

VERSION 2.2



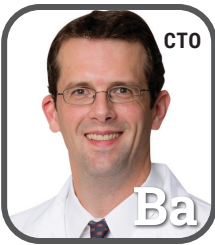
Capabilities Catalog

INORGANIC CUSTOM & STOCK
CERTIFIED REFERENCE MATERIALS

ISO 17034 | ISO 17025 | ISO 9001



Our Employees Are to Our



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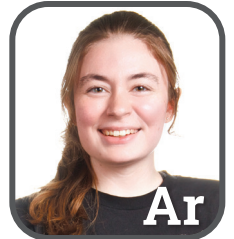
Josh Rancourt



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Ethan Real



Abigail Resner



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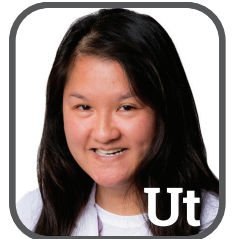
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the Key Element Success



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Justin DiRico



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William Marble



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Jodie Wall



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Quality

A history of accreditation. For more than 20 years, Inorganic Ventures has been accredited by A2LA to ISO 17034 (formerly ISO Guide 34) & ISO 17025. These are the core standards of the analytical testing community, and Inorganic Ventures continues to lead the way in compliance to these quality standards. This means CRMs that are engineered to be stable, compatible, SI traceable and manufactured and tested under ISO 17034 & ISO 17025 guidelines.

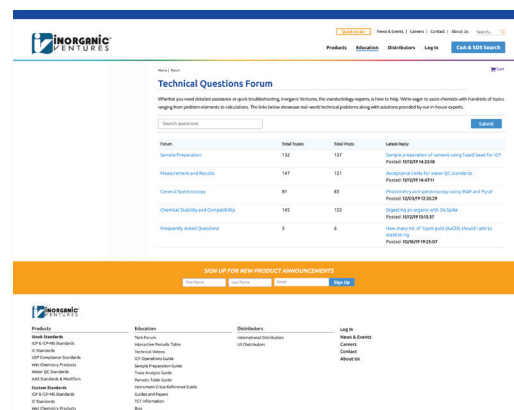
Customs

Custom standards are Inorganic Ventures' specialty. Our catalog reveals only a fraction of the inorganic reference materials we can prepare. More than two thirds of our business is devoted entirely to preparing custom standards. As the leading manufacturer of custom inorganic standards, we've produced tens of thousands of unique blends for laboratories worldwide. It's our area of expertise, and perhaps the most prominent way in which we refine your results and redefine your industry.

And More...

On the web. Our technical library has been expanding for over a decade. Topics include ICP operations, sample preparation, trace metals analysis and much more*. There you'll discover the best online tool for analytical chemists with our Interactive Periodic Table. It includes chemical compatibilities, preferred lines, major interferences and additional data for 70+ elements. inorganicventures.com/tech-center

Additionally, our stock SDSs and CoAs can be found on our website for current lots as well as many older ones.



WHY CHOOSE INORGANIC VENTURES? CERTIFICATE OF ANALYSIS

INORGANIC VENTURES
300 Technology Drive
Christiansburg, VA 24073 • USA
info@inorganicventures.com

CERTIFICATE OF ANALYSIS
Tel: 800.668.6799 • 540.585.3030
Fax: 540.585.3032
info@inorganicventures.com

1.0 ACCREDITATION / REGISTRATION
INORGANIC VENTURES is accredited to ISO Guide 34, "General Requirements for the Competence of Reference Material Producers" and ISO/IEC 17025, "General Requirements for the Competence of Testing and Calibration Laboratories". Inorganic Ventures is also an ISO 9001 registered manufacturer (SAI Global File Number 031026).

2.0 PRODUCT DESCRIPTION
Product Code: Single Analyte Custom Grade Solution
Catalog Number: CGGD1
Lot Number: J2-GD01060
Matrix: 7% (w/v) HNO₃
Value / Analyte(s): Gd
Starting Material: Gd2O₃
Starting Material Lot#: 1899
Starting Material Purity: 99.9824%
3.0 CERTIFIED VALUES AND UNCERTAINTIES
Certified Value: 999 ± 2 µg/mL
Certified Density: 1.037 g/mL (measured at 20 ± 1 °C)
Assay Information:
Assay Method #1: 999 ± 4 µg/mL
ICP Assay NIST SRM 3118a Lot Number: 992004
Assay Method #2: 999 ± 3 µg/mL
EDTA NIST SRM 928 Lot Number: 928
- The Calculated Value is a value calculated from the weight of a starting material that has been certified directly by a National Institute of Standards and Technology (NIST) SRMARM. See Sec 4.2 for balance traceability.
The following equations are used in the calculation of the certified value and the uncertainty. Reported uncertainties represent expanded uncertainties expressed at approximately the 95% confidence level using a coverage factor of k = 2.

Page 1 of 4

Characterization of CRM by two independent methods
Characterization of CRM by one method

11.0 BUREAU Guide 19 "General Requirements for the Competence of Reference Material Producers"
Reference Material Producer - Accredited / A2LA Certificate Number 90322
CERTIFICATION OF COMPOSITION AND PURITY OF VALUE
11.1 Distribution Issue Date: August 11, 2015
11.2 Expiration Date: August 11, 2016
11.3 Period of Validity: The certificate is valid when the measurement uncertainty specified on the CRM(s) is stated and when it is in accordance with the requirements of Sec 11.1. The certificate is voided otherwise. Sec 11.1 are not followed if the CRM(s) is changed, contaminated, or otherwise modified.
11.4 The certificate also reflects the period of time that the validity of a CRM(s) can be supported by the quality assurance system in place and not the validity of the CRM(s). For questions or to request a copy of the certificate, please contact the manufacturer of the CRM(s) at the address provided in the certificate.
11.5 Period of Validity: "Sealed TCT Bag Not Open"
11.6 NEEDS AND SPECIALTIES OF CERTAIN COUNTRIES

12.0
Certificate Prepared By: *Doreen Dean*
Doreen Dean
Product Development Technician
Certificate Approved By: *Ann Rappaport*
Ann Rappaport
NIST Technical Director
Paul R. Lamm
Paul R. Lamm
NIST Technical Director
Page 4 of 4

Certificate of Analysis (CoA)

Nearly every CRM we manufacture includes a highly detailed Certificate of Analysis. As an ISO 17034, A2LA accredited manufacturer, we provide certificates that include extensive data to meet the quality requirements of any laboratory:

- **Traceability** – to specific NIST SRMs and lots
- **Certified Values** – based on two independent methods
- **Trace Impurities** – listed with the actual values
- **Uncertainties** – detailed information reported

You'll wonder how you ever got along without such a thorough certificate.
Contact us for a sample.

ONLINE

All CoA and Safety Data Sheet (SDS) information is now available online, 24/7. Inorganic Ventures is also pleased to announce that all of our products are GHS compliant and our SDSs are available in 13 different languages.

inorganicventures.com/inorganic-standards

INORGANIC VENTURES
Issuing Date: 07-Aug-2015 Revision Date: 18-Jul-2015 Revision Number: 1

IDENTIFICATION OF THE SUBSTANCE/ PREPARATION AND OF THE COMPANY/ UNDERTAKING
Product Identifier: CGGD1
Product Name/Catalog ID: CGGD1
Other means of identification: 1 000 µg/mL Gadolinium
Product Description: 1 000 µg/mL Gadolinium
Recommended use of the chemical and restrictions on use: LABORATORY CHEMICAL
Uses advised against: No information available
Details of the supplier of the safety data sheet: Inorganic Ventures, 300 Technology Drive, Christiansburg, VA 24073, info@inorganicventures.com
Emergency Telephone Number: 1-800-424-8002 (USA), 540-585-3030 (Canada), 410-546-6868 (Europe)

2. HAZARDS IDENTIFICATION
GHS
Classification: Category 1 Sub-category A
Hazard Statements: Causes severe skin burns and eye damage
Label Elements: Appearance / Color/ Odor: Clear / Colorless, Physical State: Liquid, Odor: Colorless

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Inorganic Ventures Label

INORGANIC VENTURES
300 Technology Dr., Christiansburg, VA 24073, USA
540.585.3030 | info@inorganicventures.com

Component / Component (CAS#)
Nitric Acid / Aque Nitric (7697-37-2)

CGGD1
Gadolinium
Gadolinium / Gadolinio
999 ± 2 µg/mL Gadolinium
7% (w/v) HNO₃
125mL d = 1.037 g/mL
Lot: J2-GD01060

Gd

This product expires on: August 11, 2016 or 1 year after opening the sealed TCT bag, whichever comes first.

We're here to help. We don't just manufacture inorganic CRMs, we also provide technical support when it is needed so you can do your job. Because inorganic chemistry is all we do, Inorganic Ventures has a dedicated technical support team that can assist you with hundreds of topics: sample preparation, method development, ICP and ICP-MS measurement issues and much more. You'll be amazed when you talk to a real person with a technical background ready to help you.

Our technical advisors are available to assist you Monday through Friday, 8:00 a.m. to 5:00 p.m. EST.

We can assist you with...

- Sample preparation
- Spectral interferences
- Chemical compatibilities
- Various ICP & ICP-MS measurement issues



Technical Questions Answered

We've posted a variety of technical questions and answers pertaining to sample preparation, chemical stability and measurement.

inorganicventures.com/tech-center

Phone

- 800.669.6799 (US & Canada)
- +1.540.585.3030 (International)

Email

- info@inorganicventures.com

Online

- inorganicventures.com/forum

OUR GUARANTEE

Unquestionable integrity.

We believe in our products. And we value our customers. That is why every order leaving our facilities includes our "Declaration of Integrity." This document guarantees your satisfaction. Simply said, if you're dissatisfied with your order for any reason and we cannot work through the problem with you, a full refund will be issued, no questions asked.



TCT™

TRANSPIRATION CONTROL
TECHNOLOGY

The cornerstone of the scientific community is accuracy. That's why Inorganic Ventures has always been committed to producing the industry's most exact Certified Reference Materials.

But our control...and the control of every standard manufacturer...ends shortly after a standard is calibrated and packaged. We are improving the way we deliver our quality standards.



What is transpiration?

Transpiration refers to the passage of water vapor through the walls of a container and/or evaporation from the container opening. Transpiration results in an increase in the concentration of the CRM/RM.

What is the solution?

Transpiration Control Technology extends the shelf-life of the product. Inorganic Ventures uses a specially designed aluminized bag that prevents an increase in concentration of the CRM/RM until the TCT bag is opened.

How it works.

The sealed TCT bag stops the loss of water vapor from the bottle when equilibrium is reached inside the bag.

Has the product changed?

The product has not changed, it is the same high-quality product you have come to depend on from Inorganic Ventures. TCT is an investment we are making to extend shelf life and give you more control at no extra charge. Our products and unconditional guarantee remain the same.

What this means for you.

When you order standards from Inorganic Ventures, your product will be delivered in the TCT bag. This means you will be in control of the expiration date. Upon receiving the product, do not open the TCT bag until you are ready to use. To find out how long the product can be in the TCT bag before it expires, simply check the lot expiration found on the bottom left of the front label. Your product will expire on that date or one year after opening the sealed TCT bag, whichever comes first.

For more information on TCT, visit
[inorganicventures.com/tct](https://www.inorganicventures.com/tct)

WHY CHOOSE INORGANIC VENTURES? ONLINE TECH CENTER

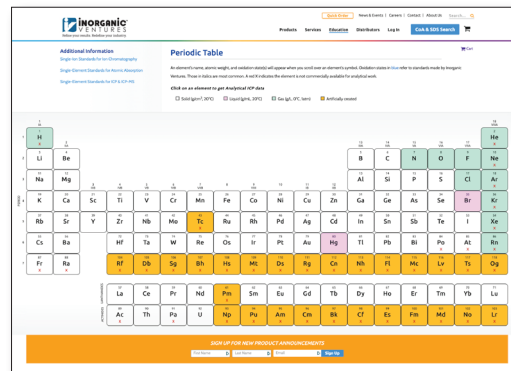
Education

Chemistry Resources for Lab Techs and Spectroscopists
Inorganic Ventures' online technical library has been expanding for over a decade. Topics include ICP operations, sample preparation, trace metals analysis, and much more.

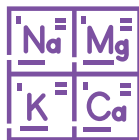
- Interactive Periodic Table**
Entries for each element, with special file storage and handling recommendations, chemical compatibility, and stability data intended specifically for use in spectrometry.
[Learn More](#)
- Technical Questions Forum**
Whether you need detailed assistance or quick troubleshooting, the team at Inorganic Ventures is here to help with this searchable database. Can't find what you need? [Send us an email!](#)
[Learn More](#)
- Technical Videos**
Questions about our science or our products? Our PhDs break it down for you in a series of brief videos.
[Learn More](#)
- ICP Operations Guide**
A must-have guide for anyone operating and preparing samples and standards for measurement using ICP-MS and ICP-OES.
[Learn More](#)
- Sample Preparation Guide**
Our sample preparation guide provides specific, highly-detailed information about certain elements in regard to sample preparation.
[Learn More](#)
- Trace Analysis Guide**
An essential resource for trace analysis at any experience level, written by Paul Gaines, Ph.D.
[Learn More](#)
- Periodic Table Guide**
The Periodic Table for ICP Users Guide provides essential data for 70+ elements for every ICP user including chemical compatibilities, preferred emission lines, as well as major interferences and detection limits for both ICP and ICP-MS.
[Learn More](#)
- Instrument Cross Reference Guide**
Our cross-reference guide provides a quick key to Inorganic Ventures' part numbers to match the CRMs for your specific instrument.
[Learn More](#)
- Guides and Papers**
We believe that sharing knowledge lifts the scientific community as a whole. We hope you find this information helpful.
[Learn More](#)
- TCT Information**
Inorganic Ventures is committed to ensuring the accuracy of your CRM, regardless of shipping or storage conditions. Learn more about the value of our industry-leading packaging technique.
[Learn More](#)
- Bios**
Learn more about our extraordinary technical team.
[Learn More](#)
- Fun for Chemists**
If you're looking for a laugh, check out our chemistry jokes and riddles!
[Learn More](#)
- Links for Chemists**
Professional organizations and associations, as well as EPA resources and other useful links.
[Learn More](#)
- Frequently Asked Questions**
Answers to questions we get asked a lot.
[Learn More](#)

inorganicventures.com/tech-center

Visit us online to see all of our upgraded features.



ICP Operations Guide
A Guide for Using ICP-OES and ICP-MS
By Paul Gaines, Ph.D.



Interactive Periodic Table

Discover the best online tool for analytical chemists. Includes chemical compatibilities, preferred lines, major interferences and additional data for 70+ elements.



Guides and Papers

Inorganic Ventures' online technical library has been expanding for more than a decade. Topics include ICP operations, sample preparation, trace metals analysis and much more.



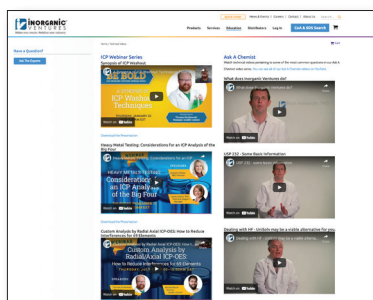
Transpiration Control Technology

With TCT, concerns about shipping or storage conditions are eliminated, as transpiration is no longer an issue.



Technical Videos

Watch technical videos pertaining to some of the most common questions in our recorded webinars and "Ask a Chemist" video series.



TCT
TRANSPIRATION CONTROL TECHNOLOGY

Transpiration Control Technology works. The shell life of the product. Inorganic Ventures uses a specially designed desiccant bag that prevents an increase in concentration of the CRM/MS until the TCT bag is opened.

YOUR EXP. In effect, this puts you in control of the expiration date, which is one year from opening the sealed TCT bag of the lot, whichever comes first.

HOW IT WORKS


The sealed TCT bag stops the loss of water vapor from the sample while equilibrium is reached inside the bag. Inorganic Ventures guarantees the integrity of the product one full year from opening the sealed TCT bag. You can store your TCT-packaged CRM/MS under normal conditions without compromising quality or risking transportation.

HAS THE PRODUCT CHANGED?
NO
It is the same high-quality product you have come to depend on from Inorganic Ventures.

SAME AS ALWAYS.
TCT is an investment we are making to extend shelf life and give you more control of our work change. Our products and unconditional guarantees remain the same.

ASK ABOUT TCT!
Visit our Tech Center to learn more about TCT and other ways we're working hard to improve your standards.

A BETTER PRODUCT!
It's in the bag with Inorganic Ventures.



High-Purity Formulations and Bulk Manufacturing to Meet Challenges Involving Battery Composition and Cutting-Edge Manufacturing

CASE STUDY: PUT OUR PURITY TO THE TEST

CHALLENGE

Inorganic Ventures was contacted by an energy storage manufacturer when concerns arose about acquiring high-purity specialty reagents with custom bulk delivery from a domestic source.

The customer came to us with a request to use our products as components in their elite manufacturing processes. We put our brains together to roll out a distinct custom solution that would support their new endeavors.

The need for impurities below a certain threshold was vital to the customer's operation and guarantee of a

high-quality end product. This project pushed us to innovate and develop new chemical mixtures that were stable, easier to manufacture and higher in concentration while simultaneously maintaining the prescribed purity requirements. It also highlighted our ability to adapt and problem-solve when being challenged by large volume requirements (>1000L per month) and sourcing of rare raw materials. Lastly, the case gave valuable insight into a reality where Inorganic Ventures' products, capabilities and expertise are utilized in a variety of different industries beyond trace elemental analysis and validation of instruments in the analytical testing field.

AREAS OF EXPERTISE

- High-purity technical blending
- Specialized packaging and containers
- Custom reagent mixtures
- High-purity metals and compounds
- High-purity salt solutions
- High-purity DI water and acid solutions
- Custom metal solutions
- Custom chemical blending
- Certified filters

Added Value to
 High-Purity Metal
 Compounds with
 Trace Metals
 Impurity Testing



CASE STUDY: A NEW PATH FOR IV WITH PURE STARTING MATERIALS

CHALLENGE

A long-term partnership between Inorganic Ventures (IV) and one of our most loyal suppliers sparked ideas about a new endeavor with the highest quality starting materials as the focus. Our collaborating supplier is known for offering ultra-pure inorganic metal compounds and with the addition of Inorganic Ventures' years of ISO-accredited testing expertise, we provide even greater value to their products.

Inorganic Ventures rigorously tests the supplier's starting materials for more than 68 elemental impurities using both ICP-OES and ICP-MS. Our Trace Metallic Impurity (TMI) testing program provides certificates detailing purity information and includes identified trace metals and detection limits. For a multitude of companies, it is important to know which trace metals are present and at

what levels when planning for product development or regulatory compliance. The insight this testing provides is also used to make companies aware of quality control issues or factors for improving their methods and processes.

Along with the added TMI testing, Inorganic Ventures hermetically seals the products using our industry-tested Transpiration Control Technology (TCT) to ensure product integrity and provide confidence and consistency when it comes to shipping and storage. Another benefit to this product transformation is the distribution network used by Inorganic Ventures. Our distribution chain stretches all over the world, making it easier for customers to obtain these metals in compounds common to many manufacturing and analytical processes.

PRODUCTS

Aluminum nitrate hexahydrate	99.999%	CAS Number: 7784-27-2
Calcium carbonate	99.9995+%	CAS Number: 471-34-1
Chromium nitrate nonahydrate	99.999%	CAS Number: 7789-02-8
Iron nitrate nonahydrate	99.9995%	CAS Number: 7782-61-8
Magnesium nitrate hexahydrate	99.999%	CAS Number: 13446-18-9



Combating “Bug” Growth to Improve Outcomes in Highly Regulated Industries

CASE STUDY: THE RESULTS ARE GROWING. THE MICROBES ARE NOT.

CHALLENGE

When a need arose from customers in highly regulated industries, Inorganic Ventures (IV) took the opportunity to deliver a solution that would ease their pain points and make processes more efficient in the lab. The problem? Companies in biomedical, pharmaceutical, life sciences and nutraceutical fields were experiencing issues with microbial growth in their standards. This problem was so severe that in some cases, product bottles were turning green from mold and algae. These companies must comply with strict government regulations – and “bug” growth in the lab definitely does not fall within the scope of those requirements. IV put their brains together to overcome this issue and develop products that would exceed all other offerings on the market.

To combat microbial growth in the past, pharmaceutical and life science companies had been hitting their CRMs with gamma rays before using them in their laboratory methods. This process is known to be expensive, time-consuming and requires unnecessary handling of the product. Gamma ray treatment was increasing costs and wasting time.

IV'S APPROACH

After extensive research and development, Inorganic Ventures unveiled new and improved pH and conductivity standards that would prevent the growth of microbials altogether and eliminate the need for gamma ray treatment. IV's products are ready to use right out of the bottle! IV was able to solve the problem and meet a need which has allowed for efficiency gains in labs all over the world.

Along with bug growth prevention, the pH line provides many other benefits. In response to varying analytical methods and external requests, specifically from companies involved in protein synthesis, Inorganic Ventures made the jump to certify the pH buffers at multiple temperatures.

Another added benefit to Inorganic Ventures' pH standards, as well as all other product offerings, is the unique packaging. All products are stored in the visionary Transpiration Control Technology. This technology provides up to 5-year shelf life, individual bottle expiration dates, expanded storage temperatures outside of normal lab conditions and eliminates contamination from storage with the goal of putting customers in control of their inventory.

All buffers and conductivity standards produced by Inorganic Ventures are manufactured and tested according to ISO 17034 & ISO 17025 guidelines.

PRODUCTS:



Conductivity Standards

- 2 µmhos/cm Conductivity at 25°C
- 5 µmhos/cm Conductivity at 25°C
- 10 µmhos/cm Conductivity at 25°C
- 84 µmhos/cm Conductivity at 25°C
- 100 µmhos/cm Conductivity at 25°C
- 147 µmhos/cm Conductivity at 25°C
- 500 µmhos/cm Conductivity at 25°C
- 1,000 µmhos/cm Conductivity at 25°C
- 1,200 µmhos/cm Conductivity at 25°C
- 1,400 µmhos/cm Conductivity at 25°C
- 1,413 µmhos/cm Conductivity at 25°C
- 1,430 µmhos/cm Conductivity at 25°C
- 10,000 µmhos/cm Conductivity at 25°C
- 100,000 µmhos/cm Conductivity at 25°C

pH Standards

- pH 1.68
- pH 2
- pH 3
- pH 4
- pH 4 Red
- pH 4.01
- pH 5
- pH 6
- pH 6.86
- pH 7
- pH 7 Yellow
- pH 8
- pH 9
- pH 9.18
- pH 10
- pH 10 Blue
- pH 10.01
- pH 11
- pH 12
- pH 12.45
- pH 12.47

COMMITMENT

At Inorganic Ventures, we want to empower our customers to be leaders, improve efficiencies and meet challenges head on. If your company has specific testing requirements or high-purity specifications, Inorganic Ventures would love to be of service to you. Our team of expert chemists and customer experience representatives looks forward to working with you as a direct partner. Whether this involves process improvement, custom blending, or bulk solution manufacturing, our goal is to offer proven care and support as you refine your results and redefine your industry.



CUSTOM STANDARDS

Refine Your Results. Redefine Your Industry.

Inorganic Ventures' capabilities are not limited to a stock catalog. In fact, manufacturing custom standards is our passion and area of expertise. Let us lead the way as you refine your results and redefine your industry with our precise customizations.



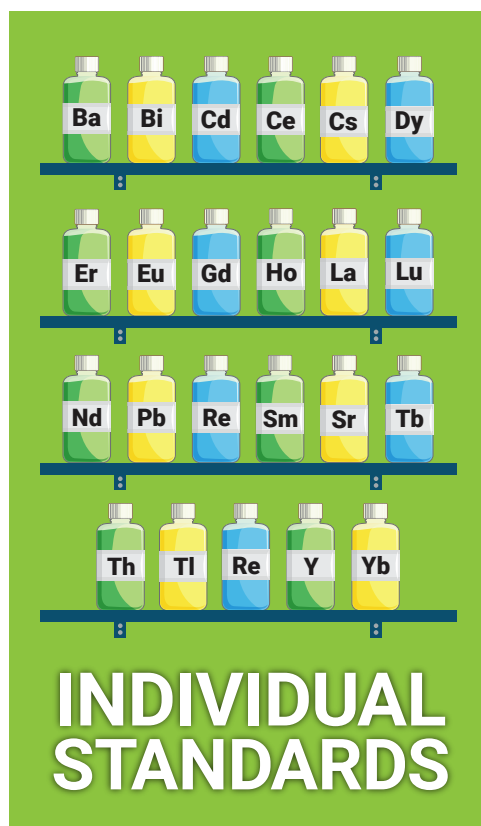
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Custom Standards

- ✓ Made to your exact specifications
- ✓ Save time and money
- ✓ Traceable to NIST SRMs
- ✓ Produced under ISO 9001
- ✓ Produced under ISO 17025
- ✓ Produced under ISO 17034
- ✓ 5-year expiration date with TCT

MAGIC HAPPENS WITH A CUSTOM SOLUTION



Mixing individual, single element standards into a working solution requires time, resources and money.

It involves preparation costs like time intensive labor and equipment, administrative costs associated with stocking and measuring re-order points for each solution, and the responsibility of handling all supporting documentation.



Our expert chemists make magic happen in the lab so that you can put these burdens by the wayside!

Each custom blend is calculated, formulated, articulated and regulated.

All of our custom blends are certified, NIST-traceable and have been put through a rigorous stability and method validation process.

Each custom standard is produced under ISO 9001, ISO 17025 and ISO 17034.



Our custom solutions are manufactured according to your exact specifications and ready for use with no preparation required!











In addition, each custom is guaranteed up to a 5-year shelf, thanks to our Transpiration Control Technology (TCT) which puts you in control of the expiration date!

Our Technical Support group is available to facilitate sample preparation and troubleshoot any problems that may arise during testing.

66,000 BLENDS AND COUNTING

Join thousands of laboratories worldwide in purchasing our custom standards. Ditch your single element stocks and let us do the work for you! Not convinced? Check out all the benefits of ordering a custom.



Potential issues building from single element stock products		BENEFITS OF ORDERING A CUSTOM	
High Preparation Costs		<p>Save on labor and equipment costs. Ready for immediate use with no prep required.</p>	
Documentation Responsibilities		<p>All documentation and associated paperwork is handled for you and immediately available if you face an audit.</p>	
Uncertainty and Instability		<p>Certified, NIST traceable product from experts in elemental compatibility give you peace of mind.</p>	
Storage and Transpiration Issues		<p>Transpiration Control Technology (TCT) provides up to a 5-year shelf life and allows for flexible storage by increasing allowable temperature range.</p>	
Contamination		<p>Take advantage of our clean bottles and starting materials.</p>	

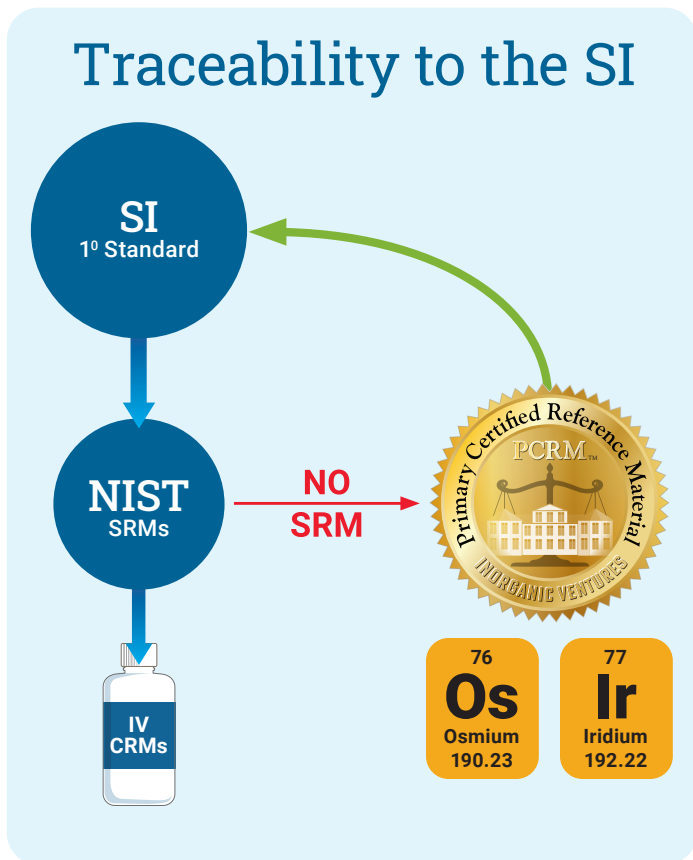


PRIMARY CERTIFIED REFERENCE MATERIALS

Primary Certified Reference Materials

Newly developed Os and Ir PCRM™s from Inorganic Ventures are a step above our normal Certified Reference Materials because they achieve the highest possible level of metrological traceability.

Osmium and Iridium PCRMs are the only rigorously developed solution standards traceable to the International System of Units (SI) for these elements. They can be used with the same degree of confidence as solution standards from National Metrology Institutes (NMIs).



Scan to download the whitepaper to learn more about traceability.

How do I request a custom CRM?

Custom solutions can be requested through our convenient online quotation form. If you are unable to use our website, you may submit custom quotes through email, fax or by phone. All we need from you is a previously quoted IV part number, another manufacturer's part number, or for a brand new solution, the desired analytes, concentrations and matrix requirements.

<https://www.inorganicventures.com/quote/instrumentsetup/index>

What happens after I submit my request?

Your custom quote is put together by our experienced chemists.

First, they go through our extensive library of more than 66,000 blends that have been developed over the last 38 years. If they don't find a match, they start formulating your exact custom standard. During this process, the blend is reviewed for stability and chemical compatibility. Your quote will be processed within two business days!*

I received the quote and I'm ready to order my custom!

