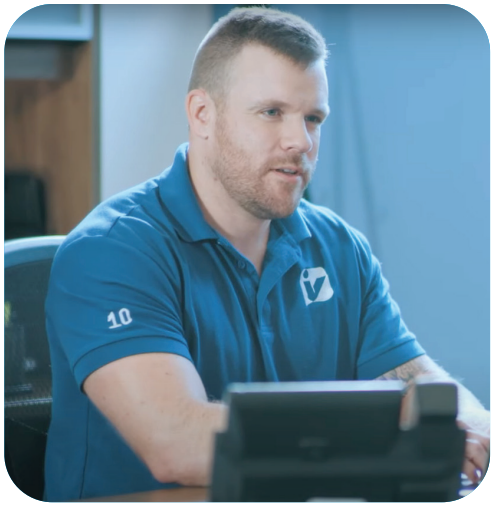
VERSION 21

ISO 17034 | ISO 17025 | ISO 9001







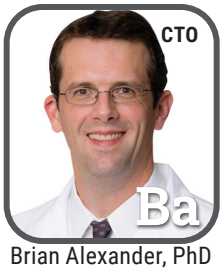
Capabilities Catalog

INORGANIC CUSTOM & STOCK
CERTIFIED REFERENCE MATERIALS

INORGANIC™ VENTURES

Refine your results. Redefine your industry.

Our Employees Are to Our



Brian Alexander, PhD

Mark Allen

Michael Booth

Tom Borak

Hunter Brandon

Jessica Broche

Joseph Burns

Aaron Craggett

Anna Falls

Tyler Farnsworth, PhD

Laura Finley

Olivia Forbes

Brenda Francis

Christopher Gaines

Danielle Hinkley

James Holcomb

Grace Hurst

Eleanor Inman

Jeff Itle

Ashley Jones

Ashley Michael

Michael Newman

Michele Newton

Sydney Nicholas

Lesley Owens, PhD

Autumn Phillips

Mollie Reid

Angela Robson

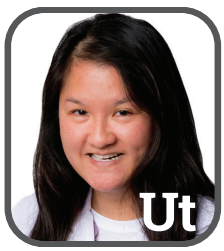
Donna Senn

Brittany Sharpe

Tammy Shepherd

Karen Sporakowski

CEO – Chief Executive Officer
COO – Chief Operating Officer
CTO – Chief Technical Officer
◆ – Director



Uyen Trong

Joshua Underwood

Jodie Wall

Rebecca Weddle

the Key Element Success

Ryan Anderson

Vickie Ayers

Christopher Cruz

Elizabeth Day

Anne De Gastyne

Justin DiRico

Marshall Durrett

Christopher Estes

Paul Gaines, PhD

Madeline Gozzi

Thomas Gwinn

Deborah Haines

Destiny Hancock

Lee Hawthorne

Muzzammil Khan

James King Jr.

Thomas Kozikowski

Theron Lester

William Marble

Madeline Marshall

Ragan Phillips

Nicholas Plymale

Brittany Porterfield

Shalin Presgraves

Courtney Rainer

Josh Rancourt

Adam Stevens

Kathy Stoner

Kelsey Stroupe

Kristin Stroupe

Katie Tindall

Daniel Todd

Colleen Worthington

Justin Yalung

Kayleigh Young

TABLE OF CONTENTS

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.

A2LA ACCREDITED
CERT #883.01 & 883.02

ACCREDITED ISO 17025 0883.01 BY A2LA

ACCREDITED ISO 17034 0883.02 BY A2LA

REGISTERED ISO 9001 QSR-1034 BY QSR

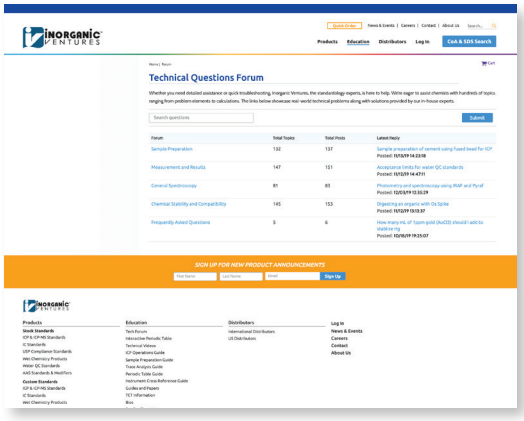
Customs

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...

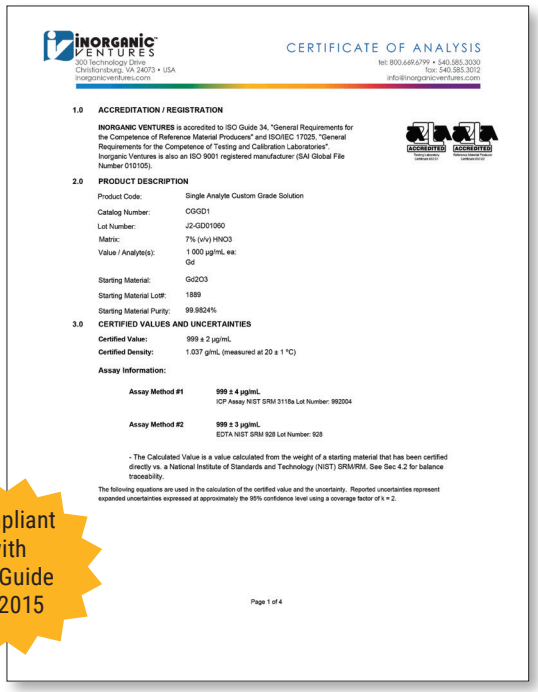
On the web. Our technical library has been expanding for over a decade. Topics include ICP operations, sample preparation, trace metals analysis and much more* There you'll discover the best online tool for analytical chemists with our Interactive Periodic Table. It includes chemical compatibilities, 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
inorganicventures.com

CERTIFICATE OF ANALYSIS
tel: 800.669.6799 • 540.585.3030
fax: 540.585.3012
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 010105).

2.0 PRODUCT DESCRIPTION

Product Code:	Single Analyte Custom Grade Solution
Catalog Number:	CGGD1
Lot Number:	J2-GD01060
Matrix:	7% (v/v) HNO3
Value / Analyte(s):	1 000 µg/mL ea: Gd
Starting Material:	Gd2O3
Starting Material Lot#:	1889
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 vs. a National Institute of Standards and Technology (NIST) SRM/RM. See Sec 4.2 for balance traceability.

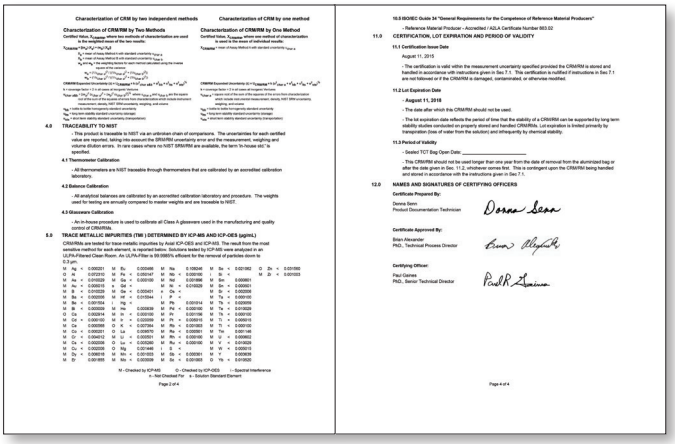
The following equations are used in the calculation of the certified value and the uncertainty. Reported uncertainties represent expanded uncertainties expressed at approximately the 95% confidence level using a coverage factor of k = 2.

Page 1 of 4

Compliant with ISO Guide 31:2015

You'll wonder how you ever got along without such a thorough certificate.

Contact us for a sample.



Certificate of Analysis (CoA)

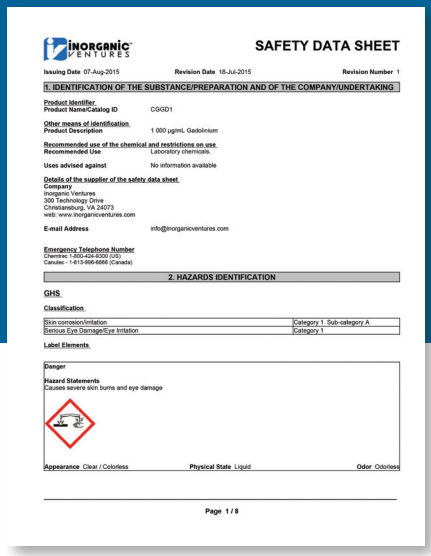
Nearly every CRM we manufacture includes a highly detailed Certificate of Analysis. As an ISO 17034, A2LA accredited manufacturer, we provide certificates that include extensive data to meet the quality requirements of any laboratory:

- **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

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

SAFETY DATA SHEET

Issuing Date 07-Aug-2015 **Revision Date** 18-Jul-2015 **Revision Number** 1

1. IDENTIFICATION OF THE SUBSTANCE/PREPARATION AND OF THE COMPANY/UNDERTAKING

Product Identifier
Product Name/Catalog ID CGGD1

Other means of identification
Product Description 1 000 µg/mL Gadolinium

Recommended use of the chemical and restrictions on use
Recommended Use Laboratory chemicals.

Uses advised against No information available

Details of the supplier of the safety data sheet
Company
Inorganic Ventures
300 Technology Drive
Christiansburg, VA 24073
web: www.inorganicventures.com

E-mail Address info@inorganicventures.com

Emergency Telephone Number
Chemtrec: 1-800-424-9300 (US)
Canutec: 1-613-996-6666 (Canada)

2. HAZARDS IDENTIFICATION

GHS

Classification

Skin corrosion/irritation	Category 1 Sub-category A
Serious Eye Damage/Eye Irritation	Category 1

Label Elements

Danger

Hazard Statements
Causes severe skin burns and eye damage

Appearance Clear / Colorless **Physical State** Liquid **Odor** Odorless

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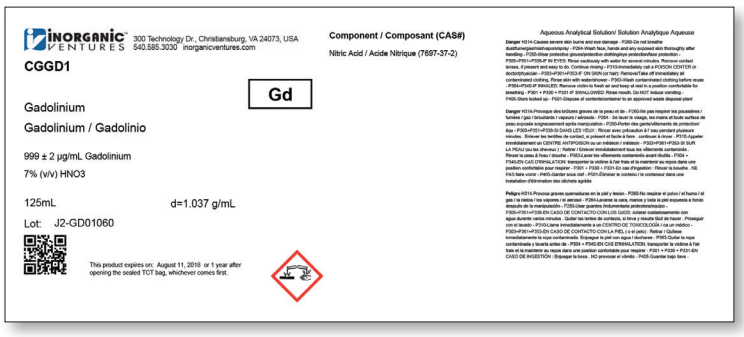
Inorganic Ventures Label



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

CGGD1

Gadolinium
Gadolinium / Gadolinio

999 ± 2 µg/mL Gadolinium
7% (v/v) HNO3

125mL d=1.037 g/mL

Lot: J2-GD01060

This product expires on: August 11, 2018 or 1 year after opening the sealed TCT bag, whichever comes first.

Gd

Component / Composant (CAS#)
Nitric Acid / Acide Nitrique (7697-37-2)

Aqueous Analytical Solution/ Solution Analytique Aqueuse

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.


INORGANIC VENTURES'
Declaration of Integrity

While our reputation is nearly perfect, we are not infallible. That is why every order we ship includes this document. Herein we state, in no uncertain terms, that we are 100% accountable for the quality of our standards and service.

Therefore, if you are dissatisfied with your order for any reason, tell us. We will resolve the situation in whatever way works best for you:

- A full refund
- Complimentary technical services
- A replacement item rushed to you at no cost

Our company was founded on integrity. If our standards are not measuring up to yours, we want to know.

Chris Gaines
CEO

INORGANIC VENTURES
Refine your results, Redefine your industry.

inorganicventures.com | 800.669.6799 | 1.540.585.3030

TRANSPIRATION CONTROL TECHNOLOGY

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.

