/l in H2O for IC	250	ml	12	Yes
H008.W.L5	Lithium (Li <sup>+</sup> ) 1000 mg/l in H2O for IC	500	ml	12	Yes
H009.W.L1	Magnesium (Mg <sup>2+</sup> ) 1000 mg/l in H2O for IC	100	ml	12	Yes
H009.W.L25	Magnesium (Mg <sup>2+</sup> ) 1000 mg/l in H2O for IC	250	ml	12	Yes
H009.W.L5	Magnesium (Mg <sup>2+</sup> ) 1000 mg/l in H2O for IC	500	ml	12	Yes
H038.W.L1	Maleates (C2H2(COO)2 <sup>2-</sup> ) 1000 mg/l in H2O for IC	100	ml	12	Yes
H038.W.L25	Maleates (C2H2(COO)2 <sup>2-</sup> ) 1000 mg/l in H2O for IC	250	ml	12	Yes
H038.W.L5	Maleates (C2H2(COO)2 <sup>2-</sup> ) 1000 mg/l in H2O for IC	500	ml	12	Yes
H039.W.L1	Methanesulphonates (CH3SO3 <sup>-</sup> ) 1000 mg/l in H2O for IC	100	ml	12	Yes
H039.W.L25	Methanesulphonates (CH3SO3 <sup>-</sup> ) 1000 mg/l in H2O for IC	250	ml	12	Yes
H039.W.L5	Methanesulphonates (CH3SO3 <sup>-</sup> ) 1000 mg/l in H2O for IC	500	ml	12	Yes
H053.W.L1	3-Methoxypropylamine (CH3O(CH2)3NH3 <sup>+</sup> ) 1000 mg/l in H2O for IC	100	ml	12	Yes
H053.W.L25	3-Methoxypropylamine (CH3O(CH2)3NH3 <sup>+</sup> ) 1000 mg/l in H2O for IC	250	ml	12	Yes
H053.W.L5	3-Methoxypropylamine (CH3O(CH2)3NH3 <sup>+</sup> ) 1000 mg/l in H2O for IC	500	ml	12	Yes
H040.W.L1	Monoethanolamine (HOC2H4NH3 <sup>+</sup> ) 1000 mg/l in H2O for IC	100	ml	12	Yes
H040.W.L25	Monoethanolamine (HOC2H4NH3 <sup>+</sup> ) 1000 mg/l in H2O for IC	250	ml	12	Yes
H040.W.L5	Monoethanolamine (HOC2H4NH3 <sup>+</sup> ) 1000 mg/l in H2O for IC	500	ml	12	Yes
H041.W.L1	Monomethylamine (CH3NH3 <sup>+</sup> ) 1000 mg/l in H2O for IC	100	ml	12	Yes
H041.W.L25	Monomethylamine (CH3NH3 <sup>+</sup> ) 1000 mg/l in H2O for IC	250	ml	12	Yes
H041.W.L5	Monomethylamine (CH3NH3 <sup>+</sup> ) 1000 mg/l in H2O for IC	500	ml	12	Yes
H013.W.L1	Nitrates (NO3 <sup>-</sup> ) 1000 mg/l in H2O for IC	100	ml	12	Yes
H013.W.L25	Nitrates (NO3 <sup>-</sup> ) 1000 mg/l in H2O for IC	250	ml	12	Yes
H013.W.L5	Nitrates (NO3 <sup>-</sup> ) 1000 mg/l in H2O for IC	500	ml	12	Yes
H044.W.L5	Nitrates as N (NO3 <sup>-</sup> (as N)) 1000 mg/l in H2O for IC	500	ml	12	Yes
H044.W.L25	Nitrates as N (NO3 <sup>-</sup> (as N)) 1000 mg/l in H2O for IC	250	ml	12	Yes
H044.W.L1	Nitrates as N (NO3 <sup>-</sup> (as N)) 1000 mg/l in H2O for IC	100	ml	12	Yes
H042.W.L1	Nitrilotriacetates (N(CH2COO)3 <sup>3-</sup> ) 1000 mg/l in H2O for IC	100	ml	12	Yes
H042.W.L25	Nitrilotriacetates (N(CH2COO)3 <sup>3-</sup> ) 1000 mg/l in H2O for IC	250	ml	12	Yes
H042.W.L5	Nitrilotriacetates (N(CH2COO)3 <sup>3-</sup> ) 1000 mg/l in H2O for IC	500	ml	12	Yes
H012.W.L1	Nitrites (NO2 <sup>-</sup> ) 1000 mg/l in H2O for IC	100	ml	12	Yes
H012.W.L25	Nitrites (NO2 <sup>-</sup> ) 1000 mg/l in H2O for IC	250	ml	12	Yes
H012.W.L5	Nitrites (NO2 <sup>-</sup> ) 1000 mg/l in H2O for IC	500	ml	12	Yes
H043.W.L1	Nitrites as N (NO2 <sup>-</sup> (as N)) 1000 mg/l in H2O for IC	100	ml	12	Yes
H043.W.L25	Nitrites as N (NO2 <sup>-</sup> (as N)) 1000 mg/l in H2O for IC	250	ml	12	Yes
H043.W.L5	Nitrites as N (NO2 <sup>-</sup> (as N)) 1000 mg/l in H2O for IC	500	ml	12	Yes
H024.W.L1	Oxalates (C2O4 <sup>2-</sup> ) 1000 mg/l in H2O for IC	100	ml	12	Yes
H024.W.L25	Oxalates (C2O4 <sup>2-</sup> ) 1000 mg/l in H2O for IC	250	ml	12	Yes

Ref. Number	Description	Volume	Msr. Unit	Shelf-life (months)	ISO 17034 ISO 17025
H024.W.L5	Oxalates (C2O4 <sup>2-</sup> ) 1000 mg/l in H2O for IC	500	ml	12	Yes
H017.W.L1	Perchlorates (ClO4 <sup>-</sup> ) 1000 mg/l in H2O for IC	100	ml	12	Yes
H017.W.L25	Perchlorates (ClO4 <sup>-</sup> ) 1000 mg/l in H2O for IC	250	ml	12	Yes
H017.W.L5	Perchlorates (ClO4 <sup>-</sup> ) 1000 mg/l in H2O for IC	500	ml	12	Yes
H045.W.L1	Phosphates (PO4 <sup>3-</sup> (as P)) 1000 mg/l in H2O for IC	100	ml	12	Yes
H045.W.L25	Phosphates (PO4 <sup>3-</sup> (as P)) 1000 mg/l in H2O for IC	250	ml	12	Yes
H045.W.L5	Phosphates (PO4 <sup>3-</sup> (as P)) 1000 mg/l in H2O for IC	500	ml	12	Yes
H014.W.L1	Phosphates (PO4 <sup>3-</sup> ) 1000 mg/l in H2O for IC	100	ml	12	Yes
H014.W.L25	Phosphates (PO4 <sup>3-</sup> ) 1000 mg/l in H2O for IC	250	ml	12	Yes
H014.W.L5	Phosphates (PO4 <sup>3-</sup> ) 1000 mg/l in H2O for IC	500	ml	12	Yes
H007.W.L1	Potassium (K <sup>+</sup> ) 1000 mg/l in H2O for IC	100	ml	12	Yes
H007.W.L25	Potassium (K <sup>+</sup> ) 1000 mg/l in H2O for IC	250	ml	12	Yes
H007.W.L5	Potassium (K <sup>+</sup> ) 1000 mg/l in H2O for IC	500	ml	12	Yes
H046.W.L1	Propionates (C2H5COO <sup>-</sup> ) 1000 mg/l in H2O for IC	100	ml	12	Yes
H046.W.L25	Propionates (C2H5COO <sup>-</sup> ) 1000 mg/l in H2O for IC	250	ml	12	Yes
H046.W.L5	Propionates (C2H5COO <sup>-</sup> ) 1000 mg/l in H2O for IC	500	ml	12	Yes
H047.10.L1	Silicates (SiO3 <sup>2-</sup> ) 1000 mg/l in diluted NaOH for IC	100	ml	12	Yes
H047.10.L25	Silicates (SiO3 <sup>2-</sup> ) 1000 mg/l in diluted NaOH for IC	250	ml	12	Yes
H047.10.L5	Silicates (SiO3 <sup>2-</sup> ) 1000 mg/l in diluted NaOH for IC	500	ml	12	Yes
H010.W.L1	Sodium (Na <sup>+</sup> ) 1000 mg/l in H2O for IC	100	ml	12	Yes
H010.W.L25	Sodium (Na <sup>+</sup> ) 1000 mg/l in H2O for IC	250	ml	12	Yes
H010.W.L5	Sodium (Na <sup>+</sup> ) 1000 mg/l in H2O for IC	500	ml	12	Yes
H023.W.L1	Strontium (Sr <sup>2+</sup> ) 1000 mg/l in H2O for IC	100	ml	12	Yes
H023.W.L25	Strontium (Sr <sup>2+</sup> ) 1000 mg/l in H2O for IC	250	ml	12	Yes
H023.W.L5	Strontium (Sr <sup>2+</sup> ) 1000 mg/l in H2O for IC	500	ml	12	Yes
H048.W.L1	Succinates (OOC(CH2)2COO <sup>2-</sup> ) 1000 mg/l in H2O for IC	100	ml	12	Yes
H048.W.L25	Succinates (OOC(CH2)2COO <sup>2-</sup> ) 1000 mg/l in H2O for IC	250	ml	12	Yes
H048.W.L5	Succinates (OOC(CH2)2COO <sup>2-</sup> ) 1000 mg/l in H2O for IC	500	ml	12	Yes
H015.W.L1	Sulphates (SO4 <sup>2-</sup> ) 1000 mg/l in H2O for IC	100	ml	12	Yes
H015.W.L25	Sulphates (SO4 <sup>2-</sup> ) 1000 mg/l in H2O for IC	250	ml	12	Yes
H015.W.L5	Sulphates (SO4 <sup>2-</sup> ) 1000 mg/l in H2O for IC	500	ml	12	Yes
H018.W.L1	Sulphites as S(IV) 1000 mg/l in H2O for IC	100	ml	12	Yes
H018.W.L25	Sulphites as S(IV) 1000 mg/l in H2O for IC	250	ml	12	Yes
H018.W.L5	Sulphites as S(IV) 1000 mg/l in H2O for IC	500	ml	12	Yes
H049.W.L1	Tartrates (OOC(CHOH)2COO <sup>2-</sup> ) 1000 mg/l in H2O for IC	100	ml	12	Yes
H049.W.L25	Tartrates (OOC(CHOH)2COO <sup>2-</sup> ) 1000 mg/l in H2O for IC	250	ml	12	Yes
H049.W.L5	Tartrates (OOC(CHOH)2COO <sup>2-</sup> ) 1000 mg/l in H2O for IC	500	ml	12	Yes
H058.W.L1	Tetrafluoroborates (BF4 <sup>-</sup> ) 1000 mg/l in H2O for IC	100	ml	12	Yes
H058.W.L25	Tetrafluoroborates (BF4 <sup>-</sup> ) 1000 mg/l in H2O for IC	250	ml	12	Yes
H058.W.L5	Tetrafluoroborates (BF4 <sup>-</sup> ) 1000 mg/l in H2O for IC	500	ml	12	Yes
H021.W.L1	Thiocyanates (SCN <sup>-</sup> ) 1000 mg/l in H2O for IC	100	ml	12	Yes
H021.W.L25	Thiocyanates (SCN <sup>-</sup> ) 1000 mg/l in H2O for IC	250	ml	12	Yes
H021.W.L5	Thiocyanates (SCN <sup>-</sup> ) 1000 mg/l in H2O for IC	500	ml	12	Yes
H050.011044.L1	Thiosulphates (S2O3 <sup>2-</sup> ) 1000 mg/l in diluted n-pentanol for IC	100	ml	12	Yes
H050.011044.L25	Thiosulphates (S2O3 <sup>2-</sup> ) 1000 mg/l in diluted n-pentanol for IC	250	ml	12	Yes
H050.011044.L5	Thiosulphates (S2O3 <sup>2-</sup> ) 1000 mg/l in diluted n-pentanol for IC	500	ml	12	Yes