If you like what you see, place your order via phone, fax or email. Your standard will be manufactured, packaged, and shipped within 10 business days. The custom standard is protected by our Transpiration Control Technology (TCT) and retains scientific integrity for up to five years from the date of manufacture.**



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* Quotes with many solutions, complex blends, or unique requirements may take longer to process.

** Based on stability data, some blends may receive a shorter lot expiration date.

Whether you use ICP or ICP-MS, we offer a wide selection of Certified Reference Materials. At your request, we've expanded our line with new instrument setup standards. And we'll continue to improve our selection based on your feedback.



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- ✓ Up to five-year shelf life
- ✓ Traceable to NIST SRMs
- ✓ Produced under ISO 9001
- ✓ Produced under ISO 17025
- ✓ Produced under ISO 17034
- ✓ Assayed by validated wet chemical procedures
- ✓ Assayed by validated ICP-OES procedures
- ✓ Trace metallic impurities determined by ICP and ICP-MS

SINGLE-ELEMENT STANDARDS

10 µg/mL Standards

Manufactured with high-purity starting materials and reagents. Products can be used for calibration of analytical instruments, validation of analytical methods, or for other applications deemed fit for purpose by the end-user. Certificate of Analysis includes lot specific trace metal impurity analysis.

Need a specific starting material or matrix? Custom 10 ppm single element solutions available upon request. Need a multielement solution? We can do that too!

10 µg/mL

ANALYTE	MATRIX	VOLUME	CATALOG #
Aluminum, Al	HNO ₃	125 mL	MSAL-10PPM-125ML
Antimony, Sb	HNO ₃ / Tartaric Acid	125 mL	MSSB-10PPM-125ML
Arsenic, As	HNO ₃	125 mL	MSAS-10PPM-125ML
Barium, Ba	HNO ₃	125 mL	MSBA-10PPM-125ML
Beryllium, Be	HNO ₃	125 mL	MSBE-10PPM-125ML
Bismuth, Bi	HNO ₃	125 mL	MSBI-10PPM-125ML
Boron, B	HNO ₃	125 mL	MSB-10PPM-125ML
¹⁰ Boron, ¹⁰ B	HNO ₃	100 mL*	MS10B-10PPM-100ML
¹¹ Boron, ¹¹ B	HNO ₃	100 mL*	MS11B-10PPM-100ML
Cadmium, Cd	HNO ₃	125 mL	MSCD-10PPM-125ML
Calcium, Ca	HNO ₃	125 mL 500 mL	MSCA-10PPM-125ML MSCA-10PPM-500ML
Cerium, Ce	HNO ₃	125 mL	MSCE-10PPM-125ML
Cesium, Cs	HNO ₃	125 mL	MSCS-10PPM-125ML
Chromium ⁺³ , Cr ⁺³	HNO ₃	125 mL	MSCR(3)-10PPM-125ML
Chromium ⁺⁶ , Cr ⁺⁶	H ₂ O	125 mL	MSCR(6)-10PPM-125ML
Cobalt, Co	HNO ₃	125 mL	MSCO-10PPM-125ML
Copper, Cu	HNO ₃	125 mL	MSCU-10PPM-125ML
Germanium, Ge	HNO ₃ / HF	125 mL	MSGE-10PPM-125ML
Gold, Au	HCl	125 mL 500 mL	MSAU-10PPM-125ML MSAU-10PPM-500ML
Hafnium, Hf	HNO ₃ / HF	125 mL 500 mL	MSHF-10PPM-125ML MSHF-10PPM-500ML
Holmium, Ho	HNO ₃	125 mL	MSHO-10PPM-125ML
Indium, In	HNO ₃	125 mL	MSIN-10PPM-125ML
Iron, Fe	HNO ₃	125 mL	MSFE-10PPM-125ML
Lead, Pb	HNO ₃	125 mL	MSPB-10PPM-125ML
Lithium, Li	HNO ₃	125 mL	MSLI-10PPM-125ML
⁶ Lithium, ⁶ Li	HNO ₃	125 mL	MS6LI-10PPM-125ML
Magnesium, Mg	HNO ₃	125 mL 500 mL	MMSG-10PPM-125ML MMSG-10PPM-500ML
Manganese, Mn	HNO ₃	125 mL 500 mL	MSMN-10PPM-125ML MSMN-10PPM-500ML

*Note: Size is 100 mL not 125 mL.

SINGLE-ELEMENT STANDARDS

10 µg/mL Standards

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10 µg/mL

ANALYTE	MATRIX	VOLUME	CATALOG #
Mercury, Hg	HCl	125 mL	MSHG-10PPM-125ML
		500 mL	MSHG-10PPM-500ML
Mercury, Hg	HNO ₃	125 mL	MSHGN-10PPM-125ML
		500 mL	MSHGN-10PPM-500ML
Molybdenum, Mo	NH ₄ OH	125 mL	MSMO-10PPM-125ML
Nickel, Ni	HNO ₃	125 mL	MSNI-10PPM-125ML
Osmium, Os	HCl	125 mL	MSOS-10PPM-125ML
Phosphorus, P	H ₂ O	125 mL	MSP-10PPM-125ML
Platinum, Pt	HCl	125 mL	MSPT-10PPM-125ML
Potassium, K	HNO ₃	125 mL	MSK-10PPM-125ML
Rhodium, Rh	HCl	125 mL	MSRH-10PPM-125ML
Rhodium, Rh	HNO ₃	125 mL	MSRHN-10PPM-125ML
Scandium, Sc	HNO ₃	125 mL	MSSC-10PPM-125ML
Selenium, Se	HNO ₃	125 mL	MSSE-10PPM-125ML
Silicon, Si	HNO ₃ / HF	125 mL	MSSI-10PPM-125ML
Silver, Ag	HNO ₃	125 mL	MSAG-10PPM-125ML
Sodium, Na	HNO ₃	125 mL	MSNA-10PPM-125ML
		500 mL	MSNA-10PPM-500ML
Strontium, Sr	HNO ₃	125 mL	MSSR-10PPM-125ML
Sulfur, S	H ₂ O	125 mL	MSS-10PPM-125ML
Tellurium, Te	HNO ₃	125 mL	MSTEN-10PPM-125ML
Terbium, Tb	HNO ₃	125 mL	MSTB-10PPM-125ML
Thallium, Tl	HNO ₃	125 mL	MSTL-10PPM-125ML
Thorium, Th	HNO ₃	125 mL	MSTH-10PPM-125ML
Tin, Sn	HNO ₃ / HF	125 mL	MSSN-10PPM-125ML
		500 mL	MSSN-10PPM-500ML
Titanium, Ti	HNO ₃ / HF	125 mL	MSTI-10PPM-125ML
Tungsten, W	HNO ₃ / HF	125 mL	MSW-10PPM-125ML
Uranium, U	HNO ₃	125 mL	MSU-10PPM-125ML
		500 mL	MSU-10PPM-500ML
Vanadium, V	HNO ₃	125 mL	MSV-10PPM-125ML
Yttrium, Y	HNO ₃	125 mL	MSY-10PPM-125ML
Zinc, Zn	HNO ₃	125 mL	MSZN-10PPM-125ML
		500 mL	MSZN-10PPM-500ML

SINGLE-ELEMENT STANDARDS

100 µg/mL Standards

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100 µg/mL

ANALYTE	MATRIX	VOLUME	CATALOG #
Aluminum, Al	HNO ₃	125 mL	MSAL-100PPM-125ML
		500 mL	MSAL-100PPM-500ML
Antimony, Sb	HNO ₃ / Tartaric Acid	125 mL	MSSB-100PPM-125ML
Arsenic, As	HNO ₃	125 mL	MSAS-100PPM-125ML
Barium, Ba	HNO ₃	125 mL	MSBA-100PPM-125ML
Beryllium, Be	HNO ₃	125 mL	MSBE-100PPM-125ML
Bismuth, Bi	HNO ₃	125 mL	MSBI-100PPM-125ML
Boron, B	HNO ₃	125 mL	MSB-100PPM-125ML
Cadmium, Cd	HNO ₃	125 mL	MSCD-100PPM-125ML
Calcium, Ca	HNO ₃	125 mL	MSCA-100PPM-125ML
		500 mL	MSCA-100PPM-500ML
Cerium, Ce	HNO ₃	125 mL	MSCE-100PPM-125ML
Cesium, Cs	HNO ₃	125 mL	MSCS-100PPM-125ML
Chromium ⁺³ , Cr ⁺³	HNO ₃	125 mL	MSCR(3)-100PPM-125ML
Chromium ⁺⁶ , Cr ⁺⁶	H ₂ O	125 mL	MSCR(6)-100PPM-125ML
Cobalt, Co	HNO ₃	125 mL	MSCO-100PPM-125ML
Copper, Cu	HNO ₃	125 mL	MSCU-100PPM-125ML
Germanium, Ge	HNO ₃ / HF	125 mL	MSGE-100PPM-125ML
Gold, Au	HCl	125 mL	MSAU-100PPM-125ML
		500 mL	MSAU-100PPM-500ML
Hafnium, Hf	HNO ₃ / HF	125 mL	MSHF-100PPM-125ML
		500 mL	MSHF-100PPM-500ML
Holmium, Ho	HNO ₃	125 mL	MSHO-100PPM-125ML
Indium, In	HNO ₃	125 mL	MSIN-100PPM-125ML
Iron, Fe	HNO ₃	125 mL	MSFE-100PPM-125ML
		500 mL	MSFE-100PPM-500ML
Lead, Pb	HNO ₃	125 mL	MSPB-100PPM-125ML
		500 mL	MSPB-100PPM-500ML
Lithium, Li	HNO ₃	125 mL	MSLI-100PPM-125ML
		500 mL	MSLI-100PPM-500ML
⁶ Lithium, ⁶ Li	HNO ₃	125 mL	MS6LI-100PPM-125ML
Magnesium, Mg	HNO ₃	125 mL	MSMG-100PPM-125ML
		500 mL	MSMG-100PPM-500ML
Manganese, Mn	HNO ₃	125 mL	MSMN-100PPM-125ML
Mercury, Hg	HCl	125 mL	MSHG-100PPM-125ML

SINGLE-ELEMENT STANDARDS

100 µg/mL Standards

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100 µg/mL

ANALYTE	MATRIX	VOLUME	CATALOG #
Mercury, Hg	HNO ₃	125 mL	MSHGN-100PPM-125ML
Molybdenum, Mo	NH ₄ OH	125 mL	MSMO-100PPM-125ML
Nickel, Ni	HNO ₃	125 mL	MSNI-100PPM-125ML
Osmium, Os	HCl	125 mL	MSOS-100PPM-125ML
Phosphorus, P	H ₂ O	125 mL 500 mL	MSP-100PPM-125ML MSP-100PPM-500ML
Platinum, Pt	HCl	125 mL	MSPT-100PPM-125ML
Potassium, K	HNO ₃	125 mL 500 mL	MSK-100PPM-125ML MSK-100PPM-500ML
Rhodium, Rh	HCl	125 mL	MSRH-100PPM-125ML
Rhodium, Rh	HNO ₃	125 mL	MSRHN-100PPM-125ML
Scandium, Sc	HNO ₃	125 mL 500 mL	MSSC-100PPM-125ML MSSC-100PPM-500ML
Selenium, Se	HNO ₃	125 mL	MSSE-100PPM-125ML
Silicon, Si	HNO ₃ / HF	125 mL 500 mL	MSSI-100PPM-125ML MSSI-100PPM-500ML
Silver, Ag	HNO ₃	125 mL 500 mL	MSAG-100PPM-125ML MSAG-100PPM-500ML
Sodium, Na	HNO ₃	125 mL 500 mL	MSNA-100PPM-125ML MSNA-100PPM-500ML
Strontium, Sr	HNO ₃	125 mL	MSSR-100PPM-125ML
Sulfur, S	H ₂ O	125 mL	MSS-100PPM-125ML
Tellurium, Te	HNO ₃	125 mL	MSTEN-100PPM-125ML
Terbium, Tb	HNO ₃	125 mL	MSTB-100PPM-125ML
Thallium, Tl	HNO ₃	125 mL	MSTL-100PPM-125ML
Thorium, Th	HNO ₃	125 mL	MSTH-100PPM-125ML
Tin, Sn	HNO ₃ / HF	125 mL	MSSN-100PPM-125ML
Titanium, Ti	HNO ₃ / HF	125 mL	MSTI-100PPM-125ML
Tungsten, W	HNO ₃ / HF	125 mL 500 mL	MSW-100PPM-125ML MSW-100PPM-500ML
Uranium, U	HNO ₃	125 mL 500 mL	MSU-100PPM-125ML MSU-100PPM-500ML
Vanadium, V	HNO ₃	125 mL	MSV-100PPM-125ML
Yttrium, Y	HNO ₃	125 mL 500 mL	MSY-100PPM-125ML MSY-100PPM-500ML
Zinc, Zn	HNO ₃	125 mL 500 mL	MSZN-100PPM-125ML MSZN-100PPM-500ML

SINGLE-ELEMENT STANDARDS

1,000 µg/mL Standards

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1,000 µg/mL

ANALYTE	MATRIX	VOLUME	CATALOG #
Aluminum, Al	HNO ₃	30 mL	CGAL1-30ML
		125 mL	CGAL1-125ML
		500 mL	CGAL1-500ML
Aluminum, Al	HCl	30 mL	CGALCL1-30ML
		125 mL	CGALCL1-125ML
		500 mL	CGALCL1-500ML
Antimony, Sb	HNO ₃ / Tartaric Acid	125 mL	CGSB1-125ML
Antimony, Sb	HNO ₃ / HF	125 mL	CGSBF1-125ML
Arsenic, As	HNO ₃	30 mL	CGAS1-30ML
		125 mL	CGAS1-125ML
		500 mL	CGAS1-500ML
Arsenic⁺³, As⁺³	HCl / NaOH / NaHCO ₃	30 mL	CGAS(3)1-30ML
		125 mL	CGAS(3)1-125ML
		500 mL	CGAS(3)1-500ML
Arsenic⁺⁵, As⁺⁵	H ₂ O	30 mL	CGAS(5)1-30ML
		125 mL	CGAS(5)1-125ML
		500 mL	CGAS(5)1-500ML
Barium, Ba	HNO ₃	30 mL	CGBA1-30ML
		125 mL	CGBA1-125ML
		500 mL	CGBA1-500ML
Beryllium, Be	HNO ₃	30 mL	CGBE1-30ML
		125 mL	CGBE1-125ML
		500 mL	CGBE1-500ML
Bismuth, Bi Commonly used as an Internal Standard for ICP-MS.	HNO ₃	30 mL	CGBI1-30ML
		125 mL	CGBI1-125ML
		500 mL	CGBI1-500ML
Boron, B	NH ₄ OH	30 mL	CGB1-30ML
		125 mL	CGB1-125ML
		500 mL	CGB1-500ML
Bromide, Br- Suitable for analyzing Bromide by ICP-OES.	H ₂ O	30 mL	CGICBR1-30ML
		125 mL	CGICBR1-125ML
		500 mL	CGICBR1-500ML
Cadmium, Cd	HNO ₃	30 mL	CGCD1-30ML
		125 mL	CGCD1-125ML
		500 mL	CGCD1-500ML
Calcium, Ca	HNO ₃	30 mL	CGCA1-30ML
		125 mL	CGCA1-125ML
		500 mL	CGCA1-500ML
Carbon, C	HNO ₃	125 mL	CGC1-125ML
		500 mL	CGC1-500ML
Carbon, C Suitable for TOC applications per Standard Methods.	H ₂ O	125 mL	TOCKHP1-125ML
		500 mL	TOCKHP1-500ML
Cerium, Ce	HNO ₃	30 mL	CGCE1-30ML
		125 mL	CGCE1-125ML
		500 mL	CGCE1-500ML

SINGLE-ELEMENT STANDARDS

1,000 µg/mL Standards

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Need a specific starting material or matrix? Custom 10 ppm single element solutions available upon request. Need a multielement solution? We can do that too!

1,000 µg/mL

ANALYTE	MATRIX	VOLUME	CATALOG #
Cesium, Cs	HNO ₃	30 mL	CGCS1-30ML
		125 mL	CGCS1-125ML
Chloride, Cl⁻ <small>Suitable for analyzing Chloride by ICP-OES.</small>	H ₂ O	125 mL	CGICCL1-125ML
		500 mL	CGICCL1-500ML
Chromium⁺³, Cr⁺³	HNO ₃	30 mL	CGCR(3)1-30ML
		125 mL	CGCR(3)1-125ML
		500 mL	CGCR(3)1-500ML
Chromium⁺⁶, Cr⁺⁶	H ₂ O	30 mL	CGCR(6)1-30ML
		125 mL	CGCR(6)1-125ML
		500 mL	CGCR(6)1-500ML
Cobalt, Co	HNO ₃	30 mL	CGC01-30ML
		125 mL	CGC01-125ML
		500 mL	CGC01-500ML
Copper, Cu	HNO ₃	30 mL	CGCU1-30ML
		125 mL	CGCU1-125ML
		500 mL	CGCU1-500ML
Dysprosium, Dy	HNO ₃	30 mL	CGDY1-30ML
		125 mL	CGDY1-125ML
		500 mL	CGDY1-500ML
Erbium, Er	HNO ₃	30 mL	CGER1-30ML
		125 mL	CGER1-125ML
		500 mL	CGER1-500ML
Europium, Eu	HNO ₃	30 mL	CGEU1-30ML
		125 mL	CGEU1-125ML
		500 mL	CGEU1-500ML
Gadolinium, Gd	HNO ₃	30 mL	CGGD1-30ML
		125 mL	CGGD1-125ML
		500 mL	CGGD1-500ML
Gallium, Ga	HNO ₃	30 mL	CGGA1-30ML
		125 mL	CGGA1-125ML
		500 mL	CGGA1-500ML
Germanium, Ge	HNO ₃ / HF	30 mL	CGGE1-30ML
		125 mL	CGGE1-125ML
		500 mL	CGGE1-500ML
Gold, Au <small>Can also be used to stabilize low-level Hg for ICP-MS analysis.</small>	HCl	30 mL	CGAU1-30ML
		125 mL	CGAU1-125ML
		500 mL	CGAU1-500ML
Gold, Au	HNO ₃	30 mL	CGAUN1-30ML
		125 mL	CGAUN1-125ML
		500 mL	CGAUN1-500ML
Hafnium, Hf	HNO ₃ / HF	30 mL	CGHF1-30ML
		125 mL	CGHF1-125ML
		500 mL	CGHF1-500ML
Holmium, Ho <small>Commonly used as an Internal Standard for ICP-MS.</small>	HNO ₃	30 mL	CGHO1-30ML
		125 mL	CGHO1-125ML
		500 mL	CGHO1-500ML

SINGLE-ELEMENT STANDARDS

1,000 µg/mL Standards

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1,000 µg/mL

ANALYTE	MATRIX	VOLUME	CATALOG #
Indium, In Commonly used as an Internal Standard for ICP-MS.	HNO ₃	30 mL	CGIN1-30ML
		125 mL	CGIN1-125ML
		500 mL	CGIN1-500ML
Iodide, I- Suitable for analyzing Iodide by ICP-OES.	H ₂ O / TEA	30 mL	CGIC1-30ML
		125 mL	CGIC1-125ML
		500 mL	CGIC1-500ML
Iridium, Ir	HCl	30 mL	CGIR1-30ML
		125 mL	CGIR1-125ML
		500 mL	CGIR1-500ML
Iron, Fe	HNO ₃	30 mL	CGFE1-30ML
		125 mL	CGFE1-125ML
		500 mL	CGFE1-500ML
Lanthanum, La	HNO ₃	30 mL	CGLA1-30ML
		125 mL	CGLA1-125ML
		500 mL	CGLA1-500ML
Lead, Pb	HNO ₃	30 mL	CGPB1-30ML
		125 mL	CGPB1-125ML
		500 mL	CGPB1-500ML
Lithium, Li	HNO ₃	30 mL	CGLI1-30ML
		125 mL	CGLI1-125ML
		500 mL	CGLI1-500ML
⁶Lithium, ⁶Li Commonly used as an Internal Standard for ICP-MS.	HNO ₃	30 mL	CG6L1-30ML
		125 mL	CG6L1-125ML
Lutetium, Lu	HNO ₃	30 mL	CGLU1-30ML
		125 mL	CGLU1-125ML
		500 mL	CGLU1-500ML
Magnesium, Mg	HNO ₃	30 mL	CGMG1-30ML
		125 mL	CGMG1-125ML
		500 mL	CGMG1-500ML
Manganese, Mn	HNO ₃	30 mL	CGMN1-30ML
		125 mL	CGMN1-125ML
		500 mL	CGMN1-500ML
Mercury, Hg	HNO ₃	30 mL	CGHG1-30ML
		125 mL	CGHG1-125ML
		500 mL	CGHG1-500ML
Molybdenum, Mo	NH ₄ OH	30 mL	CGMO1-30ML
		125 mL	CGMO1-125ML
		500 mL	CGMO1-500ML
Neodymium, Nd	HNO ₃	30 mL	CGND1-30ML
		125 mL	CGND1-125ML
		500 mL	CGND1-500ML
Nickel, Ni	HNO ₃	30 mL	CGNI1-30ML
		125 mL	CGNI1-125ML
		500 mL	CGNI1-500ML
Niobium, Nb	HNO ₃ / HF	30 mL	CGNB1-30ML
		125 mL	CGNB1-125ML
		500 mL	CGNB1-500ML

SINGLE-ELEMENT STANDARDS

1,000 µg/mL Standards

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1,000 µg/mL

ANALYTE	MATRIX	VOLUME	CATALOG #
Niobium, Nb High purity, low Tantalum	HNO ₃ / HF	125 mL	CGNB2051-125ML
		500 mL	CGNB2051-500ML
Osmium, Os	HCl	30 mL	CGOS1-30ML
		125 mL	CGOS1-125ML
		500 mL	CGOS1-500ML
Palladium, Pd	HCl	30 mL	CGPD1-30ML
		125 mL	CGPD1-125ML
		500 mL	CGPD1-500ML
Palladium, Pd	HNO ₃	30 mL	CGPDN1-30ML
		125 mL	CGPDN1-125ML
		500 mL	CGPDN1-500ML
Phosphorus, P	H ₂ O	30 mL	CGP1-30ML
		125 mL	CGP1-125ML
		500 mL	CGP1-500ML
Platinum, Pt Contains Chloride	HNO ₃	30 mL	CGPTN1-30ML
		125 mL	CGPTN1-125ML
		500 mL	CGPTN1-500ML
Platinum, Pt	HCl	30 mL	CGPT1-30ML
		125 mL	CGPT1-125ML
		500 mL	CGPT1-500ML
Platinum, Pt Chloride Free	HNO ₃	30 mL	CGPTNO31-30ML
		125 mL	CGPTNO31-125ML
		500 mL	CGPTNO31-500ML
Potassium, K	HNO ₃	30 mL	CGK1-30ML
		125 mL	CGK1-125ML
		500 mL	CGK1-500ML
Praseodymium, Pr	HNO ₃	30 mL	CGPR1-30ML
		125 mL	CGPR1-125ML
		500 mL	CGPR1-500ML
Rhenium, Re	HNO ₃	30 mL	CGRE1-30ML
		125 mL	CGRE1-125ML
		500 mL	CGRE1-500ML
Rhodium, Rh Commonly used as an Internal Standard for ICP-MS.	HCl	30 mL	CGRH1-30ML
		125 mL	CGRH1-125ML
		500 mL	CGRH1-500ML
Rhodium, Rh Commonly used as an Internal Standard for ICP-MS.	HNO ₃	30 mL	CGRHN1-30ML
		125 mL	CGRHN1-125ML
		500 mL	CGRHN1-500ML
Rubidium, Rb	HNO ₃	30 mL	CGRB1-30ML
		125 mL	CGRB1-125ML
Ruthenium, Ru	HCl	30 mL	CGRU1-30ML
		125 mL	CGRU1-125ML
		500 mL	CGRU1-500ML
Samarium, Sm	HNO ₃	30 mL	CGSM1-30ML
		125 mL	CGSM1-125ML
		500 mL	CGSM1-500ML

SINGLE-ELEMENT STANDARDS

1,000 µg/mL Standards

Manufactured with high-purity starting materials and reagents. Products can be used for calibration of analytical instruments, validation of analytical methods, or for other applications deemed fit for purpose by the end-user. Certificate of Analysis includes lot specific trace metal impurity analysis.

Need a specific starting material or matrix? Custom 10 ppm single element solutions available upon request. Need a multielement solution? We can do that too!

1,000 µg/mL

ANALYTE	MATRIX	VOLUME	CATALOG #
Scandium, Sc Commonly used as an Internal Standard for ICP-MS.	HNO ₃	30 mL	CGSC1-30ML
		125 mL	CGSC1-125ML
		500 mL	CGSC1-500ML
Selenium⁺⁴, Se⁺⁴	HNO ₃	30 mL	CGSE(4)1-30ML
		125 mL	CGSE(4)1-125ML
		500 mL	CGSE(4)1-500ML
Selenium⁺⁶, Se⁺⁶	H ₂ O	30 mL	CGSE(6)1-30ML
		125 mL	CGSE(6)1-125ML
Silica, SiO₂	HNO ₃ / HF	30 mL	CGSIO1-30ML
		125 mL	CGSIO1-125ML
		500 mL	CGSIO1-500ML
Silica, SiO₂	NaOH	125 mL	CGSIONA1-125ML
		500 mL	CGSIONA1-500ML
Silicon, Si	HNO ₃ / HF	30 mL	CGSI1-30ML
		125 mL	CGSI1-125ML
		500 mL	CGSI1-500ML
Silicon, Si	NaOH	125 mL	CGSINA1-125ML
		500 mL	CGSINA1-500ML
Silver, Ag	HNO ₃	30 mL	CGAG1-30ML
		125 mL	CGAG1-125ML
		500 mL	CGAG1-500ML
Sodium, Na	HNO ₃	30 mL	CGNA1-30ML
		125 mL	CGNA1-125ML
		500 mL	CGNA1-500ML
Strontium, Sr	HNO ₃	30 mL	CGSR1-30ML
		125 mL	CGSR1-125ML
		500 mL	CGSR1-500ML
Sulfur, S Compatible if mixed with Ba and Pb.	H ₂ O	125 mL	CGMSA1-125ML
		500 mL	CGMSA1-500ML
Sulfur, S	H ₂ O	30 mL	CGS1-30ML
		125 mL	CGS1-125ML
		500 mL	CGS1-500ML
Tantalum, Ta	HNO ₃ / HF	30 mL	CGTA1-30ML
		125 mL	CGTA1-125ML
		500 mL	CGTA1-500ML
Tellurium, Te	HCl	30 mL	CGTE1-30ML
		125 mL	CGTE1-125ML
		500 mL	CGTE1-500ML
Tellurium, Te	HNO ₃	30 mL	CGTEN1-30ML
		125 mL	CGTEN1-125ML
		500 mL	CGTEN1-500ML
Terbium, Tb Commonly used as an Internal Standard for ICP-MS.	HNO ₃	30 mL	CGTB1-30ML
		125 mL	CGTB1-125ML
		500 mL	CGTB1-500ML

SINGLE-ELEMENT STANDARDS

1,000 µg/mL Standards

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1,000 µg/mL

ANALYTE	MATRIX	VOLUME	CATALOG #
Thallium, Tl	HNO ₃	30 mL	CGTL1-30ML
		125 mL	CGTL1-125ML
		500 mL	CGTL1-500ML
Thorium, Th	HNO ₃	30 mL	CGTH1-30ML
		125 mL	CGTH1-125ML
		500 mL	CGTH1-500ML
Thulium, Tm	HNO ₃	30 mL	CGTM1-30ML
		125 mL	CGTM1-125ML
		500 mL	CGTM1-500ML
Tin, Sn	HCl	30 mL	CGSNCL1-30ML
		125 mL	CGSNCL1-125ML
Tin, Sn	HNO ₃ / HF	30 mL	CGSN1-30ML
		125 mL	CGSN1-125ML
		500 mL	CGSN1-500ML
Titanium, Ti	HNO ₃ / HF	30 mL	CGTI1-30ML
		125 mL	CGTI1-125ML
		500 mL	CGTI1-500ML
Tungsten, W	HNO ₃ / HF	30 mL	CGW1-30ML
		125 mL	CGW1-125ML
		500 mL	CGW1-500ML
Tungsten, W	H ₂ O	125 mL	CGWH201-125ML
Uranium, U	HNO ₃	30 mL	CGU1-30ML
		125 mL	CGU1-125ML
		500 mL	CGU1-500ML
Vanadium, V	HNO ₃	30 mL	CGV1-30ML
		125 mL	CGV1-125ML
		500 mL	CGV1-500ML
Ytterbium, Yb	HNO ₃	30 mL	CGYB1-30ML
		125 mL	CGYB1-125ML
		500 mL	CGYB1-500ML
Yttrium, Y Commonly used as an Internal Standard for ICP-MS.	HNO ₃	30 mL	CGY1-30ML
		125 mL	CGY1-125ML
		500 mL	CGY1-500ML
Zinc, Zn	HNO ₃	30 mL	CGZN1-30ML
		125 mL	CGZN1-125ML
		500 mL	CGZN1-500ML
Zirconium, Zr	HF	30 mL	CGZR1-30ML
		125 mL	CGZR1-125ML
		500 mL	CGZR1-500ML

See pg. 34 for our HF-free Zirconium, part number CGZRCL10-125ML or CGZRCL10-500ML.