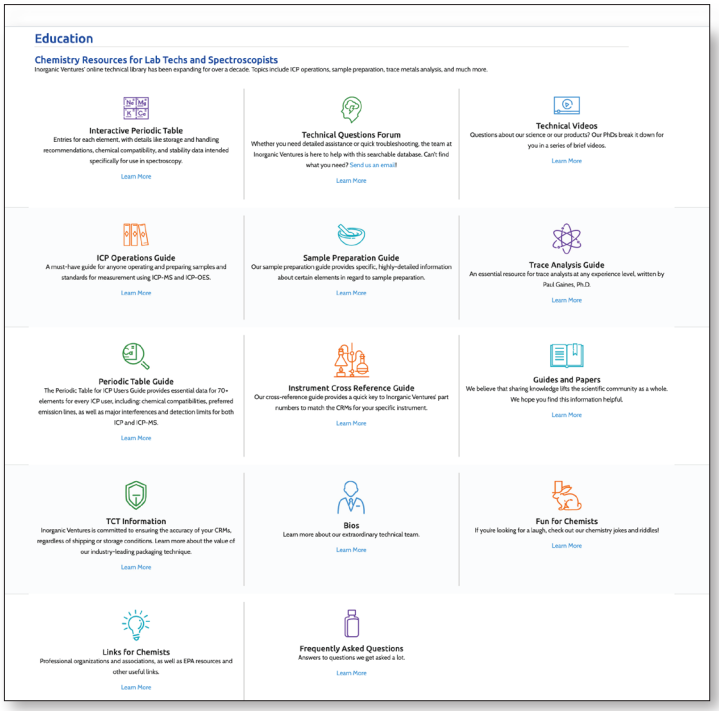
Has the product changed?

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.

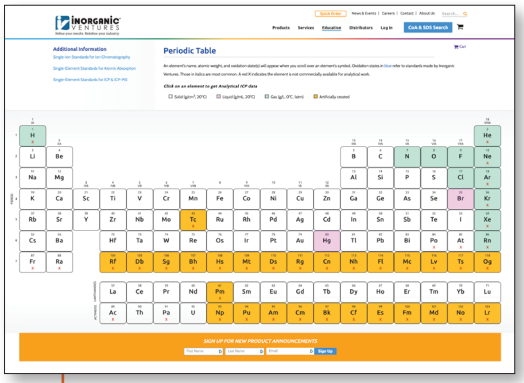
When you order standards from Inorganic Ventures, your product will be delivered in the TCT bag. This means you will be in control of the expiration date. Upon receiving the product, do not open the TCT bag until you are ready to use. To find out how long the product can be in the TCT bag before it expires, 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.

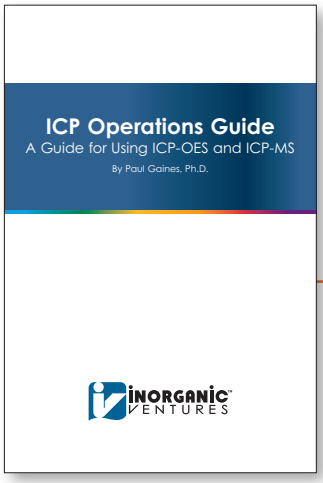
For more information on TCT, visit
inorganicventures.com/tct



inorganicventures.com/tech-center

Visit us online to see all of our upgraded features.





Interactive Periodic Table

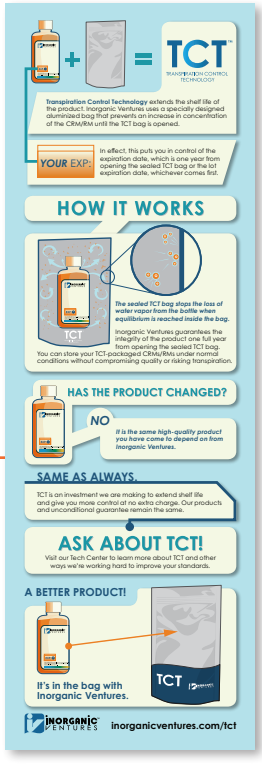
Discover the best online tool for analytical chemists. Includes chemical compatibilities, preferred lines, major interferences and additional data for 70+ elements.

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.

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

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

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.

REGISTERED ISO 9001 QSR-1034 BY QSR

ACCREDITED ISO 17025 0883.01 BY A2LA

ACCREDITED ISO 17034 0883.02 BY A2LA

Refine Your Results. Redefine Your Industry.

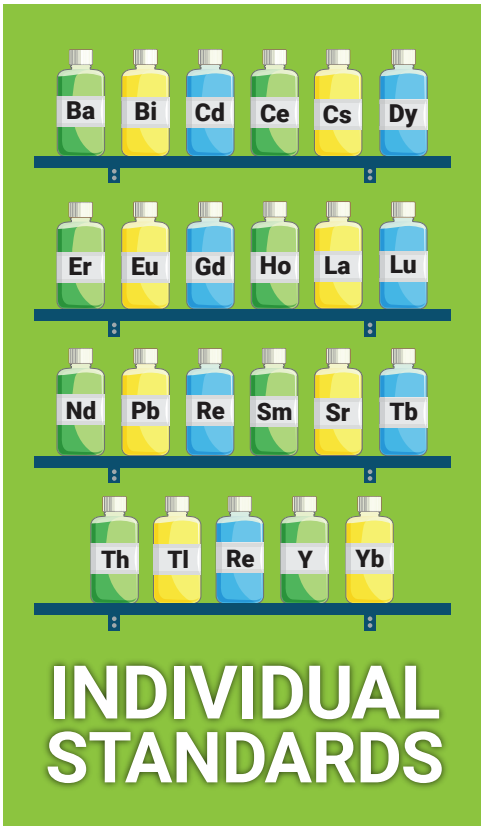
Inorganic Ventures' capabilities are not limited to a stock catalog. In fact, manufacturing custom standards is our passion and area of expertise. Let us lead the way as you refine your results and redefine your industry with our precise customizations.

Contents

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.

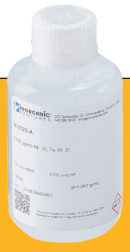
Our custom solutions are manufactured according to your exact specifications and ready for use with no preparation required!

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.

62,000 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	**Save on labor and equipment costs. Ready for immediate use with no prep required.**	✔
Documentation Responsibilities	**All documentation and associated paperwork is handled for you and immediately available if you face an audit.**	✔
Uncertainty and Instability	**Certified, NIST traceable product from experts in elemental compatibility give you peace of mind.**	✔
Storage and Transpiration Issues	**Transpiration Control Technology (TCT) provides up to a 5-year shelf life and allows for flexible storage by increasing allowable temperature range.**	✔
Contamination	**Take advantage of our clean bottles and starting materials.**	✔

TCT™ TRANSPIRATION CONTROL TECHNOLOGY

REGISTERED ISO 9001 QSR-1034 BY QSR
ACCREDITED ISO 17025 0883.01 BY A2LA
ACCREDITED ISO 17034 0883.02 BY A2LA

Customers drowning in water testing regulations?

INORGANIC VENTURES HAS A LIFELINE.

TARGET INDUSTRIES/ APPLICATIONS

- Drinking Water
- Regulatory Monitoring
- Wastewater
- Environmental
- Trade Effluent*

TARGET AUDIENCES

- Chemists
- Method development persons
- Scientists
- QC managers
- Analysts/ Lab Technicians

Platinum Cobalt Color Standard Custom Part # IV-57433

PRODUCT OVERVIEW:

- ISO17034 certified Pt-Co color standard via ICP assay
- Often used to determine the level of contaminants present in water and wastewater which provides a general indication of water quality
- Formulated according to ASTM method D1209-05
- Can be used as a reference solution to analytically determine the yellow hue in liquids using a colorimetric scale method (Hazen or Pt-Co color units)
- Prepared from precise starting materials (Potassium chloroplatinate / Cobalt chloride hexahydrate) as required by the ASTM method and traceable to NIST
- Accompanied by a Certificate of Analysis which contains the UV/Vis spectra as additional information
- Sold at a value of 500 Hazen in a 500mL size
- Can be diluted for calibration or calibration verification (normally between 10 and 500 Hazen)
- Contact Inorganic Ventures for information on custom solutions at alternate Hazen values
- Packaged in our TCT bag which offers a 5-year expiration date and eliminates concerns about shipping and storage

**Trade effluent is largely regulated by utilities groups and government bodies. Color is an inexpensive way to quickly gauge water quality and can save customers thousands of dollars.*

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 63,000 blends that have been developed over the last 37 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.**

Customer Experience

Representatives are available Monday through Friday, between 8:00 a.m. and 5:00 p.m. EST.

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FAX:
540.585.3012

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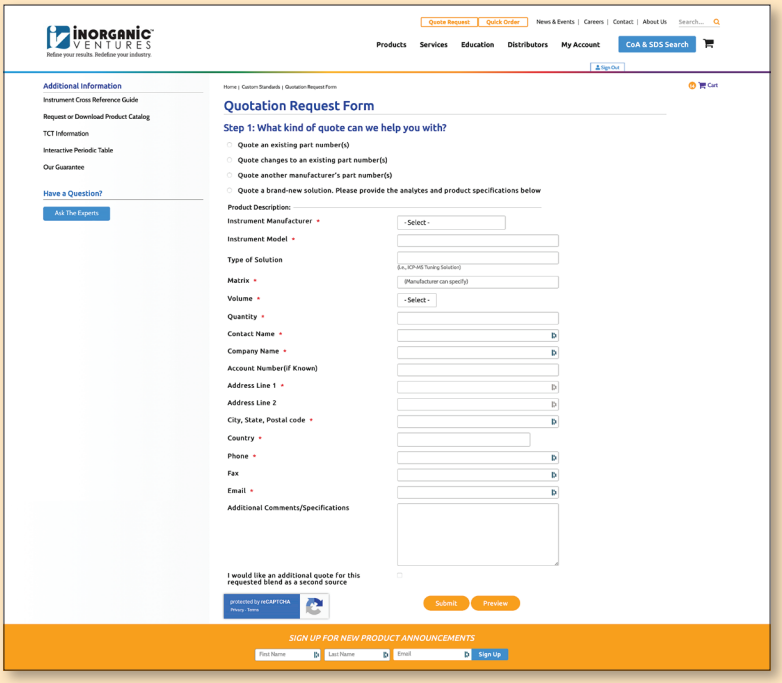

** Quotes with many solutions, complex blends, or unique requirements may take longer to process.*

*** 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.

Contents

- ✔ **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**

ICP-OES & 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.