Ref. Number	Description	Volume	Msr. Unit	Shelf-life (months)	ISO 17034 ISO 17025
H051.W.L1	Triethanolamine ((HOC <sub>2</sub> H <sub>4</sub> ) <sub>3</sub> NH <sup>+</sup> ) 1000 mg/l in H <sub>2</sub> O for IC	100	ml	12	Yes
H051.W.L25	Triethanolamine ((HOC <sub>2</sub> H <sub>4</sub> ) <sub>3</sub> NH <sup>+</sup> ) 1000 mg/l in H <sub>2</sub> O for IC	250	ml	12	Yes
H051.W.L5	Triethanolamine ((HOC <sub>2</sub> H <sub>4</sub> ) <sub>3</sub> NH <sup>+</sup> ) 1000 mg/l in H <sub>2</sub> O for IC	500	ml	12	Yes
H054.W.L1	Triethylamine ((C <sub>2</sub> H <sub>5</sub> ) <sub>3</sub> NH <sup>+</sup> ) 1000 mg/l in H <sub>2</sub> O for IC	100	ml	12	Yes
H054.W.L25	Triethylamine ((C <sub>2</sub> H <sub>5</sub> ) <sub>3</sub> NH <sup>+</sup> ) 1000 mg/l in H <sub>2</sub> O for IC	250	ml	12	Yes
H054.W.L5	Triethylamine ((C <sub>2</sub> H <sub>5</sub> ) <sub>3</sub> NH <sup>+</sup> ) 1000 mg/l in H <sub>2</sub> O for IC	500	ml	12	Yes
H052.W.L1	Trimethylamine ((CH <sub>3</sub> ) <sub>3</sub> NH <sup>+</sup> ) 1000 mg/l in H <sub>2</sub> O for IC	100	ml	12	Yes
H052.W.L25	Trimethylamine ((CH <sub>3</sub> ) <sub>3</sub> NH <sup>+</sup> ) 1000 mg/l in H <sub>2</sub> O for IC	250	ml	12	Yes
H052.W.L5	Trimethylamine ((CH <sub>3</sub> ) <sub>3</sub> NH <sup>+</sup> ) 1000 mg/l in H <sub>2</sub> O for IC	500	ml	12	Yes
H056.W.L1	Hydrazine N <sub>2</sub> H <sub>4</sub> 1000mg/l in H <sub>2</sub> O	100	ml	12	Yes
H056.W.L5	Hydrazine N <sub>2</sub> H <sub>4</sub> 1000mg/l in H <sub>2</sub> O	500	ml	12	Yes

## Multi-Ion Standards

## Anion Standards

Ref. Number	Description	Volume	Msr. Unit	Shelf-life (months)	ISO 17034 ISO 17025
23A9.5.W.L1	Multi-anion standard - 2 components: Phosphates (PO <sub>4</sub> <sup>3-</sup> ) 50mg/l ; Chlorides (Cl <sup>-</sup> ) 5mg/l in Water	100	ml	6	Yes
23A9.5.W.L5	Multi-anion standard - 2 components: Phosphates (PO <sub>4</sub> <sup>3-</sup> ) 50mg/l ; Chlorides (Cl <sup>-</sup> ) 5mg/l in Water	500	ml	6	Yes
3029.D2.W.L1	Multi-anion standard - 2 components: Phosphates (PO <sub>4</sub> <sup>3-</sup> ) 20mg/l ; Chlorides (Cl <sup>-</sup> ) 0.2mg/l in Water	100	ml	4	Yes
3029.D2.W.L5	Multi-anion standard - 2 components: Phosphates (PO <sub>4</sub> <sup>3-</sup> ) 20mg/l ; Chlorides (Cl <sup>-</sup> ) 0.2mg/l in Water	500	ml	4	Yes
3029.D5.W.L1	Multi-anion standard - 2 components: Phosphates (PO <sub>4</sub> <sup>3-</sup> ) 50mg/l ; Chlorides (Cl <sup>-</sup> ) 0.5mg/l in Water	100	ml	4	Yes
3029.D5.W.L5	Multi-anion standard - 2 components: Phosphates (PO <sub>4</sub> <sup>3-</sup> ) 50mg/l ; Chlorides (Cl <sup>-</sup> ) 0.5mg/l in Water	500	ml	4	Yes
3905.1K.W.L1	Multi-anion standard - 3 components: 1000mg/l each of Chlorides (Cl <sup>-</sup> ) ; Nitrates (NO <sub>3</sub> <sup>-</sup> ) ; Sulphates (SO <sub>4</sub> <sup>2-</sup> ) in Water	100	ml	12	Yes
3784.D2.W.L1	Multi-anion standard - 3 components: Phosphates (PO <sub>4</sub> <sup>3-</sup> ) 20mg/l ; Chlorides (Cl <sup>-</sup> ) 0.2mg/l ; Sulphates (SO <sub>4</sub> <sup>2-</sup> ) 0.2mg/l in Water	100	ml	4	Yes
3784.D2.W.L5	Multi-anion standard - 3 components: Phosphates (PO <sub>4</sub> <sup>3-</sup> ) 20mg/l ; Chlorides (Cl <sup>-</sup> ) 0.2mg/l ; Sulphates (SO <sub>4</sub> <sup>2-</sup> ) 0.2mg/l in Water	500	ml	4	Yes
3784.D5.W.L1	Multi-anion standard - 3 components: Phosphates (PO <sub>4</sub> <sup>3-</sup> ) 50mg/l ; Chlorides (Cl <sup>-</sup> ) 0.5mg/l ; Sulphates (SO <sub>4</sub> <sup>2-</sup> ) 0.5mg/l in Water	100	ml	4	Yes
3784.D5.W.L5	Multi-anion standard - 3 components: Phosphates (PO <sub>4</sub> <sup>3-</sup> ) 50mg/l ; Chlorides (Cl <sup>-</sup> ) 0.5mg/l ; Sulphates (SO <sub>4</sub> <sup>2-</sup> ) 0.5mg/l in Water	500	ml	4	Yes
60DB.1K.W.L1	Multi-anion standard - 3 components: 1000mg/l each of Fluorides (F <sup>-</sup> ) ; Bromides (Br <sup>-</sup> ) ; Phosphates (PO <sub>4</sub> <sup>3-</sup> ) in Water	100	ml	12	Yes
60DB.1K.W.L25	Multi-anion standard - 3 components: 1000mg/l each of Fluorides (F <sup>-</sup> ) ; Bromides (Br <sup>-</sup> ) ; Phosphates (PO <sub>4</sub> <sup>3-</sup> ) in Water	250	ml	12	Yes
60DB.1K.W.L5	Multi-anion standard - 3 components: 1000mg/l each of Fluorides (F <sup>-</sup> ) ; Bromides (Br <sup>-</sup> ) ; Phosphates (PO <sub>4</sub> <sup>3-</sup> ) in Water	500	ml	12	Yes
RM007001L1	Multi-anion standard - 5 components: Fluorides (F <sup>-</sup> ) 100mg/l ; Chlorides (Cl <sup>-</sup> ) 250mg/l ; Nitrates (NO <sub>3</sub> <sup>-</sup> ) 500mg/l ; Sulphates (SO <sub>4</sub> <sup>2-</sup> ) 500mg/l ; Phosphates (PO <sub>4</sub> <sup>3-</sup> ) 1000mg/l in Water	100	ml	12	Yes

Ref. Number	Description	Volume	Msr. Unit	Shelf-life (months)	ISO 17034 ISO 17025
RM007001L5	Multi-anion standard - 5 components: Fluorides (F-) 100mg/l ; Chlorides (Cl-) 250mg/l ; Nitrates (NO3-) 500mg/l ; Sulphates (SO42-) 500mg/l ; Phosphates (PO43-) 1000mg/l in Water	500	ml	12	Yes
D251.1K.W.L1	Multi-anion standard - 5 components: 1000mg/l each of Fluorides (F-) ; Chlorides (Cl-) ; Phosphates (PO43-) ; Sulphates (SO42-) ; Nitrates (NO3-) in Water	100	ml	12	Yes
D251.1K.W.L5	Multi-anion standard - 5 components: 1000mg/l each of Fluorides (F-) ; Chlorides (Cl-) ; Phosphates (PO43-) ; Sulphates (SO42-) ; Nitrates (NO3-) in Water	500	ml	12	Yes
D371.40.W.L1	Multi-anion standard - 5 components: Chlorides (Cl-) 40mg/l ; Nitrites (NO2-) 10mg/l ; Nitrates (NO3-) 40mg/l ; Phosphates (PO43-) 20mg/l ; Sulphates (SO42-) 100mg/l in Water	100	ml	6	Yes
D371.40.W.L5	Multi-anion standard - 5 components: Chlorides (Cl-) 40mg/l ; Nitrites (NO2-) 10mg/l ; Nitrates (NO3-) 40mg/l ; Phosphates (PO43-) 20mg/l ; Sulphates (SO42-) 100mg/l in Water	500	ml	6	Yes
E3A7.1K.W.L1	Multi-anion standard - 6 components: 1000mg/l each of Nitrates (NO3-) ; Chlorides (Cl-) ; Sulphates (SO42-) ; Bromides (Br-) ; Phosphates (PO43-) ; Fluorides (F-) in Water	100	ml	12	Yes
E3A7.K1.W.L1	Multi-anion standard - 6 components: 100mg/l each of Fluorides (F-) ; Chlorides (Cl-) ; Bromides (Br-) ; Nitrates (NO3-) ; Phosphates (PO43-) ; Sulphates (SO42-) in Water	100	ml	12	Yes
0F6C.K3.W.L1	Multi-anion standard - 6 components: Fluorides (F-) 100mg/l ; Chlorides (Cl-) 300mg/l ; Nitrites (NO2-) 50mg/l ; Nitrates (NO3-) 100mg/l ; Phosphates (PO43-) 100mg/l ; Sulphates (SO42-) 300mg/l in Water	100	ml	6	Yes
0F6C.K3.W.L25	Multi-anion standard - 6 components: Fluorides (F-) 100mg/l ; Chlorides (Cl-) 300mg/l ; Nitrites (NO2-) 50mg/l ; Nitrates (NO3-) 100mg/l ; Phosphates (PO43-) 100mg/l ; Sulphates (SO42-) 300mg/l in Water	250	ml	12	Yes
1521.1K.W.L1	Multi-anion standard - 7 components: 1000mg/l each of Fluorides (F-) ; Chlorides (Cl-) ; Nitrites (NO2-) ; Bromides (Br-) ; Nitrates (NO3-) ; Sulphates (SO42-) ; Phosphates (PO43-) in Water	100	ml	12	Yes
1521.1K.W.L25	Multi-anion standard - 7 components: 1000mg/l each of Fluorides (F-) ; Chlorides (Cl-) ; Nitrites (NO2-) ; Bromides (Br-) ; Nitrates (NO3-) ; Sulphates (SO42-) ; Phosphates (PO43-) in Water	250	ml	12	Yes
ACE63.25.W.L1	Multi-anion standard - 7 components: Fluorides 5mg/l ; Chlorides 10mg/l ; Nitrites 15mg/l ; Bromides 25mg/l ; Nitrates 25mg/l ; Phosphates 40mg/l ; Sulphates 30mg/l in Water	100	ml	6	Yes
ACE63.25.W.L5	Multi-anion standard - 7 components: Fluorides 5mg/l ; Chlorides 10mg/l ; Nitrites 15mg/l ; Bromides 25mg/l ; Nitrates 25mg/l ; Phosphates 40mg/l ; Sulphates 30mg/l in Water	500	ml	6	Yes
1521.10.W.L1	Multi-anion standard - 7 components: 10mg/l each of Bromides (Br-) ; Chlorides (Cl-) ; Fluorides (F-) ; Nitrates (NO3-) ; Nitrites (NO2-) ; Phosphates (PO43-) ; Sulphates (SO42-) in Water	100	ml	6	Yes
1521.10.W.L5	Multi-anion standard - 7 components: 10mg/l each of Bromides (Br-) ; Chlorides (Cl-) ; Fluorides (F-) ; Nitrates (NO3-) ; Nitrites (NO2-) ; Phosphates (PO43-) ; Sulphates (SO42-) in Water	500	ml	6	Yes
7344.K1.W.L1	Multi-anion standard - 7 components: Chlorides (Cl-) 100mg/l ; Fluorides (F-) 25mg/l ; Sulphates (SO42-) 100mg/l ; Nitrates (NO3-) 100mg/l ; Nitrites (NO2-) 100mg/l ; Bromides (Br-) 100mg/l ; Phosphates (PO43-) 100mg/l in Water	100	ml	6	Yes
7344.K1.W.L25	Multi-anion standard - 7 components: Chlorides (Cl-) 100mg/l ; Fluorides (F-) 25mg/l ; Sulphates (SO42-) 100mg/l ; Nitrates (NO3-) 100mg/l ; Nitrites (NO2-) 100mg/l ; Bromides (Br-) 100mg/l ; Phosphates (PO43-) 100mg/l in Water	250	ml	6	Yes
7344.K1.W.L5	Multi-anion standard - 7 components: Chlorides (Cl-) 100mg/l ; Fluorides (F-) 25mg/l ; Sulphates (SO42-) 100mg/l ; Nitrates (NO3-) 100mg/l ; Nitrites (NO2-) 100mg/l ; Bromides (Br-) 100mg/l ; Phosphates (PO43-) 100mg/l in Water	500	ml	6	Yes