SINGLE-ELEMENT STANDARDS

10,000 µg/mL Standards

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10,000 µg/mL

ANALYTE	MATRIX	VOLUME	CATALOG #
Aluminum, Al	HNO ₃	30 mL	CGAL10-30ML
		125 mL	CGAL10-125ML
		500 mL	CGAL10-500ML
Antimony, Sb	HNO ₃ / Tartaric Acid	125 mL	CGSB10-125ML
		500 mL	CGSB10-500ML
Arsenic, As	HNO ₃	30 mL	CGAS10-30ML
		125 mL	CGAS10-125ML
		500 mL	CGAS10-500ML
Barium, Ba	HNO ₃	125 mL	CGBA10-125ML
		500 mL	CGBA10-500ML
Beryllium, Be	HNO ₃	125 mL	CGBE10-125ML
		500 mL	CGBE10-500ML
Bismuth, Bi	HNO ₃	30 mL	CGBI10-30ML
		125 mL	CGBI10-125ML
		500 mL	CGBI10-500ML
Boron, B	NH ₄ OH	125 mL	CGB10-125ML
		500 mL	CGB10-500ML
Cadmium, Cd	HNO ₃	125 mL	CGCD10-125ML
		500 mL	CGCD10-500ML
Calcium, Ca	HNO ₃	30 mL	CGCA10-30ML
		125 mL	CGCA10-125ML
		500 mL	CGCA10-500ML
Carbon, C	HNO ₃	125 mL	CGC10-125ML
Cerium, Ce	HNO ₃	30 mL	CGCE10-30ML
		125 mL	CGCE10-125ML
		500 mL	CGCE10-500ML
Cesium, Cs	HNO ₃	125 mL	CGCS10-125ML
		500 mL	CGCS10-500ML
Chromium ⁺³ , Cr ⁺³	HNO ₃	30 mL	CGCR(3)10-30ML
		125 mL	CGCR(3)10-125ML
		500 mL	CGCR(3)10-500ML
Cobalt, Co <small>Commonly used as an Internal Standard for ICP-OES.</small>	HNO ₃	30 mL	CGCO10-30ML
		125 mL	CGCO10-125ML
		500 mL	CGCO10-500ML
Copper, Cu	HNO ₃	30 mL	CGCU10-30ML
		125 mL	CGCU10-125ML
		500 mL	CGCU10-500ML
Dysprosium, Dy	HNO ₃	30 mL	CGDY10-30ML
		125 mL	CGDY10-125ML
		500 mL	CGDY10-500ML
Erbium, Er	HNO ₃	30 mL	CGER10-30ML
		125 mL	CGER10-125ML
		500 mL	CGER10-500ML
Europium, Eu	HNO ₃	30 mL	CGEU10-30ML
		125 mL	CGEU10-125ML
		500 mL	CGEU10-500ML

SINGLE-ELEMENT STANDARDS

10,000 µg/mL Standards

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10,000 µg/mL

ANALYTE	MATRIX	VOLUME	CATALOG #
Gadolinium, Gd	HNO ₃	30 mL	CGGD10-30ML
		125 mL	CGGD10-125ML
		500 mL	CGGD10-500ML
Gallium, Ga	HNO ₃	125 mL	CGGA10-125ML
		500 mL	CGGA10-500ML
Germanium, Ge	HNO ₃ / HF	125 mL	CGGE10-125ML
		500 mL	CGGE10-500ML
Gold, Au	HCl	30 mL	CGAU10-30ML
		125 mL	CGAU10-125ML
		500 mL	CGAU10-500ML
Hafnium, Hf	HNO ₃ / HF	125 mL	CGHF10-125ML
		500 mL	CGHF10-500ML
Holmium, Ho	HNO ₃	30 mL	CGHO10-30ML
		125 mL	CGHO10-125ML
		500 mL	CGHO10-500ML
Indium, In Commonly used as an Internal Standard for ICP-OES.	HNO ₃	125 mL	CGIN10-125ML
		500 mL	CGIN10-500ML
Iridium, Ir	HCl	30 mL	CGIR10-30ML
		125 mL	CGIR10-125ML
		500 mL	CGIR10-500ML
Iron, Fe	HNO ₃	30 mL	CGFE10-30ML
		125 mL	CGFE10-125ML
		500 mL	CGFE10-500ML
Lanthanum, La	HNO ₃	30 mL	CGLA10-30ML
		125 mL	CGLA10-125ML
		500 mL	CGLA10-500ML
Lead, Pb	HNO ₃	30 mL	CGPB10-30ML
		125 mL	CGPB10-125ML
		500 mL	CGPB10-500ML
Lithium, Li	HNO ₃	30 mL	CGLI10-30ML
		125 mL	CGLI10-125ML
		500 mL	CGLI10-500ML
Lutetium, Lu	HNO ₃	30 mL	CGLU10-30ML
		125 mL	CGLU10-125ML
		500 mL	CGLU10-500ML
Magnesium, Mg	HNO ₃	30 mL	CGMG10-30ML
		125 mL	CGMG10-125ML
		500 mL	CGMG10-500ML
Manganese, Mn	HNO ₃	30 mL	CGMN10-30ML
		125 mL	CGMN10-125ML
		500 mL	CGMN10-500ML
Mercury, Hg	HNO ₃	125 mL	CGHG10-125ML
		500 mL	CGHG10-500ML
Molybdenum, Mo	NH ₄ OH	30 mL	CGMO10-30ML
		125 mL	CGMO10-125ML
		500 mL	CGMO10-500ML

SINGLE-ELEMENT STANDARDS

10,000 µg/mL Standards

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10,000 µg/mL

ANALYTE	MATRIX	VOLUME	CATALOG #
Neodymium, Nd	HNO ₃	30 mL	CGND10-30ML
		125 mL	CGND10-125ML
		500 mL	CGND10-500ML
Nickel, Ni	HNO ₃	30 mL	CGNI10-30ML
		125 mL	CGNI10-125ML
		500 mL	CGNI10-500ML
Niobium, Nb	HNO ₃ / HF	125 mL	CGNB10-125ML
Niobium, Nb High purity, low Tantalum	HNO ₃ / HF	125 mL	CGNB20510-125ML
		500 mL	CGNB20510-500ML
Palladium, Pd	HCl	30 mL	CGPD10-30ML
		125 mL	CGPD10-125ML
		500 mL	CGPD10-500ML
Phosphorus, P	H ₂ O	30 mL	CGP10-30ML
		125 mL	CGP10-125ML
		500 mL	CGP10-500ML
Platinum, Pt	HCl	30 mL	CGPT10-30ML
		125 mL	CGPT10-125ML
		500 mL	CGPT10-500ML
Potassium, K	HNO ₃	30 mL	CGK10-30ML
		125 mL	CGK10-125ML
		500 mL	CGK10-500ML
Praseodymium, Pr	HNO ₃	30 mL	CGPR10-30ML
		125 mL	CGPR10-125ML
		500 mL	CGPR10-500ML
Rhenium, Re	HNO ₃	125 mL	CGRE10-125ML
		500 mL	CGRE10-500ML
Rhodium, Rh	HCl	30 mL	CGRH10-30ML
		125 mL	CGRH10-125ML
		500 mL	CGRH10-500ML
Rubidium, Rb	HNO ₃	125 mL	CGRB10-125ML
		500 mL	CGRB10-500ML
Ruthenium, Ru	HCl	30 mL	CGRU10-30ML
		125 mL	CGRU10-125ML
		500 mL	CGRU10-500ML
Samarium, Sm	HNO ₃	30 mL	CGSM10-30ML
		125 mL	CGSM10-125ML
		500 mL	CGSM10-500ML
Scandium, Sc Commonly used as an Internal Standard for ICP-OES.	HNO ₃	30 mL	CGSC10-30ML
		125 mL	CGSC10-125ML
		500 mL	CGSC10-500ML
Selenium, Se	HNO ₃	30 mL	CGSE10-30ML
		125 mL	CGSE10-125ML
		500 mL	CGSE10-500ML
Silicon, Si	HNO ₃ / HF	30 mL	CGSI10-30ML
		125 mL	CGSI10-125ML
		500 mL	CGSI10-500ML

SINGLE-ELEMENT STANDARDS

10,000 µg/mL Standards

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10,000 µg/mL

ANALYTE	MATRIX	VOLUME	CATALOG #
Silver, Ag	HNO ₃	125 mL	CGAG10-125ML
		500 mL	CGAG10-500ML
Sodium, Na	HNO ₃	30 mL	CGNA10-30ML
		125 mL	CGNA10-125ML
		500 mL	CGNA10-500ML
Strontium, Sr	HNO ₃	125 mL	CGSR10-125ML
		500 mL	CGSR10-500ML
Sulfur, S Compatible if mixed with Ba and Pb.	H ₂ O	125 mL	CGMSA10-125ML
		500 mL	CGMSA10-500ML
Sulfur, S	H ₂ O	30 mL	CGS10-30ML
		125 mL	CGS10-125ML
		500 mL	CGS10-500ML
Tantalum, Ta	HNO ₃ / HF	125 mL	CGTA10-125ML
Tellurium, Te	HCl	125 mL	CGTE10-125ML
		500 mL	CGTE10-500ML
Terbium, Tb	HNO ₃	30 mL	CGTB10-30ML
		125 mL	CGTB10-125ML
		500 mL	CGTB10-500ML
Thallium, Tl	HNO ₃	125 mL	CGTL10-125ML
		500 mL	CGTL10-500ML
Thorium, Th	HNO ₃	125 mL	CGTH10-125ML
Thulium, Tm	HNO ₃	30 mL	CGTM10-30ML
		125 mL	CGTM10-125ML
		500 mL	CGTM10-500ML
Tin, Sn	HNO ₃ / HF	30 mL	CGSN10-30ML
		125 mL	CGSN10-125ML
		500 mL	CGSN10-500ML
Titanium, Ti	HNO ₃ / HF	30 mL	CGTI10-30ML
		125 mL	CGTI10-125ML
		500 mL	CGTI10-500ML
Tungsten, W	HNO ₃ / HF	125 mL	CGW10-125ML
		500 mL	CGW10-500ML
Uranium, U	HNO ₃	30 mL	CGU10-30ML
		125 mL	CGU10-125ML
		500 mL	CGU10-500ML
Vanadium, V	HNO ₃	30 mL	CGV10-30ML
		125 mL	CGV10-125ML
		500 mL	CGV10-500ML
Ytterbium, Yb	HNO ₃	30 mL	CGYB10-30ML
		125 mL	CGYB10-125ML
		500 mL	CGYB10-500ML
Yttrium, Y Commonly used as an Internal Standard for ICP-OES.	HNO ₃	30 mL	CGY10-30ML
		125 mL	CGY10-125ML
		500 mL	CGY10-500ML

SINGLE-ELEMENT STANDARDS

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10,000 µg/mL

ANALYTE	MATRIX	VOLUME	CATALOG #
Zinc, Zn	HNO ₃	30 mL	CGZN10-30ML
		125 mL	CGZN10-125ML
		500 mL	CGZN10-500ML
Zirconium, Zr	HF	30 mL	CGZR10-30ML
		125 mL	CGZR10-125ML
		500 mL	CGZR10-500ML
Zirconium, Zr HF free	HCl	125 mL	CGZRCL10-125ML
		500 mL	CGZRCL10-500ML



Inorganic Ventures' Annual ICP Conference

Calling all ICP users – don't miss our annual ICP Conference held in the fall.

You will hear from Inorganic Ventures' experts on a wide range of topics, including Sample Preparation Basics for ICP, Sample and CRM Stability Considerations, Trace Metals Analysis and much more.

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CYANIDE STANDARDS

Cyanide Standards

Manufactured with high-purity starting materials and reagents. Products can be used for calibration of analytical instruments, validation of analytical methods, or for other applications deemed fit for purpose by the end-user. Certificate of Analysis includes lot specific trace metal impurity analysis.

Custom cyanide standards are available upon request.

1,000 µg/mL

ANALYTE	µg/mL	MATRIX	VOLUME	CATALOG #
Copper, Cu	1,000	NaCN	125 mL	AACUCN-125ML
			500 mL	AACUCN-500ML
Gold, Au	1,000	NaCN	125 mL	AAAUCN-125ML
			500 mL	AAAUCN-500ML
Silver, Ag	1,000	NaCN	125 mL	AAAGCN-125ML
			500 mL	AAAGCN-500ML
Zinc, Zn	1,000	NaCN	125 mL	AAZNCN-125ML
			500 mL	AAZNCN-500ML

Instrument Cross-Reference Table

Inorganic Ventures is not affiliated with the companies and brands referenced on the following pages (other than Inorganic Ventures), and their names and marks are owned by the respective company and/or brand. The names appear solely for the purpose of permitting cross-referencing and comparison of products and standards.

Cross-Reference Table Symbols

AV Agilent/Varian	S Spectro
JY HORIBA Jobin Yvon	T Thermo Scientific
M Merck/MilliporeSigma	C Common Multi-Element Standards
N NIST	I Common Multi-Ion Standards
PE Perkin Elmer	U USP Method <232>

Products in bold are **near identical** formulations due to small differences in matrix percentages or additional elements.

Agilent/Varian AV		
Agilent/Varian#	Inorganic Ventures#	Page
5183-4681	IV-STOCK-53	p.43
5183-4688	IV-STOCK-50	p.43
5184-3566	IV-11304	<i>Custom</i>
5185-5959	IV-STOCK-74	p.44
5185-5959	IV-19645	<i>Custom</i>
5188-6524	IV-STOCK-51	p.43
5188-6525	IV-STOCK-75	p.44
5188-6564	AGI-TS-1	p.49
5190-0465	IV-37576	<i>Custom</i>
5190-7001	IV-ACID-BLANK	p.108
5190-8338	MM-MG-10	p.98
5190-8596	2008TS	p.65, 78
5190-8599	CLPP-ICS-A	p.60, 64
5190-9409	IV-STOCK-34	p.42
5190-9418	IV-12022	<i>Custom</i>
5190-9423	IV-36669	<i>Custom</i>
5190-9766	IV-STOCK-65	p.53, 57
8500-6940	IV-STOCK-27	p.41
8500-6944	IV-STOCK-26	p.41
8500-6948	IV-STOCK-28	p.42
6610030000	IV-STOCK-24	p.41
6610030100	IV-8628	<i>Custom</i>
6610030400	VAR-IS-1	p.52
6610030500	VAR-CAL-1	p.51
6610030600	VAR-CAL-2	p.51
6610030700	IV-STOCK-33	p.42
ICM-240A	WW-IPC-1	p.71

NIST Multi-Element Standards N		
NIST#	Inorganic Ventures#	Page
SRM1643f	IV-STOCK-1643	p.49


HORIBA Jobin Yvon JY		
Jobin Yvon#	Inorganic Ventures#	Page
JYICP-MIX23	IV-STOCK-4	p.38
JYICP-MIXMAJ	IV-STOCK-34	p.42


Merck/MilliporeSigma M		
Merck#	Inorganic Ventures#	Page
109410	IV-STOCK-23	p.41
109411	IV-STOCK-24	p.41
109480	IV-STOCK-13	p.39
109481	IV-STOCK-14	p.40
109492	IV-STOCK-8	p.39
109493	IV-STOCK-10	p.39
109494	IV-STOCK-9	p.39
109495	IV-STOCK-17	p.40
109498	IV-STOCK-21	p.40
109500	IV-STOCK-18	p.40
110322	IV-STOCK-7	p.39
110714	IV-STOCK-5	p.38


Spectro S		
Spectro#	Inorganic Ventures#	Page
USA00875	CIROS-OES-TS	p.49
USA00888	GENESIS-ICAL	p.49


Thermo Scientific T		
Thermo Scientific#	Inorganic Ventures#	Page
1323760	THERMO-5A	p.50
1323770	THERMO-4AREV	p.50
ZG22950	TUNE F-X-SERIES	p.51
BRE0009578	IV-45981	<i>Custom</i>
4301 228 21401	IV-STOCK-31	p.42

Products in bold are **near identical** formulations due to small differences in matrix percentages or additional elements.

Perkin Elmer 						
Perkin Elmer#	Inorganic Ventures#	Page		Perkin Elmer#	Inorganic Ventures#	Page
N0582152	IV-32705	<i>Custom</i>		N9302946	IV-STOCK-55	p.44
N0681470	IV-STOCK-14	p.40		N9303813 N9303814	IV-DI-BLANK	p.108
N8125032	IV-STOCK-22	p.41		N9303818	IV-STOCK-35	p.42
N8145051	IV-STOCK-77	p.44		N9303821	PE-CHK-1	p.49
N8145059	IV-18218	<i>Custom</i>		N9303827	60201CS-9A	p.81
N9300205	2007ICS-3	p.67		N9303828	6020ICS-0A	p.83
N9300208	IV-STOCK-54	p.43		N9303832	IV-STOCK-53	p.43
N9300211	IV-STOCK-13	p.39		N9303833	IV-STOCK-53	p.43
N9300218	IV-STOCK-34	p.42		N9303843	PE-TS-1	p.50
N9300226	CLPP-1CS-A	p.60, 62, 64		N9303941	IV-STOCK-4	p.53
N9300227	CLPP-ICS-B4	p.62, 64		N9303942	IV-STOCK-8	p.39
N9300231	IV-STOCK-30	p.42		N9303946	IV-STOCK-13	p.39
N9300232	IV-STOCK-26	p.41		N9303949	WW-MSCAL-1	p.76
N9300234	IV-STOCK-28	p.42		N9307113	IV-25755	<i>Custom</i>
N9300233	IV-STOCK-21 & MSHGN-10PPM	p.40 p.55		N9307114	IV-18652	<i>Custom</i>
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MULTI-ELEMENT STANDARDS

Manufactured with high-purity starting materials and reagents. Products can be used for calibration of analytical instruments, validation of analytical methods, or for other applications deemed fit for purpose by the end-user. Can be diluted with other multi-element standards to working concentrations. Certificate of Analysis includes lot specific trace metal impurity analysis.

ICP Calibration Standard			
IV-STOCK-2 C		Matrix: HNO ₃	
IV-STOCK-2-125ML		Volume: 125 mL	
IV-STOCK-2-500ML		Volume: 500 mL	
Analyte	µg/mL	Analyte	µg/mL
Ca	10,000	Mg	10,000
K	10,000	Na	10,000

ICP Calibration Standard			
IV-STOCK-3 C		Matrix: HNO ₃	
IV-STOCK-3-125ML		Volume: 125 mL	
IV-STOCK-3-500ML		Volume: 500 mL	
Analyte	µg/mL	Analyte	µg/mL
Ca	1,000	Mg	1,000
K	1,000	Na	1,000

ICP Calibration Standard			
IV-STOCK-4 JY		Matrix: HNO ₃	
IV-STOCK-4-125ML		Volume: 125 mL	
IV-STOCK-4-500ML		Volume: 500 mL	
Analyte	µg/mL	Analyte	µg/mL
Ag	1,000	In	1,000
Al	1,000	K	1,000
B	1,000	Li	1,000
Ba	1,000	Mg	1,000
Bi	1,000	Mn	1,000
Ca	1,000	Na	1,000
Cd	1,000	Ni	1,000
Co	1,000	Pb	1,000
Cr	1,000	Sr	1,000
Cu	1,000	Tl	1,000
Fe	1,000	Zn	1,000
Ga	1,000		

C Common Multi-Element Standards

JY HORIBA Jobin Yvon

M Merck/MilliporeSigma

Wavelength Calibration Standard			
IV-STOCK-5 M		Matrix: HCl / HF	
IV-STOCK-5-125ML		Volume: 125 mL	
Analyte	µg/mL	Analyte	µg/mL
Al	20	Mg	1
As	20	Mn	1
B	2	Na	20
Ba	2	Ni	5
Be	1	P	10
Ca	10	Pb	20
Cd	2	Sc	1
Cr	2	Se	20
Cu	2	Sr	1
Fe	2	Te	20
Hg	5	Ti	2
K	100	Y	1
Li	2	Zn	2

ICP Calibration Standard			
IV-STOCK-6		Matrix: HNO ₃	
IV-STOCK-6-125ML		Volume: 125 mL	
Analyte	µg/mL	Analyte	µg/mL
Ag	10	Li	10
Al	10	Mg	10
As	100	Mn	10
B	100	Mo	10
Ba	10	Na	10
Be	100	Ni	10
Bi	10	Pb	10
Ca	1,000	Rb	10
Cd	10	Se	100
Co	10	Sr	10
Cr	10	Te	10
Cu	10	Tl	10
Fe	100	U	10
Ga	10	V	10
K	10	Zn	100

MULTI-ELEMENT STANDARDS

Identical or near identical formulations | Multi-Element Standards

Manufactured with high-purity starting materials and reagents. Products can be used for calibration of analytical instruments, validation of analytical methods, or for other applications deemed fit for purpose by the end-user. Can be diluted with other multi-element standards to working concentrations. Certificate of Analysis includes lot specific trace metal impurity analysis.

Cation Calibration Standard			
IV-STOCK-7 M I		Matrix: HNO ₃	
IV-STOCK-7-125ML		Volume: 125 mL	
IV-STOCK-7-500ML		Volume: 500 mL	
Analyte	µg/mL	Analyte	µg/mL
Ba ⁺²	100	Mn ⁺²	100
Ca ⁺²	100	Na ⁺	100
K ⁺	100	NH ₄ ⁺	100
Li ⁺	100	Sr ⁺²	100
Mg ⁺²	100		

ICP Calibration Standard			
IV-STOCK-8 M		Matrix: HNO ₃	
IV-STOCK-8-125ML		Volume: 125 mL	
IV-STOCK-8-500ML		Volume: 500 mL	
Analyte	µg/mL	Analyte	µg/mL
Al	100	K	100
B	100	Li	100
Ba	100	Mg	100
Be	100	Mn	100
Bi	100	Na	100
Ca	100	Ni	100
Cd	100	Pb	100
Co	100	Se	100
Cr	100	Sr	100
Cu	100	Te	100
Fe	100	Tl	100
Ga	100	Zn	100

ICP Calibration Standard – Toxic Elements			
IV-STOCK-9		Matrix: HNO ₃	
IV-STOCK-9-125ML		Volume: 125 mL	
Analyte	µg/mL	Analyte	µg/mL
As	100	Pb	100
Be	100	Se	100
Cd	100	Tl	100
Ni	100		

I Common Multi-Ion Standards**M** Merck/MilliporeSigma


ICP Calibration Standard – Surface Water			
IV-STOCK-10 M		Matrix: HNO ₃	
IV-STOCK-10-125ML		Volume: 125 mL	
Analyte	µg/L*	Analyte	µg/L*
As	50	Mg	15,000
B	100	Mn	30
Ba	50	Mo	100
Be	20	Na	8,000
Bi	10	Ni	50
Ca	35,000	Pb	25
Cd	20	Se	10
Co	25	Sr	100
Cr	20	Tl	10
Cu	20	V	50
Fe	100	Zn	50
K	3,000		

*Parts per billion

ICP-MS Calibration Standard			
IV-STOCK-12		Matrix: HNO ₃	
IV-STOCK-12-125ML		Volume: 125 mL	
Analyte	µg/mL	Analyte	µg/mL
Ba	10	In	10
Be	10	Li	10
Bi	10	Ni	10
Ce	10	Pb	10
Co	10	U	10


ICP Calibration Standard – Trace Metals			
IV-STOCK-13 M		Matrix: HNO ₃	
IV-STOCK-13-125ML		Volume: 125 mL	
Analyte	µg/mL	Analyte	µg/mL
Al	500	Fe	100
As	100	Mn	100
Be	100	Ni	100
Cd	25	Pb	100
Co	100	Se	25
Cr	100	V	250
Cu	100	Zn	100


Manufactured with high-purity starting materials and reagents. Products can be used for calibration of analytical instruments, validation of analytical methods, or for other applications deemed fit for purpose by the end-user. Can be diluted with other multi-element standards to working concentrations. Certificate of Analysis includes lot specific trace metal impurity analysis.


Wavelength Calibration Standard			
IV-STOCK-14 		Matrix: HCl / HNO ₃ / HF	
IV-STOCK-14-500ML		Volume: 500 mL	
Analyte	µg/mL	Analyte	µg/mL
As	20	Na	20
K	100	Ni	20
La	20	P	100
Li	20	S	100
Mn	20	Sc	20
Mo	20		

ICP-MS Calibration Standard			
IV-STOCK-15		Matrix: HNO ₃	
IV-STOCK-15-125ML		Volume: 125 mL	
Analyte	µg/mL	Analyte	µg/mL
Ca	10	Li	10
Fe	10	Na	10
K	10		

ICP Calibration Standard – Alkaline Earth Element			
IV-STOCK-16		Matrix: HNO ₃	
IV-STOCK-16-125ML		Volume: 125 mL	
Analyte	µg/mL	Analyte	µg/mL
Ba	1,000	Mg	1,000
Ca	1,000	Sr	1,000

ICP Calibration Standard – HCl Soluble Elements			
IV-STOCK-17 		Matrix: HCl/HNO ₃ /HF	
IV-STOCK-17-125ML		Volume: 125 mL	
Analyte	µg/mL	Analyte	µg/mL
Hf	100	Ta	100
Ir	100	Ti	100
Sb	100	Zr	100
Sn	100		

GFAA Calibration Standard			
IV-STOCK-18 		Matrix: HNO ₃	
IV-STOCK-18-125ML		Volume: 125 mL	
Analyte	µg/mL	Analyte	µg/mL
Ag	10	Cu	50
Al	100	Fe	20
As	100	Mn	20
Ba	50	Ni	50
Be	5	Pb	100
Cd	5	Sb	100
Co	50	Se	100
Cr	20	Tl	100

ICP Calibration Standard			
IV-STOCK-21 		Matrix: HNO ₃	
IV-STOCK-21-125ML		Volume: 125 mL	
IV-STOCK-21-500ML		Volume: 500 mL	
Analyte	µg/mL	Analyte	µg/mL
Ag	10	K	10
Al	10	Li	10
As	10	Mg	10
Ba	10	Mn	10
Be	10	Na	10
Bi	10	Ni	10
Ca	10	Pb	10
Cd	10	Rb	10
Co	10	Se	10
Cr	10	Sr	10
Cs	10	Tl	10
Cu	10	U	10
Fe	10	V	10
Ga	10	Zn	10
In	10		


 Merck/MilliporeSigma

 Perkin Elmer


MULTI-ELEMENT STANDARDS

Identical or near identical formulations | Multi-Element Standards



Manufactured with high-purity starting materials and reagents. Products can be used for calibration of analytical instruments, validation of analytical methods, or for other applications deemed fit for purpose by the end-user. Can be diluted with other multi-element standards to working concentrations. Certificate of Analysis includes lot specific trace metal impurity analysis.



ICP Calibration Standard			
IV-STOCK-22 		Matrix: HNO ₃	
IV-STOCK-22-125ML		Volume: 125 mL	
Analyte	µg/L*	Analyte	µg/L*
Cd	200	Pb	200
Cu	200	Rh	200
Mg	200		


*Parts per billion

ICP Calibration Standard			
IV-STOCK-23 		Matrix: HNO ₃	
IV-STOCK-23-500ML		Volume: 500 mL	
Analyte	µg/L*	Analyte	µg/L*
B	1	Lu	1
Ba	1	Na	1
Co	1	Rh	1
Fe	1	Sc	1
Ga	1	Tl	1
In	1	U	1
K	1	Y	1
Li	1		

*Parts per billion

Tuning Solution			
IV-STOCK-24  		Matrix: HNO ₃	
IV-STOCK-24-125ML		Volume: 125 mL	
IV-STOCK-24-500ML		Volume: 500 mL	
Analyte	µg/mL	Analyte	µg/mL
Al	50	Mn	50
As	50	Mo	50
Ba	50	Ni	50
Cd	50	Pb	50
Co	50	Se	50
Cr	50	Sr	50
Cu	50	Zn	50
K	500		

ICP Calibration Standard			
IV-STOCK-26  		Matrix: HNO ₃	
IV-STOCK-26-125ML		Volume: 125 mL	
Analyte	µg/mL	Analyte	µg/mL
Ce	10	Pr	10
Dy	10	Sc	10
Er	10	Sm	10
Eu	10	Tb	10
Gd	10	Th	10
Ho	10	Tm	10
La	10	Y	10
Lu	10	Yb	10
Nd	10		

ICP Calibration Standard			
IV-STOCK-27 		Matrix: HNO ₃	
IV-STOCK-27-125ML		Volume: 125 mL	
Analyte	µg/mL	Analyte	µg/mL
Ag	10	Li	10
Al	10	Mg	10
As	10	Mn	10
Ba	10	Na	10
Be	10	Ni	10
Ca	10	Pb	10
Cd	10	Rb	10
Co	10	Se	10
Cr	10	Sr	10
Cs	10	Tl	10
Cu	10	U	10
Fe	10	V	10
Ga	10	Zn	10
K	10		

 Agilent/Varian Merck/MilliporeSigma Perkin Elmer

Manufactured with high-purity starting materials and reagents. Products can be used for calibration of analytical instruments, validation of analytical methods, or for other applications deemed fit for purpose by the end-user. Can be diluted with other multi-element standards to working concentrations. Certificate of Analysis includes lot specific trace metal impurity analysis.