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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_2O	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	MSMG-10PPM-125ML MSMG-10PPM-500ML
Manganese, Mn	HNO_3	125 mL 500 mL	MSMN-10PPM-125ML MSMN-10PPM-500ML

**Note: Size is 100 mL not 125 mL.*

10 µg/mL Standards

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10 µg/mL

ANALYTE	MATRIX	VOLUME	CATALOG #
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
Molybdenum, Mo	NH_4OH	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_2O	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 500 mL	MSNA-10PPM-125ML MSNA-10PPM-500ML
Strontium, Sr	HNO_3	125 mL	MSSR-10PPM-125ML
Sulfur, S	H_2O	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 500 mL	MSSN-10PPM-125ML 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 500 mL	MSU-10PPM-125ML 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 500 mL	MSZN-10PPM-125ML MSZN-10PPM-500ML

ICP-OES & ICP–MS

SINGLE-ELEMENT STANDARDS

100 µg/mL Standards

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100 µg/mL

ANALYTE	MATRIX	VOLUME	CATALOG #
Aluminum, Al	HNO_3	125 mL 500 mL	MSAL-100PPM-125ML 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 500 mL	MSCA-100PPM-125ML 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_2O	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 500 mL	MSAU-100PPM-125ML MSAU-100PPM-500ML
Hafnium, Hf	HNO_3 / HF	125 mL 500 mL	MSHF-100PPM-125ML 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 500 mL	MSFE-100PPM-125ML MSFE-100PPM-500ML
Lead, Pb	HNO_3	125 mL 500 mL	MSPB-100PPM-125ML MSPB-100PPM-500ML
Lithium, Li	HNO_3	125 mL 500 mL	MSLI-100PPM-125ML MSLI-100PPM-500ML
^{6}Lithium, ^{6}Li	HNO_3	125 mL	MS6LI-100PPM-125ML
Magnesium, Mg	HNO_3	125 mL 500 mL	MSMG-100PPM-125ML MSMG-100PPM-500ML
Manganese, Mn	HNO_3	125 mL	MSMN-100PPM-125ML
Mercury, Hg	HCl	125 mL	MSHG-100PPM-125ML

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_4OH	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_2O	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_2O	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

ICP-OES & ICP–MS

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 125 mL 500 mL	CGAL1-30ML CGAL1-125ML CGAL1-500ML
Aluminum, Al	HCl	30 mL 125 mL 500 mL	CGALCL1-30ML CGALCL1-125ML 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 125 mL 500 mL	CGAS1-30ML CGAS1-125ML CGAS1-500ML
Arsenic^{+3}, As^{+3}	HCl / NaOH / $NaHCO_3$	30 mL 125 mL 500 mL	CGAS(3)1-30ML CGAS(3)1-125ML CGAS(3)1-500ML
Arsenic^{+5}, As^{+5}	H_2O	30 mL 125 mL 500 mL	CGAS(5)1-30ML CGAS(5)1-125ML CGAS(5)1-500ML
Barium, Ba	HNO_3	30 mL 125 mL 500 mL	CGBA1-30ML CGBA1-125ML CGBA1-500ML
Beryllium, Be	HNO_3	30 mL 125 mL 500 mL	CGBE1-30ML CGBE1-125ML CGBE1-500ML
Bismuth, Bi Commonly used as an Internal Standard for ICP-MS.	HNO_3	30 mL 125 mL 500 mL	CGBI1-30ML CGBI1-125ML CGBI1-500ML
Boron, B	NH_4OH	30 mL 125 mL 500 mL	CGB1-30ML CGB1-125ML CGB1-500ML
Bromide, Br- Suitable for analyzing Bromide by ICP-OES.	H_2O	30 mL 125 mL 500 mL	CGICBR1-30ML CGICBR1-125ML CGICBR1-500ML
Cadmium, Cd	HNO_3	30 mL 125 mL 500 mL	CGCD1-30ML CGCD1-125ML CGCD1-500ML
Calcium, Ca	HNO_3	30 mL 125 mL 500 mL	CGCA1-30ML CGCA1-125ML CGCA1-500ML
Carbon, C	HNO_3	125 mL 500 mL	CGC1-125ML CGC1-500ML
Carbon, C Suitable for TOC applications per Standard Methods.	H_2O	125 mL 500 mL	TOCKHP1-125ML TOCKHP1-500ML
Cerium, Ce	HNO_3	30 mL 125 mL 500 mL	CGCE1-30ML CGCE1-125ML CGCE1-500ML

1,000 µg/mL Standards

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1,000 µg/mL

ANALYTE	MATRIX	VOLUME	CATALOG #
Cesium, Cs	HNO_3	30 mL 125 mL	CGCS1-30ML CGCS1-125ML
Chloride, Cl^- Suitable for analyzing Chloride by ICP-OES.	H_2O	125 mL 500 mL	CGICCL1-125ML CGICCL1-500ML
Chromium^{+3}, Cr^{+3}	HNO_3	30 mL 125 mL 500 mL	CGCR(3)1-30ML CGCR(3)1-125ML CGCR(3)1-500ML
Chromium^{+6}, Cr^{+6}	H_2O	30 mL 125 mL 500 mL	CGCR(6)1-30ML CGCR(6)1-125ML CGCR(6)1-500ML
Cobalt, Co	HNO_3	30 mL 125 mL 500 mL	CGCO1-30ML CGCO1-125ML CGCO1-500ML
Copper, Cu	HNO_3	30 mL 125 mL 500 mL	CGCU1-30ML CGCU1-125ML CGCU1-500ML
Dysprosium, Dy	HNO_3	30 mL 125 mL 500 mL	CGDY1-30ML CGDY1-125ML CGDY1-500ML
Erbium, Er	HNO_3	30 mL 125 mL 500 mL	CGER1-30ML CGER1-125ML CGER1-500ML
Europium, Eu	HNO_3	30 mL 125 mL 500 mL	CGEU1-30ML CGEU1-125ML CGEU1-500ML
Gadolinium, Gd	HNO_3	30 mL 125 mL 500 mL	CGGD1-30ML CGGD1-125ML CGGD1-500ML
Gallium, Ga	HNO_3	30 mL 125 mL 500 mL	CGGA1-30ML CGGA1-125ML CGGA1-500ML
Germanium, Ge	HNO_3 / HF	30 mL 125 mL 500 mL	CGGE1-30ML CGGE1-125ML CGGE1-500ML
Gold, Au Can also be used to stabalize low-level Hg for ICP-MS analysis.	HCl	30 mL 125 mL 500 mL	CGAU1-30ML CGAU1-125ML CGAU1-500ML
Gold, Au	HNO_3	30 mL 125 mL 500 mL	CGAUN1-30ML CGAUN1-125ML CGAUN1-500ML
Hafnium, Hf	HNO_3 / HF	30 mL 125 mL 500 mL	CGHF1-30ML CGHF1-125ML CGHF1-500ML
Holmium, Ho Commonly used as an Internal Standard for ICP-MS.	HNO_3	30 mL 125 mL 500 mL	CGHO1-30ML CGHO1-125ML CGHO1-500ML

ICP-OES & ICP–MS

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 125 mL 500 mL	CGIN1-30ML CGIN1-125ML CGIN1-500ML
Iodide, I- Suitable for analyzing Iodide by ICP-OES.	H_2O / TEA	30 mL 125 mL 500 mL	CGICI1-30ML CGICI1-125ML CGICI1-500ML
Iridium, Ir	HCl	30 mL 125 mL 500 mL	CGIR1-30ML CGIR1-125ML CGIR1-500ML
Iron, Fe	HNO_3	30 mL 125 mL 500 mL	CGFE1-30ML CGFE1-125ML CGFE1-500ML
Lanthanum, La	HNO_3	30 mL 125 mL 500 mL	CGLA1-30ML CGLA1-125ML CGLA1-500ML
Lead, Pb	HNO_3	30 mL 125 mL 500 mL	CGPB1-30ML CGPB1-125ML CGPB1-500ML
Lithium, Li	HNO_3	30 mL 125 mL 500 mL	CGLI1-30ML CGLI1-125ML CGLI1-500ML
^{6}Lithium, ^{6}Li Commonly used as an Internal Standard for ICP-MS.	HNO_3	30 mL 125 mL	CG6LI1-30ML CG6LI1-125ML
Lutetium, Lu	HNO_3	30 mL 125 mL 500 mL	CGLU1-30ML CGLU1-125ML CGLU1-500ML
Magnesium, Mg	HNO_3	30 mL 125 mL 500 mL	CGMG1-30ML CGMG1-125ML CGMG1-500ML
Manganese, Mn	HNO_3	30 mL 125 mL 500 mL	CGMN1-30ML CGMN1-125ML CGMN1-500ML
Mercury, Hg	HNO_3	30 mL 125 mL 500 mL	CGHG1-30ML CGHG1-125ML CGHG1-500ML
Molybdenum, Mo	NH_4OH	30 mL 125 mL 500 mL	CGMO1-30ML CGMO1-125ML CGMO1-500ML
Neodymium, Nd	HNO_3	30 mL 125 mL 500 mL	CGND1-30ML CGND1-125ML CGND1-500ML
Nickel, Ni	HNO_3	30 mL 125 mL 500 mL	CGNI1-30ML CGNI1-125ML CGNI1-500ML
Niobium, Nb	HNO_3 / HF	30 mL 125 mL 500 mL	CGNB1-30ML CGNB1-125ML CGNB1-500ML

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 500 mL	CGNB2O51-125ML CGNB2O51-500ML
Osmium, Os	HCl	30 mL 125 mL 500 mL	CGOS1-30ML CGOS1-125ML CGOS1-500ML
Palladium, Pd	HCl	30 mL 125 mL 500 mL	CGPD1-30ML CGPD1-125ML CGPD1-500ML
Palladium, Pd	HNO_3	30 mL 125 mL 500 mL	CGPDN1-30ML CGPDN1-125ML CGPDN1-500ML
Phosphorus, P	H_2O	30 mL 125 mL 500 mL	CGP1-30ML CGP1-125ML CGP1-500ML
Platinum, Pt Contains Chloride	HNO_3	30 mL 125 mL 500 mL	CGPTN1-30ML CGPTN1-125ML CGPTN1-500ML
Platinum, Pt	HCl	30 mL 125 mL 500 mL	CGPT1-30ML CGPT1-125ML CGPT1-500ML
Platinum, Pt Chloride Free	HNO_3	30 mL 125 mL 500 mL	CGPTNO31-30ML CGPTNO31-125ML CGPTNO31-500ML
Potassium, K	HNO_3	30 mL 125 mL 500 mL	CGK1-30ML CGK1-125ML CGK1-500ML
Praseodymium, Pr	HNO_3	30 mL 125 mL 500 mL	CGPR1-30ML CGPR1-125ML CGPR1-500ML
Rhenium, Re	HNO_3	30 mL 125 mL 500 mL	CGRE1-30ML CGRE1-125ML CGRE1-500ML
Rhodium, Rh Commonly used as an Internal Standard for ICP-MS.	HCl	30 mL 125 mL 500 mL	CGRH1-30ML CGRH1-125ML CGRH1-500ML
Rhodium, Rh Commonly used as an Internal Standard for ICP-MS.	HNO_3	30 mL 125 mL 500 mL	CGRHN1-30ML CGRHN1-125ML CGRHN1-500ML
Rubidium, Rb	HNO_3	30 mL 125 mL	CGRB1-30ML CGRB1-125ML
Ruthenium, Ru	HCl	30 mL 125 mL 500 mL	CGRU1-30ML CGRU1-125ML CGRU1-500ML
Samarium, Sm	HNO_3	30 mL 125 mL 500 mL	CGSM1-30ML CGSM1-125ML CGSM1-500ML

ICP-OES & ICP–MS

SINGLE-ELEMENT STANDARDS

1,000 µg/mL Standards

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1,000 µg/mL

ANALYTE	MATRIX	VOLUME	CATALOG #
Scandium, Sc Commonly used as an Internal Standard for ICP-MS.	HNO_3	30 mL 125 mL 500 mL	CGSC1-30ML CGSC1-125ML CGSC1-500ML
Selenium^{+4}, Se^{+4}	HNO_3	30 mL 125 mL 500 mL	CGSE(4)1-30ML CGSE(4)1-125ML CGSE(4)1-500ML
Selenium^{+6}, Se^{+6}	H_2O	30 mL 125 mL	CGSE(6)1-30ML CGSE(6)1-125ML
Silica, SiO_2	HNO_3 / HF	30 mL 125 mL 500 mL	CGSIO1-30ML CGSIO1-125ML CGSIO1-500ML
Silica, SiO_2	NaOH	125 mL 500 mL	CGSIONA1-125ML CGSIONA1-500ML
Silicon, Si	HNO_3 / HF	30 mL 125 mL 500 mL	CGSI1-30ML CGSI1-125ML CGSI1-500ML
Silicon, Si	NaOH	125 mL 500 mL	CGSINA1-125ML CGSINA1-500ML
Silver, Ag	HNO_3	30 mL 125 mL 500 mL	CGAG1-30ML CGAG1-125ML CGAG1-500ML
Sodium, Na	HNO_3	30 mL 125 mL 500 mL	CGNA1-30ML CGNA1-125ML CGNA1-500ML
Strontium, Sr	HNO_3	30 mL 125 mL 500 mL	CGSR1-30ML CGSR1-125ML CGSR1-500ML
Sulfur, S Compatible if mixed with Ba and Pb.	H_2O	125 mL 500 mL	CGMSA1-125ML CGMSA1-500ML
Sulfur, S	H_2O	30 mL 125 mL 500 mL	CGS1-30ML CGS1-125ML CGS1-500ML
Tantalum, Ta	HNO_3 / HF	30 mL 125 mL 500 mL	CGTA1-30ML CGTA1-125ML CGTA1-500ML
Tellurium, Te	HCl	30 mL 125 mL 500 mL	CGTE1-30ML CGTE1-125ML CGTE1-500ML
Tellurium, Te	HNO_3	30 mL 125 mL 500 mL	CGTEN1-30ML CGTEN1-125ML CGTEN1-500ML
Terbium, Tb Commonly used as an Internal Standard for ICP-MS.	HNO_3	30 mL 125 mL 500 mL	CGTB1-30ML CGTB1-125ML CGTB1-500ML