## Cation Standards

Ref. Number	Description	Volume	Msr. Unit	Shelf-life (months)	ISO 17034 ISO 17025
4C79.1K.W.L1	Multi-cation standard - 4 components: 1000mg/l each of Sodium (Na+); Potassium (K+); Magnesium (Mg2+); Calcium (Ca2+) in Water	100	ml	12	Yes
1A15.K1.W.L1	Multi-cation standard - 5 components: 100mg/l each of Ammonium (NH4+); Magnesium (Mg2+); Calcium (Ca2+); Sodium (Na+); Potassium (K+) in Water	100	ml	12	Yes
A3DCF.40.01N.L1	Multi-cation standard - 6 components: Lithium 10mg/l; Sodium 20mg/l; Ammonium 40mg/l; Calcium 40mg/l; Magnesium 20mg/l; Potassium 20mg/l in Nitric Acid 0.1%	100	ml	6	Yes
A3DCF.40.01N.L5	Multi-cation standard - 6 components: Lithium 10mg/l; Sodium 20mg/l; Ammonium 40mg/l; Calcium 40mg/l; Magnesium 20mg/l; Potassium 20mg/l in Nitric Acid 0.1%	500	ml	6	Yes
A7A40.5.01N.L1	Multi-cation standard - 6 components: Lithium 0.5mg/l; Sodium 2mg/l; Ammonium 2.5mg/l; Potassium 5mg/l; Magnesium 2.5mg/l; Calcium 5mg/l in Nitric Acid 0.1%	100	ml	6	Yes
A7A40.5.01N.L5	Multi-cation standard - 6 components: Lithium 0.5mg/l; Sodium 2mg/l; Ammonium 2.5mg/l; Potassium 5mg/l; Magnesium 2.5mg/l; Calcium 5mg/l in Nitric Acid 0.1%	500	ml	6	Yes

## Eluent Concentrates

Ref. Number	Description	Volume	Msr. Unit	Shelf-life (months)	ISO 17034 ISO 17025
EL001.W.L1	0.5M Na <sub>2</sub> CO <sub>3</sub> in H <sub>2</sub> O eluent concentrate for IC	100	ml	24	No
EL001.W.L5	0.5M Na <sub>2</sub> CO <sub>3</sub> in H <sub>2</sub> O eluent concentrate for IC	500	ml	24	No
EL002.W.L1	0.5M NaHCO <sub>3</sub> in H <sub>2</sub> O eluent concentrate for IC	100	ml	24	No
EL002.W.L5	0.5M NaHCO <sub>3</sub> in H <sub>2</sub> O eluent concentrate for IC	500	ml	24	No
EL003.W.L1	0.22M Na <sub>2</sub> CO <sub>3</sub> / 0.28M NaHCO <sub>3</sub> eluent concentrate for IC	100	ml	24	No
EL003.W.L5	0.22M Na <sub>2</sub> CO <sub>3</sub> / 0.28M NaHCO <sub>3</sub> eluent concentrate for IC	500	ml	24	No
EL004.W.L1	0.18M Na <sub>2</sub> CO <sub>3</sub> / 0.17M NaHCO <sub>3</sub> eluent concentrate for IC	100	ml	24	No
EL004.W.L5	0.18M Na <sub>2</sub> CO <sub>3</sub> / 0.17M NaHCO <sub>3</sub> eluent concentrate for IC	500	ml	24	No
EL005.W.L1	0.35M Na <sub>2</sub> CO <sub>3</sub> / 0.10M NaHCO <sub>3</sub> eluent concentrate for IC	100	ml	24	No
EL005.W.L5	0.35M Na <sub>2</sub> CO <sub>3</sub> / 0.10M NaHCO <sub>3</sub> eluent concentrate for IC	500	ml	24	No
EL008.W.L1	0.5M Methanesulfonic acid eluent concentrate for IC	100	ml	24	No
EL008.W.L5	0.5M Methanesulfonic acid eluent concentrate for IC	500	ml	24	No

## Water for Ion Chromatography

Ref. Number	Description	Volume	Msr. Unit	Shelf-life (months)	ISO 17034 ISO 17025
CIW.1L	Water for Ion Chromatography	1000	ml	12	No





# Standards equivalent to

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## Standards equivalent to

All Standards equivalent to ... produced by CPAchem use high-purity metals or salts in sub-boiling distilled acids. The Standards are produced and calibrated under CPAchem's quality system that is:

- ISO 9001 certified
- accredited according to ISO/IEC 17025 - Testing
- accredited according to ISO/IEC 17034 - Reference Material Producer

## Standards equivalent to Agilent

Ref. Number	Description	Volume	Msr. Unit	Shelf-life (months)	ISO 17034 ISO 17025
190064800.L1	Standard Solution 4 components; Al 5000mg/l ; Ca 5000mg/l ; Mg 5000mg/l ; Fe 2000mg/l in HNO3 5%	100	ml	12	Yes
6610030500.L1	Calibration mix 1 for AA and ICP-OES - 4 components; 100mg/l each of Mo ; Sb ; Sn ; Ti in HNO3 2% ; HF 0.5%	100	ml	12	Yes
6610030700.L1	Calibration Mix Majors 5 components; 500mg/l each of Ca ; Fe ; K ; Mg ; Na in HNO3 5%	100	ml	12	Yes
6610030700.L5	Calibration Mix Majors 5 components; 500mg/l each of Ca ; Fe ; K ; Mg ; Na in HNO3 5%	500	ml	12	Yes
5188-6564.L1	ICP-MS Stock Tuning Solution- 5 components; 10mg/l each of Li ; Y ; Ce ; Co ; Tl in HNO3 2%	100	ml	12	Yes
5190-0465.L1	ICP-MS tuning solution- 6 components; 10ug/ml each of Li ; Mg ; Y ; Ce ; Tl ; Co in HNO3 2%	100	ml	12	Yes
5185-5959.L5	Tuning Solution for ICP-MS 6 components: 1ug/l each of Li ; Mg ; Y ; Ce ; Tl ; Co in HNO3 2%	500	ml	4	Yes
5185-5959.L1	Tuning Solution for ICP-MS 6 components: 1ug/l each of Li ; Mg ; Y ; Ce ; Tl ; Co in HNO3 2%	100	ml	4	Yes
6610030400.L1	ICP internal standard - 6 components; 100mg/l each of Bi ; In ; 6Li ; Sc ; Tb ; Y in HNO3 5%	100	ml	12	Yes
51834681.L1	Agilent Environmental Internal Standard - 7 components; 10ug/ml each of Bi ; Ge ; In ; Sc ; Tb ; Y ; Li in HNO3 5%	100	ml	6	Yes
5183-4681.L1	Standard Solution 7 components; 10ug/ml each of 6Li ; Sc ; Ge ; Y ; In ; Tb ; Bi in HNO3 5%	100	ml	12	Yes
B55E.10.N.L1	Standard Solution 7 components; 10ug/ml each of 6Li ; Sc ; Ge ; Y ; In ; Tb ; Bi in HNO3 5%	100	ml	12	Yes
5188-6524-2.L1	PA Tuning Solution 2 - 8 components; Ge 10mg/l ; Mo 10mg/l ; Pd 10mg/l ; Ru 10mg/l ; Sb 10mg/l ; Sn 10mg/l ; Ir 5mg/l ; Ti 5mg/l in HCl 5%	100	ml	12	Yes
E738.10.10NtrC.L1	Internal standard mix for ICP-MS systems - 8 components; 10ug/ml each of 6Li ; Sc ; Ge ; Rh ; In ; Tb ; Lu ; Bi in HNO3 10% ; HCl tr%	100	ml	12	Yes
190024400.L1	Tuning Solution for ICP/MS - 9 components; 10mg/l each of Ba ; Be ; Ce ; Co ; In ; Mg ; Pb ; Th ; Tl in HNO3 2%	100	ml	12	Yes
F973.10.2N.L1	Tuning Solution for ICP/MS - 9 components; 10mg/l each of Ba ; Be ; Ce ; Co ; In ; Mg ; Pb ; Th ; Tl in HNO3 2%	100	ml	12	Yes

Ref. Number	Description	Volume	Msr. Unit	Shelf-life (months)	ISO 17034 ISO 17025
8500-6948.L1	Multi-element calibration standard-3: 10 components; 10ug/ml each of Sb ; Au ; Hf ; Ir ; Pd ; Pt ; Rh ; Ru ; Te ; Sn in HCl 10% ; HNO3 1%	100	ml	12	Yes
5188-6527.L1	6020 Interference Check Solution B for ICP/MS - 11 components; Cr 20ug/ml ; Co 20ug/ml ; Cu 20ug/ml ; Mn 20ug/ml ; Ni 20ug/ml ; V 20ug/ml ; As 10ug/ml ; Cd 10ug/ml ; Se 10ug/ml ; Zn 10ug/ml ; Ag 5ug/ml in HNO3 5%	100	ml	12	Yes
97B1.5.5N.L1	6020 Interference Check Solution B for ICP/MS - 11 components; Cr 20ug/ml ; Co 20ug/ml ; Cu 20ug/ml ; Mn 20ug/ml ; Ni 20ug/ml ; V 20ug/ml ; As 10ug/ml ; Cd 10ug/ml ; Se 10ug/ml ; Zn 10ug/ml ; Ag 5ug/ml in HNO3 5% ; HF tr%	100	ml	12	Yes
5188-6526.L1	6020 Interference Check Solution A for ICP-MS systems 12 components; Cl- 20000ug/ml ; Ca 3000ug/ml ; Fe 2500ug/ml ; Na 2500ug/ml ; C 2000ug/ml ; Al 1000ug/ml ; Mg 1000ug/ml ; P 1000ug/ml ; K 1000ug/ml ; S 1000ug/ml ; Mo 20ug/ml ; Ti 20ug/ml in HNO3 5% ; HF tr%	100	ml	12	Yes
5188-6526.L5	6020 Interference Check Solution A for ICP-MS systems 12 components; Cl- 20000ug/ml ; Ca 3000ug/ml ; Fe 2500ug/ml ; Na 2500ug/ml ; C 2000ug/ml ; Al 1000ug/ml ; Mg 1000ug/ml ; P 1000ug/ml ; K 1000ug/ml ; S 1000ug/ml ; Mo 20ug/ml ; Ti 20ug/ml in HNO3 5% ; HF tr%	500	ml	12	Yes
95CD.1K.5NtrF.L1	6020 Interference Check Solution A for ICP-MS systems 12 components; Cl- 20000ug/ml ; Ca 3000ug/ml ; Fe 2500ug/ml ; Na 2500ug/ml ; C 2000ug/ml ; Al 1000ug/ml ; Mg 1000ug/ml ; P 1000ug/ml ; K 1000ug/ml ; S 1000ug/ml ; Mo 20ug/ml ; Ti 20ug/ml in HNO3 5% ; HF tr%	100	ml	12	Yes
8500-6942.L1	Multi-element calibration standard-4B - 12 components; 10ug/ml each of B ; Ge ; Mo ; Nb ; P ; Re ; S ; Si ; Ta ; Ti ; W ; Zr in HNO3 2%/ tr. HF	100	ml	12	Yes
6610030100.L1	ICP-OES Wavelength calibration solution 15 components; Al 5ug/ml ; As 5ug/ml ; Ba 5ug/ml ; Cd 5ug/ml ; Co 5ug/ml ; Cr 5ug/ml ; Cu 5ug/ml ; Mn 5ug/ml ; Mo 5ug/ml ; Ni 5ug/ml ; Pb 5ug/ml ; Se 5ug/ml ; Sr 5ug/ml ; Zn 5ug/ml ; K 50ug/ml in HNO3 5%	100	ml	12	Yes
6610030100.L5	ICP-OES Wavelength calibration solution 15 components; Al 5ug/ml ; As 5ug/ml ; Ba 5ug/ml ; Cd 5ug/ml ; Co 5ug/ml ; Cr 5ug/ml ; Cu 5ug/ml ; Mn 5ug/ml ; Mo 5ug/ml ; Ni 5ug/ml ; Pb 5ug/ml ; Se 5ug/ml ; Sr 5ug/ml ; Zn 5ug/ml ; K 50ug/ml in HNO3 5%	500	ml	12	Yes
6610030000.L1	ICP-OES Wavelength Calibration Solution Concentrate 15 components; Al 50ug/ml ; As 50ug/ml ; Ba 50ug/ml ; Cd 50ug/ml ; Co 50ug/ml ; Cr 50ug/ml ; Cu 50ug/ml ; Mn 50ug/ml ; Mo 50ug/ml ; Ni 50ug/ml ; Pb 50ug/ml ; Se 50ug/ml ; Sr 50ug/ml ; Zn 50ug/ml ; K 500ug/ml in HNO3 5%	100	ml	12	Yes
6610030000.L5	ICP-OES Wavelength Calibration Solution Concentrate 15 components; Al 50ug/ml ; As 50ug/ml ; Ba 50ug/ml ; Cd 50ug/ml ; Co 50ug/ml ; Cr 50ug/ml ; Cu 50ug/ml ; Mn 50ug/ml ; Mo 50ug/ml ; Ni 50ug/ml ; Pb 50ug/ml ; Se 50ug/ml ; Sr 50ug/ml ; Zn 50ug/ml ; K 500ug/ml in HNO3 5%	500	ml	12	Yes
8500-6944.L1	Multi-element calibration standard-1: 17 components; 10ug/ml each of Ce ; Dy ; Er ; Eu ; Gd ; Ho ; La ; Lu ; Nd ; Pr ; Sc ; Sm ; Tb ; Th ; Tm ; Y ; Yb in HNO3 5%	100	ml	12	Yes
8500-6944.L5	Multi-element calibration standard-1: 17 components; 10ug/ml each of Ce ; Dy ; Er ; Eu ; Gd ; Ho ; La ; Lu ; Nd ; Pr ; Sc ; Sm ; Tb ; Th ; Tm ; Y ; Yb in HNO3 5%	500	ml	12	Yes
6610030600.L1	Calibration mix 2 for AA and ICP-OES - 18 components; 100mg/l each of Ag ; Al ; As ; Ba ; Be ; Cd ; Co ; Cr ; Cu ; Mn ; Ni ; Pb ; Se ; Th ; Tl ; U ; V ; Zn in HNO3 5%	100	ml	12	Yes