ICP Calibration Standard			
IV-STOCK-28 AV PE		Matrix: HCl / HNO ₃	
IV-STOCK-28-125ML		Volume: 125 mL	
Analyte	µg/mL	Analyte	µg/mL
Au	10	Rh	10
Hf	10	Ru	10
Ir	10	Sb	10
Pd	10	Sn	10
Pt	10	Te	10

ICP Calibration Standard			
IV-STOCK-29 PE		Matrix: HNO ₃ / HF	
IV-STOCK-29-125ML		Volume: 125 mL	
Analyte	µg/mL	Analyte	µg/mL
B	10	S	10
Ge	10	Si	10
Mo	10	Ta	10
Nb	10	Ti	10
P	10	W	10
Re	10	Zr	10

ICP Calibration Standard			
IV-STOCK-30 PE		Matrix: HNO ₃	
IV-STOCK-30-125ML		Volume: 125 mL	
Analyte	µg/mL	Analyte	µg/mL
Be	10	Mg	10
Bi	10	Ni	10
Ce	10	Pb	10
Co	10	U	10
In	10		

AV Agilent/Varian

C Common Multi-Element Standards

JY HORIBA Jobin Yvon

PE Perkin Elmer

ICP Calibration Standard			
IV-STOCK-31 C		Matrix: HNO ₃	
IV-STOCK-31-125ML		Volume: 125 mL	
Analyte	µg/mL	Analyte	µg/mL
Al	1	Mg	0.2
Ba	0.2	Mn	1
Ca	0.2	Ni	5
Cu	1	P	10
K	5	Zn	0.2

Calibration Standard – Mix Majors			
IV-STOCK-33 AV		Matrix: HNO ₃	
IV-STOCK-33-125ML		Volume: 125 mL	
IV-STOCK-33-500ML		Volume: 500 mL	
Analyte	µg/mL	Analyte	µg/mL
Ca	500	Mg	500
Fe	500	Na	500
K	500		


ICP Calibration Standard			
IV-STOCK-34 PE JY		Matrix: HNO ₃	
IV-STOCK-34-125ML		Volume: 125 mL	
IV-STOCK-34-500ML		Volume: 500 mL	
Analyte	µg/mL	Analyte	µg/mL
Ca	5,000	Mg	5,000
K	5,000	Na	5,000


ICP Calibration Standard			
IV-STOCK-35 PE		Matrix: HNO ₃	
IV-STOCK-35-125ML		Volume: 125 mL	
Analyte	µg/mL	Analyte	µg/mL
Ca	1,000	Mg	1,000
Fe	1,000	Na	1,000
K	1,000		



MULTI-ELEMENT STANDARDS

Identical or near identical formulations | Multi-Element Standards


Manufactured with high-purity starting materials and reagents. Products can be used for calibration of analytical instruments, validation of analytical methods, or for other applications deemed fit for purpose by the end-user. Can be diluted with other multi-element standards to working concentrations. Certificate of Analysis includes lot specific trace metal impurity analysis.

ICP Calibration Standard			
IV-STOCK-36 		Matrix: HCl	
IV-STOCK-36-125ML		Volume: 125 mL	
IV-STOCK-36-500ML		Volume: 500 mL	
Analyte	µg/mL	Analyte	µg/mL
Au	100	Pt	100
Pd	100		


Environmental Calibration Standard			
IV-STOCK-50 		Matrix: HNO ₃ / HF	
IV-STOCK-50-125ML		Volume: 125 mL	
Analyte	µg/mL	Analyte	µg/mL
Ag	10	Mn	10
Al	10	Mo	10
As	10	Na	1000
Ba	10	Ni	10
Be	10	Pb	10
Ca	1,000	Sb	10
Cd	10	Se	10
Co	10	Th	10
Cr	10	Tl	10
Cu	10	U	10
Fe	1,000	V	10
K	1000	Zn	10
Mg	1000		

Internal Standard			
IV-STOCK-53  		Matrix: HNO ₃ / HF	
IV-STOCK-53-125ML		Volume: 125 mL	
Analyte	µg/mL	Analyte	µg/mL
Bi	10	Sc	10
Ge	10	Tb	10
In	10	Y	10
⁶ Li	10		


 Agilent/Varian Common Multi-Element Standards Perkin Elmer


7500 Series PA Tuning Solution 1 (commonly used with IV-Stock-52)			
IV-STOCK-51 		Matrix: HNO ₃	
IV-STOCK-51-125ML		Volume: 125 mL	
Analyte	µg/mL	Analyte	µg/mL
Al	5	Mn	5
As	20	Na	5
Ba	5	Ni	10
Be	20	Pb	10
Bi	5	Sc	5
Cd	20	Sr	5
Co	5	Th	5
Cr	5	Tl	5
Cu	5	U	5
In	5	V	5
⁶ Li	5	Y	2.5
Lu	5	Yb	2.5
Mg	10	Zn	20


7500 Series PA Tuning Solution 2 (commonly used with IV-Stock-51)			
IV-STOCK-52		Matrix: HCl	
IV-STOCK-52-125ML		Volume: 125 mL	
Analyte	µg/mL	Analyte	µg/mL
Ge	10	Ru	10
Ir	5	Sb	10
Mo	10	Sn	10
Pd	10	Ti	5


Interference Check Standard			
IV-STOCK-54 		Matrix: HNO ₃	
IV-STOCK-54-125ML		Volume: 125 mL	
Analyte	µg/mL	Analyte	µg/mL
Al	1200	Mg	3000
Ca	6000	Na	1000
Fe	5000		

Manufactured with high-purity starting materials and reagents. Products can be used for calibration of analytical instruments, validation of analytical methods, or for other applications deemed fit for purpose by the end-user. Can be diluted with other multi-element standards to working concentrations. Certificate of Analysis includes lot specific trace metal impurity analysis.

Wavecal Standard			
IV-STOCK-55 		Matrix: HNO ₃	
IV-STOCK-55-125ML		Volume: 125 mL	
Analyte	µg/mL	Analyte	µg/mL
Ba	1	Li	10
Ca	1	Mn	10
K	50	Na	10
La	10	Sr	10

ICP Calibration Standard			
IV-STOCK-56 		Matrix: HNO ₃ / HF	
IV-STOCK-56-125ML		Volume: 125 mL	
Analyte	µg/mL	Analyte	µg/mL
Mo	100	Sn	100
Sb	100	Ti	100
Si	100		


ICP Calibration Standard			
IV-STOCK-57 		Matrix: HNO ₃ / HF	
IV-STOCK-57-125ML		Volume: 125 mL	
Analyte	µg/mL	Analyte	µg/mL
Mo	10	Sn	10
Sb	10	Ti	10

ICP Calibration Standard			
IV-STOCK-58 		Matrix: HCl	
IV-STOCK-58-125ML		Volume: 125 mL	
Analyte	µg/mL	Analyte	µg/mL
Au	100	Pt	100
Ir	100	Re	100
Os	100	Rh	100
Pd	100	Ru	100


 Agilent/Varian


 Common Multi-Element Standards

 Perkin Elmer

ICP-MS Tuning Solution			
IV-STOCK-74 		Matrix: HNO ₃	
IV-STOCK-74-500ML		Volume: 500 mL	
Analyte	µg/L*	Analyte	µg/L*
Ce	1	Mg	1
Co	1	Tl	1
Li	1	Y	1

*Parts per billion

ICP-MS Internal Standard			
IV-STOCK-75 		Matrix: HNO ₃ / HF	
IV-STOCK-75-125ML		Volume: 125 mL	
Analyte	µg/mL	Analyte	µg/mL
Bi	100	Lu	100
Ge	100	Rh	100
In	100	Sc	100
⁶ Li	100	Tb	100

ICP-MS Tuning Solution			
IV-STOCK-77 		Matrix: HNO ₃	
IV-STOCK-77-500ML		Volume: 500 mL	
Analyte	µg/L*	Analyte	µg/L*
Be	1	Li	1
Ce	1	Mg	1
Fe	1	Pb	1
In	1	U	1

*Parts per billion

MULTI-ELEMENT STANDARDS

These elements are grouped for ease of use. Intended for ICP-MS and ICP-OES, they can be used individually or in any combination upon dilution into 1% HNO₃. Custom ICP-MS/OES calibration standards are available upon request.

65-Element Group

Rare Earth ICP-MS Standard			
CMS-1 C		Matrix: HNO ₃	
CMS-1-125ML		Volume: 125 mL	
Analyte	µg/mL	Analyte	µg/mL
Ce	10	Pr	10
Dy	10	Sc	10
Er	10	Sm	10
Eu	10	Tb	10
Gd	10	Th	10
Ho	10	Tm	10
La	10	U	10
Lu	10	Y	10
Nd	10	Yb	10

For ICP analysis of all rare earth elements plus U and Th.

Precious Metals ICP-MS Standard			
CMS-2 C		Matrix: HCl	
CMS-2-125ML		Volume: 125 mL	
CMS-2-500ML		Volume: 500 mL	
Analyte	µg/mL	Analyte	µg/mL
Au	10	Re	10
Ir	10	Rh	10
Pd	10	Ru	10
Pt	10	Te	10

For ICP analysis of precious metals plus Re and Te.

Fluoride Soluble ICP-MS Standard			
CMS-3 C		Matrix: HNO ₃ /HF	
CMS-3-125ML		Volume: 125 mL	
Analyte	µg/mL	Analyte	µg/mL
Ge	10	Ta	10
Hf	10	Ti	10
Mo	10	W	10
Nb	10	Zr	10
Sn	10		

For ICP analysis of elements that tolerate or require HF for stability

Hot Plasma ICP-MS Complete Standard			
CMS-4 C		Matrix: HNO ₃	
CMS-4-125ML		Volume: 125 mL	
CMS-4-500ML		Volume: 500 mL	
Analyte	µg/mL	Analyte	µg/mL
As	10	In	10
B	10	Pb	10
Ba	10	Sb	10
Be	10	Se	10
Bi	10	Tl	10
Cd	10	V	10
Ga	10		

For direct use in ICP analysis or as stock concentrate.

Cool Plasma ICP-MS Complete Standard			
CMS-5 C		Matrix: HNO ₃	
CMS-5-125ML		Volume: 125 mL	
CMS-5-500ML		Volume: 500 mL	
Analyte	µg/mL	Analyte	µg/mL
Ag	10	Li	10
Al	10	Mg	10
Ca	10	Mn	10
Co	10	Na	10
Cr	10	Ni	10
Cs	10	Rb	10
Cu	10	Sr	10
Fe	10	Zn	10
K	10		

For direct use in ICP analysis or as stock concentrate.

C Common Multi-Element Standard

These elements are grouped for ease of use. Intended for ICP-MS and ICP-OES, they can be used individually or in any combination upon dilution into 1% HNO₃. Custom ICP-MS/OES calibration standards are available upon request.

69-Element Group

Rare Earth ICP-MS Standard			
CCS-1 C		Matrix: HNO ₃	
CCS-1-125ML		Volume: 125 mL	
CCS-1-500ML		Volume: 500 mL	
Analyte	µg/mL	Analyte	µg/mL
Ce	100	Pr	100
Dy	100	Sc	100
Er	100	Sm	100
Eu	100	Tb	100
Gd	100	Th	100
Ho	100	Tm	100
La	100	U	100
Lu	100	Y	100
Nd	100	Yb	100

For ICP analysis of all rare earth elements plus U and Th. Uranium is isotopically depleted. Can be diluted with CCS-4 and CCS-6 to working concentrations.

Precious Metals ICP-MS Standard			
CCS-2 C		Matrix: HCl	
CCS-2-125ML		Volume: 125 mL	
Analyte	µg/mL	Analyte	µg/mL
Au	100	Pt	100
Ir	100	Rh	100
Pd	100	Ru	100

For simultaneous ICP analysis of precious metals. Can be diluted with CCS-1 or CCS-5 to working concentrations. For dilution with CCS-6 please see Silver Chemical Stability article for more information about Ag stability in HCl.

Alkali, Alkaline, Non-Transition ICP-MS Standard			
CCS-4 C		Matrix: HNO ₃	
CCS-4-125ML		Volume: 125 mL	
CCS-4-500ML		Volume: 500 mL	
Analyte	µg/mL	Analyte	µg/mL
Al	100	In	100
As	100	K	100
Ba	100	Li	100
Be	100	Mg	100
Bi	100	Na	100
Ca	100	Rb	100
Cs	100	Se	100
Ga	100	Sr	100

For use as stock concentrate for ICP analysis. Can be diluted with CCS-1 and CCS-6 to working concentrations.

Fluoride Soluble ICP-MS Standard			
CCS-5 C		Matrix: HNO ₃ /HF	
CCS-5-125ML		Volume: 125 mL	
CCS-5-500ML		Volume: 500 mL	
Analyte	µg/mL	Analyte	µg/mL
B	100	Sb	100
Ge	100	Si	100
Hf	100	Sn	100
Mo	100	Ta	100
Nb	100	Ti	100
P	100	W	100
Re	100	Zr	100
S	100		

For ICP analysis of elements that tolerate or require HF for stability. Can be diluted with CCS-2 and CCS-6 to working concentrations. Can be diluted with CCS-4 to lower working concentrations (<10 ppm recommended).

C Common Multi-Element Standard

MULTI-ELEMENT STANDARDS

These elements are grouped for ease of use. Intended for ICP-MS and ICP-OES, they can be used individually or in any combination upon dilution into 1% HNO₃. Custom ICP-MS/OES calibration standards are available upon request.

69-Element Group

Transition ICP-MS Standard			
CCS-6 C		Matrix: HNO ₃	
CCS-6-125ML		Volume: 125 mL	
CCS-6-500ML		Volume: 500 mL	
Analyte	µg/mL	Analyte	µg/mL
Ag	100	Mn	100
Cd	100	Ni	100
Co	100	Pb	100
Cr	100	Tl	100
Cu	100	V	100
Fe	100	Zn	100
Hg	100		

For use as stock concentrate for ICP analysis. Can be diluted with CCS-1 and CCS-4 to working concentrations. Contains mercury (Hg); please see the Mercury Chemical Stability article for more information regarding accurate Hg analyses in multi-element solutions.

ICP-MS Refractory Elements Standard			
IV-ICPMS-71B C		Matrix: HNO ₃ / HF	
IV-ICPMS-71B-125ML		Volume: 125 mL	
IV-ICPMS-71B-500ML		Volume: 500 mL	
Analyte	µg/mL	Analyte	µg/mL
Ge	10	Sn	10
Hf	10	Ta	10
Mo	10	Te	10
Nb	10	Ti	10
Sb	10	W	10
Si	10	Zr	10

Can be diluted to working concentrations without additional HF for stability.

71-Element Group

ICP-MS Complete Standard			
IV-ICPMS-71A C		Matrix: HNO ₃	
IV-ICPMS-71A-125ML		Volume: 125 mL	
IV-ICPMS-71A-500ML		Volume: 500 mL	
Analyte	µg/mL	Analyte	µg/mL
Ag	10	Lu	10
Al	10	Mg	10
As	10	Mn	10
B	10	Na	10
Ba	10	Nd	10
Be	10	Ni	10
Ca	10	P	10
Cd	10	Pb	10
Ce	10	Pr	10
Co	10	Rb	10
Cr	10	S	10
Cs	10	Se	10
Cu	10	Sm	10
Dy	10	Sr	10
Er	10	Th	10
Eu	10	Tl	10
Fe	10	Tm	10
Ga	10	U	10
Gd	10	V	10
Ho	10	Yb	10
K	10	Zn	10
La	10		

Uranium is isotopically depleted. Can be diluted with other multi-element standards to working concentrations.

C Common Multi-Element Standard

These elements are grouped for ease of use. Intended for ICP-MS and ICP-OES, they can be used individually or in any combination upon dilution into 1% HNO₃. Custom ICP-MS/OES calibration standards are available upon request.

71-Element Group

ICP-MS Precious Metals Standard			
IV-ICPMS-71C C		Matrix: HCl	
IV-ICPMS-71C-125ML		Volume: 125 mL	
IV-ICPMS-71C-500ML		Volume: 500 mL	
Analyte	µg/mL	Analyte	µg/mL
Au	10	Pt	10
Ir	10	Re	10
Os	10	Rh	10
Pd	10	Ru	10

Contains osmium (Os); avoid dilutions with oxidizing acids such as concentrated HNO₃. For dilutions including Ag please see Silver Chemical Stability article for more information about Ag stability in HCl.

ICP-MS Internal Standard			
IV-ICPMS-71D C		Matrix: HNO ₃	
IV-ICPMS-71D-125ML		Volume: 125 mL	
IV-ICPMS-71D-500ML		Volume: 500 mL	
Analyte	µg/mL	Analyte	µg/mL
Bi	10	Sc	10
In	10	Tb	10
⁶ Li	10	Y	10

Covers mass range from 6-Li to 209-Bi. Certified reference material that may also be used for calibration. Can be diluted with other multi-element standards to working concentrations.

Lithium ICP-MS Standard	
MSLI-10PPM C	Matrix: HNO ₃
MSLI-10PPM-125ML	Volume: 125 mL
Analyte	µg/mL
Li	10


Mercury ICP-MS Standard	
MSHG-10PPM C	Matrix: HCl
MSHG-10PPM-125ML	Volume: 125 mL
MSHG-10PPM-500ML	Volume: 500 mL
Analyte	µg/mL
Hg	10

Tellurium ICP-MS Standard	
MSTEN-100PPM C	Matrix: HNO ₃
MSTEN-100PPM-125ML	Volume: 125 mL
Analyte	µg/mL
Te	100


C Common Multi-Element Standard

MULTI-ELEMENT STANDARDS


Identical or near identical formulations | Multi-Element Standards

AGI Tuning Solution			
AGI-TS-1 		Matrix: HNO ₃	
AGI-TS-1-125ML AGI-TS-1-500ML		Volume: 125 mL Volume: 500 mL	
Analyte	µg/mL	Analyte	µg/mL
Ce	10	Tl	10
Co	10	Y	10
Li	10		


ICP-MS stock tuning solution designed for dilution to working concentrations. Covers mass range from Li to Tl. Certified reference material that may also be used for calibration. Agilent P/N 5188-6564.

CIROS Tuning Solution			
CIROS-OES-TS 		Matrix: HCl / HNO ₃	
CIROS-OES-TS-125ML		Volume: 125 mL	
Analyte	µg/mL	Analyte	µg/mL
Fe	10	P	10
K	10	S	50
La	10	Sc	10
Mg	5	Ti	10
Mn	5		

For reprofiling optics of Spectro Ciros ICP-OES.


GENESIS Calibration Standard			
GENESIS-ICAL 		Matrix: HNO ₃ / HCl / HF	
GENESIS-ICAL-125ML GENESIS-ICAL-500ML		Volume: 125 mL Volume: 500 mL	
Analyte	µg/mL	Analyte	µg/mL
Be	2	Na	5
Ca	1	Ni	10
Ce	10	P	10
Cu	10	S	50
Eu	10	Sc	5
Fe	10	Si	10
In	10	Sr	2
K	10	Ti	10
Li	2	V	10
Mn	5	Y	10
Mo	5	Zr	10

For reprofiling optics of Spectro Ciros ICP-OES.

Trace Metals in Water- SRM1643			
IV-STOCK-1643 		Matrix: HNO ₃	
IV-STOCK-1643-125ML IV-STOCK-1643-500ML		Volume: 125 mL Volume: 500 mL	
Analyte	µg/L*	Analyte	µg/L*
Ag	1	Mg	8,000
Al	142	Mn	39
As	60	Mo	121
B	158	Na	21,000
Ba	544	Ni	62
Be	14	Pb	20
Bi	14	Rb	14
Ca	32,000	Re	113
Cd	7	Sb	58
Co	27	Se	12
Cr	20	Sr	323
Cu	23	Te	1
Fe	98	Tl	7
K	2,000	V	38
Li	17	Zn	79

*Parts per billion

For quality control and method evaluation of fresh water trace element analyses. Ready to use without dilution.

Instrument Check Standard			
PE-CHK-1 		Matrix: HNO ₃ / HF	
PE-CHK-1-125ML		Volume: 125 mL	
Analyte	µg/mL	Analyte	µg/mL
Ag	10	Mn	10
Al	10	Ni	10
As	10	Pb	10
Ba	10	Sb	10
Be	10	Se	10
Cd	10	Tl	10
Co	10	V	10
Cr	10	Zn	10
Cu	10		

For daily instrument calibration.

 Agilent/Varian

 NIST

 Perkin Elmer

 Spectro

Tuning Solution			
PE-TS-1 PE		Matrix: HNO ₃	
PE-TS-1-125ML PE-TS-1-500ML		Volume: 125 mL Volume: 500 mL	
Analyte	µg/mL	Analyte	µg/mL
Ba	10	Mg	10
Be	10	Pb	10
Ce	10	Rh	10
Co	10	Tl	10
In	10	U	10
Li	10	Y	10

For instrument set-up and calibration. Covers mass range from Li to U (isotopically depleted).

ICP-MS Tuning Solution – Tune B iCAP			
THERMO-4AREV T		Matrix: HNO ₃ /HCl	
THERMO-4AREV-500ML THERMO-4AREV-1L		Volume: 500 mL Volume: 1 L	
Analyte	µg/L*	Analyte	µg/L*
Ba	1	In	1
Bi	1	Li	1
Ce	1	U	1
Co	1		

Tuning solution for Thermo iCAP Q ICP-MS. Equivalent to Thermo P/N 1323770.

ICP-MS Tuning Solution – iCAP Q			
THERMO-5A T		Matrix: HNO ₃	
THERMO-5A-125ML THERMO-5A-250ML		Volume: 125 mL Volume: 250 mL	
Analyte	µg/L*	Analyte	µg/L*
Ag	6	Mg	10
Al	10	Mn	6
Ba	4	Ni	15
Be	35	Rh	3
Bi	3	Sc	8
Ce	3	Sr	5
Co	8	Ta	3
Cs	3	Tb	3
Cu	15	Tl	4
Ga	10	U	3
Ho	3	Y	3
In	3	Zn	20
Li	8		

*Parts per billion

Calibration standard for Thermo iCAP Q ICP-MS. Equivalent to Thermo P/N 1323760.


Tuning Solution			
THM-TS-1 C		Matrix: HNO ₃	
THM-TS-1-125ML		Volume: 125 mL	
Analyte	µg/mL	Analyte	µg/mL
B	10	Lu	10
Ba	10	Na	10
Co	10	Rh	10
Fe	10	Sc	10
Ga	10	Th	10
In	10	U	10
K	10	Y	10
Li	10		

A general tuning solution suitable for numerous ICP-MS designs and models.

- C** Common Multi-Element Standard
- PE** Perkin Elmer
- T** Thermo Scientific

MULTI-ELEMENT STANDARDS


Identical or near identical formulations | Multi-Element Standards

Tune F-X-Series Tuning Solution			
TUNE F-X-SERIES 		Matrix: HNO ₃ /HF	
TUNE F-X-SERIES-125ML		Volume: 125 mL	
Analyte	ng/mL*	Analyte	ng/mL*
Ag	40	Na	40
Al	50	Nb	20
As	250	Nd	45
B	200	Ni	150
Ba	50	P	1000
Be	500	Pb	10
Bi	5	Pd	100
Ca	1000	Pr	10
Cd	100	Rb	30
Ce	10	Re	15
Co	35	Sb	40
Cr	40	Sc	30
Cs	15	Se	1250
Cu	150	Si	1000
Dy	25	Sm	45
Er	15	Sn	45
Eu	10	Sr	20
Fe	20	Ta	5
Ga	45	Tb	5
Gd	45	Te	500
Ge	150	Th	5
Hf	15	Ti	500
Ho	5	Tl	10
In	10	Tm	5
K	35	U	5
La	10	V	40
Li	100	W	25
Lu	5	Y	15
Mg	50	Yb	25
Mn	20	Zn	150
Mo	100	Zr	35


*Parts per billion

For detector cross-calibration on Thermo X-Series ICP-MS.


 Agilent/Varian Thermo Scientific

Calibration Standard			
VAR-CAL-1 		Matrix: HNO ₃ / HF	
VAR-CAL-1-125ML VAR-CAL-1-500ML		Volume: 125 mL Volume: 500 mL	
Analyte	µg/mL	Analyte	µg/mL
Mo	100	Sn	100
Sb	100	Ti	100

General ICP-OES calibration standard. Designed to be mixed with VAR-CAL-2 at working concentrations.

Calibration Standard			
VAR-CAL-2 		Matrix: HNO ₃	
VAR-CAL-2-125ML		Volume: 125 mL	
Analyte	µg/mL	Analyte	µg/mL
Ag	100	Mn	100
Al	100	Ni	100
As	100	Pb	100
Ba	100	Se	100
Be	100	Th	100
Cd	100	Tl	100
Co	100	U	100
Cr	100	V	100
Cu	100	Zn	100

General ICP-OES calibration standard. Designed to be mixed with VAR-CAL-1 at working concentrations.

Calibration Standard			
VAR-CAL-7 		Matrix: HNO ₃ /HF	
VAR-CAL-7-125ML VAR-CAL-7-500ML		Volume: 125 mL Volume: 500 mL	
Analyte	µg/mL	Analyte	µg/mL
Al	5	Mn	5
As	5	Mo	5
Ba	5	Ni	5
Cd	5	Pb	5
Co	5	Se	5
Cr	5	Sr	5
Cu	5	Zn	5
K	50		

ICP-OES calibration standard.

Identical or **near identical** formulations

ICP Internal Standard			
VAR-IS-1		Matrix: HNO ₃	
VAR-IS-1-125ML		Volume: 125 mL	
Analyte	µg/mL	Analyte	µg/mL
Bi	100	Sc	100
In	100	Tb	100
⁶ Li	100	Y	100

For use as ICP-MS multi-element internal standard. Covers mass range from 6-Li to 209-Bi

AV Agilent/Varian

Tuning Solution			
VAR-TS-MS		Matrix: HNO ₃	
VAR-TS-MS-125ML		Volume: 125 mL	
Analyte	µg/mL	Analyte	µg/mL
Ba	10	Mg	10
Be	10	Pb	10
Ce	10	Th	10
Co	10	Tl	10
In	10		

For use as ICP-MS tuning solution. Covers mass range from 9-Be to 232-Th. Certified reference material that may also be used for calibration.

HIGH-PURITY IONIZATION BUFFERS

Ionization buffers are 99.999+% pure. They are analyzed using both axial-view ICP-OES and ICP-MS for 70+ impurities. Custom ionization buffers are available upon request.

1% Cesium Ionization Buffer	
CSN-ISB	Matrix: HNO ₃
CSN-ISB-500ML	Volume: 500 mL
Analyte	µg/mL
Cs	10,000
High Purity buffer; ideal for Axial View ICP-OES	

For stabilizing the degree of ionization in flame AA and ICP-OES analysis.

2% Lithium Ionization Buffer	
LINB2	Matrix: HNO ₃
LINB2-125ML	Volume: 125 mL
Analyte	µg/mL
Li	20,000

For stabilizing the degree of ionization in flame AA and ICP-OES analysis. Not to be used as a calibration standard, for analytical reagent use only.

5% Cesium Ionization Buffer	
CSN-ISB5	Matrix: HNO ₃
CSN-ISB5-500ML	Volume: 500 mL
Analyte	µg/mL
Cs	50,000

For stabilizing the degree of ionization in flame AA and ICP-OES analysis.


MULTI-ELEMENT STANDARDS


USP Method <232> – Elemental Impurities Compliance Standards


Manufactured with high-purity starting materials and reagents. Products can be used for calibration of analytical instruments, validation of analytical methods, or for other applications deemed fit for purpose by the end-user. Can be diluted with other multi-element standards to working concentrations. Certificate of Analysis includes lot specific trace metal impurity analysis.


For the pharmaceutical industry, Inorganic Ventures has developed CRMs to comply with the United States Pharmacopeia (USP) general chapters on elemental impurity USP <232> limits and USP <233> procedures.


These methods are for testing inorganic impurities in pharmaceutical products by ICP. The International Conference on Harmonization (ICH) Working Group on Elemental Impurities is in the process of developing a harmonized approach for controlling these impurities as well.


USP <232> Precious Metals Elemental Impurities			
IV-STOCK-38 		Matrix: HCl	
IV-STOCK-38-125ML		Volume: 125 mL	
Analyte	µg/mL	Analyte	µg/mL
Ir	100	Pt	100
Os	100	Rh	100
Pd	100	Ru	100

USP <232> Oral Elemental Impurities			
IV-STOCK-40 		Matrix: HNO ₃	
IV-STOCK-40-125ML		Volume: 125 mL	
Analyte	µg/mL	Analyte	µg/mL
As	1.5	Mo	100
Cd	25	Ni	500
Cu	1000	Pb	5
Hg	15	V	100

USP <232> Parenteral Elemental Impurities			
IV-STOCK-41 		Matrix: HNO ₃	
IV-STOCK-41-125ML		Volume: 125 mL	
Analyte	µg/mL	Analyte	µg/mL
As	1.5	Mo	10
Cd	2.5	Ni	50
Cu	100	Pb	5
Hg	1.5	V	10

USP <232> Drug Substance and Excipients			
IV-STOCK-60 		Matrix: HCl	
IV-STOCK-60-125ML		Volume: 125 mL	
Analyte	µg/mL	Analyte	µg/mL
As	1.5	Os	10
Cd	0.5	Pb	0.5
Cr	1100	Pd	10
Cu	300	Pt	10
Hg	3	Rh	10
Ir	10	Ru	10
Mo	300	V	10
Ni	20		

USP <232> / ICH Q3D Class 1 Oral Elemental Impurities			
IV-STOCK-65 		Matrix: HNO ₃	
IV-STOCK-65-125ML		Volume: 125 mL	
Analyte	µg/mL	Analyte	µg/mL
As	15	Hg	30
Cd	5	Pb	5

USP <232> / ICH Q3D Class 2A Oral Elemental Impurities			
IV-STOCK-66 		Matrix: HNO ₃	
IV-STOCK-66-125ML		Volume: 125 mL	
Analyte	µg/mL	Analyte	µg/mL
Co	50	V	100
Ni	200		

 USP Method <232>

USP <232> / ICH Q3D Class 2B Oral Elemental Impurities			
IV-STOCK-67 U		Matrix: HCl	
IV-STOCK-67-125ML		Volume: 125 mL	
Analyte	µg/mL	Analyte	µg/mL
Au	100	Rh	100
Ir	100	Ru	100
Os	100	Se	150
Pd	100	Tl	8
Pt	100		

USP <232> / ICH Q3D Class 3 Oral Elemental Impurities			
IV-STOCK-69 U		Matrix: HNO ₃ /tr HF	
IV-STOCK-69-125ML		Volume: 125 mL	
Analyte	µg/mL	Analyte	µg/mL
Ba	140	Mo	300
Cr	1100	Sb	120
Cu	300	Sn	600
Li	55		

USP <232> / ICH Q3D Oral Elemental Impurities			
IV-STOCK-78 U		Matrix: HCl	
IV-STOCK-78-125ML		Volume: 125 mL	
Analyte	µg/mL	Analyte	µg/mL
Ag	15	Ni	20
As	1.5	Os	10
Au	30	Pb	0.5
Ba	140	Pd	10
Cd	0.5	Pt	10
Co	5	Rh	10
Cr	1100	Ru	10
Cu	300	Sb	120
Hg	3	Se	15
Ir	10	Sn	600
Li	55	Tl	0.8
Mo	300	V	10

USP <232> / ICH Q3D Class 2B Oral Elemental Impurities			
IV-STOCK-68 U		Matrix: HNO ₃	
IV-STOCK-68-125ML		Volume: 125 mL	
Analyte	µg/mL	Analyte	µg/mL
Ag*	150		

* Silver has been separated from the other Class 2B elements due to long-term stability concerns. However, IV-STOCK-68 can be combined with IV-STOCK-67 at working levels. Contact Technical Support or visit our Technical Forum for more information regarding Ag in HCl matrices.