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 #
Thallium, Tl	HNO_3	30 mL 125 mL 500 mL	CGTL1-30ML CGTL1-125ML CGTL1-500ML
Thorium, Th	HNO_3	30 mL 125 mL 500 mL	CGTH1-30ML CGTH1-125ML CGTH1-500ML
Thulium, Tm	HNO_3	30 mL 125 mL 500 mL	CGTM1-30ML CGTM1-125ML CGTM1-500ML
Tin, Sn	HCl	30 mL 125 mL	CGSNCL1-30ML CGSNCL1-125ML
Tin, Sn	HNO_3 / HF	30 mL 125 mL 500 mL	CGSN1-30ML CGSN1-125ML CGSN1-500ML
Titanium, Ti	HNO_3 / HF	30 mL 125 mL 500 mL	CGTI1-30ML CGTI1-125ML CGTI1-500ML
Tungsten, W	HNO_3 / HF	30 mL 125 mL 500 mL	CGW1-30ML CGW1-125ML CGW1-500ML
Tungsten, W	H_2O	125 mL	CGWH2O1-125ML
Uranium, U	HNO_3	30 mL 125 mL 500 mL	CGU1-30ML CGU1-125ML CGU1-500ML
Vanadium, V	HNO_3	30 mL 125 mL 500 mL	CGV1-30ML CGV1-125ML CGV1-500ML
Ytterbium, Yb	HNO_3	30 mL 125 mL 500 mL	CGYB1-30ML CGYB1-125ML CGYB1-500ML
Yttrium, Y Commonly used as an Internal Standard for ICP-MS.	HNO_3	30 mL 125 mL 500 mL	CGY1-30ML CGY1-125ML CGY1-500ML
Zinc, Zn	HNO_3	30 mL 125 mL 500 mL	CGZN1-30ML CGZN1-125ML CGZN1-500ML
Zirconium, Zr	HF	30 mL 125 mL 500 mL	CGZR1-30ML CGZR1-125ML 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

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!

10,000 µg/mL

ANALYTE	MATRIX	VOLUME	CATALOG #
Aluminum, Al	HNO_3	30 mL 125 mL 500 mL	CGAL10-30ML CGAL10-125ML CGAL10-500ML
Antimony, Sb	HNO_3 / Tartaric Acid	125 mL 500 mL	CGSB10-125ML CGSB10-500ML
Arsenic, As	HNO_3	30 mL 125 mL 500 mL	CGAS10-30ML CGAS10-125ML CGAS10-500ML
Barium, Ba	HNO_3	125 mL 500 mL	CGBA10-125ML CGBA10-500ML
Beryllium, Be	HNO_3	125 mL 500 mL	CGBE10-125ML CGBE10-500ML
Bismuth, Bi	HNO_3	30 mL 125 mL 500 mL	CGBI10-30ML CGBI10-125ML CGBI10-500ML
Boron, B	NH_4OH	125 mL 500 mL	CGB10-125ML CGB10-500ML
Cadmium, Cd	HNO_3	125 mL 500 mL	CGCD10-125ML CGCD10-500ML
Calcium, Ca	HNO_3	30 mL 125 mL 500 mL	CGCA10-30ML CGCA10-125ML CGCA10-500ML
Carbon, C	HNO_3	125 mL	CGC10-125ML
Cerium, Ce	HNO_3	30 mL 125 mL 500 mL	CGCE10-30ML CGCE10-125ML CGCE10-500ML
Cesium, Cs	HNO_3	125 mL 500 mL	CGCS10-125ML CGCS10-500ML
Chromium^{+3}, Cr^{+3}	HNO_3	30 mL 125 mL 500 mL	CGCR(3)10-30ML CGCR(3)10-125ML CGCR(3)10-500ML
Cobalt, Co Commonly used as an Internal Standard for ICP-OES.	HNO_3	30 mL 125 mL 500 mL	CGCO10-30ML CGCO10-125ML CGCO10-500ML
Copper, Cu	HNO_3	30 mL 125 mL 500 mL	CGCU10-30ML CGCU10-125ML CGCU10-500ML
Dysprosium, Dy	HNO_3	30 mL 125 mL 500 mL	CGDY10-30ML CGDY10-125ML CGDY10-500ML
Erbium, Er	HNO_3	30 mL 125 mL 500 mL	CGER10-30ML CGER10-125ML CGER10-500ML
Europium, Eu	HNO_3	30 mL 125 mL 500 mL	CGEU10-30ML CGEU10-125ML CGEU10-500ML

10,000 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.

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10,000 µg/mL

ANALYTE	MATRIX	VOLUME	CATALOG #
Gadolinium, Gd	HNO_3	30 mL 125 mL 500 mL	CGGD10-30ML CGGD10-125ML CGGD10-500ML
Gallium, Ga	HNO_3	125 mL 500 mL	CGGA10-125ML CGGA10-500ML
Germanium, Ge	HNO_3 / HF	125 mL 500 mL	CGGE10-125ML CGGE10-500ML
Gold, Au	HCl	30 mL 125 mL 500 mL	CGAU10-30ML CGAU10-125ML CGAU10-500ML
Hafnium, Hf	HNO_3 / HF	125 mL 500 mL	CGHF10-125ML CGHF10-500ML
Holmium, Ho	HNO_3	30 mL 125 mL 500 mL	CGHO10-30ML CGHO10-125ML CGHO10-500ML
Indium, In Commonly used as an Internal Standard for ICP-OES.	HNO_3	125 mL 500 mL	CGIN10-125ML CGIN10-500ML
Iridium, Ir	HCl	30 mL 125 mL 500 mL	CGIR10-30ML CGIR10-125ML CGIR10-500ML
Iron, Fe	HNO_3	30 mL 125 mL 500 mL	CGFE10-30ML CGFE10-125ML CGFE10-500ML
Lanthanum, La	HNO_3	30 mL 125 mL 500 mL	CGLA10-30ML CGLA10-125ML CGLA10-500ML
Lead, Pb	HNO_3	30 mL 125 mL 500 mL	CGPB10-30ML CGPB10-125ML CGPB10-500ML
Lithium, Li	HNO_3	30 mL 125 mL 500 mL	CGLI10-30ML CGLI10-125ML CGLI10-500ML
Lutetium, Lu	HNO_3	30 mL 125 mL 500 mL	CGLU10-30ML CGLU10-125ML CGLU10-500ML
Magnesium, Mg	HNO_3	30 mL 125 mL 500 mL	CGMG10-30ML CGMG10-125ML CGMG10-500ML
Manganese, Mn	HNO_3	30 mL 125 mL 500 mL	CGMN10-30ML CGMN10-125ML CGMN10-500ML
Mercury, Hg	HNO_3	125 mL 500 mL	CGHG10-125ML CGHG10-500ML
Molybdenum, Mo	NH_4OH	30 mL 125 mL 500 mL	CGMO10-30ML CGMO10-125ML CGMO10-500ML

SINGLE-ELEMENT STANDARDS

10,000 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!

10,000 µg/mL

ANALYTE	MATRIX	VOLUME	CATALOG #
Neodymium, Nd	HNO_3	30 mL 125 mL 500 mL	CGND10-30ML CGND10-125ML CGND10-500ML
Nickel, Ni	HNO_3	30 mL 125 mL 500 mL	CGNI10-30ML CGNI10-125ML CGNI10-500ML
Niobium, Nb	HNO_3 / HF	125 mL	CGNB10-125ML
Niobium, Nb High purity, low Tantalum	HNO_3 / HF	125 mL 500 mL	CGNB2O510-125ML CGNB2O510-500ML
Palladium, Pd	HCl	30 mL 125 mL 500 mL	CGPD10-30ML CGPD10-125ML CGPD10-500ML
Phosphorus, P	H_2O	30 mL 125 mL 500 mL	CGP10-30ML CGP10-125ML CGP10-500ML
Platinum, Pt	HCl	30 mL 125 mL 500 mL	CGPT10-30ML CGPT10-125ML CGPT10-500ML
Potassium, K	HNO_3	30 mL 125 mL 500 mL	CGK10-30ML CGK10-125ML CGK10-500ML
Praseodymium, Pr	HNO_3	30 mL 125 mL 500 mL	CGPR10-30ML CGPR10-125ML CGPR10-500ML
Rhenium, Re	HNO_3	125 mL 500 mL	CGRE10-125ML CGRE10-500ML
Rhodium, Rh	HCl	30 mL 125 mL 500 mL	CGRH10-30ML CGRH10-125ML CGRH10-500ML
Rubidium, Rb	HNO_3	125 mL 500 mL	CGRB10-125ML CGRB10-500ML
Ruthenium, Ru	HCl	30 mL 125 mL 500 mL	CGRU10-30ML CGRU10-125ML CGRU10-500ML
Samarium, Sm	HNO_3	30 mL 125 mL 500 mL	CGSM10-30ML CGSM10-125ML CGSM10-500ML
Scandium, Sc Commonly used as an Internal Standard for ICP-OES.	HNO_3	30 mL 125 mL 500 mL	CGSC10-30ML CGSC10-125ML CGSC10-500ML
Selenium, Se	HNO_3	30 mL 125 mL 500 mL	CGSE10-30ML CGSE10-125ML CGSE10-500ML
Silicon, Si	HNO_3 / HF	30 mL 125 mL 500 mL	CGSI10-30ML CGSI10-125ML CGSI10-500ML

10,000 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!

10,000 µg/mL

ANALYTE	MATRIX	VOLUME	CATALOG #
Silver, Ag	HNO_3	125 mL 500 mL	CGAG10-125ML CGAG10-500ML
Sodium, Na	HNO_3	30 mL 125 mL 500 mL	CGNA10-30ML CGNA10-125ML CGNA10-500ML
Strontium, Sr	HNO_3	125 mL 500 mL	CGSR10-125ML CGSR10-500ML
Sulfur, S Compatible if mixed with Ba and Pb.	H_2O	125 mL 500 mL	CGMSA10-125ML CGMSA10-500ML
Sulfur, S	H_2O	30 mL 125 mL 500 mL	CGS10-30ML CGS10-125ML CGS10-500ML
Tantalum, Ta	HNO_3 / HF	125 mL	CGTA10-125ML
Tellurium, Te	HCl	125 mL 500 mL	CGTE10-125ML CGTE10-500ML
Terbium, Tb	HNO_3	30 mL 125 mL 500 mL	CGTB10-30ML CGTB10-125ML CGTB10-500ML
Thallium, Tl	HNO_3	125 mL 500 mL	CGTL10-125ML CGTL10-500ML
Thorium, Th	HNO_3	125 mL	CGTH10-125ML
Thulium, Tm	HNO_3	30 mL 125 mL 500 mL	CGTM10-30ML CGTM10-125ML CGTM10-500ML
Tin, Sn	HNO_3 / HF	30 mL 125 mL 500 mL	CGSN10-30ML CGSN10-125ML CGSN10-500ML
Titanium, Ti	HNO_3 / HF	30 mL 125 mL 500 mL	CGTI10-30ML CGTI10-125ML CGTI10-500ML
Tungsten, W	HNO_3 / HF	125 mL 500 mL	CGW10-125ML CGW10-500ML
Uranium, U	HNO_3	30 mL 125 mL 500 mL	CGU10-30ML CGU10-125ML CGU10-500ML
Vanadium, V	HNO_3	30 mL 125 mL 500 mL	CGV10-30ML CGV10-125ML CGV10-500ML
Ytterbium, Yb	HNO_3	30 mL 125 mL 500 mL	CGYB10-30ML CGYB10-125ML CGYB10-500ML
Yttrium, Y Commonly used as an Internal Standard for ICP-OES.	HNO_3	30 mL 125 mL 500 mL	CGY10-30ML CGY10-125ML CGY10-500ML

ICP-OES & ICP–MS

SINGLE-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. 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!