Ref. Number	Description	Volume	Msr. Unit	Shelf-life (months)	ISO 17034 ISO 17025
5183-4688.L1	Agilent/ Varian Environmental Calibration Standard 25 components; Ca 1000ug/ml ; Fe 1000ug/ml ; K 1000ug/ml ; Mg 1000ug/ml ; Na 1000ug/ml ; Ag 10ug/ml ; Al 10ug/ml ; As 10ug/ml ; Ba 10ug/ml ; Be 10ug/ml ; Cd 10ug/ml ; Co 10ug/ml ; Cr 10ug/ml ; Cu 10ug/ml ; Mn 10ug/ml ; Mo 10ug/ml ; Ni 10ug/ml ; Pb 10ug/ml ; Sb 10ug/ml ; Se 10ug/ml ; Tl 10ug/ml ; V 10ug/ml ; Zn 10ug/ml ; Th 10ug/ml ; U 10ug/ml in HNO3 10%	100	ml	12	Yes
5188-6524-1.L1	PA Tuning Solution 1 - 26 components; As 20mg/l ; Be 20mg/l ; Cd 20mg/l ; Zn 20mg/l ; Mg 10mg/l ; Ni 10mg/l ; Pb 10mg/l ; Al 5mg/l ; Ba 5mg/l ; Bi 5mg/l ; Co 5mg/l ; Cr 5mg/l ; Cu 5mg/l ; In 5mg/l ; 6Li 5mg/l ; Lu 5mg/l ; Mn 5mg/l ; Na 5mg/l ; Sc 5mg/l ; Sr 5mg/l ; Th 5mg/l ; Tl 5mg/l ; U 5mg/l ; V 5mg/l ; Y 2.5mg/l ; Yb 2.5mg/l in HNO3 2%	100	ml	12	Yes
51834682.L1	Environmental Initial Calibration Verification - 26 components; Ca 1000ug/ml ; Fe 1000ug/ml ; K 1000ug/ml ; Mg 1000ug/ml ; Na 1000ug/ml ; Sr 1000ug/ml ; Ag 10ug/ml ; Al 10ug/ml ; As 10ug/ml ; Ba 10ug/ml ; Be 10ug/ml ; Cd 10ug/ml ; Co 10ug/ml ; Cr 10ug/ml ; Cu 10ug/ml ; Mn 10ug/ml ; Mo 10ug/ml ; Ni 10ug/ml ; Pb 10ug/ml ; Sb 10ug/ml ; Se 10ug/ml ; Tl 10ug/ml ; V 10ug/ml ; Zn 10ug/ml ; Th 10ug/ml ; U 10ug/ml in HNO3 10% ; HF 0.1%	100	ml	6	Yes
5183-4682.L1	Initial Calibration Verification Standard - 26 components; Ca 1000ug/ml ; Fe 1000ug/ml ; K 1000ug/ml ; Mg 1000ug/ml ; Na 1000ug/ml ; Sr 1000ug/ml ; Ag 10ug/ml ; Al 10ug/ml ; As 10ug/ml ; Ba 10ug/ml ; Be 10ug/ml ; Cd 10ug/ml ; Co 10ug/ml ; Cr 10ug/ml ; Cu 10ug/ml ; Mn 10ug/ml ; Mo 10ug/ml ; Ni 10ug/ml ; Pb 10ug/ml ; Sb 10ug/ml ; Se 10ug/ml ; Tl 10ug/ml ; V 10ug/ml ; Zn 10ug/ml ; Th 10ug/ml ; U 10ug/ml in HNO3 5%	100	ml	12	Yes
190065000.L1	QCSTD-27 Quality Control Standard 27 components; 100ug/ml each of Al ; Sb ; As ; Ba ; Be ; B ; Cd ; Ca ; Cr ; Co ; Cu ; Fe ; Pb ; Mg ; Mn ; Mo ; Ni ; K ; Se ; Si ; Ag ; Sr ; Na ; Tl ; Ti ; V ; Zn in HNO3 5% ; HF tr%	100	ml	12	Yes
8500-6940.L1	Multi-element calibration standard-2A for ICP-MS - 28 components; 10mg/l each of Ag ; Al ; As ; Ba ; Be ; Ca ; Cd ; Co ; Cr ; Cs ; Cu ; Fe ; Ga ; Hg ; K ; Li ; Mg ; Mn ; Na ; Ni ; Pb ; Rb ; Se ; Sr ; Tl ; U ; V ; Zn in HNO3 5%	100	ml	12	Yes

## Standards Equivalent to Perkin Elmer

Ref. Number	Description	Volume	Msr. Unit	Shelf-life (months)	ISO 17034 ISO 17025
N0691581.L1	Calcium Stray Light Standard - Calcium (Ca) 10 g/l in 5% HNO3	100	ml	12	Yes
N8145060.L1	NexION AFT Single-Element Solution - 1 component; Fe 2ug/l in HNO3 2%	100	ml	6	Yes
N9300253.L1	Environmental Standard - 1 component; Hg 10mg/l in HNO3 5%	100	ml	6	Yes
N9303949.L1	5 mg/l Mercury in 5% HNO3 - 1 component; Hg 5mg/l in HNO3 5%	100	ml	6	Yes

Ref. Number	Description	Volume	Msr. Unit	Shelf-life (months)	ISO 17034 ISO 17025
N9303954.L1	8 mg/l Mercury in 5% HNO <sub>3</sub> , 1 component; Hg 8mg/l in HNO <sub>3</sub> 5%	100	ml	6	Yes
N9300223.L05	Environmental EPA Standard - 1 component; Hg 100mg/l in HNO <sub>3</sub> 5%	50	ml	12	Yes
N9300223.L1	Environmental EPA Standard - 1 component; Hg 100mg/l in HNO <sub>3</sub> 5%	100	ml	12	Yes
N8145052.L5	NexION KED Setup Solution - 2 components; Co 10ug/l ; Ce 1ug/l in HCl 1%	500	ml	6	Yes
N8145052.L1	NexION KED Setup Solution - 2 components; Co 10ug/l ; Ce 1ug/l in HCl 1%	100	ml	6	Yes
N9307806.L1	Environmental Standard - 2 components; 1000mg/l each of Al ; Fe in HNO <sub>3</sub> 5%	100	ml	12	Yes
N9307114.L1	Multi Element Solution - 3 components; 1000mg/l each of K ; Na ; P in HNO <sub>3</sub> 5%	100	ml	12	Yes
N9307114.L5	Multi Element Solution - 3 components; 1000mg/l each of K ; Na ; P in HNO <sub>3</sub> 5%	500	ml	12	Yes
N0691580.L1	Low UV Standard - 3 components; 10ug/ml each of Al ; P ; S in HNO <sub>3</sub> 2%	100	ml	6	Yes
N0691580.L25	Low UV Standard - 3 components; 10ug/ml each of Al ; P ; S in HNO <sub>3</sub> 2%	250	ml	6	Yes
N0691580.L5	Low UV Standard - 3 components; 10ug/ml each of Al ; P ; S in HNO <sub>3</sub> 2%	500	ml	6	Yes
N9307113.L1	Multi Element Solution - 4 components; 1000mg/l each of Al ; Ca ; Fe ; Mg in HNO <sub>3</sub> 5%	100	ml	12	Yes
N9307113.L5	Multi Element Solution - 4 components; 1000mg/l each of Al ; Ca ; Fe ; Mg in HNO <sub>3</sub> 5%	500	ml	12	Yes
N9300215.L1	Alternate Metals II - 4 components; Ca 500mg/l ; Na 500mg/l ; K 100mg/l ; Mg 100mg/l in HNO <sub>3</sub> 2%	100	ml	12	Yes
N9303952.L5	Alternate Metals II - 4 components; Ca 500mg/l ; Na 500mg/l ; K 100mg/l ; Mg 100mg/l in HNO <sub>3</sub> 2%	500	ml	12	Yes
N9300226.L1	Primary Interferents/ Interferents A - 4 components; Al 5000mg/l ; Ca 5000mg/l ; Mg 5000mg/l ; Fe 2000mg/l in HNO <sub>3</sub> 5%	100	ml	12	Yes
N9300226.L5	Primary Interferents/ Interferents A - 4 components; Al 5000mg/l ; Ca 5000mg/l ; Mg 5000mg/l ; Fe 2000mg/l in HNO <sub>3</sub> 5%	500	ml	12	Yes
N9307805.L1	Environmental Standards - 4 components; 1000mg/l each of Ca ; K ; Mg ; Na in HNO <sub>3</sub> 5%	100	ml	12	Yes
N9307805.L5	Environmental Standards - 4 components; 1000mg/l each of Ca ; K ; Mg ; Na in HNO <sub>3</sub> 5%	500	ml	12	Yes
N9300218.L1	Instrument Calibration Standard 1 - 4 components; 5000mg/l each of Ca ; K ; Mg ; Na in HNO <sub>3</sub> 5%	100	ml	12	Yes
N9300218.L5	Instrument Calibration Standard 1 - 4 components; 5000mg/l each of Ca ; K ; Mg ; Na in HNO <sub>3</sub> 5%	500	ml	12	Yes
N9300217.L1	Secondary Drinking Water Metals - 4 components; Zn 500mg/l ; Cu 100mg/l ; Fe 30mg/l ; Mn 5mg/l in HNO <sub>3</sub> 2%	100	ml	6	Yes
N9303818.L1	Instrument Calibration Standard 3 - 5 components; 1000mg/l each of Ca ; Fe ; K ; Mg ; Na in HNO <sub>3</sub> 5%	100	ml	12	Yes
N9303822.L1	Instrument Check Standard 3 - 5 components; 200mg/l each of Ca ; Fe ; K ; Mg ; Na in HNO <sub>3</sub> 2%	100	ml	12	Yes
N9307115.L1	Multi-Element Solution - 5 components; 1000mg/l each of Mo ; Sb ; Sn ; W ; Zr in HNO <sub>3</sub> 5%	100	ml	12	Yes
N9307115.L5	Multi-Element Solution - 5 components; 1000mg/l each of Mo ; Sb ; Sn ; W ; Zr in HNO <sub>3</sub> 5%	500	ml	12	Yes