USP <232> / ICH Q3D Oral Elemental Impurities			
IV-STOCK-70 U		Matrix: HCl	
IV-STOCK-70-125ML		Volume: 125 mL	
Analyte	µg/mL	Analyte	µg/mL
Ag	15	Ni	20
As	1.5	Os	10
Au	10	Pb	0.5
Ba	140	Pd	10
Cd	0.5	Pt	10
Co	5	Rh	10
Cr	1100	Ru	10
Cu	300	Sb	120
Hg	3	Se	15
Ir	10	Sn	600
Li	55	Tl	0.8
Mo	300	V	10

USP <232> / ICH Q3D Class 2B Oral Elemental Impurities			
IV-STOCK-79 U		Matrix: HCl	
IV-STOCK-79-125ML		Volume: 125 mL	
Analyte	µg/mL	Analyte	µg/mL
Au	300	Rh	100
Ir	100	Ru	100
Os	100	Se	150
Pd	100	Tl	8
Pt	100		

U USP Method <232>

MULTI-ELEMENT STANDARDS

Heavy Metals – Single Element Standards

Bringing Confidence to the Cannabis Industry

In an industry where regulations and testing requirements vary by state, put your trust in Inorganic Ventures. We aim to squash inter-laboratory variations in the Cannabis industry and make it easier for your lab to get accurate results time and time again.

We offer single and multi-element standards to ensure your final product is free of dangerous heavy metals that may arise from soil contamination in agricultural production or manufacturing processes.

- Extensive documentation: Certificate of Analysis (CoA) and Safety Data Sheet (SDS)
- TCT packaging prevents transpiration, guarantees up to a 5-year shelf life, and allows for storage outside of normal lab conditions.
- 100% satisfaction guarantee



10 µg/mL

ANALYTE	MATRIX	VOLUME	CATALOG #
Arsenic, As	HNO ₃	125 mL	MSAS-10PPM-125ML
Cadmium, Cd	HNO ₃	125 mL	MSCD-10PPM-125ML
Lead, Pb	HNO ₃	125 mL	MSPB-10PPM-125ML
Mercury, Hg	HCl	125 mL 500 mL	MSHG-10PPM-125ML MSHG-10PPM-500ML
Mercury, Hg	HNO ₃	125 mL 500 mL	MSHGN-10PPM-125ML MSHGN-10PPM-500ML

100 µg/mL

ANALYTE	MATRIX	VOLUME	CATALOG #
Arsenic, As	HNO ₃	125 mL	MSAS-100PPM-125ML
Cadmium, Cd	HNO ₃	125 mL	MSCD-100PPM-125ML
Lead, Pb	HNO ₃	125 mL 500 mL	MSPB-100PPM-125ML MSPB-100PPM-500ML
Mercury, Hg	HCl	125 mL	MSHG-100PPM-125ML
Mercury, Hg	HNO ₃	125 mL	MSHGN-100PPM-125ML

1,000 µg/mL

ANALYTE	MATRIX	VOLUME	CATALOG #
Arsenic, As	HNO ₃	30 mL	CGAS1-30ML
		125 mL	CGAS1-125ML
		500 mL	CGAS1-500ML
Arsenic ⁺³ , As ⁺³	HCl / NaOH / NaHCO ₃	30 mL	CGAS(3)1-30ML
		125 mL	CGAS(3)1-125ML
		500 mL	CGAS(3)1-500ML
Arsenic ⁺⁵ , As ⁺⁵	H ₂ O	30 mL	CGAS(5)1-30ML
		125 mL	CGAS(5)1-125ML
		500 mL	CGAS(5)1-500ML
Cadmium, Cd	HNO ₃	30 mL	CGCD1-30ML
		125 mL	CGCD1-125ML
		500 mL	CGCD1-500ML
Lead, Pb	HNO ₃	30 mL	CGPB1-30ML
		125 mL	CGPB1-125ML
		500 mL	CGPB1-500ML
Mercury, Hg	HNO ₃	30 mL	CGHG1-30ML
		125 mL	CGHG1-125ML
		500 mL	CGHG1-500ML

10,000 µg/mL

ANALYTE	MATRIX	VOLUME	CATALOG #
Arsenic, As	HNO ₃	30 mL	CGAS10-30ML
		125 mL	CGAS10-125ML
		500 mL	CGAS10-500ML
Cadmium, Cd	HNO ₃	125 mL	CGCD10-125ML
		500 mL	CGCD10-500ML
Lead, Pb	HNO ₃	30 mL	CGPB10-30ML
		125 mL	CGPB10-125ML
		500 mL	CGPB10-500ML
Mercury, Hg	HNO ₃	125 mL	CGHG10-125ML
		500 mL	CGHG10-500ML



Does your state require testing for elements in addition to the Big 4? Request a custom quote! As the leading manufacturer of custom inorganic standards, we've produced tens of thousands of unique custom blends for laboratories worldwide.

MULTI-ELEMENT STANDARDS

Heavy Metals – Multi-Element Standards

While our USP <232>/ICH Q3D stock products were formulated for the pharmaceutical industry, these products can be used to test heavy metals in cannabis. The Big 4 (Arsenic, Mercury, Cadmium, and Lead) are common analytes for cannabis testing.

USP <232> / ICH Q3D Class 1 Oral Elemental Impurities			
IV-STOCK-65-125ML		Volume: 125 mL	Matrix: HNO ₃
Analyte	µg/mL	Analyte	µg/mL
As	15	Hg	30
Cd	5	Pb	5

The following are custom products. They are available to order, but not are not stock items.

Custom Heavy Metal Standard			
IV-6239		Matrix: HNO ₃	
Analyte	µg/mL	Analyte	µg/mL
As	15	Hg	3
Cd	2	Pb	5

Custom Heavy Metal Standard			
IV-48592		Matrix: HNO ₃	
Analyte	µg/mL	Analyte	µg/mL
As	2	Hg	1
Cd	2	Pb	5

Don't see what you need?

Contact us with the solution part number and instrument manufacturer you're seeking, and we'll check our extensive library of solutions.



EPA STANDARDS

Over the years, we've developed a unique line of EPA standards. If you do not see what you are looking for, please contact us with an EPA custom request and we will get you competitive pricing guaranteed.



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- ✓ **Up to five-year shelf life**
- ✓ **Traceable to NIST SRMs**
- ✓ **Produced under ISO 9001**
- ✓ **Produced under ISO 17025**
- ✓ **Produced under ISO 17034**
- ✓ **Assayed by validated Wet Chemical procedures**
- ✓ **Assayed by validated instrument procedures**

ILM03.0

Standards for ILM03.0 are designed for use with ICP-OES. Custom EPA standards are available upon request.

Calibration Standard			
CLPP-CAL-1		Matrix: HNO ₃ Dilution 1:100	
CLPP-CAL-1-125ML		Volume: 125 mL	
Analyte	µg/mL	Analyte	µg/mL
Ag	250	Fe	1,000
Al	2,000	K	5,000
Ba	2,000	Mg	5,000
Be	50	Mn	500
Ca	5,000	Na	5,000
Co	500	Ni	500
Cr	200	V	500
Cu	250	Zn	500

For use as ICP calibration standard in EPA Contract Laboratory Program (CLP) methods. Does not contain antimony (Sb). Please see CGSB1 or CLPP-SPK-2 for suitable Sb reference standard.

Calibration Standard			
CLPP-CAL-3		Matrix: HNO ₃ Dilution 1:100	
CLPP-CAL-3-125ML		Volume: 125 mL	
Analyte	µg/mL	Analyte	µg/mL
As	1,000	Se	1,000
Cd	500	Tl	1,000
Pb	1,000		

For use as ICP calibration standard in EPA Contract Laboratory Program (CLP) methods. Does not contain antimony (Sb). Please see CGSB1 or CLPP-SPK-2 for suitable Sb reference standard.

Calibration Standard	
CGSB1	Matrix: HNO ₃ /Tartaric Acid Dilution 1:100
CGSB1-125ML	Volume: 125 mL
Analyte	µg/mL
Sb	1,000

CICV Standards – Continuing and Initial Calibration Verification

CICV Standard [†]			
QCP-CICV-1		Matrix: HNO ₃ Dilution 1:100 or 1:500	
QCP-CICV-1-125ML		Volume: 125 mL	
Analyte	µg/mL	Analyte	µg/mL
Ag	125	Fe	500
Al	1,000	K	2,500
Ba	1,000	Mg	2,500
Be	25	Mn	250
Ca	2,500	Na	2,500
Co	250	Ni	250
Cr	100	V	250
Cu	125	Zn	250

For use as initial/continuing calibration verification standard in EPA Contract Laboratory Program (CLP) methods. Does not contain antimony (Sb). Please see CGSB1 or QCP-CICV-2 for suitable Sb reference standard.

CICV Standard [†]	
QCP-CICV-2	Matrix: HNO ₃ /Tartaric Acid Dilution 1:100 or 1:500
QCP-CICV-2-125ML	Volume: 125 mL
Analyte	µg/mL
Sb	500

For use as initial/continuing calibration verification standard in EPA Contract Laboratory Program (CLP) methods. For analyses requiring antimony (Sb). Designed to be diluted to working concentrations with QCP-CICV-1 and/or QCP-CICV-3.

CICV Standard [†]			
QCP-CICV-3		Matrix: HNO ₃ Dilution 1:100 or 1:500	
QCP-CICV-3-125ML		Volume: 125 mL	
Analyte	µg/mL	Analyte	µg/mL
As	500	Se	500
Cd	250	Tl	500
Pb	500		

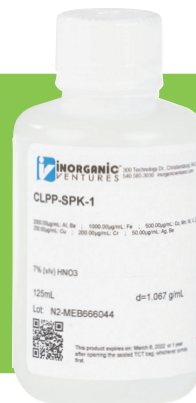
For use as initial/continuing calibration verification standard in EPA Contract Laboratory Program (CLP) methods. Does not contain antimony (Sb). Please see CGSB1 or QCP-CICV-2 for suitable Sb reference standard.

[†]Manufactured from in-house Second Source concentrates, whenever possible.

CRDL Standards – Contract Required Detection Limit

We can create any CRDL standard to best fit your needs.

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Soil & Water Spike Standards

Spike Standard*			
CLPP-SPK-1		Matrix: HNO ₃ Dilution 1:1,000	
CLPP-SPK-1-125ML		Volume: 125 mL	
Analyte	µg/mL	Analyte	µg/mL
Ag	50	Cu	250
Al	2,000	Fe	1,000
Ba	2,000	Mn	500
Be	50	Ni	500
Co	500	V	500
Cr	200	Zn	500

For use as ICP-OES soil or water spike standard in EPA Contract Laboratory Program (CLP) methods.

Spike Standard*	
CLPP-SPK-2	Matrix: HNO ₃ /Tartaric Acid Dilution 1:1,000
CLPP-SPK-2-125ML	Volume: 125 mL
Analyte	µg/mL
Sb	500

For use as Sb spike standard in EPA Contract Laboratory Program (CLP) methods.

*Instructions included.

Interference Check Standards

For use as ICP-OES soil or water spike standard in EPA Contract Laboratory Program (CLP) methods.

Interference Check Standard			
CLPP-ICS-A		Matrix: HNO ₃ Dilution 1:10	
CLPP-ICS-A-125ML		Volume: 125 mL	
CLPP-ICS-A-500ML		Volume: 500 mL	
Analyte	µg/mL	Analyte	µg/mL
Al	5,000	Fe	2,000
Ca	5,000	Mg	5,000

Interference Check Standard			
CLPP-ICS-B		Matrix: HNO ₃ Dilution 1:100	
CLPP-ICS-B-125ML		Volume: 125 mL	
Analyte	µg/mL	Analyte	µg/mL
Ag	100	Cu	50
Ba	50	Mn	50
Be	50	Ni	100
Cd	100	Pb	100
Co	50	V	50
Cr	50	Zn	100

Standards for ILMO4.0 are designed for use with ICP-OES. Custom EPA standards are available upon request.

Calibration Standards

Calibration Standard			
CLPP-CAL-1		Matrix: HNO ₃ Dilution 1:100	
CLPP-CAL-1-125ML		Volume: 125 mL	
Analyte	µg/mL	Analyte	µg/mL
Ag	250	Fe	1,000
Al	2,000	K	5,000
Ba	2,000	Mg	5,000
Be	50	Mn	500
Ca	5,000	Na	5,000
Co	500	Ni	500
Cr	200	V	500
Cu	250	Zn	500

For use as ICP calibration standard in EPA Contract Laboratory Program (CLP) methods. Does not contain antimony (Sb). Please see CGSB1 or CLPP-SPK-2 for suitable Sb reference standard.

Calibration Standard			
CLPP-CAL-3		Matrix: HNO ₃ Dilution 1:100	
CLPP-CAL-3-125ML		Volume: 125 mL	
Analyte	µg/mL	Analyte	µg/mL
As	1,000	Se	1,000
Cd	500	Tl	1,000
Pb	1,000		

For use as ICP calibration standard in EPA Contract Laboratory Program (CLP) methods. Does not contain antimony (Sb). Please see CGSB1 or CLPP-SPK-2 for suitable Sb reference standard.

Calibration Standard	
CGSB1	Matrix: HNO ₃ /Tartaric Acid Dilution 1:100
CGSB1-125ML	Volume: 125 mL
Analyte	µg/mL
Sb	1,000

CICV Standards – Continuing and Initial Calibration Verification

CICV Standard†			
QCP-CICV-1		Matrix: HNO ₃ Dilution 1:100 or 1:500	
QCP-CICV-1-125ML		Volume: 125 mL	
Analyte	µg/mL	Analyte	µg/mL
Ag	125	Fe	500
Al	1,000	K	2,500
Ba	1,000	Mg	2,500
Be	25	Mn	250
Ca	2,500	Na	2,500
Co	250	Ni	250
Cr	100	V	250
Cu	125	Zn	250

For use as initial/continuing calibration verification standard in EPA Contract Laboratory Program (CLP) methods. Does not contain antimony (Sb). Please see CGSB1 or QCP-CICV-2 for suitable Sb reference standard.

CICV Standard†	
QCP-CICV-2	Matrix: HNO ₃ /Tartaric Acid Dilution 1:100 or 1:500
QCP-CICV-2-125ML	Volume: 125 mL
Analyte	µg/mL
Sb	500

For use as initial/continuing calibration verification standard in EPA Contract Laboratory Program (CLP) methods. For analyses requiring antimony (Sb). Designed to be diluted to working concentrations with QCP-CICV-1 and/or QCP-CICV-3.

CICV Standard†			
QCP-CICV-3		Matrix: HNO ₃ Dilution 1:100 or 1:500	
QCP-CICV-3-125ML		Volume: 125 mL	
Analyte	µg/mL	Analyte	µg/mL
As	500	Se	500
Cd	250	Tl	500
Pb	500		

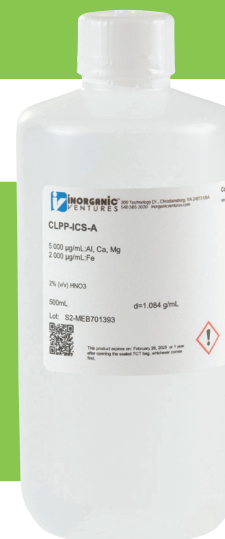
For use as initial/continuing calibration verification standard in EPA Contract Laboratory Program (CLP) methods. Does not contain antimony (Sb). Please see CGSB1 or QCP-CICV-2 for suitable Sb reference standard.

†Manufactured from in-house Second Source concentrates, whenever possible.

CRDL Standards – Contract Required Detection Limit

We can create any CRDL standard to best fit your needs.

Custom solutions are our specialty.



Soil & Water Spike Standards

Spike Standard*			
CLPP-SPK-1		Matrix: HNO ₃ Dilution 1:1,000	
CLPP-SPK-1-125ML		Volume: 125 mL	
Analyte	µg/mL	Analyte	µg/mL
Ag	50	Cu	250
Al	2,000	Fe	1,000
Ba	2,000	Mn	500
Be	50	Ni	500
Co	500	V	500
Cr	200	Zn	500

*Instructions included.

For use as ICP-OES soil or water spike standard in EPA Contract Laboratory Program (CLP) methods.



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Interference Check Standards

Interference Check Standard A			
CLPP-ICS-A		Matrix: HNO ₃ Dilution 1:10	
CLPP-ICS-A-125ML		Volume: 125 mL	
CLPP-ICS-A-500ML		Volume: 500 mL	
Analyte	µg/mL	Analyte	µg/mL
Al	5,000	Fe	2,000
Ca	5,000	Mg	5,000

For use as ICP-OES interference check standard in EPA Contract Laboratory Program (CLP) methods.

Interference Check Standard B4			
CLPP-ICS-B4		Matrix: HNO ₃ Dilution 1:100	
CLPP-ICS-B4-125ML		Volume: 125 mL	
Analyte	µg/mL	Analyte	µg/mL
Ag	20	Mn	50
As	10	Ni	100
Ba	50	Pb	5
Be	50	Sb	60
Cd	100	Se	5
Co	50	Tl	10
Cr	50	V	50
Cu	50	Zn	100

For use as ICP-OES interference check standard in EPA Contract Laboratory Program (CLP) methods.

See individual products for recommended instrumentation and revision. Custom EPA standards are available upon request.

Calibration Standards

Calibration Standard	
CGSB1	Matrix: HNO ₃ /Tartaric Acid Dilution 1:100
CGSB1-125ML	Volume: 125 mL
Analyte	µg/mL
Sb	1,000

Calibration Standard			
CLPP-CAL-1		Matrix: HNO ₃ Dilution 1:100	
CLPP-CAL-1-125ML		Volume: 125 mL	
Analyte	µg/mL	Analyte	µg/mL
Ag	250	Fe	1,000
Al	2,000	K	5,000
Ba	2,000	Mg	5,000
Be	50	Mn	500
Ca	5,000	Na	5,000
Co	500	Ni	500
Cr	200	V	500
Cu	250	Zn	500

For use as ICP calibration standard in EPA Contract Laboratory Program (CLP) methods. Does not contain antimony (Sb). Please see CGSB1 or CLPP-SPK-2 for suitable Sb reference standard.

Calibration Standard			
CLPP-CAL-3		Matrix: HNO ₃ Dilution 1:100	
CLPP-CAL-3-125ML		Volume: 125 mL	
Analyte	µg/mL	Analyte	µg/mL
As	1,000	Se	1,000
Cd	500	Tl	1,000
Pb	1,000		

For use as ICP calibration standard in EPA Contract Laboratory Program (CLP) methods. Does not contain antimony (Sb). Please see CGSB1 or CLPP-SPK-2 for suitable Sb reference standard.

CICV Standards – Continuing and Initial Calibration Verification

CICV Standard [†]			
QCP-CICV-1		Matrix: HNO ₃ Dilution 1:100 or 1:500	
QCP-CICV-1-125ML		Volume: 125 mL	
Analyte	µg/mL	Analyte	µg/mL
Ag	125	Fe	500
Al	1,000	K	2,500
Ba	1,000	Mg	2,500
Be	25	Mn	250
Ca	2,500	Na	2,500
Co	250	Ni	250
Cr	100	V	250
Cu	125	Zn	250

For use as initial/continuing calibration verification standard in EPA Contract Laboratory Program (CLP) methods. Does not contain antimony (Sb). Please see CGSB1 or QCP-CICV-2 for suitable Sb reference standard.

CICV Standard [†]	
QCP-CICV-2	Matrix: HNO ₃ /Tartaric Acid Dilution 1:100 or 1:500
QCP-CICV-2-125ML	Volume: 125 mL
Analyte	µg/mL
Sb	500

For use as initial/continuing calibration verification standard in EPA Contract Laboratory Program (CLP) methods. For analyses requiring antimony (Sb). Designed to be diluted to working concentrations with QCP-CICV-1 and/or QCP-CICV-3.

CICV Standard [†]			
QCP-CICV-3		Matrix: HNO ₃ Dilution 1:100 or 1:500	
QCP-CICV-3-125ML		Volume: 125 mL	
Analyte	µg/mL	Analyte	µg/mL
As	500	Se	500
Cd	250	Tl	500
Pb	500		

For use as initial/continuing calibration verification standard in EPA Contract Laboratory Program (CLP) methods. Does not contain antimony (Sb). Please see CGSB1 or QCP-CICV-2 for suitable Sb reference standard.

[†]Manufactured from in-house Second Source concentrates, whenever possible.

CRQL Standards – Contract Required Quantitation Limit

CRQL Standard			
CLP-AES-CRQL-2		Matrix: HNO ₃ Dilution 1:100 (water samples) 1:500 (soil samples)	
CLP-AES-CRQL-2-125ML		Volume: 125 mL	
Analyte	µg/mL	Analyte	µg/mL
Ag	1	K	500
Al	20	Mg	500
As	1	Mn	1.5
Ba	20	Na	500
Be	0.5	Ni	4
Ca	500	Pb	1
Cd	0.5	Sb	6
Co	5	Se	3.5
Cr	1	Tl	2.5
Cu	2.5	V	5
Fe	10	Zn	6

For use as CRQL (Contract Required Quantitation Limit) ICP standard.

Interference Check Standards

Interference Check Standard A			
CLPP-ICS-A		Matrix: HNO ₃ Dilution 1:10	
CLPP-ICS-A-125ML		Volume: 125 mL	
CLPP-ICS-A-500ML		Volume: 500 mL	
Analyte	µg/mL	Analyte	µg/mL
Al	5,000	Fe	2,000
Ca	5,000	Mg	5,000

For use as ICP-OES interference check standard in EPA Contract Laboratory Program (CLP) methods.

Interference Check Standard B4			
CLPP-ICS-B4		Matrix: HNO ₃ Dilution 1:100	
CLPP-ICS-B4-125ML		Volume: 125 mL	
Analyte	µg/mL	Analyte	µg/mL
Ag	20	Mn	50
As	10	Ni	100
Ba	50	Pb	5
Be	50	Sb	60
Cd	100	Se	5
Co	50	Tl	10
Cr	50	V	50
Cu	50	Zn	100

For use as ICP-OES interference check standard in EPA Contract Laboratory Program (CLP) methods.

Soil & Water Spike Standards

Spike Standard			
CLP-MS-SPK		Matrix: HNO ₃ Dilution 1:100	
CLP-MS-SPK-125ML		Volume: 125 mL	
Analyte	µg/mL	Analyte	µg/mL
Ag	5	Mn	50
Al	200	Ni	50
As	4	Pb	2
Ba	200	Sb	10
Be	5	Se	1
Cd	5	Tl	5
Co	50	V	50
Cr	20	Zn	50
Cu	25		

For use as ICP soil or water spike standard in EPA Contract Laboratory Program (CLP) methods

Spike Standard			
CLPP-SPK-1		Matrix: HNO ₃ Dilution 1:1,000	
CLPP-SPK-1-125ML		Volume: 125 mL	
Analyte	µg/mL	Analyte	µg/mL
Ag	50	Cu	250
Al	2,000	Fe	1,000
Ba	2,000	Mn	500
Be	50	Ni	500
Co	500	V	500
Cr	200	Zn	500

For use as ICP-OES soil or water spike standard in EPA Contract Laboratory Program (CLP) methods

Internal Standards & Tuning Solutions

Internal Standard			
6020ISS		Matrix: HNO ₃ Dilution 1:100	
6020ISS-125ML		Volume: 125 mL	
6020ISS-500ML		Volume: 500 mL	
Analyte	µg/mL	Analyte	µg/mL
Bi	10	Rh	10
Ho	10	Sc	10
In	10	Tb	10
⁶ Li	10	Y	10

Internal standard for ICP-MS in all versions of EPA Method 6020.

Tuning Solution			
6020TS		Matrix: HNO ₃ Dilution 1:100	
6020TS-125ML		Volume: 125 mL	
Analyte	µg/mL	Analyte	µg/mL
Co	10	Li	10
In	10	Tl	10

For use as general tuning solution suitable for numerous ICP-MS designs and models. Covers mass range from Li to Tl. Certified reference material that may also be used for calibration.

Tuning Solution			
2008TS		Matrix: HNO ₃ Dilution 1:100 to 1:1,000	
2008TS-125ML		Volume: 125 mL	
Analyte	µg/mL	Analyte	µg/mL
Be	10	Mg	10
Co	10	Pb	10
In	10		

For use as ICP-MS tuning solution in EPA Method 200.8.

Blank & Rinse Solutions

Blank & Rinse solutions are prepared using double-distilled reagents and 18 megohm (M Ω) deionized water. They come packaged in ultra-clean LDPE bottles and are ready to use. Custom solutions are available upon request.

2% (v/v) Nitric Acid Rinse	
CLP-MS-RINSE	Matrix: HNO ₃
CLP-MS-RINSE-125ML	Volume: 125 mL
CLP-MS-RINSE-500ML	Volume: 500 mL

See pg. 108 for more Blank & Rinse Solution options.

For use as ultra-pure nitric acid ICP rinse or blank solution. Suitable for EPA Contract Laboratory Program (CLP) methods. Manufactured using ultra-high purity HNO₃, >18 M Ω deionized water, and packaged in specially cleaned LDPE bottles. Certificate includes trace metal impurity values representative of typical analyses.

200.7 Calibration

Standards for Method 200.7 are designed for use with ICP-OES. Custom EPA standards are available upon request. Standards are designed for Method 200.7, Method 3120, Method 6010A Rev. 1 and Method 200.7 CLP-M.

Calibration Standard		
CLPP-SPK-2	Matrix: HNO ₃ /Tartaric Acid Dilution 1:100	
CLPP-SPK-2-125ML	Volume: 125 mL	
Analyte	$\mu\text{g/mL}$	$\lambda(\text{nm})$
Sb	500	206.833

For use as Sb spike standard in EPA Contract Laboratory Program (CLP) methods.

Calibration Standard		
WW-CAL-1A	Matrix: HNO ₃ Dilution 1:100	
WW-CAL-1A-125ML	Volume: 125 mL	
Analyte	$\mu\text{g/mL}$	$\lambda(\text{nm})$
Ag	50	328.068
As	1,000	193.759
B	100	249.678
Ba	100	493.409
Ca	1,000	315.887
Cd	200	226.502
Cu	200	324.754
Mn	200	257.610
Se	500	196.090
Sr*	100	421.552

For use as ICP-OES calibration standard I in EPA Method 200.7. Based upon Revisions 3.3 and 4.4 and suitable for all 200.7 versions

*NOTE: Sr does not exhibit spectral interference problems with any of the EPA Method 200.7 analytes.

Calibration Standard		
WW-CAL-2	Matrix: HNO ₃ / HF Dilution 1:100	
WW-CAL-2-125ML	Volume: 125 mL	
Analyte	$\mu\text{g/mL}$	$\lambda(\text{nm})$
K	2,000	766.491
Li	500	670.784
Mo	1,000	203.844
Na	1,000	588.995
Ti	1,000	334.941

For use as ICP-OES calibration standard II in EPA Method 200.7. Based upon Revisions 3.3 and 4.4 and suitable for all 200.7 versions.

Calibration Standard		
WW-CAL-3	Matrix: HNO ₃ Dilution 1:100	
WW-CAL-3-125ML	Volume: 125 mL	
Analyte	$\mu\text{g/mL}$	$\lambda(\text{nm})$
Ce	200	413.765
Co	200	228.616
P	1,000	214.914
V	200	292.402

For use as ICP-OES calibration standard III in EPA Method 200.7. Based upon Revisions 3.3 and 4.4 and suitable for all 200.7 versions.

200.7 Calibration

Calibration Standard		
WW-CAL-4A	Matrix: HNO ₃ Dilution 1:100	
WW-CAL-4A-125ML	Volume: 125 mL	
Analyte	µg/mL	λ(nm)
Al	1,000	308.215
Cr	500	205.552
Hg	200	194.227
Zn	500	213.856

For use as ICP-OES calibration standard IV (Part A) in EPA Method 200.7. Designed to be mixed with WW-CAL-4B at working concentrations. Based upon Revisions 3.3 and 4.4 and suitable for all 200.7 versions.

Calibration Standard		
WW-CAL-4B	Matrix: HNO ₃ / HF Dilution 1:100	
WW-CAL-4B-125ML	Volume: 125 mL	
Analyte	µg/mL	λ(nm)
SiO₂	1,000	251.611
Sn	400	189.980

For use as ICP-OES calibration standard IV (Part B) in EPA Method 200.7. Designed to be mixed with WW-CAL-4A at working concentrations. Based upon Revisions 3.3 and 4.4 and suitable for all 200.7 versions.

Calibration Standard		
WW-CAL-5	Matrix: HNO ₃ Dilution 1:100	
WW-CAL-5-125ML	Volume: 125 mL	
Analyte	µg/mL	λ(nm)
Be	100	313.042
Fe	1,000	259.940
Mg	1,000	279.079
Ni	200	231.604
Pb	1,000	220.353
Tl	500	190.864

For use as ICP-OES calibration standard V in EPA Method 200.7. Based upon Revisions 3.3 and 4.4 and suitable for all 200.7 versions.