10,000 µg/mL

ANALYTE	MATRIX	VOLUME	CATALOG #
Zinc, Zn	HNO_3	30 mL 125 mL 500 mL	CGZN10-30ML CGZN10-125ML CGZN10-500ML
Zirconium, Zr	HF	30 mL 125 mL 500 mL	CGZR10-30ML CGZR10-125ML CGZR10-500ML
Zirconium, Zr HF free	HCl	125 mL 500 mL	CGZRCL10-125ML 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.

For more information, visit **inorganicventures.com/ICP**.

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 500 mL	AACUCN-125ML AACUCN-500ML
Gold, Au	1,000	NaCN	125 mL 500 mL	AAAUCN-125ML AAAUCN-500ML
Silver, Ag	1,000	NaCN	125 mL 500 mL	AAAGCN-125ML AAAGCN-500ML
Zinc, Zn	1,000	NaCN	125 mL 500 mL	AAZNCN-125ML 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
- JY HORIBA Jobin Yvon
- M Merck/MilliporeSigma
- N NIST
- PE Perkin Elmer
- S Spectro
- T Thermo Scientific
- C Common Multi-Element Standards
- I Common Multi-Ion Standards
- U USP Method <232>

Instrument Cross-Reference Table

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	*Custom*
5185-5959	**IV-STOCK-74**	p.44
5185-5959	IV-19645	*Custom*
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	*Custom*
5190-7001	IV-ACID-BLANK	p.108
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	*Custom*
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

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

NIST Multi-Element Standards (N)

NIST#	Inorganic Ventures#	Page
SRM1643f	IV-STOCK-1643	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	*Custom*
4301 228 21401	IV-STOCK-31	p.42

Instrument Cross-Reference Table

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

Perkin Elmer (PE)

Perkin Elmer#	Inorganic Ventures#	Page
N0582152	IV-32705	*Custom*
N0681470	**IV-STOCK-14**	p.40
N8125032	**IV-STOCK-22**	p.41
N8145051	IV-STOCK-77	p.44
N8145059	IV-18218	*Custom*
N9300208	IV-STOCK-54	p.43
N9300218	**IV-STOCK-34**	p.42
N9300231	**IV-STOCK-30**	p.42
N9300232	**IV-STOCK-26**	p.41
N9300234	IV-STOCK-28	p.42
N9300233	IV-STOCK-21 & MSHGN-10PPM	p.40 p.55
N9300235	IV-STOCK-29	p.42
N9301720	IV-STOCK-21	p.40
N9301721	IV-14208	*Custom*
N9302946	IV-STOCK-55	p.44
N9303818	**IV-STOCK-35**	p.42
N9303821	**PE-CHK-1**	p.49
N9303832	IV-STOCK-53	p.43
N9303843	**PE-TS-1**	p.50
N9303941	IV-19762	*Custom*
N9307113	IV-25755	*Custom*
N9307114	IV-18652	*Custom*
N9307116	IV-18653	*Custom*

Spectro (S)

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

Common Multi-Element Standards (C)

Inorganic Ventures#	Page
IV-STOCK-2	p.38
IV-STOCK-3	p.38
IV-STOCK-31	p.42
IV-STOCK-36	p.43
IV-STOCK-56	p.44
IV-STOCK-57	p.44
IV-STOCK-58	p.44
THM-TS-1	p.50

USP Method <232> (U)

Inorganic Ventures#	Page
IV-STOCK-38	p.53
IV-STOCK-40	p.53
IV-STOCK-41	p.53
IV-STOCK-60	p.53
IV-STOCK-65	p.53
IV-STOCK-66	p.54
IV-STOCK-67	p.54
IV-STOCK-68	p.54
IV-STOCK-69	p.54
IV-STOCK-70	p.54

IONS

Common Multi-Ion Standards (I)

Inorganic Ventures#	Page
IC-FAS-1A	p.89
IC-SCS1	p.89
IV-STOCK-7	p.39, 89
IV-STOCK-59	p.89

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 **IV-STOCK-2-500ML**		Volume: 125 mL 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 **IV-STOCK-3-500ML**		Volume: 125 mL 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 **IV-STOCK-4-500ML**		Volume: 125 mL 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

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 IV-STOCK-7-500ML	Volume: 125 mL 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 IV-STOCK-8-500ML	Volume: 125 mL 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

Multi-Element Standards | Identical or **near identical** formulations

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 (M) (PE)	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 (M)	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 (M)	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 (M) (PE)	Matrix: HNO_3		
IV-STOCK-21-125ML **IV-STOCK-21-500ML**	Volume: 125 mL 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		

(M) Merck/MilliporeSigma

(PE) 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-22 (PE)	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 (M)	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 (AV) (M)	Matrix: HNO_3		
IV-STOCK-24-125ML **IV-STOCK-24-500ML**	Volume: 125 mL 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 (AV) (PE)	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 (AV)	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		

(AV) Agilent/Varian
(M) Merck/MilliporeSigma
(PE) Perkin Elmer

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-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		

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 **IV-STOCK-33-500ML**	Volume: 125 mL 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 **IV-STOCK-34-500ML**	Volume: 125 mL 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		

AV Agilent/Varian

C Common Multi-Element Standards

JY HORIBA Jobin Yvon

PE 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-36 (C)	Matrix: HCl		
IV-STOCK-36-125ML IV-STOCK-36-500ML	Volume: 125 mL Volume: 500 mL		
Analyte	**µg/mL**	**Analyte**	**µg/mL**
Au	100	Pt	100
Pd	100		

Environmental Calibration Standard

IV-STOCK-50 (AV)	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 (AV) (PE)	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
^6Li	10		

(AV) Agilent/Varian
(C) Common Multi-Element Standards
(PE) Perkin Elmer

7500 Series PA Tuning Solution 1
(commonly used with IV-Stock-52)

IV-STOCK-51 (AV)	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
^6Li	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 (PE)	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		

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.

Wavecal Standard

IV-STOCK-55 (PE)	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 (C)	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 (C)	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 (C)	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

ICP-MS Tuning Solution

IV-STOCK-74 (AV)	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 (AV)	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 (PE)	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

AV Agilent/Varian

C Common Multi-Element Standards

PE Perkin Elmer

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% HNO_3. 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 CMS-2-500ML	Volume: 125 mL 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 CMS-4-500ML	Volume: 125 mL 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 CMS-5-500ML	Volume: 125 mL 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% HNO_3. 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 CCS-1-500ML	Volume: 125 mL 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 CCS-4-500ML	Volume: 125 mL 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 CCS-5-500ML	Volume: 125 mL 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

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% HNO_3. 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 **CCS-6-500ML**		Volume: 125 mL 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 **IV-ICPMS-71B-500ML**		Volume: 125 mL 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 **IV-ICPMS-71A-500ML**		Volume: 125 mL 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% HNO_3. 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 **IV-ICPMS-71C-500ML**		Volume: 125 mL 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 **IV-ICPMS-71D-500ML**		Volume: 125 mL 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 **MSHG-10PPM-500ML**	Volume: 125 mL 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

Identical or **near identical** formulations | Multi-Element Standards

AGI Tuning Solution

AGI-TS-1 (AV)	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 (S)	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 (S)	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 (N)	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 (PE)	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.

(AV) Agilent/Varian
(N) NIST
(PE) Perkin Elmer
(S) 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		

*Parts per billion

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

Tune F-X-Series Tuning Solution

TUNE F-X-SERIES (T)	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.

Calibration Standard

VAR-CAL-1 (AV)	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 (AV)	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 (AV)	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.

(AV) Agilent/Varian
(T) Thermo Scientific

ICP-OES & ICP–MS

MULTI-ELEMENT STANDARDS

Multi-Element Standards

Identical or **near identical** formulations

ICP Internal Standard			
VAR-IS-1 (AV)		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

Tuning Solution			
VAR-TS-MS (AV)		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.

(AV) Agilent/Varian

HIGH-PURITY IONIZATION BUFFERS

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.

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 (U)		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 (U)		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

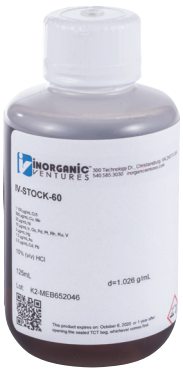
USP <232> Parenteral Elemental Impurities			
IV-STOCK-41 (U)		Matrix: HNO_3	
IV-STOCK-41-125ML		Volume: 125 mL	
Analyte	µg/mL	Analyte	µg/mL
As	1.5	Mo	10
Cd	2.5	Ni	50
Cu	100	Pb	5
Hg	1.5	V	10

USP <232> Drug Substance and Excipients			
IV-STOCK-60 (U)		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 (U)		Matrix: HNO_3	
IV-STOCK-65-125ML		Volume: 125 mL	
Analyte	µg/mL	Analyte	µg/mL
As	15	Hg	30
Cd	5	Pb	5

ACCREDITED ISO 17025 0883.01 BY A2LA

ACCREDITED ISO 17034 0883.02 BY A2LA



(U) USP Method <232>

USP Method <232> — Elemental Impurities Compliance Standards

USP <232> / ICH Q3D Class 2A Oral Elemental Impurities			
IV-STOCK-66 U		Matrix: HNO_3	
IV-STOCK-66-125ML		Volume: 125 mL	
Analyte	**µg/mL**	**Analyte**	**µg/mL**
Co	50	**V**	100
Ni	200		

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 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.*

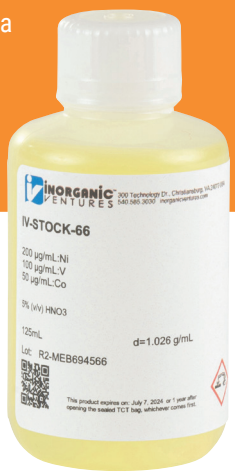
USP <232> / ICH Q3D Class 3 Oral Elemental Impurities			
IV-STOCK-69 U		Matrix: HNO_3/tr HF	
IV-STOCK-69-125ML		Volume: 125 mL	
Analyte	**µg/mL**	**Analyte**	**µg/mL**
Ba	140	**Mo**	300
Cr	1100	**Sb**	120
Cu	300	**Sn**	600
Li	55		

U USP Method <232>

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

Don't see exactly what you are looking for?

With the continuous USP <232> revisions over the years, you may require an older method or possibly a newer one. Contact us to find out the best USP method for your custom manufacturing needs.



Heavy Metals — Single Element Standards

Bringing Confidence to the Cannibis 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

Heavy Metals — Single Element Standards

1,000 µg/mL

ANALYTE	MATRIX	VOLUME	CATALOG #
Arsenic, As	HNO_3	30 mL 125 mL 500 mL	CGAS1-30ML CGAS1-125ML CGAS1-500ML
Arsenic^{+3}, As^{+3}	HCl / NaOH / $NaHCO_3$	30 mL 125 mL 500 mL	CGAS(3)1-30ML CGAS(3)1-125ML CGAS(3)1-500ML
Arsenic^{+5}, As^{+5}	H_2O	30 mL 125 mL 500 mL	CGAS(5)1-30ML CGAS(5)1-125ML CGAS(5)1-500ML
Cadmium, Cd	HNO_3	30 mL 125 mL 500 mL	CGCD1-30ML CGCD1-125ML CGCD1-500ML
Lead, Pb	HNO_3	30 mL 125 mL 500 mL	CGPB1-30ML CGPB1-125ML CGPB1-500ML
Mercury, Hg	HNO_3	30 mL 125 mL 500 mL	CGHG1-30ML CGHG1-125ML CGHG1-500ML

10,000 µg/mL

ANALYTE	MATRIX	VOLUME	CATALOG #
Arsenic, As	HNO_3	30 mL 125 mL 500 mL	CGAS10-30ML CGAS10-125ML CGAS10-500ML
Cadmium, Cd	HNO_3	125 mL 500 mL	CGCD10-125ML CGCD10-500ML
Lead, Pb	HNO_3	30 mL 125 mL 500 mL	CGPB10-30ML CGPB10-125ML CGPB10-500ML
Mercury, Hg	HNO_3	125 mL 500 mL	CGHG10-125ML 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.