Ref. Number	Description	Volume	Msr. Unit	Shelf-life (months)	ISO 17034 ISO 17025
N9300221.L1	Instrument Calibration Standard 4 - 5 components; As 100ug/ml ; Tl 100ug/ml ; Cd 50ug/ml ; Se 50ug/ml ; Pb 30ug/ml in HNO3 5%	100	ml	6	Yes
N8122017.L1	Elan 5000 Detection Limit Solution - 6 components; 10ug/l each of Be ; Co ; Ge ; In ; Tl ; U in HNO3 2%	100	ml	6	Yes
N8122017.L5	Elan 5000 Detection Limit Solution - 6 components; 10ug/l each of Be ; Co ; Ge ; In ; Tl ; U in HNO3 2%	500	ml	6	Yes
7F97.K1.15C.L1	USP 232 Elemental Impurities Solution 2 - 6 components; 100mg/kg each of Ir ; Os ; Pd ; Pt ; Rh ; Ru in HCl 15%	100	ml	12	Yes
N9303957B.L1	USP 232 Elemental Impurities Solution 2 - 6 components; 100mg/kg each of Ir ; Os ; Pd ; Pt ; Rh ; Ru in HCl 15%	100	ml	12	Yes
N9303834.L1	Multi-Element Internal Standard 7 components; 10ug/ml each of Bismuth ; Holmium ; Indium ; Lithium isotope 6 ; Scandium ; Terbium ; Yttrium in Nitric Acid 2%	100	ml	12	Yes
N9303832.L1	Internal Standard Mix - 7 components; 10ug/ml each of 6Li ; Sc ; Ge ; Y ; In ; Tb ; Bi in HNO3 5%	100	ml	12	Yes
N9300280.L1	Quality Control Standard, 7A Elements; K 1000mg/l ; Ag 50mg/l ; Al 100mg/l ; B 100mg/l ; Ba 100mg/l ; Na 100mg/l ; Si 500mg/l in HNO3 5%/ trHF	100	ml	12	Yes
N9303832.L5	Internal Standard Mix - 7 components; 10ug/ml each of 6Li ; Sc ; Ge ; Y ; In ; Tb ; Bi in HNO3 5%	500	ml	12	Yes
N9307808.L1	Internal Standard Mix - 8 components; Sc 50mg/l ; Ge 20mg/l ; In 10mg/l ; Ir 10mg/l ; 6Li 10mg/l ; Rh 10mg/l ; Tb 10mg/l ; Y 10mg/l in HNO3 2%	100	ml	6	Yes
N9302946.L1	VIS WAVECAL Solution - 8 components; K 50mg/l ; La 10mg/l ; Li 10mg/l ; Mn 10mg/l ; Na 10mg/l ; Sr 10mg/l ; Ba 1mg/l ; Ca 1mg/l in HNO3 2%	100	ml	12	Yes
N9302946.L25	VIS WAVECAL Solution - 8 components; K 50mg/l ; La 10mg/l ; Li 10mg/l ; Mn 10mg/l ; Na 10mg/l ; Sr 10mg/l ; Ba 1mg/l ; Ca 1mg/l in HNO3 2%	250	ml	12	Yes
N9300216.L1	Primary Drinking Water Metals - 8 components; Ba 100mg/l ; Ag 10mg/l ; As 10mg/l ; Cr 10mg/l ; Hg 10mg/l ; Pb 10mg/l ; Cd 5mg/l ; Se 5mg/l in HNO3 2%	100	ml	6	Yes
N8145051.L1	NexION Setup Solution - 8 components; 1ug/l each of Be ; Ce ; Fe ; In ; Li ; Mg ; Pb ; U in HNO3 1%	100	ml	6	Yes
N8145051.L5	NexION Setup Solution - 8 components; 1ug/l each of Be ; Ce ; Fe ; In ; Li ; Mg ; Pb ; U in HNO3 1%	500	ml	6	Yes
N9300241.L1	TCLP Standard 1 - 8 components; Ba 500mg/l ; Ag 25mg/l ; As 25mg/l ; Cr 25mg/l ; Pb 25mg/l ; Hg 100mg/l ; Cd 5mg/l ; Se 5mg/l in HNO3 2%	100	ml	6	Yes
N9300241.L5	TCLP Standard 1 - 8 components; Ba 500mg/l ; Ag 25mg/l ; As 25mg/l ; Cr 25mg/l ; Pb 25mg/l ; Hg 100mg/l ; Cd 5mg/l ; Se 5mg/l in HNO3 2%	500	ml	6	Yes
N8125040.L1	SmartTune Solution for Standard ELANs/DRC-e - 9 components; 10mg/l each of Ba ; Be ; Ce ; Co ; In ; Mg ; Pb ; Rh ; U in HNO3 1%	100	ml	6	Yes
N8125030.1L	Elan 9000/6100 Setup/Stability/Masscal Solution - 9 components; 10ug/l each of Ba ; Ce ; Cd ; Cu ; In ; Pb ; Mg ; Rh ; U in HNO3 1%	1000	ml	6	Yes
N8125030.L1	Elan 9000/6100 Setup/Stability/Masscal Solution - 9 components; 10ug/l each of Ba ; Ce ; Cd ; Cu ; In ; Pb ; Mg ; Rh ; U in HNO3 1%	100	ml	6	Yes
N8125030.L5	Elan 9000/6100 Setup/Stability/Masscal Solution - 9 components; 10ug/l each of Ba ; Ce ; Cd ; Cu ; In ; Pb ; Mg ; Rh ; U in HNO3 1%	500	ml	6	Yes
N9300231.L1	Multi-Element Solution1 - 9 components; 10mg/l each of Be ; Bi ; Ce ; Co ; In ; Mg ; Ni ; Pb ; U in HNO3 2%	100	ml	12	Yes

Ref. Number	Description	Volume	Msr. Unit	Shelf-life (months)	ISO 17034 ISO 17025
N9300231.L5	Multi-Element Solution1 - 9 components; 10mg/l each of Be ; Bi ; Ce ; Co ; In ; Mg ; Ni ; Pb ; U in HNO3 2%	500	ml	12	Yes
N0691579.L1	Mixed Calibration Standard 10 components: As 50ug/ml ; K 50ug/ml ; La 10ug/ml ; Li 10ug/ml ; Mn 10ug/ml ; Ni 10ug/ml ; Sr 10ug/ml ; Zn 10ug/ml ; Ba 1ug/ml ; Mg 1ug/ml in HNO3 2%	100	ml	12	Yes
N0691579.L5	Mixed Calibration Standard 10 components: As 50ug/ml ; K 50ug/ml ; La 10ug/ml ; Li 10ug/ml ; Mn 10ug/ml ; Ni 10ug/ml ; Sr 10ug/ml ; Zn 10ug/ml ; Ba 1ug/ml ; Mg 1ug/ml in HNO3 2%	500	ml	12	Yes
N8125041.1L	SmartTune Solution for DRC/DRCplus/DRC II - 10 components; Ba 10ug/l ; Be 1ug/l ; Ce 1ug/l ; Co 1ug/l ; In 1ug/l ; Fe 1ug/l ; Pb 1ug/l ; Mg 1ug/l ; Th 1ug/l ; U 1ug/l in HNO3 0.5%	1000	ml	6	Yes
N8125041.L5	SmartTune Solution for DRC/DRCplus/DRC II - 10 components; Ba 10ug/l ; Be 1ug/l ; Ce 1ug/l ; Co 1ug/l ; In 1ug/l ; Fe 1ug/l ; Pb 1ug/l ; Mg 1ug/l ; Th 1ug/l ; U 1ug/l in HNO3 0.5%	500	ml	6	Yes
N9300234.L1	Multi-Element Solution 4 - 10 components; 10mg/l each of Au ; Hf ; Ir ; Pd ; Pt ; Rh ; Ru ; Sb ; Sn ; Te in HCl 10% ; HNO3 1%	100	ml	12	Yes
N9303957A.L1	USP Elemental Impurities Solution 1 - 10 components; Cu 2500mg/kg ; Mn 2500mg/kg ; Cr 250mg/kg ; Mo 250mg/kg ; Ni 250mg/kg ; V 250mg/kg ; As 15mg/kg ; Hg 15mg/kg ; Pb 10mg/kg ; Cd 5mg/kg in HNO3 5%	100	ml	6	Yes
N0681470.L1	UV Wavecal Solution - 11 components; As 20mg/l ; K 100mg/l ; La 20mg/l ; Li 20mg/l ; Mn 20mg/l ; Mo 20mg/l ; Na 20mg/l ; Ni 20mg/l ; P 100mg/l ; S 100mg/l ; Sc 20mg/l in HCl 2%	100	ml	6	Yes
N0681470.L5	UV Wavecal Solution - 11 components; As 20mg/l ; K 100mg/l ; La 20mg/l ; Li 20mg/l ; Mn 20mg/l ; Mo 20mg/l ; Na 20mg/l ; Ni 20mg/l ; P 100mg/l ; S 100mg/l ; Sc 20mg/l in HCl 2%	500	ml	6	Yes
N9303843.L1	Tuning Solution 1 - 12 components; 10mg/l each of Ba ; Be ; Ce ; Co ; In ; Li ; Mg ; Pb ; Rh ; Tl ; U ; Y in HNO3 2% ; HCl 5%	100	ml	6	Yes
4DA0.1K.5NtrF.L1	Interference Check Solution 1 - 12 components; Chlorides (Cl-) 10 000mg/l ; Carbon (C) 2000mg/l ; Aluminium (Al) 1000mg/l ; Calcium (Ca) 1000mg/l ; Iron (Fe) 1000mg/l ; Potassium (K) 1000mg/l ; Magnesium (Mg) 1000mg/l ; Sodium (Na) 1000mg/l ; Phosphorus (P) 1000mg/l ; Sulphur (S) 1000mg/l ; Molybdenum (Mo) 20mg/l ; Titanium (Ti) 20mg/l in Nitric Acid 5% ; Hydrofluoric acid tr%	100	ml	6	Yes
N9303828.L1	Interference Check Solution 1 - 12 components; Chlorides (Cl-) 10 000mg/l ; Carbon (C) 2000mg/l ; Aluminium (Al) 1000mg/l ; Calcium (Ca) 1000mg/l ; Iron (Fe) 1000mg/l ; Potassium (K) 1000mg/l ; Magnesium (Mg) 1000mg/l ; Sodium (Na) 1000mg/l ; Phosphorus (P) 1000mg/l ; Sulphur (S) 1000mg/l ; Molybdenum (Mo) 20mg/l ; Titanium (Ti) 20mg/l in Nitric Acid 5% ; Hydrofluoric acid tr%	100	ml	6	Yes
N9303828.L5	Interference Check Solution 1 - 12 components; Chlorides (Cl-) 10 000mg/l ; Carbon (C) 2000mg/l ; Aluminium (Al) 1000mg/l ; Calcium (Ca) 1000mg/l ; Iron (Fe) 1000mg/l ; Potassium (K) 1000mg/l ; Magnesium (Mg) 1000mg/l ; Sodium (Na) 1000mg/l ; Phosphorus (P) 1000mg/l ; Sulphur (S) 1000mg/l ; Molybdenum (Mo) 20mg/l ; Titanium (Ti) 20mg/l in Nitric Acid 5% ; Hydrofluoric acid tr%	500	ml	6	Yes
N8125035.L1	ELAN 6100 DRC Setup/Stab/Masscal Solution - 12 components; Ba 10ug/l ; Al 1ug/l ; Cd 1ug/l ; Ce 1ug/l ; Cr 1ug/l ; Cu 1ug/l ; In 1ug/l ; Pb 1ug/l ; Mg 1ug/l ; Mn 1ug/l ; Rh 1ug/l ; Th 1ug/l in HNO3 0.5%	100	ml	6	Yes