200.7 Interference Checks

Interference Check Standard	
CGSB1	Matrix: HNO ₃ /Tartaric Acid Dilution 1:100
CGSB1-125ML	Volume: 125 mL
Analyte	µg/mL
Sb	1,000

Interference Check Standard			
2007ICS-1		Matrix: HNO ₃ / HF Dilution 1:100	
2007ICS-1-125ML		Volume: 125 mL	
Analyte	µg/mL	Analyte	µg/mL
B	500	Si	230
Mo	300	Ti	1,000

For use as ICP-OES interference check standard in EPA Method 200.7.

Interference Check Standard			
2007ICS-3		Matrix: HNO ₃ Dilution 1:100	
2007ICS-3-125ML		Volume: 125 mL	
Analyte	µg/mL	Analyte	µg/mL
Ag	300	K	20,000
As	1,000	Mn	200
Ba	300	Ni	300
Be	100	Pb	1,000
Cd	300	Se	500
Co	300	Tl	1,000
Cr	300	V	300
Cu	300	Zn	300

For use as ICP-OES interference check standard in EPA Method 200.7.

Interference Check Standard			
2007ICS-4		Matrix: HNO ₃ Dilution 1:50	
2007ICS-4-125ML		Volume: 125 mL	
Analyte	µg/mL	Analyte	µg/mL
Al	3,000	Mg	7,500
Ca	15,000	Na	2,500
Fe	12,500		

For use as ICP-OES interference check standard in EPA Method 200.7.

200.7 Quality Controls

Quality Control Standard [†]		
QCP-QCS-1		Matrix: HNO ₃ Dilution 1:100
QCP-QCS-1-125ML		Volume: 125 mL
Analyte	µg/mL	λ(nm)
Ag	25	328.068
Al	100	308.215
As	200	193.759
B	100	249.678
Ba	100	493.409
Be	100	313.042
Ca	100	315.887
Cd	100	226.502
Ce	100	413.765
Co	100	228.616
Cr	100	205.552
Cu	100	324.754
Fe	100	259.940
Hg	200	194.227
K	500	766.491
Li	100	670.784
Mg	100	279.079
Mn	100	257.610
Na	100	588.995
Ni	100	231.604
P	500	214.914
Pb	200	220.353
Se	100	196.090
Sr	100	421.552
Tl	500	190.864
V	100	292.402
Zn	100	213.856

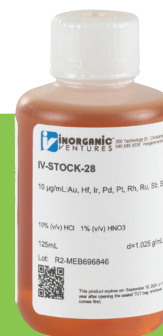
For use as ICP-OES QC standard in EPA Method 200.7. Based upon Revisions 3.3 and 4.4 and suitable for all 200.7 versions.

Quality Control Standard [†]		
QCP-QCS-2		Matrix: HNO ₃ / HF Dilution 1:100
QCP-QCS-2-125ML		Volume: 125 mL
Analyte	µg/mL	λ(nm)
Mo	100	203.844
Sb	200	206.833
SiO ₂	500	251.611
Sn	500	189.980
Ti	100	334.941

For use as ICP-OES QC standard in EPA Method 200.7. Based upon Revisions 3.3 and 4.4 and suitable for all 200.7 versions.

Quality Control Standard [†]			
IV-7		Matrix: HNO ₃ / HF Dilution 1:100	
IV-7-125ML		Volume: 125 mL	
Analyte	µg/mL	Analyte	µg/mL
Ag	100	K	1,000
Al	100	Na	100
B	100	Si	50
Ba	100		

For use as a certified reference standard in ICP applications. Can be diluted with other standards to working concentrations.



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[†]Manufactured from in-house Second Source concentrates, whenever possible.

200.7 Quality Controls

For use as a certified reference standard in ICP applications. Can be diluted with other standards to working concentrations.

Quality Control Standard [†]			
IV-19		Matrix: HNO ₃ / HF Dilution 1:100	
IV-19-125ML		Volume: 125 mL	
Analyte	µg/mL	Analyte	µg/mL
As	100	Mo	100
Be	100	Ni	100
Ca	100	Pb	100
Cd	100	Sb	100
Co	100	Se	100
Cr	100	Ti	100
Cu	100	Tl	100
Fe	100	V	100
Mg	100	Zn	100
Mn	100		

Quality Control Standard [†]			
IV-21		Matrix: HNO ₃ / HF Dilution 1:100	
IV-21-125ML		Volume: 125 mL	
Analyte	µg/mL	Analyte	µg/mL
As	100	Mo	100
Be	100	Ni	100
Ca	100	Pb	100
Cd	100	Sb	100
Co	100	Se	100
Cr	100	Sr	100
Cu	100	Ti	100
Fe	100	Tl	100
Li	100	V	100
Mg	100	Zn	100
Mn	100		

Quality Control Standard [†]			
IV-26		Matrix: HNO ₃ / HF Dilution 1:100	
IV-26-125ML		Volume: 125 mL	
IV-26-500ML		Volume: 500 mL	
Analyte	µg/mL	Analyte	µg/mL
Ag	100	Mg	100
Al	100	Mn	100
As	100	Mo	100
B	100	Na	100
Ba	100	Ni	100
Be	100	Pb	100
Ca	100	Sb	100
Cd	100	Se	100
Co	100	Si	50
Cr	100	Ti	100
Cu	100	Tl	100
Fe	100	V	100
K	1,000	Zn	100

Quality Control Standard [†]			
IV-28		Matrix: HNO ₃ / HF Dilution 1:100	
IV-28-125ML		Volume: 125 mL	
IV-28-500ML		Volume: 500 mL	
Analyte	µg/mL	Analyte	µg/mL
Ag	100	Mg	100
Al	100	Mn	100
As	100	Mo	100
B	100	Na	100
Ba	100	Ni	100
Be	100	Pb	100
Ca	100	Sb	100
Cd	100	Se	100
Co	100	Si	50
Cr	100	Sr	100
Cu	100	Ti	100
Fe	100	Tl	100
K	1,000	V	100
Li	100	Zn	100

[†]Manufactured from in-house Second Source concentrates, whenever possible.

Rev. 3.3 & 4.4 Calibrations – Standards may be used for either revision.

Calibration Standard		
CLPP-SPK-2	Matrix: HNO ₃ /Tartaric Acid Dilution 1:100	
CLPP-SPK-2-125ML	Volume: 125 mL	
Analyte	µg/mL	λ(nm)
Sb	500	206.833

For use as Sb spike standard in EPA Contract Laboratory Program (CLP) methods.

Calibration Standard		
WW-CAL-1A	Matrix: HNO ₃ Dilution 1:100	
WW-CAL-1A-125ML	Volume: 125 mL	
Analyte	µg/mL	λ(nm)
Ag	50	328.068
As	1,000	193.759
B	100	249.678
Ba	100	493.409
Ca	1,000	315.887
Cd	200	226.502
Cu	200	324.754
Mn	200	257.610
Se	500	196.090
Sr	100	421.552

NOTE: Sr does not exhibit spectral interference problems with any of the EPA Method 200.7 analytes.

For use as ICP-OES calibration standard I in EPA Method 200.7. Based upon Revisions 3.3 and 4.4 and suitable for all 200.7 versions.

Calibration Standard		
WW-CAL-2	Matrix: HNO ₃ / HF Dilution 1:100	
WW-CAL-2-125ML	Volume: 125 mL	
Analyte	µg/mL	λ(nm)
K	2,000	766.491
Li	500	670.784
Mo	1,000	203.844
Na	1,000	588.995
Ti	1,000	334.941

For use as ICP-OES calibration standard II in EPA Method 200.7. Based upon Revisions 3.3 and 4.4 and suitable for all 200.7 versions.

Calibration Standard		
WW-CAL-3	Matrix: HNO ₃ Dilution 1:100	
WW-CAL-3-125ML	Volume: 125 mL	
Analyte	µg/mL	λ(nm)
Ce	200	413.765
Co	200	228.616
P	1,000	214.914
V	200	292.402

For use as ICP-OES calibration standard III in EPA Method 200.7. Based upon Revisions 3.3 and 4.4 and suitable for all 200.7 versions.

Calibration Standard		
WW-CAL-4A	Matrix: HNO ₃ Dilution 1:100	
WW-CAL-4A-125ML	Volume: 125 mL	
Analyte	µg/mL	λ(nm)
Al	1,000	308.215
Cr	500	205.552
Hg	200	194.227
Zn	500	213.856

For use as ICP-OES calibration standard IV (Part A) in EPA Method 200.7. Designed to be mixed with WW-CAL-4B at working concentrations. Based upon Revisions 3.3 and 4.4 and suitable for all 200.7 versions.

Calibration Standard		
WW-CAL-4B	Matrix: HNO ₃ / HF Dilution 1:100	
WW-CAL-4B-125ML	Volume: 125 mL	
Analyte	µg/mL	λ(nm)
SiO₂	1,000	251.611
Sn	400	189.980

For use as ICP-OES calibration standard IV (Part B) in EPA Method 200.7. Designed to be mixed with WW-CAL-4A at working concentrations. Based upon Revisions 3.3 and 4.4 and suitable for all 200.7 versions.

Rev. 3.3 & 4.4 Calibrations – Standards may be used for either revision.

Calibration Standard		
WW-CAL-5		Matrix: HNO ₃ Dilution 1:100
WW-CAL-5-125ML		Volume: 125 mL
Analyte	µg/mL	λ(nm)
Be	100	313.042
Fe	1,000	259.940
Mg	1,000	279.079
Ni	200	231.604
Pb	1,000	220.353
Tl	500	190.864

For use as ICP-OES calibration standard V in EPA Method 200.7. Based upon Revisions 3.3 and 4.4 and suitable for all 200.7 versions.

Rev. 3.3 & 4.4 Instrument Performance Checks – Standards may be used for either revision.

Instrument Performance Check		
WW-IPC-1		Matrix: HNO ₃ Dilution 1:100
WW-IPC-1-125ML		Volume: 125 mL
Analyte	µg/mL	λ(nm)
Ag	25	328.068
Al	200	308.215
As	200	193.759
B	200	249.678
Ba	200	493.409
Be	200	313.042
Ca	200	315.887
Cd	200	226.502
Ce	200	413.765
Co	200	228.616
Cr	200	205.552
Cu	200	324.754
Fe	200	259.940
Hg	200	194.227
K	1,000	766.491
Li	200	670.784
Mg	200	279.079
Mn	200	257.610
Na	200	588.995
Ni	200	231.604
P	1,000	214.914
Pb	200	220.353
Se	200	196.090
Sr	200	421.552
Tl	200	190.864
V	200	292.402
Zn	200	213.856

Performance Check solution for EPA Method 200.7. Designed to be mixed with WW-IPC-2 at working concentrations. Based upon Revision 4.4 and suitable for all 200.7 versions.

Method 200.7

Instrument Performance Check		
WW-IPC-2	Matrix: HNO ₃ / HF Dilution 1:100	
WW-IPC-2-125ML	Volume: 125 mL	
Analyte	µg/mL	λ(nm)
Mo	200	203.844
Sb	200	206.833
SiO₂	1,000	251.611
Sn	200	189.980
Ti	200	334.941

Performance Check solution for EPA Method 200.7. Designed to be mixed with WW-IPC-1 or WW-IPC-3 at working concentrations. Based upon Revisions 3.3 and 4.4 and suitable for all 200.7 versions

Instrument Performance Check		
WW-IPC-3	Matrix: HNO ₃ Dilution 1:100	
WW-IPC-3-125ML	Volume: 125 mL	
Analyte	µg/mL	λ(nm)
Ag	25	328.068
Al	200	308.215
As	200	193.759
B	200	249.678
Ba	200	493.409
Be	200	313.042
Ca	200	315.887
Cd	200	226.502
Co	200	228.616
Cr	200	205.552
Cu	200	324.754
Fe	200	259.940
K	1,000	766.491
Li	200	670.784
Mg	200	279.079
Mn	200	257.610
Na	200	588.995
Ni	200	231.604
P	1,000	214.914
Pb	200	220.353
Se	200	196.090
Sr	200	421.552
Tl	200	190.864
V	200	292.402
Zn	200	213.856

Performance Check solution for EPA Method 200.7. Designed to be mixed with WW-IPC-2 at working concentrations. Does not contain mercury (Hg). Please see the Mercury Chemical Stability article for more information regarding accurate Hg analyses in multi-element solutions.



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Rev. 3.3 & 4.4 Laboratory Fortified Stocks – Standards may be used for either revision.

Laboratory Fortified Stock Solution		
WW-LFS-1	Matrix: HNO ₃ Dilution 1:100	
WW-LFS-1-125ML	Volume: 125 mL	
Analyte	µg/mL	λ(nm)
Ag	7.5	328.068
Al	200	308.215
As	80	193.759
B	30	249.678
Ba	20	493.409
Be	20	313.042
Ca	100	315.887
Cd	20	226.502
Ce	200	413.765
Co	20	228.616
Cr	40	205.552
Cu	30	324.754
Fe	300	259.940
Hg	70	194.227
K	1,000	766.491
Li	20	670.784
Mg	200	279.079
Mn	20	257.610
Na	300	588.995
Ni	50	231.604
P	600	214.914
Pb	100	220.353
Se	200	196.090
Sr	20	421.552
Tl	200	190.864
V	30	292.402
Zn	20	213.856

Laboratory Fortified Stock Solution for EPA Method 200.7. Designed to be mixed with WW-LFS-2 at working concentrations. Suitable for use with all 200.7 versions.

Laboratory Fortified Stock Solution		
WW-LFS-2	Matrix: HNO ₃ / HF Dilution 1:100	
WW-LFS-2-125ML	Volume: 125 mL	
Analyte	µg/mL	λ(nm)
Mo	40	203.844
Sb	80	206.833
SiO₂	200	251.611
Sn	70	189.980
Ti	20	334.941

Laboratory Fortified Stock Solution for EPA Method 200.7. Designed to be mixed with WW-LFS-1 at working concentrations. Suitable for use with all 200.7 versions.

Rev. 3.3 & 4.4 Quality Controls – Standards may be used for either revision.

Quality Control Standard [†]		
QCP-QCS-1		Matrix: HNO ₃ Dilution 1:100
QCP-QCS-1-125ML		Volume: 125 mL
Analyte	µg/mL	λ(nm)
Ag	25	328.068
Al	100	308.215
As	200	193.759
B	100	249.678
Ba	100	493.409
Be	100	313.042
Ca	100	315.887
Cd	100	226.502
Ce	100	413.765
Co	100	228.616
Cr	100	205.552
Cu	100	324.754
Fe	100	259.940
Hg	200	194.227
K	500	766.491
Li	100	670.784
Mg	100	279.079
Mn	100	257.610
Na	100	588.995
Ni	100	231.604
P	500	214.914
Pb	200	220.353
Se	100	196.090
Sr	100	421.552
Tl	500	190.864
V	100	292.402
Zn	100	213.856

For use as ICP-OES QC standard in EPA Method 200.7. Based upon Revisions 3.3 and 4.4 and suitable for all 200.7 versions.

Quality Control Standard [†]		
QCP-QCS-2		Matrix: HNO ₃ / HF Dilution 1:100
QCP-QCS-2-125ML		Volume: 125 mL
Analyte	µg/mL	λ(nm)
Mo	100	203.844
Sb	200	206.833
SiO ₂	500	251.611
Sn	500	189.980
Ti	100	334.941

For use as ICP-OES QC standard in EPA Method 200.7. Based upon Revisions 3.3 and 4.4 and suitable for all 200.7 versions.

Quality Control Standard [†]			
IV-7		Matrix: HNO ₃ / HF Dilution 1:100	
IV-7-125ML		Volume: 125 mL	
Analyte	µg/mL	Analyte	µg/mL
Ag	100	K	1,000
Al	100	Na	100
B	100	Si	50
Ba	100		

For use as a certified reference standard in ICP applications. Can be diluted with other standards to working concentrations.

[†]Manufactured from in-house Second Source concentrates, whenever possible.

Rev. 3.3 & 4.4 Quality Controls – Standards may be used for either revision.

For use as a certified reference standard in ICP applications. Can be diluted with other standards to working concentrations.

Quality Control Standard†			
IV-19		Matrix: HNO ₃ / HF Dilution 1:100	
IV-19-125ML		Volume: 125 mL	
Analyte	µg/mL	Analyte	µg/mL
As	100	Mo	100
Be	100	Ni	100
Ca	100	Pb	100
Cd	100	Sb	100
Co	100	Se	100
Cr	100	Ti	100
Cu	100	Tl	100
Fe	100	V	100
Mg	100	Zn	100
Mn	100		

Quality Control Standard†			
IV-21		Matrix: HNO ₃ / HF Dilution 1:100	
IV-21-125ML		Volume: 125 mL	
Analyte	µg/mL	Analyte	µg/mL
As	100	Mo	100
Be	100	Ni	100
Ca	100	Pb	100
Cd	100	Sb	100
Co	100	Se	100
Cr	100	Sr	100
Cu	100	Ti	100
Fe	100	Tl	100
Li	100	V	100
Mg	100	Zn	100
Mn	100		

Quality Control Standard†			
IV-26		Matrix: HNO ₃ / HF Dilution 1:100	
IV-26-125ML		Volume: 125 mL	
IV-26-500ML		Volume: 500 mL	
Analyte	µg/mL	Analyte	µg/mL
Ag	100	Mg	100
Al	100	Mn	100
As	100	Mo	100
B	100	Na	100
Ba	100	Ni	100
Be	100	Pb	100
Ca	100	Sb	100
Cd	100	Se	100
Co	100	Si	50
Cr	100	Ti	100
Cu	100	Tl	100
Fe	100	V	100
K	1,000	Zn	100

Quality Control Standard†			
IV-28		Matrix: HNO ₃ / HF Dilution 1:100	
IV-28-125ML		Volume: 125 mL	
IV-28-500ML		Volume: 500 mL	
Analyte	µg/mL	Analyte	µg/mL
Ag	100	Mg	100
Al	100	Mn	100
As	100	Mo	100
B	100	Na	100
Ba	100	Ni	100
Be	100	Pb	100
Ca	100	Sb	100
Cd	100	Se	100
Co	100	Si	50
Cr	100	Sr	100
Cu	100	Ti	100
Fe	100	Tl	100
K	1,000	V	100
Li	100	Zn	100

†Manufactured from in-house Second Source concentrates, whenever possible.

Standards for Method 200.8 are designed for use with ICP-MS. Custom EPA standards are available upon request.

Rev. 4.4 & 5.4 Calibration – See individual products for recommended revisions.

Calibration Standard			
2008CAL-1		Matrix: HNO ₃ / HF Dilution 1:100	
2008CAL-1-125ML		Volume: 125 mL	
Analyte	µg/mL	Analyte	µg/mL
Mo	20	Sb	20

Designed for Rev. 4.4 and 5.4.

For use as ICP-MS calibration standard in EPA Method 200.8.

Calibration Standard			
2008CAL-2		Matrix: HNO ₃ Dilution 1:100	
2008CAL-2-125ML		Volume: 125 mL	
2008CAL-2-500ML		Volume: 500 mL	
Analyte	µg/mL	Analyte	µg/mL
Ag	20	Mn	20
Al	20	Ni	20
As	20	Pb	20
Ba	20	Se	20
Be	20	Th	20
Cd	20	Tl	20
Co	20	U	20
Cr	20	V	20
Cu	20	Zn	20

Designed for Rev. 4.4.

For use as ICP-MS calibration standard in EPA Method 200.8.

Calibration Standard	
WW-MSCAL-1	Matrix: HNO ₃ Dilution 1:1,000
WW-MSCAL-1-125ML	Volume: 125 mL
Analyte	µg/mL
Hg	5

Designed for Rev. 5.4.

For use as ICP-MS calibration standard in EPA Method 200.8. Can be combined with WW-MSCAL-2 at working concentrations if Au is used to stabilize Hg. Please see the Mercury Chemical Stability article for more information regarding accurate Hg analyses in multi-element solutions.

Calibration Standard			
WW-MSCAL-2		Matrix: HNO ₃ Dilution 1:100	
WW-MSCAL-2-125ML		Volume: 125 mL	
Analyte	µg/mL	Analyte	µg/mL
Ag	20	Mn	20
Al	20	Ni	20
As	20	Pb	20
Ba	20	Se	100
Be	20	Th	20
Cd	20	Tl	20
Co	20	U	20
Cr	20	V	20
Cu	20	Zn	20

Designed for Rev. 5.4.

For use as ICP-MS calibration standard in EPA Method 200.8. Uranium is isotopically depleted. Does not contain mercury (Hg). Please see the Mercury Chemical Stability article for more information regarding accurate Hg analyses in multi-element solutions.

Method 200.8

Standards for Method 200.8 are designed for use with ICP-MS. Custom EPA standards are available upon request.

Rev. 4.4 & 5.4 Calibration – See individual products for recommended revisions.

Mercury Standard	
MSHG-1PPM	Matrix: HCl
MSHG-1PPM-125ML MSHG-1PPM-500ML	Volume: 125 mL Volume: 500 mL
Analyte	µg/mL
Hg	1

Mercury Standard	
IV-STOCK-73	Matrix: 10% v/v HCl
IV-STOCK-73-125ML	Volume: 125 mL
Analyte	µg/L*
Hg	100

Mercury Standard	
IV-STOCK-72	Matrix: 7% v/v HNO ₃
IV-STOCK-72-125ML	Volume: 125 mL
Analyte	µg/L*
Hg	100

*Parts per billion

Rev. 4.4 & 5.4 Internal Standards

Internal Standard			
2008ISS		Matrix: HNO ₃ Dilution 1:100 to 1:1,000	
2008ISS-125ML 2008ISS-500ML		Volume: 125 mL Volume: 500 mL	
Analyte	µg/mL	Analyte	µg/mL
Bi	20	Tb	20
In	20	Y	20
Sc	20		

Designed for Rev. 4.4 and 5.4. Recommended working level is 200 µg/L for Rev. 4.4; 20-200 µg/L for Rev. 5.4. Use this solution with CGAUN1 for Rev. 5.4 if Hg is to be determined by direct analysis.

Mercury Preservation Solution	
CGAUN1	Matrix: HNO ₃ Dilution 1:100
CGAUN1-30ML CGAUN1-125ML CGAUN1-500ML	Volume: 30 mL Volume: 125 mL Volume: 500 mL
Analyte	µg/mL
Au	1,000

Designed for Rev. 5.4. Add an aliquot of this solution to 2008ISS, sufficient to provide a concentration of 100 µg/L in the final dilution of all blanks, calibration standards, and samples.

Rev. 4.4 & 5.4 Quality Controls

Quality Control Standard†			
QCP-QCS-3		Matrix: HNO ₃ Dilution 1:100	
QCP-QCS-3-125ML QCP-QCS-3-500ML		Volume: 125 mL Volume: 500 mL	
Analyte	µg/mL	Analyte	µg/mL
Ag	10	Mn	10
Al	10	Mo	10
As	10	Na	10
Ba	10	Ni	10
Be	10	Pb	10
Ca	10	Sb	10
Cd	10	Se	50
Co	10	Th	10
Cr	10	Tl	10
Cu	10	U	10
Fe	10	V	10
K	10	Zn	10
Mg	10		

Designed for Rev. 4.4 and 5.4.

For use as ICP-MS quality control standard in EPA Method 200.8. Uranium is isotopically depleted. Does not contain mercury (Hg). Please see the Mercury Chemical Stability article for more information regarding accurate Hg analyses in multi-element solutions.

Quality Control Standard†	
QCP-QCS-4	Matrix: HNO ₃ Dilution 1:100
QCP-QCS-4-125ML	Volume: 125 mL
Analyte	µg/mL
Hg	5

Designed for Rev. 4.4 and 5.4.

For use as ICP-MS mercury (Hg) quality control standard in EPA Method 200.8. Can be combined with QCP-QCS-3 at working concentrations if Au is used to stabilize Hg, though trace chloride from Au may cause Ag stability problems. Please see the Mercury Chemical Stability article for more information regarding accurate Hg analyses in multi-element solutions, and the Silver Chemical Stability article for more information about Ag stability in the presence of chloride.

†Manufactured from in-house Second Source concentrates, whenever possible.

Rev. 4.4 & 5.4 Tuning

Tuning Solution			
2008TS		Matrix: HNO ₃ Dilution 1:100 to 1:1,000	
2008TS-125ML		Volume: 125 mL	
Analyte	µg/mL	Analyte	µg/mL
Be	10	Mg	10
Co	10	Pb	10
In	10		

Designed for Rev. 4.4 and 5.4.

For use as ICP-MS tuning solution in EPA Method 200.8.

Method 1311

For use in EPA Toxicity Characteristic Leachate Procedure (TCLP). Custom EPA standards are available upon request.

TCLP Hg Standard	
TCLP-AA-HG	Matrix: HNO ₃ Dilution: As required
TCLP-AA-HG-125ML	Volume: 125 mL
Analyte	µg/mL
Hg	20

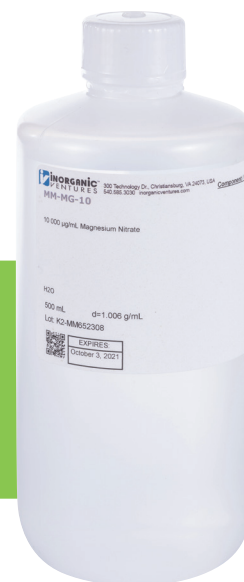
For use in EPA Toxicity Characteristic Leachate Procedure (TCLP).

TCLP Standard			
TCLP-1REV		Matrix: HNO ₃ Dilution: As required	
TCLP-1REV-125ML		Volume: 125 mL	
Analyte	µg/mL	Analyte	µg/mL
Ag	25	Cr	25
As	25	Pb	25
Ba	500	Se	5
Cd	5		

For use in EPA Toxicity Characteristic Leachate Procedure (TCLP).

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Standards for Method 6020 are designed for use with ICP-MS. Custom EPA standards are available upon request.

CLP-M Version 8

Calibration Standard			
6020CAL-1		Matrix: HNO ₃ / HF Dilution 1:100	
6020CAL-1-125ML		Volume: 125 mL	
Analyte	µg/mL	Analyte	µg/mL
Ag	20	K	20
Al	20	Mg	20
As	20	Mn	20
Ba	20	Na	20
Be	20	Ni	20
Ca	20	Pb	20
Cd	20	Sb	20
Co	20	Se	20
Cr	20	Tl	20
Cu	20	V	20
Fe	20	Zn	20

For use as ICP-MS calibration standard in EPA Method 6020. Does not contain mercury (Hg). Please see the Mercury Chemical Stability article for more information regarding accurate Hg analyses in multi-element solutions.

Interference Check Standard			
6020ICS-8A		Matrix: HNO ₃ Dilution 1:10	
6020ICS-8A-125ML 6020ICS-8A-500ML		Volume: 125 mL Volume: 500 mL	
Analyte	µg/mL	Analyte	µg/mL
Al	1,000	Mg	1,000
C	2,000	Mo	20
Ca	3,000	Na	2,500
Cl-	18,000	P	1,000
Fe	2,500	S	1,000
K	1,000	Ti	20

For evaluating ICP-MS interferences and corrections in EPA Method 6020A or 6020B. Based upon 6020A Revision 1 Solution A.

Internal Standard			
6020ISS		Matrix: HNO ₃ Dilution 1:100	
6020ISS-125ML 6020ISS-500ML		Volume: 125 mL Volume: 500 mL	
Analyte	µg/mL	Analyte	µg/mL
Bi	10	Rh	10
Ho	10	Sc	10
In	10	Tb	10
⁶ Li	10	Y	10

Internal standard for ICP-MS in all versions of EPA Method 6020.

Spike Standard – Soil			
6020SPK-S		Matrix: HNO ₃ Dilution 1:100	
6020SPK-S-125ML		Volume: 125 mL	
Analyte	µg/mL	Analyte	µg/mL
Ag	10	Ni	25
As	10	Pb	20
Ba	50	Sb	20
Be	5	Se	5
Cd	10	Tl	5
Co	20	V	30
Cr	50	Zn	50
Cu	50		

Matrix spike for solid samples.

Standards for Method 6020 are designed for use with ICP-MS. Custom EPA standards are available upon request.

CLP-M Version 8

Spike Standard – Water			
6020SPK-W		Matrix: HNO ₃ Dilution 1:100	
6020SPK-W-125ML		Volume: 125 mL	
Analyte	µg/mL	Analyte	µg/mL
Ag	5	Mn	20
As	10	Ni	20
Ba	50	Pb	10
Be	5	Sb	20
Cd	5	Se	5
Co	20	Tl	5
Cr	20	V	20
Cu	20	Zn	50
Fe	100		

Matrix spike for aqueous samples.

Tuning Solution			
6020TS		Matrix: HNO ₃ Dilution 1:100	
6020TS-125ML		Volume: 125 mL	
Analyte	µg/mL	Analyte	µg/mL
Co	10	Li	10
In	10	Tl	10

For use as general tuning solution suitable for numerous ICP-MS designs and models. Covers mass range from Li to Tl. Certified reference material that may also be used for calibration.

CLP-M Version 9

Calibration Standard			
6020CAL-1		Matrix: HNO ₃ / HF Dilution 1:100	
6020CAL-1-125ML		Volume: 125 mL	
Analyte	µg/mL	Analyte	µg/mL
Ag	20	K	20
Al	20	Mg	20
As	20	Mn	20
Ba	20	Na	20
Be	20	Ni	20
Ca	20	Pb	20
Cd	20	Sb	20
Co	20	Se	20
Cr	20	Tl	20
Cu	20	V	20
Fe	20	Zn	20

For use as ICP-MS calibration standard in EPA Method 6020. Does not contain mercury (Hg). Please see the Mercury Chemical Stability article for more information regarding accurate Hg analyses in multi-element solutions.