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

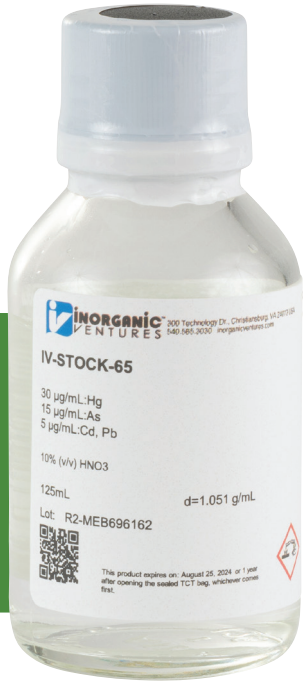
The following are custom products. They are available to order, but not are not stock items.

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.

Contents

- ✔ **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**

ILMO3.0

Standards for ILMO3.0 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.

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

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.

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

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 **CLPP-ICS-A-500ML**		Volume: 125 mL 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

ILMO4.0

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

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

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		

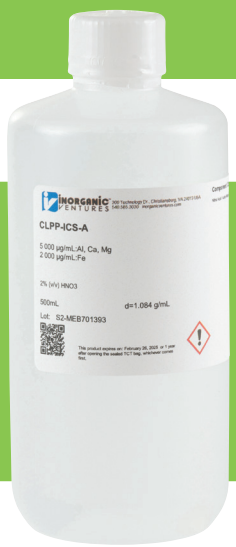
For use as initial/continuing calibration verification standard in EPA Contract Laboratory Program (CLP) methods. Does not contain antimony (Sb). Please see CGSB1 or QCP-CICV-2 for suitable Sb reference standard.

ILMO4.0

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.

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.

Interference Check Standards

Interference Check Standard A			
CLPP-ICS-A		Matrix: HNO_3 Dilution 1:10	
CLPP-ICS-A-125ML **CLPP-ICS-A-500ML**		Volume: 125 mL 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.

ILMO5.2 & ILMO5.3

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.

ILMO5.2 & ILMO5.3

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 CLPP-ICS-A-500ML		Volume: 125 mL 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.

ILMO5.2 & ILMO5.3

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 **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.

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.

Method 200.7 ILMO5.2 & ILMO5.3

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	Matrix: HNO_3
CLP-MS-RINSE-125ML **CLP-MS-RINSE-500ML**	Volume: 125 mL 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 MΩ 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	**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

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	**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.

Method 200.7

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)**
SiO_2	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.

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

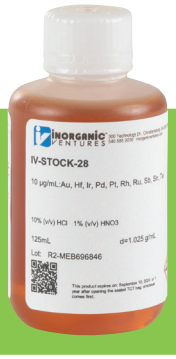
For use as ICP-OES QC standard in EPA Method 200.7. Based upon Revisions 3.3 and 4.4 and suitable for all 200.7 versions.

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.

Don't see what you need?

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



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

Method 200.7

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†		Matrix: HNO_3 / HF Dilution 1:100	
IV-19			
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†		Matrix: HNO_3 / HF Dilution 1:100	
IV-21			
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†		Matrix: HNO_3 / HF Dilution 1:100	
IV-26			
IV-26-125ML **IV-26-500ML**		Volume: 125 mL 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†		Matrix: HNO_3 / HF Dilution 1:100	
IV-28			
IV-28-125ML **IV-28-500ML**		Volume: 125 mL 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.

Method 200.7

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)**
SiO_2	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.

Method 200.7

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
SiO_2	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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Method 200.7

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
SiO_2	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.

Method 200.7

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.

Method 200.7

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		

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

Quality Control Standard†			
IV-26		Matrix: HNO_3 / HF Dilution 1:100	
IV-26-125ML **IV-26-500ML**		Volume: 125 mL 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 **IV-28-500ML**		Volume: 125 mL 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

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.

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 2008CAL-2-500ML		Volume: 125 mL 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.

Method 200.8

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

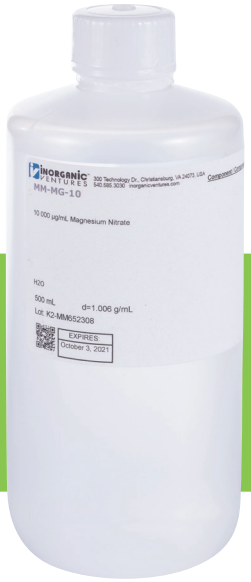
For use in EPA Toxicity Characteristic Leachate Procedure (TCLP). Custom EPA standards are available upon request.

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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Method 6020

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.

Method 6020

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 **6020ICS-9A-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-	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 **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.

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.

Method 6020

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.

Method 6020

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.

Now, YOU control the expiration date.

With TCT, concerns about shipping and storage conditions are eliminated, as transpiration is no longer an issue. This saves you money and simplifies research by removing the need to constantly inventory and restock CRMs.

Find out more at **inorganicventures.com/tct**.

If you've been searching for an atypical Ion Chromatography standard, look no further.

Over the years, we've developed the most complete line of IC standards on the market. Our technicians have stabilized more than a dozen rare anion and cation standards thatyou won't find anywhere else.

Contents

- ✔ **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**

ANION STANDARDS

1,000 µg/mL Anions

Custom anion standards are available upon request.

1,000 µg/mL

ANALYTE	MATRIX	STARTING MATERIAL	VOLUME	CATALOG #
Acetate, $C_2H_3O_2$-	H_2O	Sodium acetate	125 mL 500 mL	ICOAC1-125ML ICOAC1-500ML
Adipate, $C_6H_8O_4^{-2}$	H_2O	Adipic acid	125 mL	ICADP1-125ML
Benzoate, $C_6H_5CO_2$-	H_2O	Benzoic acid	125 mL	ICBEN1-125ML
Bromate, BrO_3-	H_2O	$KBrO_3$	125 mL 500 mL	ICBRO31-125ML ICBRO31-500ML
Bromide, Br-	H_2O	KBr	125 mL 500 mL	ICBR1-125ML ICBR1-500ML
Butyrate, $C_4H_7O_2$-	H_2O	Butyric acid	125 mL	ICBTR1-125ML
Carbonate, CO_3^{-2}	H_2O	Na_2CO_3	125 mL 500 mL	ICCO31-125ML ICCO31-500ML
Chlorate, ClO_3-	H_2O	$KClO_3$	125 mL 500 mL	ICCLO31-125ML ICCLO31-500ML
Chloride, Cl-	H_2O	KCl	125 mL 500 mL	ICCL1-125ML ICCL1-500ML
Chlorite, ClO_2-	H_2O	$NaClO_2$	125 mL 500 mL	ICCLO21-125ML ICCLO21-500ML
Chromate, CrO_4^{-2}	H_2O	$(NH_4)_2\ Cr_2O_7$	125 mL	ICCRO41-125ML
Citrate, $C_6H_5O_7^{-3}$	H_2O	Citric acid	125 mL 500 mL	ICCIT1-125ML ICCIT1-500ML
Cyanide, NaCN	H_2O	Sodium cyanide	20 mL	CN-1000-25-20ML
Fluoride, F-	H_2O	NaF	125 mL 500 mL	ICF1-125ML ICF1-500ML
Formate, HCO_2-	H_2O	Sodium formate	125 mL 500 mL	ICHCO1-125ML ICHCO1-500ML
Glutarate, $C_5H_6O_4^{-2}$	H_2O	Glutaric acid	125 mL	ICGTR1-125ML
Glycolate, $C_2H_3O_3$-	H_2O	Glycolic acid	125 mL	ICGLY1-125ML
Iodide, I-	H_2O / stabilizer	NH_4I	125 mL 500 mL	ICI1-125ML ICI1-500ML
Lactate, $C_3H_5O_3$-	H_2O	Lactic acid	125 mL	ICLCT1-125ML
Malate, $C_4H_4O_5^{-2}$	H_2O	Malic acid	125 mL	ICMLA1-125ML
Maleate, $C_4H_2O_4^{-2}$	H_2O	Maleic acid	125 mL	ICMLE1-125ML
Malonate, $C_3H_2O_4^{-2}$	H_2O	Malonic acid	125 mL	ICMLO1-125ML
Methanesulfonate, CH_3SO_3-	H_2O	Methanesulfonic acid	125 mL	ICMSA1-125ML
Nitrate, NO_3-	H_2O	$NaNO_3$	125 mL 500 mL	ICNO31-125ML ICNO31-500ML
Nitrate as Nitrogen	H_2O	$NaNO_3$	125 mL 500 mL	ICNNO31-125ML ICNNO31-500ML
Nitrilotriacetate, $NC_6H_6O_6^{-3}$	H_2O	Nitrilotriacetic acid	125 mL	ICNTA1-125ML
Nitrite, NO_2-	H_2O	$NaNO_2$	125 mL 500 mL	ICNO21-125ML ICNO21-500ML
Nitrite as Nitrogen	H_2O	$NaNO_2$	125 mL 500 mL	ICNNO21-125ML 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, $C_2O_4^{-2}$	H_2O	Sodium oxalate	125 mL 500 mL	ICOXA1-125ML ICOXA1-500ML
Perchlorate, ClO_4-	H_2O	$KClO_4$	125 mL 500 mL	ICCLO41-125ML ICCLO41-500ML
Phosphate, PO_4^{-3}	H_2O	$NH_4H_2PO_4$	125 mL 500 mL	ICPO41-125ML ICPO41-500ML
Phosphate as Phosphorus	H_2O	$NH_4H_2PO_4$	125 mL 500 mL	ICPPO41-125ML ICPPO41-500ML
Phthalate, $C_6H_4(CO_2)_2^{-2}$	H_2O	Potassium hydrogen phthalate	125 mL	ICKHP1-125ML
Propionate, $C_2H_5CO_2$-	H_2O	Sodium propionate	125 mL	ICOPR1-125ML
Succinate, $C_4H_4O_4^{-2}$	H_2O	Succinic acid	125 mL	ICSCC1-125ML
Sulfate, SO_4^{-2}	H_2O	K_2SO_4	125 mL 500 mL	ICSO41-125ML ICSO41-500ML
Tartrate, $C_4H_4O_6^{-2}$	H_2O	Tartaric acid	125 mL	ICTRTR1-125ML
Thiocyanate, SCN-	H_2O	KSCN	125 mL	ICSCN1-125ML
Thiosulfate, $S_2O_3^{-2}$	H_2O	Sodium thiosulfate	125 mL 500 mL	ICS2O31-125ML ICS2O31-500ML

10,000 µg/mL

Custom anion standards are available upon request.

10,000 µg/mL

ANALYTE	MATRIX	STARTING MATERIAL	VOLUME	CATALOG #
Chloride, Cl-	H_2O	KCl	125 mL 500 mL	ICCL10-125ML ICCL10-500ML
Sulfate, SO_4^{-2}	H_2O	K_2SO_4	125 mL 500 mL	ICSO410-125ML ICSO410-500ML

100 ppm

Custom anion standards are available upon request.

100 ppm

ANALYTE	MATRIX	STARTING MATERIAL	VOLUME	CATALOG #
Nitrite, NO_2-	H_2O	100	125 mL	ICNO2-100PPM-125ML

CATION STANDARDS

1,000 µg/mL Cations

Custom cation standards are available upon request.

1,000 µg/mL

ANALYTE	MATRIX	STARTING MATERIAL	VOLUME	CATALOG #
3-Methoxypropylamine $CH_3O(CH_2)_3NH_2$	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	$Ba(NO_3)_2$	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, $(HOCH_2CH_2)_2NH$	H_2O	Diethanolamine	125 mL	ICDEA1-125ML
Dimethylamine, $NH(CH_3)_2$	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, $HOCH_2CH_2NH_2$	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, $N^+(CH_3)_4$	H_2O	Tetramethylammonium hydroxide	125 mL	ICTMAH1-125ML
Triethanolamine, $(HOCH_2CH_2)_3N$	H_2O	Triethanolamine	125 mL	ICTEA1-125ML
Triethylamine, $(CH_3CH_2)_3N$	HCl	Triethylamine	125 mL	ICTA1-125ML
Trimethylamine, $(CH_3)_3N$	HCl	Trimethylamine	125 mL	ICTMA1-125ML

Multi-Ion Standards

Anion Calibration Standard			
IC-FAS-1A I		Matrix: H_2O	
IC-FAS-1A-125ML **IC-FAS-1A-500ML**		Volume: 125 mL 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 **IV-STOCK-7-500ML**		Volume: 125 mL 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_2O	
IV-STOCK-59-125ML **IV-STOCK-59-500ML**		Volume: 125 mL 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_2O
IV-STOCK-61-125ML **IV-STOCK-61-500ML**	Volume: 125 mL 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_2O
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

MULTI-ION STANDARDS

Multi-Ion Standards

Anion Mix 4	
IV-STOCK-63	Matrix: H_2O
IV-STOCK-63-125ML	Volume: 125 mL
Analyte	**Range**
Br-	40
F-	20
NO_2-	40
Cl-	40
NO_3-	40
SO_4^{-2}	40

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

Anion Mix 5	
IV-STOCK-64	Matrix: H_2O
IV-STOCK-64-125ML **IV-STOCK-64-500ML**	Volume: 125 mL Volume: 500 mL
Analyte	**Range**
Br-	50
Cl-	50
F	25
NO_3-	50
NO_2-	50
PO_4^{-3}	50
SO_4^{-2}	50

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

Eluent Concentrates

Custom eluent concentrates 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_2O 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; Supplied with Product Information Sheet.