Ref. Number	Description	Volume	Msr. Unit	Shelf-life (months)	ISO 17034 ISO 17025
N8125035.L5	ELAN 6100 DRC Setup/Stab/Masscal Solution - 12 components; Ba 10ug/l; Al 1ug/l; Cd 1ug/l; Ce 1ug/l; Cr 1ug/l; Cu 1ug/l; In 1ug/l; Pb 1ug/l; Mg 1ug/l; Mn 1ug/l; Rh 1ug/l; Th 1ug/l in HNO3 0.5%	500	ml	6	Yes
N9300235.L1	Multi-Element Solution 5 - 12 components; 10mg/l each of B; Ge; Mo; Nb; P; Re; S; Si; Ta; Ti; W; Zr in HNO3 2%	100	ml	12	Yes
N0582152.L5	UV Wavecal Solution - 12 components; K 100ug/ml; P 100ug/ml; S 100ug/ml; As 20ug/ml; La 20ug/ml; Li 20ug/ml; Mn 20ug/ml; Mo 20ug/ml; Na 20ug/ml; Ni 20ug/ml; Sc 20ug/ml; Ca 1ug/ml in HCl 5%	500	ml	6	Yes
N0582152.L1	UV Wavecal Solution - 12 components; K 100ug/ml; P 100ug/ml; S 100ug/ml; As 20ug/ml; La 20ug/ml; Li 20ug/ml; Mn 20ug/ml; Mo 20ug/ml; Na 20ug/ml; Ni 20ug/ml; Sc 20ug/ml; Ca 1ug/ml in HCl 5%	100	ml	6	Yes
N9303827.L1	Interference A - 12 components; Chlorides (Cl-) 21215mg/l Calcium (Ca) 3000mg/l; Iron (Fe) 2500mg/l; Sodium (Na) 2500mg/l; Carbon (C) 2000mg/l; Aluminium (Al) 1000mg/l Potassium (K) 1000mg/l; Magnesium (Mg) 1000mg/l; Phosphorus (P) 1000mg/l; Sulphur (S) 1000mg/l; Molybdenum (Mo) 20mg/l; Titanium (Ti) 20mg/l in Nitric Acid 5% / trHF	100	ml	6	Yes
N9303946.L1	Perkin Elmer Pure XIII - 14 components; Al 500mg/l; V 250mg/l; As 100mg/l; Be 100mg/l; Co 100mg/l; Cr 100mg/l; Cu 100mg/l; Fe 100mg/l; Mn 100mg/l; Ni 100mg/l; Pb 100mg/l; Zn 100mg/l; Cd 25mg/l; Se 25mg/l in HNO3 5%	100	ml	12	Yes
N8145059.L1	14 components; 200ug/l each of Al; Ba; Ce; Co; Cu; In; Li; Mg; Mn; Ni; Pb; Tb; U; Zn in HNO3 2%	100	ml	4	Yes
N9300211.L1	Trace Metals 1 - 15 components; Al 500mg/l; V 250mg/l; As 100mg/l; Be 100mg/l; Co 100mg/l; Cr 100mg/l; Cu 100mg/l; Fe 100mg/l; Mn 100mg/l; Ni 100mg/l; Pb 100mg/l; Zn 100mg/l; Cd 25mg/l; Se 25mg/l; Hg 10mg/l in HNO3 5%	100	ml	6	Yes
N9300244.L1	GFAAS Mixed Standard - 16 components; Al 100mg/l; As 100mg/l; Pb 100mg/l; Sb 100mg/l; Se 100mg/l; Tl 100mg/l; Ba 50mg/l; Co 50mg/l; Cu 50mg/l; Ni 50mg/l; Cr 20mg/l; Fe 20mg/l; Mn 20mg/l; Ag 10mg/l; Be 5mg/l; Cd 5mg/l in HNO3 5%; HF tr%	100	ml	12	Yes
N9300232.L1	Universal Data Acquisition Standard 1 - 17 components; 10mg/l each of Ce; Dy; Er; Eu; Gd; Ho; La; Lu; Nd; Pr; Sm; Sc; Tb; Th; Tm; Y; Yb in HNO3 5%	100	ml	12	Yes
N9300232.L5	Universal Data Acquisition Standard 1 - 17 components; 10mg/l each of Ce; Dy; Er; Eu; Gd; Ho; La; Lu; Nd; Pr; Sm; Sc; Tb; Th; Tm; Y; Yb in HNO3 5%	500	ml	12	Yes
N9303839.L1	Spike Sample Standard I (Water) - 17 components; Fe 500ug/ml; Ba 250ug/ml; Zn 250ug/ml; Co 100ug/ml; Cr 100ug/ml; Cu 100ug/ml; Mn 100ug/ml; Ni 100ug/ml; Sb 100ug/ml; V 100ug/ml; As 50ug/ml; Pb 50ug/ml; Ag 25ug/ml; Be 25ug/ml; Cd 25ug/ml; Se 25ug/ml; Tl 25ug/ml in HNO3 5%; HF 0.1%; C4H6O6 0.1%	100	ml	6	Yes
N9303821.L1	Instrument Check Standard 1 - 17 components; 10ug/ml each of Ag; Al; As; Ba; Be; Cd; Co; Cr; Cu; Mn; Ni; Pb; Sb; Se; Tl; V; Zn in HNO3 2%; HF tr%; C4H6O6 tr%	100	ml	12	Yes
N9307116.L1	Multi-Element Solution - 17 components; 1000mg/l each of As; Ba; Cd; Be; Cr; Co; Cu; La; Pb; Li; Mn; Ni; Sc; Sr; V; Y; Zn in HNO3 5%	100	ml	12	Yes
N9307116.L5	Multi-Element Solution - 17 components; 1000mg/l each of As; Ba; Cd; Be; Cr; Co; Cu; La; Pb; Li; Mn; Ni; Sc; Sr; V; Y; Zn in HNO3 5%	500	ml	12	Yes

Ref. Number	Description	Volume	Msr. Unit	Shelf-life (months)	ISO 17034 ISO 17025
N9303816.L1	Instrument Calibration Standard 1 - 20 components; 20mg/l each of Ag ; Al ; As ; Ba ; Be ; Cd ; Co ; Cr ; Cu ; Mn; Mo ; Ni ; Pb ; Sb ; Se ; Th ; Tl ; U ; V ; Zn in HNO3 5%/ tr Tartaric	100	ml	6	Yes
N9300281.L1	Quality Control Standard, 21 Elements Pure (Pure XVI) - 100mg/l each of As ; Be ; Ca ; Cd ; Co ; Cr ; Cu ; Fe ; Li ; Mg ; Mn ; Mo ; Ni ; Pb ; Sb ; Se ; Sr ; Ti ; Tl ; V ; Zn in HNO3 5%	100	ml	12	Yes
N9303953.L1	Initial Calibration Verification Standard - 21 components; Ca 500ug/ml ; Mg 500ug/ml ; K 500ug/ml ; Na 500ug/ml ; Ba 200ug/ml ; Al 200ug/ml ; Fe 100ug/ml ; Sb 60ug/ml ; Co 50ug/ml ; V 50ug/ml ; Ni 40ug/ml ; Cu 25ug/ml ; Zn 20ug/ml ; Mn 15ug/ml ; As 10ug/ml ; Cr 10ug/ml ; Ag 10ug/ml ; Tl 10ug/ml ; Cd 5ug/ml ; Se 5ug/ml ; Pb 3ug/ml in HNO3 5%	100	ml	6	Yes
N9303835.L1	Memory Test 1 - 21 components; Al 1000mg/l ; Ca 1000mg/l ; Fe 1000mg/l ; K 1000mg/l ; Mg 1000mg/l ; Na 1000mg/l ; Ag 20mg/l ; As 20mg/l ; Ba 20mg/l ; Be 20mg/l ; Cd 20mg/l ; Co 20mg/l ; Cr 20mg/l ; Cu 20mg/l ; Mn 20mg/l ; Ni 20mg/l ; Pb 20mg/l ; Se 20mg/l ; Tl 20mg/l ; V 20mg/l ; Zn 20mg/l in HNO3 5%	100	ml	6	Yes
9C79.20.5N.L1	Memory Test 1 - 21 components; Al 1000mg/l ; Ca 1000mg/l ; Fe 1000mg/l ; K 1000mg/l ; Mg 1000mg/l ; Na 1000mg/l ; Ag 20mg/l ; As 20mg/l ; Ba 20mg/l ; Be 20mg/l ; Cd 20mg/l ; Co 20mg/l ; Cr 20mg/l ; Cu 20mg/l ; Mn 20mg/l ; Ni 20mg/l ; Pb 20mg/l ; Se 20mg/l ; Tl 20mg/l ; V 20mg/l ; Zn 20mg/l in HNO3 5%	100	ml	6	Yes
N9303941.L1	Perkin Elmer Pure 4 (Quality Control Standard 23) - 23 components; 1000ug/ml each of Ag ; Al ; B ; Ba ; Bi ; Ca ; Cd ; Co ; Cr ; Cu ; Fe ; Ga ; In ; K ; Li ; Mg ; Mn ; Na ; Ni ; Pb ; Sr ; Tl ; Zn in HNO3 10%	100	ml	12	Yes
N9303941.L5	Perkin Elmer Pure 4 (Quality Control Standard 23) - 23 components; 1000ug/ml each of Ag ; Al ; B ; Ba ; Bi ; Ca ; Cd ; Co ; Cr ; Cu ; Fe ; Ga ; In ; K ; Li ; Mg ; Mn ; Na ; Ni ; Pb ; Sr ; Tl ; Zn in HNO3 10%	500	ml	12	Yes
N9303944.L1	Perkin Elmer Pure 10 - 23 components; As 50ug/l ; B 100ug/l ; Ba 50ug/l ; Be 20ug/l ; Bi 10ug/l ; Ca 35000ug/l ; Cd 20ug/l ; Co 25ug/l ; Cr 20ug/l ; Cu 20ug/l ; Fe 100ug/l ; K 3000ug/l ; Mg 15000ug/l ; Mn 30ug/l ; Mo 100ug/l ; Na 8000ug/l ; Ni 50ug/l ; Pb 25ug/l ; Se 10ug/l ; Sr 100ug/l ; Tl 10ug/l ; V 50ug/l ; Zn 50ug/l in HNO3 2%	100	ml	12	Yes
N9303942.L1	Perkin Elmer Pure 8 - 24 components; 100mg/l each of Al; B ; Ba ; Bi ; Be ; Ca ; Cd ; Co ; Cr ; Cu ; Fe ; Ga ; K ; Li ; Mg ; Mn ; Na ; Ni ; Pb ; Se ; Sr ; Te ; Tl ; Zn in HNO3 5%	100	ml	12	Yes
N9301721MS.L1	Environmental Standard - 26 components; 100mg/l each of Ag ; Al ; As ; Ba ; Be ; Ca ; Cd ; Co ; Cr ; Cu ; Fe ; K ; Mg ; Mn; Mo ; Na ; Ni ; Pb ; Sb ; Se ; Sn ; Sr ; Ti ; Tl ; V ; Zn in HNO3 5%	100	ml	6	Yes
N9301721.L1	Instrument Calibration Standard 2 - 26 components; 100ug/ml each of Ag ; Al ; As ; Ba ; Be ; Ca ; Cd ; Co ; Cr ; Cu ; Fe ; K ; Mg ; Mn ; Mo ; Na ; Ni ; Pb ; Sb ; Se ; Sn ; Sr ; Ti ; Tl ; V ; Zn in HNO3 5% ; HF tr% ; C4H6O6 tr%	100	ml	12	Yes
N9301720.L1	Multi-Element Solution 3 with Hg: 30 components; 10mg/l each of Ag ; Al ; As ; Ba ; Be ; Bi ; Ca ; Cd ; Co ; Cr ; Cs ; Cu ; Fe ; Ga ; Hg ; In ; K ; Li ; Mg ; Mn ; Na ; Ni ; Pb ; Rb ; Se ; Sr ; Tl ; U ; V ; Zn in HNO3 5%	100	ml	6	Yes