Interference Check Standard			
6020ICS-9A		Matrix: HNO ₃ Dilution 1:10	
6020ICS-9A-125ML		Volume: 125 mL	
6020ICS-9A-500ML		Volume: 500 mL	
Analyte	µg/mL	Analyte	µg/mL
Al	1,000	Mg	1,000
C	2,000	Mo	20
Ca	3,000	Na	2,500
Cl-	21,215	P	1,000
Fe	2,500	S	1,000
K	1,000	Ti	20

For evaluating ICP-MS interferences and corrections in EPA Method 6020A or 6020B. Based upon 6020A Revision 1 Solution A. Suitable for analyses with higher chloride contents.

Interference Check Standard			
6020ICS-9B		Matrix: HNO ₃ Dilution 1:100	
6020ICS-9B-125ML		Volume: 125 mL	
Analyte	µg/mL	Analyte	µg/mL
Ag	5	Mn	20
As	10	Ni	20
Cd	10	Se	10
Co	20	V	20
Cr	20	Zn	10
Cu	20		

For evaluating ICP-MS interferences and corrections in EPA Method 6020A or 6020B. Based upon 6020A Revision 1 Solution B. Does not contain mercury (Hg). Please see the Mercury Chemical Stability article for more information regarding accurate Hg analyses in multi-element solutions.

Internal Standard			
6020ISS		Matrix: HNO ₃ Dilution 1:100	
6020ISS-125ML		Volume: 125 mL	
6020ISS-500ML		Volume: 500 mL	
Analyte	µg/mL	Analyte	µg/mL
Bi	10	Rh	10
Ho	10	Sc	10
In	10	Tb	10
⁶ Li	10	Y	10

Internal standard for ICP-MS in all versions of EPA Method 6020.

Spike Standard – Soil			
6020SPK-S		Matrix: HNO ₃ Dilution 1:100	
6020SPK-S-125ML		Volume: 125 mL	
Analyte	µg/mL	Analyte	µg/mL
Ag	10	Ni	25
As	10	Pb	20
Ba	50	Sb	20
Be	5	Se	5
Cd	10	Tl	5
Co	20	V	30
Cr	50	Zn	50
Cu	50		

Matrix spike for solid samples.

Spike Standard – Water			
6020SPK-W		Matrix: HNO ₃ Dilution 1:100	
6020SPK-W-125ML		Volume: 125 mL	
Analyte	µg/mL	Analyte	µg/mL
Ag	5	Mn	20
As	10	Ni	20
Ba	50	Pb	10
Be	5	Sb	20
Cd	5	Se	5
Co	20	Tl	5
Cr	20	V	20
Cu	20	Zn	50
Fe	100		

Matrix spike for aqueous samples.

Tuning Solution			
6020TS		Matrix: HNO ₃ Dilution 1:100	
6020TS-125ML		Volume: 125 mL	
Analyte	µg/mL	Analyte	µg/mL
Co	10	Li	10
In	10	Tl	10

For use as general tuning solution suitable for numerous ICP-MS designs and models. Covers mass range from Li to Tl. Certified reference material that may also be used for calibration.

REV. 0

Calibration Standard			
6020CAL-1		Matrix: HNO ₃ / HF Dilution 1:100	
6020CAL-1-125ML		Volume: 125 mL	
Analyte	µg/mL	Analyte	µg/mL
Ag	20	K	20
Al	20	Mg	20
As	20	Mn	20
Ba	20	Na	20
Be	20	Ni	20
Ca	20	Pb	20
Cd	20	Sb	20
Co	20	Se	20
Cr	20	Tl	20
Cu	20	V	20
Fe	20	Zn	20

For use as ICP-MS calibration standard in EPA Method 6020. Does not contain mercury (Hg). Please see the Mercury Chemical Stability article for more information regarding accurate Hg analyses in multi-element solutions.

Internal Standard			
6020ISS		Matrix: HNO ₃ Dilution 1:100	
6020ISS-125ML 6020ISS-500ML		Volume: 125 mL Volume: 500 mL	
Analyte	µg/mL	Analyte	µg/mL
Bi	10	Rh	10
Ho	10	Sc	10
In	10	Tb	10
⁶ Li	10	Y	10

Internal standard for ICP-MS in all versions of EPA Method 6020.

Interference Check Standard			
6020ICS-0A		Matrix: HNO ₃ Dilution 1:10	
6020ICS-0A-125ML 6020ICS-0A-500ML		Volume: 125 mL Volume: 500 mL	
Analyte	µg/mL	Analyte	µg/mL
Al	1,000	Mg	1,000
C	2,000	Mo	20
Ca	1,000	Na	1,000
Cl-	10,000	P	1,000
Fe	1,000	S	1,000
K	1,000	Ti	20

For evaluating ICP-MS interferences and corrections in EPA Method 6020. Based upon Revision 0 Solution A.

Interference Check Standard			
6020ICS-0B		Matrix: HNO ₃ Dilution 1:100	
6020ICS-0B-125ML		Volume: 125 mL	
Analyte	µg/mL	Analyte	µg/mL
Ag	2	Cu	2
As	2	Mn	2
Cd	2	Ni	2
Co	2	Zn	2
Cr	2		

For evaluating ICP-MS interferences and corrections in EPA Method 6020. Based upon Revision 0 Solution B.

Spike Standard – Soil			
6020SPK-S		Matrix: HNO ₃ Dilution 1:100	
6020SPK-S-125ML		Volume: 125 mL	
Analyte	µg/mL	Analyte	µg/mL
Ag	10	Ni	25
As	10	Pb	20
Ba	50	Sb	20
Be	5	Se	5
Cd	10	Tl	5
Co	20	V	30
Cr	50	Zn	50
Cu	50		

Matrix spike for solid samples.

REV. 0

Spike Standard – Water			
6020SPK-W		Matrix: HNO ₃ Dilution 1:100	
6020SPK-W-125ML		Volume: 125 mL	
Analyte	µg/mL	Analyte	µg/mL
Ag	5	Mn	20
As	10	Ni	20
Ba	50	Pb	10
Be	5	Sb	20
Cd	5	Se	5
Co	20	Tl	5
Cr	20	V	20
Cu	20	Zn	50
Fe	100		

Matrix spike for aqueous samples.

Tuning Solution			
6020TS		Matrix: HNO ₃ Dilution 1:100	
6020TS-125ML		Volume: 125 mL	
Analyte	µg/mL	Analyte	µg/mL
Co	10	Li	10
In	10	Tl	10

For use as general tuning solution suitable for numerous ICP-MS designs and models. Covers mass range from Li to Tl. Certified reference material that may also be used for calibration.



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- ✓ **Up to five-year shelf life**
- ✓ **Traceable to NIST SRMs**
- ✓ **Produced under ISO 9001**
- ✓ **Produced under ISO 17025**
- ✓ **Produced under ISO 17034**
- ✓ **Assayed by validated Wet Chemical procedures**
- ✓ **Assayed by validated IC procedures**

Custom anion standards are available upon request.

1,000 µg/mL

ANALYTE	MATRIX	STARTING MATERIAL	VOLUME	CATALOG #
Acetate, C ₂ H ₃ O ₂ ⁻	H ₂ O	Sodium acetate	125 mL	ICOAC1-125ML
			500 mL	ICOAC1-500ML
Adipate, C ₆ H ₈ O ₄ ⁻²	H ₂ O	Adipic acid	125 mL	ICADP1-125ML
Benzoate, C ₆ H ₅ CO ₂ ⁻	H ₂ O	Benzoic acid	125 mL	ICBEN1-125ML
Bromate, BrO ₃ ⁻	H ₂ O	KBrO ₃	125 mL	ICBRO31-125ML
			500 mL	ICBRO31-500ML
Bromide, Br ⁻	H ₂ O	KBr	125 mL	ICBR1-125ML
			500 mL	ICBR1-500ML
Butyrate, C ₄ H ₇ O ₂ ⁻	H ₂ O	Butyric acid	125 mL	ICBTR1-125ML
Carbonate, CO ₃ ⁻²	H ₂ O	Na ₂ CO ₃	125 mL	ICCO31-125ML
			500 mL	ICCO31-500ML
Chlorate, ClO ₃ ⁻	H ₂ O	KClO ₃	125 mL	ICCLO31-125ML
			500 mL	ICCLO31-500ML
Chloride, Cl ⁻	H ₂ O	KCl	125 mL	ICCL1-125ML
			500 mL	ICCL1-500ML
Chlorite, ClO ₂ ⁻	H ₂ O	NaClO ₂	125 mL	ICCLO21-125ML
			500 mL	ICCLO21-500ML
Chromate, CrO ₄ ⁻²	H ₂ O	(NH ₄) ₂ Cr ₂ O ₇	125 mL	ICCRO41-125ML
Citrate, C ₆ H ₅ O ₇ ⁻³	H ₂ O	Citric acid	125 mL	ICCIT1-125ML
			500 mL	ICCIT1-500ML
Cyanide, NaCN	H ₂ O	Sodium cyanide	20 mL	CN-1000-25-20ML
Fluoride, F ⁻	H ₂ O	NaF	125 mL	ICF1-125ML
			500 mL	ICF1-500ML
Formate, HCO ₂ ⁻	H ₂ O	Sodium formate	125 mL	ICHCO1-125ML
			500 mL	ICHCO1-500ML
Glutarate, C ₅ H ₆ O ₄ ⁻²	H ₂ O	Glutaric acid	125 mL	ICGTR1-125ML
Glycolate, C ₂ H ₃ O ₃ ⁻	H ₂ O	Glycolic acid	125 mL	ICGLY1-125ML
Iodide, I ⁻	H ₂ O / stabilizer	NH ₄ I	125 mL	ICI1-125ML
			500 mL	ICI1-500ML
Lactate, C ₃ H ₅ O ₃ ⁻	H ₂ O	Lactic acid	125 mL	ICLCT1-125ML
Malate, C ₄ H ₄ O ₅ ⁻²	H ₂ O	Malic acid	125 mL	ICMLA1-125ML
Maleate, C ₄ H ₂ O ₄ ⁻²	H ₂ O	Maleic acid	125 mL	ICMLE1-125ML
Malonate, C ₃ H ₂ O ₄ ⁻²	H ₂ O	Malonic acid	125 mL	ICMLO1-125ML
Methanesulfonate, CH ₃ SO ₃ ⁻	H ₂ O	Methanesulfonic acid	125 mL	ICMSA1-125ML
Nitrate, NO ₃ ⁻	H ₂ O	NaNO ₃	125 mL	ICNO31-125ML
			500 mL	ICNO31-500ML
Nitrate as Nitrogen	H ₂ O	NaNO ₃	125 mL	ICNNO31-125ML
			500 mL	ICNNO31-500ML
Nitrioltriacetate, NC ₆ H ₆ O ₆ ⁻³	H ₂ O	Nitrioltriacetic acid	125 mL	ICNTA1-125ML
Nitrite, NO ₂ ⁻	H ₂ O	NaNO ₂	125 mL	ICNO21-125ML
			500 mL	ICNO21-500ML
Nitrite as Nitrogen	H ₂ O	NaNO ₂	125 mL	ICNNO21-125ML
			500 mL	ICNNO21-500ML

1,000 µg/mL Anions

Custom anion standards are available upon request.

1,000 µg/mL

ANALYTE	MATRIX	STARTING MATERIAL	VOLUME	CATALOG #
Oxalate, C₂O₄⁻²	H ₂ O	Sodium oxalate	125 mL	ICOXA1-125ML
			500 mL	ICOXA1-500ML
Perchlorate, ClO₄⁻	H ₂ O	KClO ₄	125 mL	ICCL041-125ML
			500 mL	ICCL041-500ML
Phosphate, PO₄⁻³	H ₂ O	NH ₄ H ₂ PO ₄	125 mL	ICPO41-125ML
			500 mL	ICPO41-500ML
Phosphate as Phosphorus	H ₂ O	NH ₄ H ₂ PO ₄	125 mL	ICPP041-125ML
			500 mL	ICPP041-500ML
Phthalate, C₆H₄(CO₂)₂⁻²	H ₂ O	Potassium hydrogen phthalate	125 mL	ICKHP1-125ML
Propionate, C₂H₅CO₂⁻	H ₂ O	Sodium propionate	125 mL	ICOPR1-125ML
Succinate, C₄H₄O₄⁻²	H ₂ O	Succinic acid	125 mL	ICSCC1-125ML
Sulfate, SO₄⁻²	H ₂ O	K ₂ SO ₄	125 mL	ICSO41-125ML
			500 mL	ICSO41-500ML
Tartrate, C₄H₄O₆⁻²	H ₂ O	Tartaric acid	125 mL	ICTRTR1-125ML
Thiocyanate, SCN⁻	H ₂ O	KSCN	125 mL	ICSCN1-125ML
Thiosulfate, S₂O₃⁻²	H ₂ O	Sodium thiosulfate	125 mL	ICS2031-125ML
			500 mL	ICS2031-500ML

10,000 µg/mL

Custom anion standards are available upon request.

10,000 µg/mL

ANALYTE	MATRIX	STARTING MATERIAL	VOLUME	CATALOG #
Chloride, Cl⁻	H ₂ O	KCl	125 mL	ICCL10-125ML
			500 mL	ICCL10-500ML
Sulfate, SO₄⁻²	H ₂ O	K ₂ SO ₄	125 mL	ICSO410-125ML
			500 mL	ICSO410-500ML

100 ppm

Custom anion standards are available upon request.

100 ppm

ANALYTE	MATRIX	STARTING MATERIAL	VOLUME	CATALOG #
Nitrite, NO₂⁻	H ₂ O	100	125 mL	ICN02-100PPM-125ML

Custom cation standards are available upon request.

1,000 µg/mL

ANALYTE	MATRIX	STARTING MATERIAL	VOLUME	CATALOG #
3-Methoxypropylamine $\text{CH}_3\text{O}(\text{CH}_2)_3\text{NH}_2$	HCl	3-Methoxypropylamine	125 mL	ICMPA1-125ML
Ammonium, NH_4^+	H_2O	NH_4Cl	125 mL 500 mL	ICNH41-125ML ICNH41-500ML
Ammonium as Nitrogen	H_2O	NH_4Cl	125 mL 500 mL	ICNNH41-125ML ICNNH41-500ML
Barium, Ba^{+2}	HNO_3	$\text{Ba}(\text{NO}_3)_2$	125 mL	ICBA1-125ML
Calcium, Ca^{+2}	HNO_3	CaO	125 mL 500 mL	ICCA1-125ML ICCA1-500ML
Cesium, Cs^+	HNO_3	CsNO_3	125 mL	ICCS1-125ML
Diethanolamine, $(\text{HOCH}_2\text{CH}_2)_2\text{NH}$	H_2O	Diethanolamine	125 mL	ICDEA1-125ML
Dimethylamine, $\text{NH}(\text{CH}_3)_2$	HCl	Dimethylamine	125 mL	ICDMA1-125ML
Lithium, Li^+	HNO_3	Li_2CO_3	125 mL	ICLI1-125ML
Magnesium, Mg^{+2}	HNO_3	Mg metal	125 mL 500 mL	ICMG1-125ML ICMG1-500ML
Monoethanolamine, $\text{HOCH}_2\text{CH}_2\text{NH}_2$	H_2O	Monoethanolamine	125 mL 500 mL	ICMEA1-125ML ICMEA1-500ML
Monomethylamine, NH_2CH_3	HCl	Monomethylamine	125 mL	ICMMA1-125ML
Potassium, K^+	HNO_3	KNO_3	125 mL 500 mL	ICK1-125ML ICK1-500ML
Rubidium, Rb^+	HNO_3	RbNO_3	125 mL	ICRB1-125ML
Sodium, Na^+	HNO_3	Na_2CO_3	125 mL 500 mL	ICNA1-125ML ICNA1-500ML
Strontium, Sr^{+2}	HNO_3	SrCO_3	125 mL	ICSR1-125ML
Tetramethylammonium, $\text{N}^+(\text{CH}_3)_4$	H_2O	Tetramethylammonium hydroxide	125 mL	ICTMAH1-125ML
Triethanolamine, $(\text{HOCH}_2\text{CH}_2)_3\text{N}$	H_2O	Triethanolamine	125 mL	ICTEA1-125ML
Triethylamine, $(\text{CH}_3\text{CH}_2)_3\text{N}$	HCl	Triethylamine	125 mL	ICTA1-125ML
Trimethylamine, $(\text{CH}_3)_3\text{N}$	HCl	Trimethylamine	125 mL	ICTMA1-125ML

Anion Calibration Standard			
IC-FAS-1A I		Matrix: H ₂ O	
IC-FAS-1A-125ML		Volume: 125 mL	
IC-FAS-1A-500ML		Volume: 500 mL	
Analyte	µg/mL	Analyte	µg/mL
Br ⁻	100	NO ₂ ⁻	100
Cl ⁻	30	PO ₄ ⁻³	150
F ⁻	20	SO ₄ ⁻²	150
NO ₃ ⁻	100		

For anion analysis of water samples by ion chromatography (IC). Contains 7 "common anions" as defined by EPA and Standard Methods.

Cation Calibration Standard			
IC-SCS1 I		Matrix: HNO ₃	
IC-SCS1-125ML		Volume: 125 mL	
Analyte	µg/mL	Analyte	µg/mL
Ca ⁺²	1,000	Mg ⁺²	200
K ⁺	200	Na ⁺	200
Li ⁺	50	NH ₄ ⁺	400

Used for daily calibration.

For cation analysis of water samples by ion chromatography (IC).

Cation Calibration Standard			
IV-STOCK-7 I		Matrix: HNO ₃	
IV-STOCK-7-125ML		Volume: 125 mL	
IV-STOCK-7-500ML		Volume: 500 mL	
Analyte	µg/mL	Analyte	µg/mL
Ba ⁺²	100	Mn ⁺²	100
Ca ⁺²	100	Na ⁺	100
K ⁺	100	NH ₄ ⁺	100
Li ⁺	100	Sr ⁺²	100
Mg ⁺²	100		

Used for daily calibration.

For use as a certified reference standard in ion chromatography (IC) applications.

Anion Calibration Standard			
IV-STOCK-59 I		Matrix: H ₂ O	
IV-STOCK-59-125ML		Volume: 125 mL	
IV-STOCK-59-500ML		Volume: 500 mL	
Analyte	µg/mL	Analyte	µg/mL
Br ⁻	1000	NO ₂ ⁻	1000
Cl ⁻	1000	PO ₄ ⁻³	1000
F ⁻	1000	SO ₄ ⁻²	1000
NO ₃ ⁻	1000		

For use as a certified reference standard in ion chromatography (IC) applications.

Anion Mix A	
IV-STOCK-61	Matrix: H ₂ O
IV-STOCK-61-125ML	Volume: 125 mL
IV-STOCK-61-500ML	Volume: 500 mL
Analyte	Range
Br ⁻	20
F ⁻	10
NO ₂ ⁻	20
SO ₄ ⁻²	30
Cl ⁻	20
NO ₃ ⁻	20
PO ₄ ⁻³	30

For use as a certified reference standard in ion chromatography (IC) applications.

Cation Mix B	
IV-STOCK-62	Matrix: H ₂ O
IV-STOCK-62-125ML	Volume: 125 mL
Analyte	Range
Ca	2.0
K	2.5
Li	0.2
Mg	2.0
Na	1.5
NH ₄ ⁺	1.5

For use as a certified reference standard in ion chromatography (IC) applications.

I Common Multi-Ion Standards

Anion Mix 4	
IV-STOCK-63	Matrix: H ₂ O
IV-STOCK-63-125ML	Volume: 125 mL
Analyte	Range
Br-	40
F-	20
NO₂-	40
Cl-	40
NO₃-	40
SO₄⁻²	40

For use as a certified reference standard in ion chromatography (IC) applications.

Anion Mix 5	
IV-STOCK-64	Matrix: H ₂ O
IV-STOCK-64-125ML IV-STOCK-64-500ML	Volume: 125 mL Volume: 500 mL
Analyte	Range
Br-	50
Cl-	50
F	25
NO₃-	50
NO₂-	50
PO₄⁻³	50
SO₄⁻²	50

For use as a certified reference standard in ion chromatography (IC) applications.

Custom eluent concentrates are available upon request. All Eluents supplied with Product Information Sheet.

0.18 M Sodium Carbonate/0.17 M Sodium Bicarbonate		
ELUENT1817-100ML	Volume: 100 mL	Matrix: H ₂ O
ELUENT1817-500ML	Volume: 500 mL	Dilution: 1:100
For preparation of 1.8 mM CO ₃ ⁻² / 1.7 mM HCO ₃ ⁻ eluent.		

This solution is a reagent and is not intended to be used as a certified reference material. Concentrate (100x); To prepare 1.8 mM carbonate/1.7 mM bicarbonate eluent for IC applications; ISO 17034 Reference Material.

0.35 M Sodium Carbonate/0.10 M Sodium Bicarbonate		
ELUENT3510-100ML	Volume: 100 mL	Matrix: H ₂ O
ELUENT3510-500ML	Volume: 500 mL	Dilution: 1:100
For preparation of 3.5 mM CO ₃ ⁻² / 1.0 mM HCO ₃ ⁻ eluent.		

This solution is a reagent and is not intended to be used as a certified reference material. Concentrate (100x); To prepare 3.5 mM carbonate/1.0 mM bicarbonate eluent for IC applications; ISO 17034 Reference Material.

0.45 M Sodium Carbonate/0.14 M Sodium Bicarbonate		
ELUENT4514-500ML	Volume: 500 mL	Matrix: H ₂ O
		Dilution: 1:100
For preparation of 3.5 mM CO ₃ ⁻² / 1.0 mM HCO ₃ ⁻ eluent.		

This solution is a reagent and is not intended to be used as a certified reference material. Concentrate (100x); To prepare 3.5 mM carbonate/1.0 mM bicarbonate eluent for IC applications; ISO 17034 Reference Material.

0.5 M Sodium Bicarbonate		
BICARB-100ML	Volume: 100 mL	Matrix: H ₂ O
BICARB-500ML	Volume: 500 mL	Dilution: 1:100
For preparation of various CO ₃ ⁻² / HCO ₃ ⁻ eluents.		

This solution is a reagent and is not intended to be used as a certified reference material. Concentrate; To prepare carbonate/bicarbonate eluent for IC applications; ISO 17034 Reference Material.

0.5 M Sodium Carbonate		
CARB-100ML CARB-500ML	Volume: 100 mL Volume: 500 mL	Matrix: H ₂ O Dilution: 1:100
For preparation of various CO ₃ ²⁻ / HCO ₃ ⁻ eluents.		

This solution is a reagent and is not intended to be used as a certified reference material. Concentrate; To prepare carbonate/bicarbonate eluent for IC applications; ISO 17034 Reference Material; Supplied with Product Information Sheet.

1.8 M Methanesulfonic Acid		
MSAELUENT-100ML MSAELUENT-500ML	Volume: 100 mL Volume: 500 mL	Matrix: H ₂ O Dilution: 1:100
For preparation of 18 mM CH ₃ SO ₃ H eluent for analyzing cations.		

This solution is a reagent and is not intended to be used as a certified reference material. Concentrate (100x); To prepare 18 mM methanesulfonic acid eluent for IC applications; ISO 17034 Reference Material; Supplied with Product Information Sheet.

300.0 Rev. 2.1 Part A / 300.1 Part A Custom EPA standards are available upon request.

0.18 M Sodium Carbonate/0.17 M Sodium Bicarbonate		
ELUENT1817-100ML ELUENT1817-500ML	Volume: 100 mL Volume: 500 mL	Matrix: H ₂ O Dilution 1:100

For preparation of 1.8 mM CO₃²⁻ / 1.7 mM HCO₃⁻ eluent.

This solution is a reagent and is not intended to be used as a certified reference material. Concentrate (100x); To prepare 1.8 mM carbonate/1.7 mM bicarbonate eluent for IC applications; ISO 17034 Reference Material; Supplied with Product Information Sheet.

Calibration Standard			
300-CAL-A-125ML 300-CAL-A-500ML		Volume: 125 mL Volume: 500 mL	Matrix: H ₂ O Dilution 1:10 to 1:100
Analyte	µg/mL	Analyte	µg/mL
Br-	100	Nitrite as Nitrogen	30
Cl-	30	Nitrate as Nitrogen	25
F-	20	Phosphate as Phosphorus	50
SO₄⁻²	150		

For use as ion chromatography calibration standard in EPA Method 300.0. Also suitable for use as common anions standard in EPA Method 300.1.

Dichloroacetate Standard	
ICDCA-S-125ML ICDCA-S-500ML	Volume: 125 mL Volume: 500 mL
Matrix: H ₂ O	
Analyte	µg/mL
Cl₂HC₂O₂⁻	500

For use as a surrogate analyte.

For use as a surrogate analyte in ion chromatography (IC) analysis.

300.0 Rev. 2.1 Part A / 300.1 Part A Custom EPA standards are available upon request.

Laboratory Fortification Stock Standard			
300-LFS-A-125ML		Volume: 125 mL	Matrix: H ₂ O Dilution 1:100 to 1:1,000
Analyte	µg/mL	Analyte	µg/mL
Br-	1,000	Nitrite as Nitrogen	300
Cl-	300	Nitrate as Nitrogen	300
F-	200	Phosphate as Phosphorus	500
SO₄⁻²	1,500		

This standard is used to prepare the Laboratory Fortified Blank and the Laboratory Fortified Sample Matrix

For use as ion chromatography laboratory fortified blank or fortified sample matrix solution in EPA Method 300.0. Also suitable for use as common anions fortified blank or fortified sample matrix solution in EPA Method 300.1.

QC Standard/Instrument Performance Check [†]			
QCP-QCS-5-125ML		Volume: 125 mL	Matrix: H ₂ O Dilution 1:10 to 1:100
Analyte	µg/mL	Analyte	µg/mL
Br-	50	Nitrite as Nitrogen	15
Cl-	15	Nitrate as Nitrogen	10
F-	10	Phosphate as Phosphorus	25
SO₄⁻²	75		

[†]Manufactured from in-house Second Source concentrates.

Can be used to prepare the QC Sample or the IPC Solution.

For use as a general ion chromatography quality control standard

300.1 Part B Custom EPA standards are available upon request.

Bromate	
ICBR031	Matrix: H ₂ O
ICBR031-125ML ICBR031-500ML	Volume: 125 mL Volume: 500 mL
Analyte	µg/mL
BrO ₃ ⁻	1,000

Chlorate	
ICCL031	Matrix: H ₂ O
ICCL031-125ML ICCL031-500ML	Volume: 125 mL Volume: 500 mL
Analyte	µg/mL
ClO ₃ ⁻	1,000

Bromide	
ICBR1	Matrix: H ₂ O
ICBR1-125ML ICBR1-500ML	Volume: 125 mL Volume: 500 mL
Analyte	µg/mL
Br ⁻	1,000

Dichloroacetate Standard	
ICDCA-S	Matrix: H ₂ O
ICDCA-S-125ML ICDCA-S-500ML	Volume: 125 mL Volume: 500 mL
Analyte	µg/mL
Cl ₂ HC ₂ O ₂ ⁻	500

For use as a surrogate analyte.

Chlorite	
ICCL021	Matrix: H ₂ O
ICCL021-125ML ICCL021-500ML	Volume: 125 mL Volume: 500 mL
Analyte	µg/mL
ClO ₂ ⁻	1,000

NOTE: Contains less than 10ppm ClO₃⁻.

Custom EPA standards are available upon request.

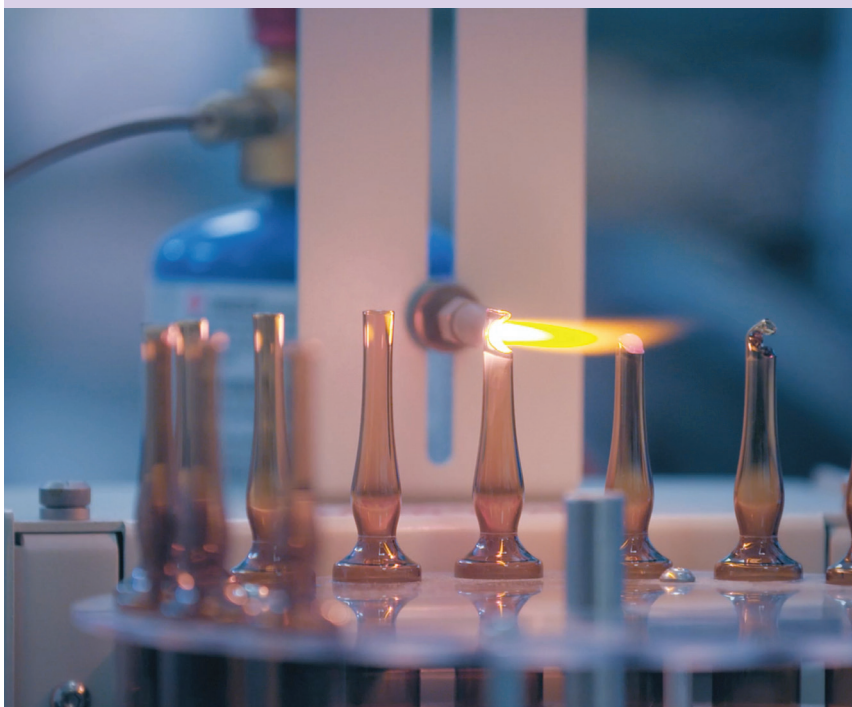
1,400 µmhos/cm Conductivity at 25°C	
CON1400-25	Matrix: H ₂ O
CON1400-25-125ML CON1400-25-500ML CON1400-25-1L	Volume: 125 mL Volume: 500 mL Volume: 1 L

For the calibration of analytical instruments and validation of analytical methods as appropriate. Preserved with antimicrobial agent.

Perchlorate	
ICCL041	Matrix: H ₂ O
ICCL041-125ML ICCL041-500ML	Volume: 125 mL Volume: 500 mL
Analyte	µg/mL
ClO ₄ ⁻	1,000

ATOMIC ABSORPTION

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- ✓ Up to five-year shelf life
- ✓ Traceable to NIST SRMs
- ✓ Produced under ISO 9001
- ✓ Assayed by validated procedures

For the calibration of analytical instruments and validation of analytical methods as appropriate.