0.35 M Sodium Carbonate/0.10 M Sodium Bicarbonate		
ELUENT3510-100ML **ELUENT3510-500ML**	Volume: 100 mL Volume: 500 mL	Matrix: H_2O 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; Supplied with Product Information Sheet

0.5 M Sodium Bicarbonate		
BICARB-100ML **BICARB-500ML**	Volume: 100 mL Volume: 500 mL	Matrix: H_2O 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.

Eluent Concentrates

0.5 M Sodium Carbonate		
CARB-100ML **CARB-500ML**	Volume: 100 mL Volume: 500 mL	Matrix: H_2O 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_2O Dilution: 1:100
For preparation of 18 mM CH_3SO_3H 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.

Method 300.0 & 300.1

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_2O 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; Supplied with Product Information Sheet.

Calibration Standard			
300-CAL-A-125ML **300-CAL-A-500ML**		Volume: 125 mL Volume: 500 mL	Matrix: H_2O 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
SO_4^{-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_2O
Analyte	**µg/mL**	
$Cl_2HC_2O_2^-$	500	

For use as a surrogate analyte.

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

Method 300.0 & 300.1

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_2O 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
SO_4^{-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_2O 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
SO_4^{-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 chromatogrpahy quality control standard

Method 300.0 & 300.1

300.1 Part B

Custom EPA standards are available upon request.

Bromate	
ICBRO31	Matrix: H_2O
ICBRO31-125ML **ICBRO31-500ML**	Volume: 125 mL Volume: 500 mL
Analyte	**µg/mL**
BrO_3-	1,000

Chlorate	
ICCLO31	Matrix: H_2O
ICCLO31-125ML **ICCLO31-500ML**	Volume: 125 mL Volume: 500 mL
Analyte	**µg/mL**
ClO_3-	1,000

Bromide	
ICBR1	Matrix: H_2O
ICBR1-125ML **ICBR1-500ML**	Volume: 125 mL Volume: 500 mL
Analyte	**µg/mL**
Br-	1,000

Dichloroacetate Standard	
ICDCA-S	Matrix: H_2O
ICDCA-S-125ML **ICDCA-S-500ML**	Volume: 125 mL Volume: 500 mL
Analyte	**µg/mL**
$Cl_2HC_2O_2$-	500

For use as a surrogate analyte.

Chlorite	
ICCLO21	Matrix: H_2O
ICCLO21-125ML **ICCLO21-500ML**	Volume: 125 mL Volume: 500 mL
Analyte	**µg/mL**
ClO_2-	1,000

NOTE: Contains less than 10ppm ClO_3^-.

Method 314.0

Custom EPA standards are available upon request.

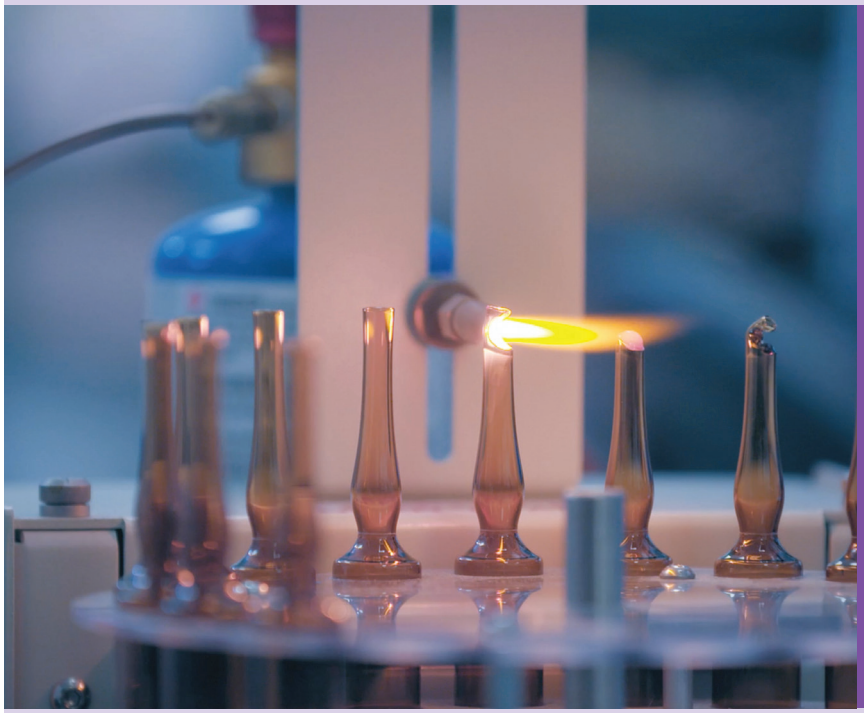
1,400 µmhos/cm Conductivity at 25˚C	
CON1400-25	Matrix: H_2O
CON1400-25-125ML **CON1400-25-500ML** **CON1400-25-1L**	Volume: 125 mL Volume: 500 mL Volume: 1 L

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

Perchlorate	
ICCLO41	Matrix: H_2O
ICCLO41-125ML **ICCLO41-500ML**	Volume: 125 mL Volume: 500 mL
Analyte	**µg/mL**
ClO_4-	1,000

ATOMIC ABSORPTION

If Atomic Absorption (AA) is your technique of choice, we think you'll appreciate our full line of AA standards.



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- ✔ **Up to five-year shelf life**
- ✔ **Traceable to NIST SRMs**
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- ✔ **Assayed by validated procedures**

1,000 µg/mL Standards

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 500 mL	AAAL1-125ML AAAL1-500ML
Antimony, Sb	HNO_3 / Tartaric Acid	125 mL 500 mL	AASB1-125ML AASB1-500ML
Arsenic, As	HNO_3	125 mL 500 mL	AAAS1-125ML AAAS1-500ML
Barium, Ba	HNO_3	125 mL 500 mL	AABA1-125ML AABA1-500ML
Beryllium, Be	HNO_3	125 mL 500 mL	AABE1-125ML AABE1-500ML
Bismuth, Bi	HNO_3	125 mL 500 mL	AABI1-125ML AABI1-500ML
Boron, B	NH_4OH	125 mL 500 mL	AAB1-125ML AAB1-500ML
Cadmium, Cd	HNO_3	125 mL 500 mL	AACD1-125ML AACD1-500ML
Calcium, Ca	HNO_3	125 mL 500 mL	AACA1-125ML AACA1-500ML
Cerium, Ce	HNO_3	125 mL 500 mL	AACE1-125ML AACE1-500ML
Cesium, Cs	HNO_3	125 mL 500 mL	AACS1-125ML AACS1-500ML
Chromium, Cr	HNO_3	125 mL 500 mL	AACR1-125ML AACR1-500ML
Cobalt, Co	HNO_3	125 mL 500 mL	AACO1-125ML AACO1-500ML
Copper, Cu	HNO_3	125 mL 500 mL	AACU1-125ML AACU1-500ML
Dysprosium, Dy	HNO_3	125 mL 500 mL	AADY1-125ML AADY1-500ML
Erbium, Er	HNO_3	125 mL 500 mL	AAER1-125ML AAER1-500ML
Europium, Eu	HNO_3	125 mL 500 mL	AAEU1-125ML AAEU1-500ML
Gadolinium, Gd	HNO_3	125 mL 500 mL	AAGD1-125ML AAGD1-500ML
Gallium, Ga	HNO_3	125 mL 500 mL	AAGA1-125ML AAGA1-500ML
Germanium, Ge	HNO_3 / HF	125 mL 500 mL	AAGE1-125ML AAGE1-500ML
Gold, Au	HCl	125 mL 500 mL	AAAU1-125ML AAAU1-500ML
Hafnium, Hf	HNO_3 / HF	125 mL 500 mL	AAHF1-125ML AAHF1-500ML
Holmium, Ho	HNO_3	125 mL 500 mL	AAHO1-125ML AAHO1-500ML
Indium, In	HNO_3	125 mL 500 mL	AAIN1-125ML AAIN1-500ML

1,000 µg/mL Standards

1,000 µg/mL

ANALYTE	MATRIX	VOLUME	CATALOG #
Iridium, Ir	HCl	125 mL 500 mL	AAIR1-125ML AAIR1-500ML
Iron, Fe	HNO_3	125 mL 500 mL	AAFE1-125ML AAFE1-500ML
Lanthanum, La	HNO_3	125 mL 500 mL	AALA1-125ML AALA1-500ML
Lead, Pb	HNO_3	125 mL 500 mL	AAPB1-125ML AAPB1-500ML
Lithium, Li	HNO_3	125 mL 500 mL	AALI1-125ML AALI1-500ML
Lutetium, Lu	HNO_3	125 mL 500 mL	AALU1-125ML AALU1-500ML
Magnesium, Mg	HNO_3	125 mL 500 mL	AAMG1-125ML AAMG1-500ML
Manganese, Mn	HNO_3	125 mL 500 mL	AAMN1-125ML AAMN1-500ML
Mercury, Hg	HNO_3	125 mL 500 mL	AAHG1-125ML AAHG1-500ML
Molybdenum, Mo	NH_4OH	125 mL 500 mL	AAMO1-125ML AAMO1-525ML
Neodymium, Nd	HNO_3	125 mL 500 mL	AAND1-125ML AAND1-500ML
Nickel, Ni	HNO_3	125 mL 500 mL	AANI1-125ML AANI1-500ML
Niobium, Nb	HNO_3 / HF	125 mL 500 mL	AANB1-125ML AANB1-500ML
Palladium, Pd	HCl	125 mL 500 mL	AAPD1-125ML AAPD1-500ML
Phosphorus, P	H_2O	125 mL 500 mL	AAP1-125ML AAP1-500ML
Platinum, Pt	HCl	125 mL 500 mL	AAPT1-125ML AAPT1-500ML
Potassium, K	HNO_3	125 mL 500 mL	AAK1-125ML AAK1-500ML
Praseodymium, Pr	HNO_3	125 mL 500 mL	AAPR1-125ML AAPR1-500ML
Rhenium, Re	HNO_3	125 mL 500 mL	AARE1-125ML AARE1-500ML
Rhodium, Rh	HCl	125 mL 500 mL	AARH1-125ML AARH1-500ML
Rubidium, Rb	HNO_3	125 mL 500 mL	AARB1-125ML AARB1-500ML
Ruthenium, Ru	HCl	125 mL 500 mL	AARU1-125ML AARU1-500ML
Samarium, Sm	HNO_3	125 mL 500 mL	AASM1-125ML AASM1-500ML
Scandium, Sc	HNO_3	125 mL 500 mL	AASC1-125ML AASC1-500ML