## Standards Equivalent to Merck

Ref. Number	Description	Volume	Msr. Unit	Shelf-life (months)	ISO 17034 ISO 17025
115626.L1	Calibration Standard Earth Alkali Elements (III) - 4 components; 1000mg/l each of Ba ; Ca ; Mg ; Sr in HNO3 5%	100	ml	12	Yes
109495.L1	ICP Calibration Standard HCl Soluble Elements (XVII) 7 components; 100mg/l each of Hf ; Ir ; Sb ; Sn ; Ta ; Ti ; Zr in HCl 15%/tr. HF and HNO3	100	ml	12	Yes
109491.L1	Standard Solution 7 components; Cd 10mg/l ; Cr 900mg/l ; Cu 800mg/l ; Ni 200mg/l ; Pb 900mg/l ; Zn 2500mg/l ; Hg 8mg/l in HNO3 5%	100	ml	12	Yes
109482.L1	ICP Multi-Element Standard Solution XV - 8 components; K 50mg/l ; La 10mg/l ; Li 10mg/l ; Mn 10mg/l ; Na 10mg/l ; Sr 10mg/l ; Ba 1mg/l ; Ca 1mg/l in HNO3 2%	100	ml	12	Yes
109482.L5	ICP Multi-Element Standard Solution XV - 8 components; K 50mg/l ; La 10mg/l ; Li 10mg/l ; Mn 10mg/l ; Na 10mg/l ; Sr 10mg/l ; Ba 1mg/l ; Ca 1mg/l in HNO3 2%	500	ml	12	Yes
1FAC.1.2N.L1	ICP Multi-Element Standard Solution XV - 8 components; K 50mg/l ; La 10mg/l ; Li 10mg/l ; Mn 10mg/l ; Na 10mg/l ; Sr 10mg/l ; Ba 1mg/l ; Ca 1mg/l in HNO3 2%	100	ml	12	Yes
109490.L1	Merck ICP Multi-element standard Solution (XII) - 8 components; 1000mg/l each of As ; Mo ; P ; S ; Si ; W ; V ; Zr in HCl 5%	100	ml	12	Yes
110322.L1	IC Multi-element standard VII 9 components; 100mg/l each of Barium (Ba <sup>2+</sup> ) ; Calcium (Ca <sup>2+</sup> ) ; Potassium (K <sup>+</sup> ) ; Lithium (Li <sup>+</sup> ) ; Magnesium (Mg <sup>2+</sup> ) ; Manganese (Mn <sup>2+</sup> ) ; Sodium (Na <sup>+</sup> ) ; Ammonium (NH <sub>4</sub> <sup>+</sup> ) ; Strontium (Sr <sup>2+</sup> ) in Nitric Acid 0.1%	100	ml	12	Yes
109494.L1	ICP Multi-element standard solution IX (9 components in dilute nitric acid; 100mg/l each of As ; Be ; Pb ; Cd ; Cr ; Ni ; Hg ; Se ; Tl)	100	ml	12	Yes
109481.L1	ICP multi-element standard solution XIV - 11 components; As 20mg/l ; Na 20mg/l ; Sc 20mg/l ; Li 20mg/l ; Ni 20mg/l ; S 100mg/l ; K 100mg/l ; Mn 20mg/l ; La 20mg/l ; Mo 20mg/l ; P 100mg/l in HCl 2%	100	ml	12	Yes
109481.L5	ICP multi-element standard solution XIV - 11 components; As 20mg/l ; Na 20mg/l ; Sc 20mg/l ; Li 20mg/l ; Ni 20mg/l ; S 100mg/l ; K 100mg/l ; Mn 20mg/l ; La 20mg/l ; Mo 20mg/l ; P 100mg/l in HCl 2%	500	ml	12	Yes
109497.L1	Merck ICP multi-element standard solution XX 11 components; 10ug/l each of Ba ; Ce ; Ge ; Mg ; Sc ; Tl ; Cd ; Cu ; Pb ; Rh ; Tb in HNO3 1%	100	ml	6	Yes
109497.L5	Merck ICP multi-element standard solution XX 11 components; 10ug/l each of Ba ; Ce ; Ge ; Mg ; Sc ; Tl ; Cd ; Cu ; Pb ; Rh ; Tb in HNO3 1%	500	ml	6	Yes
109411.L1	ICP Tuning Standard (XXIV) 15 components; Al 50mg/l ; As 50mg/l ; Ba 50mg/l ; Cd 50mg/l ; Co 50mg/l ; Cr 50mg/l ; Cu 50mg/l ; K 500mg/l ; Mn 50mg/l ; Mo 50mg/l ; Ni 50mg/l ; Pb 50mg/l ; Se 50mg/l ; Sr 50mg/l ; Zn 50mg/l in HNO3 1%	100	ml	12	Yes

Ref. Number	Description	Volume	Msr. Unit	Shelf-life (months)	ISO 17034 ISO 17025
109411.L5	ICP Tuning Standard (XXIV) 15 components; Al 50mg/l ; As 50mg/l ; Ba 50mg/l ; Cd 50mg/l ; Co 50mg/l ; Cr 50mg/l ; Cu 50mg/l ; K 500mg/l ; Mn 50mg/l ; Mo 50mg/l ; Ni 50mg/l ; Pb 50mg/l ; Se 50mg/l ; Sr 50mg/l ; Zn 50mg/l in HNO3 1%	500	ml	12	Yes
109480.L1	Calibration Standard Trace Metals (XIII) - 15 components; Al 500mg/l ; V 250mg/l ; As 100mg/l ; Be 100mg/l ; Co 100mg/l ; Cr 100mg/l ; Cu 100mg/l ; Fe 100mg/l ; Mn 100mg/l ; Ni 100mg/l ; Pb 100mg/l ; Zn 100mg/l ; Cd 25mg/l ; Se 25mg/l ; Hg 5mg/l in HNO3 5%	100	ml	6	Yes
109410.L1	ICP/MS Multi element standard solution XXIII 15 components; 1ug/l each of B ; Ba ; Co ; Fe ; Ga ; In ; K ; Li ; Lu ; Na ; Rh ; Sc ; Tl ; U ; Y in HNO3 5%	100	ml	6	Yes
109410.L5	ICP/MS Multi element standard solution XXIII 15 components; 1ug/l each of B ; Ba ; Co ; Fe ; Ga ; In ; K ; Li ; Lu ; Na ; Rh ; Sc ; Tl ; U ; Y in HNO3 5%	500	ml	6	Yes
109500.L1	GF AAS Multi element standard XVIII - 16 components; Ag 10mg/l ; Al 100mg/l ; As 100mg/l ; Ba 50mg/l ; Be 5mg/l ; Cd 5mg/l ; Co 50mg/l ; Cr 20mg/l ; Cu 50mg/l ; Fe 20mg/l ; Mn 20mg/l ; Ni 50mg/l ; Pb 100mg/l ; Sb 100mg/l ; Se 100mg/l ; Tl 100mg/l in HNO3 5%	100	ml	12	Yes
115474.L1	ICP Calibration Standard (I) - 19 components; Ag 50mg/l ; Al 100mg/l ; B 15mg/l ; Ba 5mg/l ; Be 1mg/l ; Bi 200mg/l ; Cd 20mg/l ; Co 20mg/l ; Cr 25mg/l ; Cu 20mg/l ; Fe 15mg/l ; Ga 150mg/l ; In 200mg/l ; Mn 5mg/l ; Ni 50mg/l ; Pb 200mg/l ; Sr 1mg/l ; Tl 400mg/l ; Zn 20mg/l in HNO3 5%	100	ml	12	Yes
109487.L1	ICP Calibration Standard - Quality Control (XVI) 21 components; 100mg/l each of As ; Be ; Ca ; Cd ; Co ; Cr ; Cu ; Fe ; Li ; Mg ; Mn ; Mo ; Ni ; Pb ; Sb ; Se ; Sr ; Ti ; Tl ; V ; Zn in HNO3 2%	100	ml	12	Yes
111355.L1	ICP Calibration Standard (IV) 23 components; 1000mg/l each of Ag ; Al ; B ; Ba ; Bi ; Ca ; Cd ; Co ; Cr ; Cu ; Fe ; Ga ; In ; K ; Li ; Mg ; Mn ; Na ; Ni ; Pb ; Sr ; Tl ; Zn in HNO3 2%	100	ml	12	Yes
111355.L5	ICP Calibration Standard (IV) 23 components; 1000mg/l each of Ag ; Al ; B ; Ba ; Bi ; Ca ; Cd ; Co ; Cr ; Cu ; Fe ; Ga ; In ; K ; Li ; Mg ; Mn ; Na ; Ni ; Pb ; Sr ; Tl ; Zn in HNO3 2%	500	ml	12	Yes
109493.L1	Multi-element solution 23 components; As 50ug/l ; B 100ug/l ; Ba 50ug/l ; Be 20ug/l ; Bi 10ug/l ; Ca 35000ug/l ; Cd 20ug/l ; Co 25ug/l ; Cr 20ug/l ; Cu 20ug/l ; Fe 100ug/l ; K 3000ug/l ; Mg 15000ug/l ; Mn 30ug/l ; Mo 100ug/l ; Na 8000ug/l ; Ni 50ug/l ; Pb 25ug/l ; Se 10ug/l ; Sr 100ug/l ; Tl 10ug/l ; V 50ug/l ; Zn 50ug/l in HNO3 5%	100	ml	12	Yes
109492.L1	ICP multi-element standard solution VIII 24 components; 100mg/l each of Al ; B ; Ba ; Be ; Bi ; Ca ; Cd ; Co ; Cr ; Cu ; Fe ; Ga ; K ; Li ; Mg ; Mn ; Na ; Ni ; Pb ; Se ; Sr ; Te ; Tl ; Zn in HNO3 2%	100	ml	12	Yes
110714.L1	Merck ICP multi-element standard V - 26 components; Al 20mg/l ; As 20mg/l ; B 2mg/l ; Ba 2mg/l ; Be 1mg/l ; Ca 10mg/l ; Cd 2mg/l ; Cr 2mg/l ; Cu 2mg/l ; Fe 2mg/l ; Hg 5mg/l ; K 100mg/l ; Li 2mg/l ; Mg 1mg/l ; Mn 1mg/l ; Na 20mg/l ; Ni 5mg/l ; P 10mg/l ; Pb 20mg/l ; Sc 1mg/l ; Se 20mg/l ; Sr 1mg/l ; Te 20mg/l ; Ti 2mg/l ; Y 1mg/l ; Zn 2mg/l in HCl 5%	100	ml	12	Yes

Ref. Number	Description	Volume	Msr. Unit	Shelf-life (months)	ISO 17034 ISO 17025
109498.L1	ICP-MS Calibration Standard (XXI) - 29 components; 10mg/l each of Ag ; Al ; As ; Ba ; Be ; Bi ; Ca ; Cd ; Co ; Cr ; Cs ; Cu ; Fe ; Ga ; In ; K ; Li ; Mg ; Mn ; Na ; Ni ; Pb ; Rb ; Se ; Sr ; Tl ; U ; V ; Zn in HNO3 5%	100	ml	12	Yes
N9300233	ICP-MS Calibration Standard (XXI) - 29 components; 10mg/l each of Ag ; Al ; As ; Ba ; Be ; Bi ; Ca ; Cd ; Co ; Cr ; Cs ; Cu ; Fe ; Ga ; In ; K ; Li ; Mg ; Mn ; Na ; Ni ; Pb ; Rb ; Se ; Sr ; Tl ; U ; V ; Zn in HNO3 5%	100	ml	12	Yes
N9300233.L5	ICP-MS Calibration Standard (XXI) - 29 components; 10mg/l each of Ag ; Al ; As ; Ba ; Be ; Bi ; Ca ; Cd ; Co ; Cr ; Cs ; Cu ; Fe ; Ga ; In ; K ; Li ; Mg ; Mn ; Na ; Ni ; Pb ; Rb ; Se ; Sr ; Tl ; U ; V ; Zn in HNO3 5%	500	ml	12	Yes
110580.L1	ICP multi-element standard solution VI 30 components; Ag 10mg/l ; Al 10mg/l ; As 100mg/l ; B 100mg/l ; Ba 10mg/l ; Be 100mg/l ; Bi 10mg/l ; Ca 1000mg/l ; Cd 10mg/l ; Co 10mg/l ; Cr 10mg/l ; Cu 10mg/l ; Fe 100mg/l ; Ga 10mg/l ; K 10mg/l ; Li 10mg/l ; Mg 10mg/l ; Mn 10mg/l ; Mo 10mg/l ; Na 10mg/l ; Ni 10mg/l ; Pb 10mg/l ; Rb 10mg/l ; Se 100mg/l ; Sr 10mg/l ; Te 10mg/l ; Tl 10mg/l ; U 10mg/l ; V 10mg/l ; Zn 100mg/l in HNO3 5%	100	ml	6	Yes