1,000 µg/mL

ANALYTE	MATRIX	VOLUME	CATALOG #
Aluminum, Al	HNO ₃	125 mL	AAAL1-125ML
		500 mL	AAAL1-500ML
Antimony, Sb	HNO ₃ / Tartaric Acid	125 mL	AASB1-125ML
		500 mL	AASB1-500ML
Arsenic, As	HNO ₃	125 mL	AAAS1-125ML
		500 mL	AAAS1-500ML
Barium, Ba	HNO ₃	125 mL	AABA1-125ML
		500 mL	AABA1-500ML
Beryllium, Be	HNO ₃	125 mL	AABE1-125ML
		500 mL	AABE1-500ML
Bismuth, Bi	HNO ₃	125 mL	AABI1-125ML
		500 mL	AABI1-500ML
Boron, B	NH ₄ OH	125 mL	AAB1-125ML
		500 mL	AAB1-500ML
Cadmium, Cd	HNO ₃	125 mL	AACD1-125ML
		500 mL	AACD1-500ML
Calcium, Ca	HNO ₃	125 mL	AACA1-125ML
		500 mL	AACA1-500ML
Cerium, Ce	HNO ₃	125 mL	AACE1-125ML
		500 mL	AACE1-500ML
Cesium, Cs	HNO ₃	125 mL	AACS1-125ML
		500 mL	AACS1-500ML
Chromium, Cr	HNO ₃	125 mL	AACR1-125ML
		500 mL	AACR1-500ML
Cobalt, Co	HNO ₃	125 mL	AACO1-125ML
		500 mL	AACO1-500ML
Copper, Cu	HNO ₃	125 mL	AACU1-125ML
		500 mL	AACU1-500ML
Dysprosium, Dy	HNO ₃	125 mL	AADY1-125ML
		500 mL	AADY1-500ML
Erbium, Er	HNO ₃	125 mL	AAER1-125ML
		500 mL	AAER1-500ML
Europium, Eu	HNO ₃	125 mL	AAEU1-125ML
		500 mL	AAEU1-500ML
Gadolinium, Gd	HNO ₃	125 mL	AAGD1-125ML
		500 mL	AAGD1-500ML
Gallium, Ga	HNO ₃	125 mL	AAGA1-125ML
		500 mL	AAGA1-500ML
Germanium, Ge	HNO ₃ / HF	125 mL	AAGE1-125ML
		500 mL	AAGE1-500ML
Gold, Au	HCl	125 mL	AAAU1-125ML
		500 mL	AAAU1-500ML
Hafnium, Hf	HNO ₃ / HF	125 mL	AAHF1-125ML
		500 mL	AAHF1-500ML
Holmium, Ho	HNO ₃	125 mL	AAH01-125ML
		500 mL	AAH01-500ML
Indium, In	HNO ₃	125 mL	AAIN1-125ML
		500 mL	AAIN1-500ML

1,000 µg/mL

ANALYTE	MATRIX	VOLUME	CATALOG #
Iridium, Ir	HCl	125 mL	AAIR1-125ML
		500 mL	AAIR1-500ML
Iron, Fe	HNO ₃	125 mL	AAFE1-125ML
		500 mL	AAFE1-500ML
Lanthanum, La	HNO ₃	125 mL	AALA1-125ML
		500 mL	AALA1-500ML
Lead, Pb	HNO ₃	125 mL	AAPB1-125ML
		500 mL	AAPB1-500ML
Lithium, Li	HNO ₃	125 mL	AALI1-125ML
		500 mL	AALI1-500ML
Lutetium, Lu	HNO ₃	125 mL	AALU1-125ML
		500 mL	AALU1-500ML
Magnesium, Mg	HNO ₃	125 mL	AAMG1-125ML
		500 mL	AAMG1-500ML
Manganese, Mn	HNO ₃	125 mL	AAMN1-125ML
		500 mL	AAMN1-500ML
Mercury, Hg	HNO ₃	125 mL	AAHG1-125ML
		500 mL	AAHG1-500ML
Molybdenum, Mo	NH ₄ OH	125 mL	AAM01-125ML
		500 mL	AAM01-525ML
Neodymium, Nd	HNO ₃	125 mL	AAND1-125ML
		500 mL	AAND1-500ML
Nickel, Ni	HNO ₃	125 mL	AANI1-125ML
		500 mL	AANI1-500ML
Niobium, Nb	HNO ₃ / HF	125 mL	AANB1-125ML
		500 mL	AANB1-500ML
Palladium, Pd	HCl	125 mL	AAPD1-125ML
		500 mL	AAPD1-500ML
Phosphorus, P	H ₂ O	125 mL	AAP1-125ML
		500 mL	AAP1-500ML
Platinum, Pt	HCl	125 mL	AAPT1-125ML
		500 mL	AAPT1-500ML
Potassium, K	HNO ₃	125 mL	AAK1-125ML
		500 mL	AAK1-500ML
Praseodymium, Pr	HNO ₃	125 mL	AAPR1-125ML
		500 mL	AAPR1-500ML
Rhenium, Re	HNO ₃	125 mL	AARE1-125ML
		500 mL	AARE1-500ML
Rhodium, Rh	HCl	125 mL	AARH1-125ML
		500 mL	AARH1-500ML
Rubidium, Rb	HNO ₃	125 mL	AARB1-125ML
		500 mL	AARB1-500ML
Ruthenium, Ru	HCl	125 mL	AARU1-125ML
		500 mL	AARU1-500ML
Samarium, Sm	HNO ₃	125 mL	AASM1-125ML
		500 mL	AASM1-500ML
Scandium, Sc	HNO ₃	125 mL	AASC1-125ML
		500 mL	AASC1-500ML

1,000 µg/mL Standards

1,000 µg/mL

ANALYTE	MATRIX	VOLUME	CATALOG #
Selenium, Se	HNO ₃	125 mL	AASE1-125ML
		500 mL	AASE1-500ML
Silicon, Si	HNO ₃ / HF	125 mL	AASI1-125ML
		500 mL	AASI1-500ML
Silver, Ag	HNO ₃	125 mL	AAAG1-125ML
		500 mL	AAAG1-500ML
Sodium, Na	HNO ₃	125 mL	AANA1-125ML
		500 mL	AANA1-500ML
Strontium, Sr	HNO ₃	125 mL	AASR1-125ML
		500 mL	AASR1-500ML
Sulfur, S	H ₂ O	125 mL	AAS1-125ML
		500 mL	AAS1-500ML
Tantalum, Ta	HNO ₃ / HF	125 mL	AATA1-125ML
		500 mL	AATA1-500ML
Tellurium, Te	HCl	125 mL	AATE1-125ML
		500 mL	AATE1-500ML
Terbium, Tb	HNO ₃	125 mL	AATB1-125ML
		500 mL	AATB1-500ML
Thallium, Tl	HNO ₃	125 mL	AATL1-125ML
		500 mL	AATL1-500ML
Thorium, Th	HNO ₃	125 mL	AATH1-125ML
		500 mL	AATH1-500ML
Thulium, Tm	HNO ₃	125 mL	AATM1-125ML
		500 mL	AATM1-500ML
Tin, Sn	HNO ₃ / HF	125 mL	AASN1-125ML
		500 mL	AASN1-500ML
Titanium, Ti	HNO ₃ / HF	125 mL	AATI1-125ML
		500 mL	AATI1-500ML
Tungsten, W	HNO ₃ / HF	125 mL	AAW1-125ML
		500 mL	AAW1-500ML
Uranium, U	HNO ₃	125 mL	AAU1-125ML
		500 mL	AAU1-500ML
Vanadium, V	HNO ₃	125 mL	AAV1-125ML
		500 mL	AAV1-500ML
Ytterbium, Yb	HNO ₃	125 mL	AAYB1-125ML
		500 mL	AAYB1-500ML
Yttrium, Y	HNO ₃	125 mL	AAY1-125ML
		500 mL	AAY1-500ML
Zinc, Zn	HNO ₃	125 mL	AAZN1-125ML
		500 mL	AAZN1-500ML
Zirconium, Zr	HF	125 mL	AAZR1-125ML
		500 mL	AAZR1-500ML

Custom modifiers, buffers and releasing agents are available upon request.

1% Lanthanum Releasing Agent*	
LACB1	Matrix: HCl
LACB1-500ML	Volume: 500 mL
Analyte	µg/mL
La	10,000

Used as a releasing agent (primarily for Ca in the presence of phosphate).

2% Lithium Ionization Buffer*	
LINB2	Matrix: HNO ₃
LINB2-125ML	Volume: 125 mL
Analyte	µg/mL
Li	20,000

Supplies an excess of electrons to plasma/flame to minimize impact of ionization interferences.

1% Magnesium Nitrate Modifier*	
MM-MG-10	Matrix: H ₂ O
MM-MG-10-125ML	Volume: 125 mL
Analyte	µg/mL
Mg(NO₃)₂	10,000

Used to change the volatility of the sample to prevent loss of analyte or to facilitate removal of interfering matrix components.

4% Phosphate Modifier*	
MM-P-40	Matrix: H ₂ O
MM-P-40-125ML	Volume: 125 mL
Analyte	µg/mL
PO₄	40,000

Used to change the volatility of the sample to prevent loss of analyte or to facilitate removal of interfering matrix components.

0.5% Palladium Modifier*	
MM-PD-5	Matrix: HNO ₃
MM-PD-5-125ML MM-PD-5-500ML	Volume: 125 mL Volume: 500 mL
Analyte	µg/mL
Pd	5,000

Used to change the volatility of the sample to prevent loss of analyte or to facilitate removal of interfering matrix components.

1% Palladium Modifier*	
MM-PD-10	Matrix: HNO ₃
MM-PD-10-125ML MM-PD-10-500ML	Volume: 125 mL Volume: 500 mL
Analyte	µg/mL
Pd	10,000

Used to change the volatility of the sample to prevent loss of analyte or to facilitate removal of interfering matrix components.

0.3% Palladium / 0.2% Magnesium Nitrate Modifier*			
MM-PDMG-32		Matrix: HNO ₃	
MM-PDMG-32-125ML MM-PDMG-32-500ML		Volume: 125 mL Volume: 500 mL	
Analyte	µg/mL	Analyte	µg/mL
Mg(NO₃)₂	2,000	Pd	3,000

Used to change the volatility of the sample to prevent loss of analyte or to facilitate removal of interfering matrix components.

*Not to be used as a calibration standard, for analytical reagent use only. ISO 17034 Reference Material; Supplied with Product Information Sheet.

Our priority is your total satisfaction. Should you ever have a problem with any standard, Water QC or otherwise, let us know. We'll immediately investigate the problem by testing a retained sample of your solution. If the error is on our end, you'll be offered a full refund or a free replacement – your choice.



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- ✓ **Up to five-year shelf life**
- ✓ **Traceable to NIST SRMs**
- ✓ **Produced under ISO 9001**
- ✓ **Produced under ISO 17025**
- ✓ **Produced under ISO 17034**
- ✓ **Assayed by optimal validated procedures**

Custom potable water standards for certain products are available upon request.

Bromate	
ICBR031	Matrix: H ₂ O
ICBR031-125ML ICBR031-500ML	Volume: 125 mL Volume: 500 mL
Analyte	µg/mL
BrO ₃ ⁻	1,000

Chlorate	
ICCL031	Matrix: H ₂ O
ICCL031-125ML ICCL031-500ML	Volume: 125 mL Volume: 500 mL
Analyte	µg/mL
ClO ₃ ⁻	1,000

Bromide	
ICBR1	Matrix: H ₂ O
ICBR1-125ML ICBR1-500ML	Volume: 125 mL Volume: 500 mL
Analyte	µg/mL
Br ⁻	1,000

Chlorite	
ICCL021	Matrix: H ₂ O
ICCL021-125ML ICCL021-500ML	Volume: 125 mL Volume: 500 mL
Analyte	µg/mL
ClO ₂ ⁻	1,000

NOTE: Contains less than 10ppm ClO₃⁻.

1,000 µg/mL Total Cyanide	
CN-1000-25-20ML	Volume: 20 mL Matrix: H ₂ O
Analyte	µg/mL
CN ⁻	1,000

Mercury Standard	
MSHG-1PPM	Matrix: HCl
MSHG-1PPM-125ML MSHG-1PPM-500ML	Volume: 125 mL Volume: 500 mL
Analyte	µg/mL
Hg	1

For the determination of cyanide in aqueous samples.

Custom wastewater standards are available upon request.

ANALYTE	MATRIX	STARTING MATERIAL	µg/ML	VOLUME	CATALOG #
Total Organic Carbon, TOC	H ₂ O	KHP	1,000	125 mL 500 mL	TOCKHP1-125ML TOCKHP1-500ML

Each pH standard is compatible with your instrumentation and meets all requirements for calibration by a true Certified Reference Material. Each standard is traceable to a NIST SRM and is engineered for long-term stability. Manufactured under our ISO 17034 accreditation, each pH standard comes with a CoA and a temperature chart for your convenience. Each product is packaged in our TCT technology with a multi-year shelf life and a one-year* expiration date from opening. All product labels and SDS are GHS-compliant.



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At times, Wet Chemistry involves some difficult and unusual techniques. If you find yourself in a bind, give us a call. One of our experts will be happy to assist you. Plus, we offer analytical advice and in-depth technical guides on our website, inorganicventures.com.

- ✓ Up to five-year shelf life
- ✓ Traceable to NIST SRMs
- ✓ Produced under ISO 9001
- ✓ Produced under ISO 17025
- ✓ Produced under ISO 17034
- ✓ Assayed by optimal validated procedures

** For most products.*

For the calibration of analytical instruments and validation of analytical methods as appropriate. Preserved with antimicrobial agent. Custom conductivity standards are available upon request.

2 $\mu\text{mhos/cm}$ Conductivity at 25°C	
Matrix: H ₂ O	
CON2-25-125ML	Volume: 125 mL
CON2-25-500ML	Volume: 500 mL

5 $\mu\text{mhos/cm}$ Conductivity at 25°C	
Matrix: H ₂ O	
CON5-25-125ML	Volume: 125 mL
CON5-25-500ML	Volume: 500 mL

10 $\mu\text{mhos/cm}$ Conductivity at 25°C	
Matrix: H ₂ O	
CON10-25-125ML	Volume: 125 mL
CON10-25-500ML	Volume: 500 mL

84 $\mu\text{mhos/cm}$ Conductivity at 25°C	
Matrix: H ₂ O	
CON84-25-125ML	Volume: 125 mL
CON84-25-500ML	Volume: 500 mL
CON84-25-1L	Volume: 1 L

100 $\mu\text{mhos/cm}$ Conductivity at 25°C	
Matrix: H ₂ O	
CON100-25-125ML	Volume: 125 mL
CON100-25-500ML	Volume: 500 mL
CON100-25-1L	Volume: 1 L

147 $\mu\text{mhos/cm}$ Conductivity at 25°C	
Matrix: H ₂ O	
CON147-25-125ML	Volume: 125 mL
CON147-25-500ML	Volume: 500 mL
CON147-25-1L	Volume: 1 L

500 $\mu\text{mhos/cm}$ Conductivity at 25°C	
Matrix: H ₂ O	
CON500-25-125ML	Volume: 125 mL
CON500-25-500ML	Volume: 500 mL
CON500-25-1L	Volume: 1 L

1,000 $\mu\text{mhos/cm}$ Conductivity at 25°C	
Matrix: H ₂ O	
CON1000-25-125ML	Volume: 125 mL
CON1000-25-500ML	Volume: 500 mL
CON1000-25-1L	Volume: 1 L

1,200 $\mu\text{mhos/cm}$ Conductivity at 25°C	
Matrix: H ₂ O	
CON1200-25-125ML	Volume: 125 mL
CON1200-25-500ML	Volume: 500 mL
CON1200-25-1L	Volume: 1 L

1,400 $\mu\text{mhos/cm}$ Conductivity at 25°C	
Matrix: H ₂ O	
CON1400-25-125ML	Volume: 125 mL
CON1400-25-500ML	Volume: 500 mL
CON1400-25-1L	Volume: 1 L

1,413 $\mu\text{mhos/cm}$ Conductivity at 25°C	
Matrix: H ₂ O	
CON1413-25-125ML	Volume: 125 mL
CON1413-25-500ML	Volume: 500 mL
CON1413-25-1L	Volume: 1 L

1,430 $\mu\text{mhos/cm}$ Conductivity at 25°C	
Matrix: H ₂ O	
CON1430-25-125ML	Volume: 125 mL
CON1430-25-500ML	Volume: 500 mL
CON1430-25-1L	Volume: 1 L

10,000 $\mu\text{mhos/cm}$ Conductivity at 25°C	
Matrix: H ₂ O	
CON10000-25-125ML	Volume: 125 mL
CON10000-25-500ML	Volume: 500 mL
CON10000-25-1L	Volume: 1 L

100,000 $\mu\text{mhos/cm}$ Conductivity at 25°C	
Matrix: H ₂ O	
CON100000-25-125ML	Volume: 125 mL
CON100000-25-500ML	Volume: 500 mL
CON100000-25-1L	Volume: 1 L

For the calibration of analytical instruments and validation of analytical methods as appropriate. Preserved with antimicrobial agent. Custom pH standards are available upon request.

pH 1.68	
Potassium tetroxalate	
PH-1.68-250ML	Volume: 250 mL
PH-1.68-500ML	Volume: 500 mL
PH-1.68-1L	Volume: 1 L
PH-1.68-4L	Volume: 4 L

pH 5	
Potassium acid phthalate and sodium hydroxide	
PH-5-250ML	Volume: 250 mL
PH-5-500ML	Volume: 500 mL
PH-5-1L	Volume: 1 L
PH-5-4L	Volume: 4 L

pH 2	
Potassium chloride and hydrochloric acid	
PH-2-250ML	Volume: 250 mL
PH-2-500ML	Volume: 500 mL
PH-2-1L	Volume: 1 L
PH-2-4L	Volume: 4 L
PH-2-10L	Volume: 10 L

pH 6	
Monobasic potassium phosphate and sodium hydroxide	
PH-6-250ML	Volume: 250 mL
PH-6-500ML	Volume: 500 mL
PH-6-1L	Volume: 1 L
PH-6-4L	Volume: 4 L
PH-6-10L	Volume: 10 L

pH 3	
Potassium acid phthalate and hydrochloric acid	
PH-3-250ML	Volume: 250 mL
PH-3-500ML	Volume: 500 mL
PH-3-1L	Volume: 1 L
PH-3-4L	Volume: 4 L
PH-3-10L	Volume: 10 L

pH 6.86	
Potassium phosphate and dibasic sodium phosphate	
PH-6.86-250ML	Volume: 250 mL
PH-6.86-500ML	Volume: 500 mL
PH-6.86-1L	Volume: 1 L
PH-6.86-4L	Volume: 4 L
PH-6.86-10L	Volume: 10 L

pH 4	
Potassium acid phthalate	
PH-4-250ML	Volume: 250 mL
PH-4-500ML	Volume: 500 mL
PH-4-1L	Volume: 1 L
PH-4-4L	Volume: 4 L
PH-4-10L	Volume: 10 L

pH 7	
Monobasic potassium phosphate and sodium hydroxide	
PH-7-250ML	Volume: 250 mL
PH-7-500ML	Volume: 500 mL
PH-7-1L	Volume: 1 L
PH-7-4L	Volume: 4 L
PH-7-10L	Volume: 10 L

pH 4 RED	
Potassium acid phthalate	
PHRED-4-250ML	Volume: 250 mL
PHRED-4-500ML	Volume: 500 mL
PHRED-4-1L	Volume: 1 L
PHRED-4-4L	Volume: 4 L
PHRED-4-10L	Volume: 10 L

pH 7 YELLOW	
Monobasic potassium phosphate and sodium hydroxide	
PHYELLOW-7-250ML	Volume: 250 mL
PHYELLOW-7-500ML	Volume: 500 mL
PHYELLOW-7-1L	Volume: 1 L
PHYELLOW-7-4L	Volume: 4 L
PHYELLOW-7-10L	Volume: 10 L

pH 8	
Monobasic potassium phosphate and sodium hydroxide	
PH-8-250ML	Volume: 250 mL
PH-8-500ML	Volume: 500 mL
PH-8-1L	Volume: 1 L
PH-8-4L	Volume: 4 L
PH-8-10L	Volume: 10 L

pH 9	
Boric acid, potassium chloride and sodium hydroxide	
PH-9-250ML	Volume: 250 mL
PH-9-500ML	Volume: 500 mL
PH-9-1L	Volume: 1 L
PH-9-4L	Volume: 4 L
PH-9-10L	Volume: 10 L

pH 9.18	
Sodium borate decahydrate	
PH-9.18-250ML	Volume: 250 mL
PH-9.18-500ML	Volume: 500 mL
PH-9.18-1L	Volume: 1 L

pH 10	
Sodium bicarbonate and sodium carbonate	
PH-10-250ML	Volume: 250 mL
PH-10-500ML	Volume: 500 mL
PH-10-1L	Volume: 1 L
PH-10-4L	Volume: 4 L
PH-10-10L	Volume: 10 L

pH 10 BLUE	
Sodium bicarbonate and sodium carbonate	
PHBLUE-10-250ML	Volume: 250 mL
PHBLUE-10-500ML	Volume: 500 mL
PHBLUE-10-1L	Volume: 1 L
PHBLUE-10-4L	Volume: 4 L
PHBLUE-10-10L	Volume: 10 L

pH 11	
Dibasic sodium phosphate and sodium hydroxide	
PH-11-250ML	Volume: 250 mL
PH-11-500ML	Volume: 500 mL
PH-11-1L	Volume: 1 L
PH-11-4L	Volume: 4 L
PH-11-10L	Volume: 10 L

pH 12	
Potassium chloride and sodium hydroxide	
PH-12-250ML	Volume: 250 mL
PH-12-500ML	Volume: 500 mL
PH-12-1L	Volume: 1 L
PH-12-4L	Volume: 4 L
PH-12-10L	Volume: 10 L

pH 12.47	
Sodium hydroxide and potassium chloride	
PH-12.47-250ML	Volume: 250 mL
PH-12.47-500ML	Volume: 500 mL
PH-12.47-1L	Volume: 1 L

Cyanide Standards

Custom cyanide standards are available upon request.

1,000 ug/mL Total Cyanide	
CN-1000-25-20ML	Volume: 20 mL Matrix: H ₂ O
Analyte	µg/mL
CN-	1,000



Leave buffer preparation
to the experts.

Your pH meter
will thank you.

pH BUFFERS SPECIALLY
FORMULATED FOR USP <791>

For analysts in the pharmaceutical industry tasked with maintaining proper pH meter calibration in accordance with USP <791>, Inorganic Ventures' CRMs deliver confidence, control, and support.

Our pH buffers are NIST-traceable and manufactured and tested under ISO 17034 and ISO 17025 guidelines. Each standard is accompanied by a detailed Certificate of Analysis (CoA), displaying certified values for multiple temperatures. In addition, these solutions are formulated to meet USP <791> specifications* and are ready to use right out of the bottle.

pH Buffer Features:

- **NIST-traceable standards, certified within 5% of the nominal values and associated uncertainties of no more than 0.05 pH units.**
- **Packaged in Transpiration Control Technology (TCT) which guarantees scientific integrity for up to 5-years from the date of manufacture.**
- **Ready to use with no preparation required.**

WE OFFER A COMPLETE LINE OF PH CALIBRATION STANDARDS, SUITABLE FOR CALIBRATION AS SPECIFIED IN USP <791>.

PRODUCT OFFERINGS

pH-1.68
pH-4.01
pH-6.86
pH-9.18
pH-10.01
pH-12.45*

*To ensure solution stability, pH 12.45 is formulated using KCl/NaOH.



Do you need a specific pH value not listed above or require a specific formulation?

We have the scientific expertise to refine formulations and address your specific needs. Simply contact IV for a custom quote or to learn about our complete line of pH buffer stock standards.



CERTIFICATE# 0883.02

Dissolution Reagents & Stabilizers

Dissolution Reagents are designed for the preparation and measurement of samples containing silica mixed with fluoride insoluble elements, including zeolites, alumina and/or silica based catalysts, sand, limestone, coal fly ash and talc.

These products permit the simple dissolution of silicates without additional equipment, and are designed for ICP measurement of Si and other elements using traditional glass-based sample introduction systems.

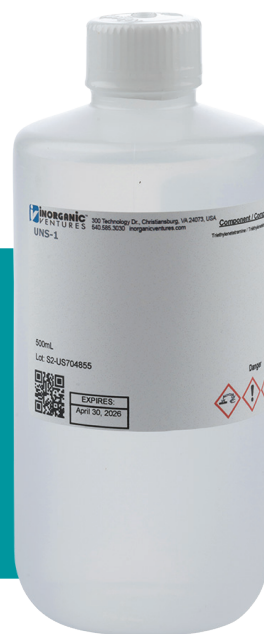
The following products are intended to be used together; UA-1 for sample dissolution and UNS-1 for neutralization and stabilization. Please see the article titled Elemental Analysis of Zeolites on our website for more information. Custom dissolution reagents for specific applications are available upon request, and please contact us for more information.

Acid Dissolution Reagent	
UA-1-500ML	Volume: 500 mL
Recommended for the dissolution of aluminosilicates, such as zeolites.	

Stabilizing Reagent	
UNS-1-500ML	Volume: 500 mL
Designed for use with UA-1.	

Don't see exactly what you're looking for?

Give us a call. Custom reference materials are our specialty.



Certified Titrants

These Certified Titrants are traceable to NIST and accredited to ISO 17034. Custom certified titrants are available upon request.

0.05M EDTA	
0.05M-EDTA-500ML	Matrix: H ₂ O Volume: 500 mL
0.05M EDTA, 500mL	

0.5M EDTA	
0.5M-EDTA-500ML	Matrix: H ₂ O Volume: 500 mL
0.5M EDTA, 500mL	

0.1M Hydrochloric Acid	
0.1M-HCL-500ML	Matrix: H ₂ O Volume: 500 mL
0.1M Hydrochloric Acid, 500mL	

1.0M Hydrochloric Acid	
1.0M-HCL-500ML	Matrix: H ₂ O Volume: 500 mL
1.0M Hydrochloric Acid, 500mL	

0.1M Nitric Acid	
0.1M-HNO3-500ML	Matrix: H ₂ O Volume: 500 mL
0.1M Nitric Acid, 500mL	

1.0M Nitric Acid	
1.0M-HNO3-500ML	Matrix: H ₂ O Volume: 500 mL
1.0M Nitric Acid, 500mL	

0.1M Perchloric Acid	
0.1M-HCLO4-500ML	Matrix: H ₂ O/0.1M HClO ₄ in Glacial Acetic Acid Volume: 500 mL
0.1M Perchloric Acid, 500mL	

0.1N Silver Nitrate	
0.1N-AGNO3-500ML	Matrix: H ₂ O Volume: 500 mL
0.1N Silver Nitrate, 500mL	

0.1M Sodium Hydroxide	
0.1M-NAOH-500ML	Matrix: H ₂ O Volume: 500 mL
0.1M Sodium Hydroxide, 500mL	

0.1N Sodium Thiosulfate	
0.1N-NA2S2O3-500ML	Matrix: H ₂ O Volume: 500 mL
0.1N Sodium Thiosulfate 500 mL. Prepared and standardized according to USP specifications.	

1M Sodium Hydroxide	
1M-NAOH-500ML	Matrix: H ₂ O Volume: 500 mL
1M Sodium Hydroxide, 500mL	

Blank & Rinse Solutions

Blank & Rinse solutions are prepared using double-distilled reagents and 18 megohm (MΩ) deionized water. They come packaged in ultra-clean LDPE bottles and are ready to use. Custom solutions are available upon request.

2% (v/v) Nitric Acid Rinse	
CLP-MS-RINSE Ultra Pure	Matrix: HNO ₃ Dilution: Ready to Use
CLP-MS-RINSE-125ML CLP-MS-RINSE-500ML	Volume: 125 mL Volume: 500 mL

Deionized Blank	
IV-DI-BLANK	Matrix: H ₂ O
IV-DI-BLANK-500ML IV-DI-BLANK-1L	Volume: 500 mL Volume: 1 L

For use with ICP-MS. Designed for ILM05.2 and ILM05.3.

5% (v/v) Nitric Acid Blank	
IV-ACID-BLANK Ultra Pure	Matrix: HNO ₃
IV-ACID-BLANK-500ML IV-ACID-BLANK-1L	Volume: 500 mL Volume: 1 L

Platinum Cobalt 500 CU APHA/Hazen Color Standard	
PT-CO	Matrix: HCl
PT-CO-500ML	Volume: 500 mL
Analyte	µg/mL
Pt	500
Co	250

Discrete Analyzer Reagents

Discrete Analyzer Reagents are packaged in LDPE bottles and are ready to use. These reagents are to be used on a Discrete Analyzer instrument for testing the analyte they are named after.

Chloride Discrete Analyzer Reagent	
DA-CL-COLOR	Matrix: 15% v/v Methanol Dilution: Ready to Use
DA-CL-COLOR-500ML	Volume: 500 mL

o-Phosphate Discrete Analyzer Reagent 1	
DA-PO4-COLOR	Matrix: 9.1% H ₂ SO ₄ Dilution: Ready to Use
DA-PO4-COLOR-500ML	Volume: 500 mL

To be used in conjunction with DA-PO4-ASCORBIC.

Sulfate Discrete Analyzer Reagent	
DA-SO4-TURB	Matrix: 0.5% HCl Dilution: Ready to Use
DA-SO4-TURB-500ML	Volume: 500 mL

o-Phosphate Discrete Analyzer Reagent 2	
DA-PO4-ASCORBIC	Matrix: H ₂ O Dilution: Ready to Use
DA-PO4-ASCORBIC-500ML	Volume: 500 mL

To be used in conjunction with DA-PO4-COLOR.

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