1,000 µg/mL Standards

1,000 µg/mL

ANALYTE	MATRIX	VOLUME	CATALOG #
Selenium, Se	HNO_3	125 mL 500 mL	AASE1-125ML AASE1-500ML
Silicon, Si	HNO_3 / HF	125 mL 500 mL	AASI1-125ML AASI1-500ML
Silver, Ag	HNO_3	125 mL 500 mL	AAAG1-125ML AAAG1-500ML
Sodium, Na	HNO_3	125 mL 500 mL	AANA1-125ML AANA1-500ML
Strontium, Sr	HNO_3	125 mL 500 mL	AASR1-125ML AASR1-500ML
Sulfur, S	H_2O	125 mL 500 mL	AAS1-125ML AAS1-500ML
Tantalum, Ta	HNO_3 / HF	125 mL 500 mL	AATA1-125ML AATA1-500ML
Tellurium, Te	HCl	125 mL 500 mL	AATE1-125ML AATE1-500ML
Terbium, Tb	HNO_3	125 mL 500 mL	AATB1-125ML AATB1-500ML
Thallium, Tl	HNO_3	125 mL 500 mL	AATL1-125ML AATL1-500ML
Thorium, Th	HNO_3	125 mL 500 mL	AATH1-125ML AATH1-500ML
Thulium, Tm	HNO_3	125 mL 500 mL	AATM1-125ML AATM1-500ML
Tin, Sn	HNO_3 / HF	125 mL 500 mL	AASN1-125ML AASN1-500ML
Titanium, Ti	HNO_3 / HF	125 mL 500 mL	AATI1-125ML AATI1-500ML
Tungsten, W	HNO_3 / HF	125 mL 500 mL	AAW1-125ML AAW1-500ML
Uranium, U	HNO_3	125 mL 500 mL	AAU1-125ML AAU1-500ML
Vanadium, V	HNO_3	125 mL 500 mL	AAV1-125ML AAV1-500ML
Ytterbium, Yb	HNO_3	125 mL 500 mL	AAYB1-125ML AAYB1-500ML
Yttrium, Y	HNO_3	125 mL 500 mL	AAY1-125ML AAY1-500ML
Zinc, Zn	HNO_3	125 mL 500 mL	AAZN1-125ML AAZN1-500ML
Zirconium, Zr	HF	125 mL 500 mL	AAZR1-125ML AAZR1-500ML

MODIFIERS, BUFFERS & RELEASING AGENTS

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_2O
MM-MG-10-125ML	Volume: 125 mL
Analyte	**µg/mL**
$Mg(NO_3)_2$	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_2O
MM-P-40-125ML	Volume: 125 mL
Analyte	**µg/mL**
PO_4	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**
$Mg(NO_3)_2$	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.

Contents

- ✔ **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**

WATER STANDARDS

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

Bromate	
ICBRO31	Matrix: H_2O
ICBRO31-125ML **ICBRO31-500ML**	Volume: 125 mL Volume: 500 mL
Analyte	**µg/mL**
BrO_3-	1,000

Chlorate	
ICCLO31	Matrix: H_2O
ICCLO31-125ML **ICCLO31-500ML**	Volume: 125 mL Volume: 500 mL
Analyte	**µg/mL**
ClO_3-	1,000

Bromide	
ICBR1	Matrix: H_2O
ICBR1-125ML **ICBR1-500ML**	Volume: 125 mL Volume: 500 mL
Analyte	**µg/mL**
Br-	1,000

Chlorite	
ICCLO21	Matrix: H_2O
ICCLO21-125ML **ICCLO21-500ML**	Volume: 125 mL Volume: 500 mL
Analyte	**µg/mL**
ClO_2-	1,000

NOTE: Contains less than 10ppm ClO_3^-.

1,000 µg/mL Total Cyanide	
CN-1000-25-20ML	Volume: 20 mL Matrix: H_2O
Analyte	**µg/mL**
CN-	1,000

For the determination of cyanide in aqueous samples.

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

Custom wastewater standards are available upon request.

ANALYTE	MATRIX	STARTING MATERIAL	µg/mL	VOLUME	CATALOG #
Total Organic Carbon, TOC	H_2O	KHP	1,000	125 mL 500 mL	TOCKHP1-125ML TOCKHP1-500ML

WET CHEMISTRY

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.

Contents

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.*

WET CHEMICAL STANDARDS

Conductivity Standards

Custom conductivity standards are available upon request. |

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 µmhos/cm Conductivity at 25˚C	
Matrix: H_2O	
CON2-25-125ML	Volume: 125 mL
CON2-25-500ML	Volume: 500 mL

5 µmhos/cm Conductivity at 25˚C	
Matrix: H_2O	
CON5-25-125ML	Volume: 125 mL
CON5-25-500ML	Volume: 500 mL

10 µmhos/cm Conductivity at 25˚C	
Matrix: H_2O	
CON10-25-125ML	Volume: 125 mL
CON10-25-500ML	Volume: 500 mL

84 µmhos/cm Conductivity at 25˚C	
Matrix: H_2O	
CON84-25-125ML	Volume: 125 mL
CON84-25-500ML	Volume: 500 mL
CON84-25-1L	Volume: 1 L

100 µmhos/cm Conductivity at 25˚C	
Matrix: H_2O	
CON100-25-125ML	Volume: 125 mL
CON100-25-500ML	Volume: 500 mL
CON100-25-1L	Volume: 1 L

147 µmhos/cm Conductivity at 25˚C	
Matrix: H_2O	
CON147-25-125ML	Volume: 125 mL
CON147-25-500ML	Volume: 500 mL
CON147-25-1L	Volume: 1 L

500 µmhos/cm Conductivity at 25˚C	
Matrix: H_2O	
CON500-25-125ML	Volume: 125 mL
CON500-25-500ML	Volume: 500 mL
CON500-25-1L	Volume: 1 L

1,000 µmhos/cm Conductivity at 25˚C	
Matrix: H_2O	
CON1000-25-125ML	Volume: 125 mL
CON1000-25-500ML	Volume: 500 mL
CON1000-25-1L	Volume: 1 L

1,200 µmhos/cm Conductivity at 25˚C	
Matrix: H_2O	
CON1200-25-125ML	Volume: 125 mL
CON1200-25-500ML	Volume: 500 mL
CON1200-25-1L	Volume: 1 L

1,400 µmhos/cm Conductivity at 25˚C	
Matrix: H_2O	
CON1400-25-125ML	Volume: 125 mL
CON1400-25-500ML	Volume: 500 mL
CON1400-25-1L	Volume: 1 L

1,413 µmhos/cm Conductivity at 25˚C	
Matrix: H_2O	
CON1413-25-125ML	Volume: 125 mL
CON1413-25-500ML	Volume: 500 mL
CON1413-25-1L	Volume: 1 L

1,430 µmhos/cm Conductivity at 25˚C	
Matrix: H_2O	
CON1430-25-125ML	Volume: 125 mL
CON1430-25-500ML	Volume: 500 mL
CON1430-25-1L	Volume: 1 L

10,000 µmhos/cm Conductivity at 25˚C	
Matrix: H_2O	
CON10000-25-125ML	Volume: 125 mL
CON10000-25-500ML	Volume: 500 mL
CON10000-25-1L	Volume: 1 L

100,000 µmhos/cm Conductivity at 25˚C	
Matrix: H_2O	
CON100000-25-125ML	Volume: 125 mL
CON100000-25-500ML	Volume: 500 mL
CON100000-25-1L	Volume: 1 L

pH Standards and Colored pH Standards

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

WET CHEMICAL STANDARDS

pH Standards and Colored pH Standards

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_2O
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.

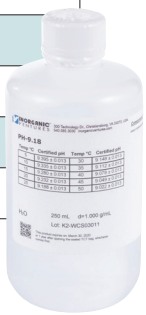
pH Buffer Features:

- **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.

ilac-MRA A2LA ACCREDITED

CERTIFICATE# 0883.02

Sample Preparation

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 **UNS-1-2.5L**	Volume: 500 mL Volume: 2.5 L
Designed for use with UA-1.	

Fusion Fluxes

Lithium Carbonate	
FF-LI2CO3-500G **FF-LI2CO3-2.5KG**	Volume: 500 g Volume: 2.5 Kg
See section 13 of the Reliable Measurements Guide found on our website for a sample preparation method designed to work perfectly with this product.	

For use as a high-purity flux in fusion sample preparation methods. Suitable for lower-temperature fusion methods. Do not use with Pt crucibles. Please see the Trace Analysis Guide on our website for more information regarding fusion sample preparation methods.

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_2O Volume: 500 mL
0.05M EDTA, 500mL	

0.5M EDTA	
0.5M-EDTA-500ML	Matrix: H_2O Volume: 500 mL
0.5M EDTA, 500mL	

0.1M Hydrochloric Acid	
0.1M-HCL-500ML	Matrix: H_2O Volume: 500 mL
0.1M Hydrochloric Acid, 500mL	

1.0M Hydrochloric Acid	
1.0M-HCL-500ML	Matrix: H_2O Volume: 500 mL
1.0M Hydrochloric Acid, 500mL	

0.1M Nitric Acid	
0.1M-HNO3-500ML	Matrix: H_2O Volume: 500 mL
0.1M Nitric Acid, 500mL	

1.0M Nitric Acid	
1.0M-HNO3-500ML	Matrix: H_2O Volume: 500 mL
1.0M Nitric Acid, 500mL	

0.1M Perchloric Acid	
0.1M-HCLO4-500ML	Matrix: H_2O/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_2O Volume: 500 mL
0.1N Silver Nitrate, 500mL	

0.1M Sodium Hydroxide	
0.1M-NAOH-500ML	Matrix: H_2O Volume: 500 mL
0.1M Sodium Hydroxide, 500mL	

0.1N Sodium Thiosulfate	
0.1N-NA2S2O3-500ML	Matrix: H_2O Volume: 500 mL
0.1N Sodium Thiosulfate 500 mL. Prepared and standardized according to USP specifications.	

1M Sodium Hydroxide	
1M-NAOH-500ML	Matrix: H_2O 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

For use with ICP-MS. Designed for ILMO5.2 and ILMO5.3.

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

Deionized Blank	
IV-DI-BLANK	Matrix: H_2O
IV-DI-BLANK-500ML **IV-DI-BLANK-1L**	Volume: 500 mL Volume: 1 L

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Pricing
Visit our website for all current pricing information:
inorganicventures.com

Shipping
Orders shipped within the U.S. are sent FOB shipping point via FedEx or UPS. Other carriers are also available. If you prefer a specific carrier, let us know.

Terms
Our terms are net 30 days. To establish your account, contact us during regular business hours. 8:00 a.m. to 5:00 p.m. EST.

Credit Orders
We gladly accept MasterCard, Visa or American Express.

Cautionary Notice
OUR PRODUCTS ARE NOT FOR DRUG, FOOD OR HOUSEHOLD APPLICATIONS. They are intended for laboratory use only by qualified individuals trained in the proper handling of such materials. The consumer assumes all responsibility for the safe storage, handling, disposal and application of any Inorganic Ventures product.

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* Refunds, replacements and exchanges are considered at management's discretion.

Customer Service

Representatives are available Monday through Friday, between 8:00 a.m. and 5:00 p.m. EST.

Phone:	800.669.6799 (US & Canada)
	+1.540.585.3030 (International)
Fax:	540.585.3012
Email:	info@inorganicventures.com
Online:	inorganicventures.com

Export Orders

We have representation in countries across the globe. Contact your distributor for regional pricing, orders and additional catalogs. Visit our website to find the distributor in your area.

Our Guarantee

As stated in our Declaration of Integrity (see pg. 7), if you're dissatisfied with your order for any reason, we'll resolve the situation in whatever way works best for you:

- A full refund;
- Complimentary technical services; or
- A replacement item rushed to you at no cost.*

Returns, Exchanges and Damaged Goods

Situations not covered under the terms of our guarantee (above) may require a return and/or exchange of the product. Refunds, replacements and exchanges are considered at management's discretion. Items will only be accepted for return with a valid return authorization number. Contact us to receive this number.

All transportation and packaging expenses on returned or exchanged items are assumed by the customer. Credit for returned items is subject to a modest 15% restocking charge. Credit will not be issued until it is determined by our inspection that returned items are unused and undamaged. All returned items must be received within 60 days of the original invoice date.

If carton is received in a conspicuously damaged condition, alert carrier and refuse acceptance.

INORGANIC CUSTOM & STOCK CERTIFIED REFERENCE MATERIALS

INORGANIC VENTURES™

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info@inorganicventures.com | inorganicventures.com

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ACCREDITED ISO 17025 0883.01 BY A2LA

ACCREDITED ISO 17034 0883.02 BY A2LA

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