## Standards Equivalent to Jobin Yvon

Ref. Number	Description	Volume	Msr. Unit	Shelf-life (months)	ISO 17034 ISO 17025
JYICP-QC2.L1	Standard Quality Control for Chlorine - Chlorides (Cl-) 10 000mg/l in Water	100	ml	12	Yes
JYICP-QC2.L5	Standard Quality Control for Chlorine - Chlorides (Cl-) 10 000mg/l in Water	500	ml	12	Yes
JYICP-MIXMAJ.L1	Standard for determination of 4 main elements - 5000mg/l each of Ca ; K ; Mg ; Na in HNO3 5%	100	ml	12	Yes
JYICP-MIXMAJ.L5	Standard for determination of 4 main elements - 5000mg/l each of Ca ; K ; Mg ; Na in HNO3 5%	500	ml	12	Yes
JYICP-MIXHM.L1	Standard for the Determination of traces of 5 heavy metals - As 100mg/l ; Tl 100mg/l ; Cd 50mg/l ; Se 50mg/l ; Pb 30mg/l in HNO3 5%	100	ml	6	Yes
JYICP-QCACT.L1	Standard Quality Control for Testing ICP Activa Family - 5 components; 100mg/l each of Al ; Cd ; K ; Mg ; Pb in HNO3 5%	100	ml	12	Yes
CE3B.K5.5N.L1	Standard Solution 5 components; K 1500ug/ml ; Pb 1000ug/ml ; Al 500ug/ml ; Mg 500ug/ml ; Cd 100ug/ml in HNO3 5%	100	ml	12	Yes
JYICP-QC1.L1	Standard Solution 5 components; K 1500ug/ml ; Pb 1000ug/ml ; Al 500ug/ml ; Mg 500ug/ml ; Cd 100ug/ml in HNO3 5%	100	ml	12	Yes
JYICP-QC1.L5	Standard Solution 5 components; K 1500ug/ml ; Pb 1000ug/ml ; Al 500ug/ml ; Mg 500ug/ml ; Cd 100ug/ml in HNO3 5%	500	ml	12	Yes
JYICP-MIX7.L1	Standard for Semi-quantitative Method - 7 components; K 1000mg/l ; Ag 100mg/l ; Al 100mg/l ; B 100mg/l ; Ba 100mg/l ; Na 100mg/l ; Si 50mg/l in HNO3 5%/tr HF	100	ml	12	Yes
JYICP-MIX7HSI.L1	Quality Control Standard - 7 components; K 1000mg/l ; Ag 50mg/l ; Al 100mg/l ; B 100mg/l ; Ba 100mg/l ; Na 100mg/l ; Si 500mg/l in HNO3 5%/ tr HF	100	ml	12	Yes
JYICP-MIX21.L1	Standard for Semi-quantitative Method - 21 components; 100mg/l each of As ; Be ; Ca ; Cd ; Co ; Cr ; Cu ; Fe ; Li ; Mg ; Mn ; Mo ; Ni ; Pb ; Sb ; Se ; Sr ; Ti ; Tl ; V ; Zn in HNO3 5%	100	ml	12	Yes
JYICP-MIX23.L1	Quality Control - 23 components; 1000ug/ml each of Ag ; Al ; B ; Ba ; Bi ; Ca ; Cd ; Co ; Cr ; Cu ; Fe ; Ga ; In ; K ; Li ; Mg ; Mn ; Na ; Ni ; Pb ; Sr ; Tl ; Zn in HNO3 10%	100	ml	12	Yes
JYICP-MIX23.L5	Quality Control - 23 components; 1000ug/ml each of Ag ; Al ; B ; Ba ; Bi ; Ca ; Cd ; Co ; Cr ; Cu ; Fe ; Ga ; In ; K ; Li ; Mg ; Mn ; Na ; Ni ; Pb ; Sr ; Tl ; Zn in HNO3 10%	500	ml	12	Yes

## Standards equivalent to NIST

Ref. Number	Description	Volume	Msr. Unit	Shelf-life (months)	ISO 17034 ISO 17025
1641e.L1	Mercury 0.1016mg/kg in HNO <sub>3</sub> 3% (w/w) ; HCl 2% (w/w)	100	ml	6	Yes
1641d.L1	Mercury In Water Hg 1.557mg/kg in HNO <sub>3</sub> 2% (stabilized with 1 mg/kg Gold)	100	ml	6	Yes
1643.L1	Trace Metals in Water 30 components; Ag 1ug/l ; Al 142ug/l ; As 60ug/l ; B 158ug/l ; Ba 544ug/l ; Be 14ug/l ; Bi 14ug/l ; Ca 32000ug/l ; Cd 7ug/l ; Co 27ug/l ; Cr 20ug/l ; Cu 23ug/l ; Fe 98ug/l ; K 2000ug/l ; Li 17ug/l ; Mg 8000ug/l ; Mn 39ug/l ; Mo 121ug/l ; Na 21000ug/l ; Ni 62ug/l ; Pb 20ug/l ; Rb 14ug/l ; Re 113ug/l ; Sb 58ug/l ; Se 12ug/l ; Sr 323ug/l ; Te 1ug/l ; Tl 7ug/l ; V 38ug/l ; Zn 79ug/l in HNO <sub>3</sub> 5%	100	ml	12	Yes

## Standards Equivalent to Metrohm

Ref. Number	Description	Volume	Msr. Unit	Shelf-life (months)	ISO 17034 ISO 17025
REAIC105002.L5	Metrohm Peak - chloride/sulfate standard - 2 components; 1mg/l each of Chlorides (Cl <sup>-</sup> ) ; Sulphates (SO <sub>4</sub> <sup>2-</sup> ) in Water	500	ml	6	Yes
REAIC105006.L5	Metrohm Peak - chloride/sulfate standard - 2 components; 10mg/l each of Chlorides (Cl <sup>-</sup> ) ; Sulphates (SO <sub>4</sub> <sup>2-</sup> ) in Water	500	ml	6	Yes
REAIC105004.L5	Metrohm Peak - chloride/sulfate standard - 2 components; 2.5mg/l each of Chlorides (Cl <sup>-</sup> ) ; Sulphates (SO <sub>4</sub> <sup>2-</sup> ) in Water	500	ml	6	Yes
REAIC105005.L5	Metrohm Peak - chloride/sulfate standard - 2 components; 5mg/l each of Chlorides (Cl <sup>-</sup> ) ; Sulphates (SO <sub>4</sub> <sup>2-</sup> ) in Water	500	ml	6	Yes
REAIC105001.L5	Metrohm Peak - chloride/sulfate standard - 2 components; 0.5mg/l each of Chlorides (Cl <sup>-</sup> ) ; Sulphates (SO <sub>4</sub> <sup>2-</sup> ) in Water	500	ml	6	Yes
REAIC1220.L1	Mixed Cations Standard - 6 components; Lithium (Li <sup>+</sup> ) 1mg/l ; Sodium (Na <sup>+</sup> ) 5mg/l ; Ammonium (NH <sub>4</sub> <sup>+</sup> ) 5mg/l ; Potassium (K <sup>+</sup> ) 10mg/l ; Calcium (Ca <sup>2+</sup> ) 10mg/l ; Magnesium (Mg <sup>2+</sup> ) 10mg/l in Water	100	ml	6	Yes
REAIC1230.L1	Mixed Cations Standard - 6 components; 100mg/l each of Lithium (Li <sup>+</sup> ) ; Sodium (Na <sup>+</sup> ) ; Ammonium (NH <sub>4</sub> <sup>+</sup> ) ; Potassium (K <sup>+</sup> ) ; Calcium (Ca <sup>2+</sup> ) ; Magnesium (Mg <sup>2+</sup> ) in Water	100	ml	12	Yes
REAIC1026.L1	Mixed Anions Standard - 7 components; Fluorides (F <sup>-</sup> ) 0.5mg/l ; Phosphates (PO <sub>4</sub> <sup>3-</sup> ) 0.5mg/l ; Nitrites (NO <sub>2</sub> <sup>-</sup> ) 1mg/l ; Nitrates (NO <sub>3</sub> <sup>-</sup> ) 1mg/l ; Bromides (Br <sup>-</sup> ) 1mg/l ; Chlorides (Cl <sup>-</sup> ) 12.5mg/l ; Sulphates (SO <sub>4</sub> <sup>2-</sup> ) 12.5mg/l in Water	100	ml	6	Yes
REAIC1040.L1	Mixed Anions Standard - 7 components; 0.1mg/l each of Fluorides (F <sup>-</sup> ) ; Phosphates (PO <sub>4</sub> <sup>3-</sup> ) ; Nitrites (NO <sub>2</sub> <sup>-</sup> ) ; Nitrates (NO <sub>3</sub> <sup>-</sup> ) ; Bromides (Br <sup>-</sup> ) ; Chlorides (Cl <sup>-</sup> ) ; Sulphates (SO <sub>4</sub> <sup>2-</sup> ) in Water	100	ml	6	Yes

Ref. Number	Description	Volume	Msr. Unit	Shelf-life (months)	ISO 17034 ISO 17025
REAIC1020.L1	Mixed Anions Standard - 7 components; Fluorides (F-) 2ppm; Phosphates (PO43-) 10ppm; Nitrites (NO2-) 5ppm; Nitrates (NO3-) 10ppm; Bromides (Br-) 10ppm; Chlorides (Cl-) 5ppm; Sulphates (SO42-) 10ppm in Water	100	ml	6	Yes
REAIC1035.L1	Mixed Anions Standard - 7 components; 100mg/l each of Chlorides (Cl-); Fluorides (F-); Sulphates (SO42-); Nitrates (NO3-); Nitrites (NO2-); Bromides (Br-); Phosphates (PO43-) in Water	100	ml	12	Yes
1521.K1.W.L1	Mixed Anions Standard - 7 components; 100mg/l each of Chlorides (Cl-); Fluorides (F-); Sulphates (SO42-); Nitrates (NO3-); Nitrites (NO2-); Bromides (Br-); Phosphates (PO43-) in Water	100	ml	12	Yes
1521.K1.W.L25	Mixed Anions Standard - 7 components; 100mg/l each of Chlorides (Cl-); Fluorides (F-); Sulphates (SO42-); Nitrates (NO3-); Nitrites (NO2-); Bromides (Br-); Phosphates (PO43-) in Water	250	ml	12	Yes

## Standards Equivalent to Dionex

Ref. Number	Description	Volume	Msr. Unit	Shelf-life (months)	ISO 17034 ISO 17025
P/N037157.L1	Combined Five Anion Standard - 5 components; Fluorides (F-) 20mg/l; Chlorides (Cl-) 30mg/l; Nitrates (NO3-) 100mg/l; Phosphates (PO43-) 150mg/l; Sulphates (SO42-) 150mg/l in Water	100	ml	6	Yes
P/N040187.L05	Combined Six Cation Standard-I - 6 components; Lithium (Li+) 50mg/l; Sodium (Na+) 200mg/l; Ammonium (NH4+) 400mg/l; Potassium (K+) 200mg/l; Calcium (Ca2+) 1000mg/l; Magnesium (Mg2+) 200mg/l in Water	50	ml	6	Yes
P/N040187.L1	Combined Six Cation Standard-I - 6 components; Lithium (Li+) 50mg/l; Sodium (Na+) 200mg/l; Ammonium (NH4+) 400mg/l; Potassium (K+) 200mg/l; Calcium (Ca2+) 1000mg/l; Magnesium (Mg2+) 200mg/l in Water	100	ml	6	Yes
P/N046070.L05	Combined Six Cation Standard-II - 6 components; Lithium (Li+) 50mg/l; Sodium (Na+) 200mg/l; Ammonium (NH4+) 250mg/l; Potassium (K+) 500mg/l; Calcium (Ca2+) 500mg/l; Magnesium (Mg2+) 250mg/l in Water	50	ml	6	Yes
P/N046070.L1	Combined Six Cation Standard-II - 6 components; Lithium (Li+) 50mg/l; Sodium (Na+) 200mg/l; Ammonium (NH4+) 250mg/l; Potassium (K+) 500mg/l; Calcium (Ca2+) 500mg/l; Magnesium (Mg2+) 250mg/l in Water	100	ml	6	Yes
P/N057590.L1	Combined Seven Anion Standard II - 7 components; Fluorides (F-) 20mg/l; Chlorides (Cl-) 100mg/l; Nitrites (NO2-) 100mg/l; Bromides (Br-) 100mg/l; Nitrates (NO3-) 100mg/l; Phosphates (PO43-) 200mg/l; Sulphates (SO42-) 100mg/l in Water	100	ml	6	Yes
P/N056933.L05	Combined Seven Anion Standard I - 7 components; Fluorides (F-) 20mg/l; Chlorides (Cl-) 30mg/l; Nitrites (NO2-) 100mg/l; Bromides (Br-) 100mg/l; Nitrates (NO3-) 100mg/l; Phosphates (PO43-) 150mg/l; Sulphates (SO42-) 150mg/l in Water	50	ml	6	Yes
P/N056933.L1	Combined Seven Anion Standard I - 7 components; Fluorides (F-) 20mg/l; Chlorides (Cl-) 30mg/l; Nitrites (NO2-) 100mg/l; Bromides (Br-) 100mg/l; Nitrates (NO3-) 100mg/l; Phosphates (PO43-) 150mg/l; Sulphates (SO42-) 150mg/l in Water	100	ml	6	Yes





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