INORGANIC VENTURES

VERSION 23

# Capabilities Catalog

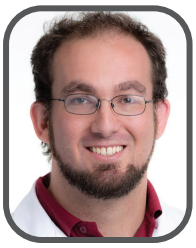
INORGANIC CUSTOM & STOCK
CERTIFIED REFERENCE MATERIALS

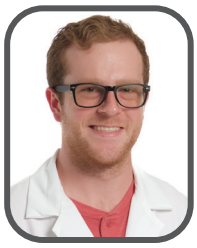
ISO 17034 | ISO 17025 | ISO 9001

# Our Employees Are to Our


Brian Alexander, PhD


Mark Allen


Joseph Burns


Michah Cornett


Aaron Craggett


Christopher Cruz


Elizabeth Day


Madeline Denny


Justin Dirico


Christopher Gaines


Paul Gaines


Courtney Gibson


Madeline Gozzi


Uyen Gravely


Ashley Grose


Olivia Harris


Muzzammil Khan


James King


Brandon Kocher


Thomas Kozikowski


Theron Lester


Patrick Macdonald


William Marble


Ragan Phillips


Nicholas Plymale


Shalin Presgraves


Courtney Rainer


Joshua Rancourt


Ethan Real


Mollie Reid


Adam Stevens


Bethany Stewart


Kayla Stroupe


Kelsey Stroupe


Kristin Stroupe


Zachary Underwood


Sydney Walker


Jodie Wall


Rebecca Weddle

# the Key Element Success


Valerie Ballard


Michael Booth


Marshall Durrett


Christopher Estes


Anna Falls


Tyler Farnsworth, PhD


Laura Finley


Liv Forbes


Brenda Francis


Lee Hawthorne


Danielle Hinkley


James Holcomb


Grace Hurst


Jeff Itle


Alyssa Johnson


Ashley Jones


Ashley Michael


Amanda Miller


Michael Newman


Michele Newton


Lesley Owens, PhD


Autumn Phillips


Jesse Phillips


Abigail Resner


Angela Robson


Hunter Rogers


Donna Senn


Tammy Shepherd


Dixon Smiley


Karen Sporakowski


Christopher Sumner


Alex Taylor


Katie Tindall


Daniel Todd


Joshua Underwood


Andrew Wood


Colleen Worthington


Justin Yalung

★ Chief Executive Officer
✸ Chief Operating Officer
▲ Chief Technical Officer
◆ Director

# 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

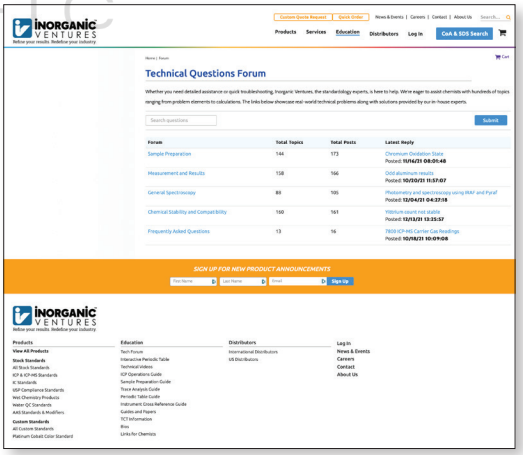
# Customs

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**

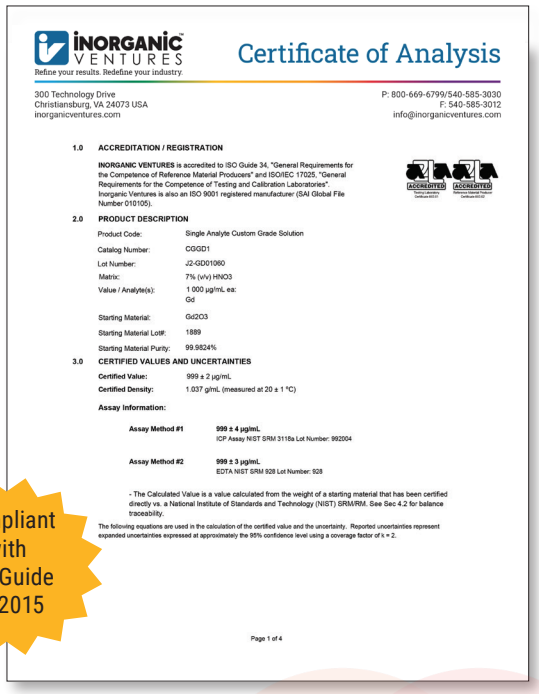



Additionally, our stock SDSs and CoAs can be found on our website for current lots as well as many older ones.

*For more new features, see pages 8–9.

WHY CHOOSE INORGANIC VENTURES?

# CERTIFICATE OF ANALYSIS



INORGANIC VENTURES
Refine your results. Redefine your industry.

Certificate of Analysis

300 Technology Drive
Christiansburg, VA 24073 USA
inorganicventures.com

P: 800-669-6799/540-585-3030
F: 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<br>ICP Assay NIST SRM 3118a Lot Number: 992004 |
| Assay Method #2 | 999 ± 3 µg/mL<br>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.

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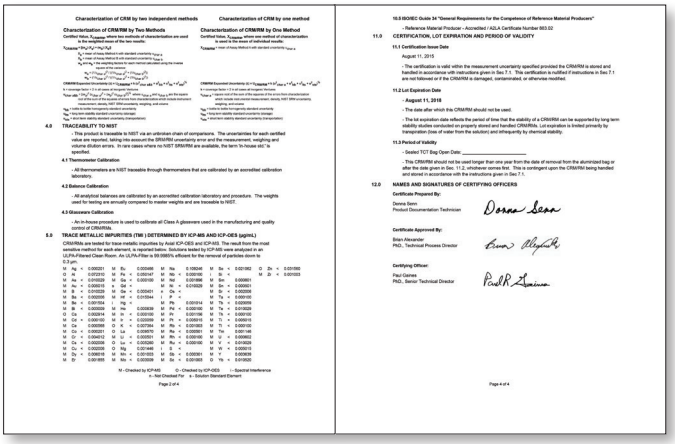
Compliant with ISO Guide 31:2015



Characterization of CRM by two Independent methods — Characterization of CRM/RM by One Method

4.0 TRACEABILITY TO NIST

4.1 Thermometer Calibration

4.2 Balance Calibration

4.3 Glassware Calibration

5.0 TRACE METALLIC IMPURITIES (TMI ) DETERMINED BY ICP-MS AND ICP-OES (µg/mL)

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10.0 ISO/IEC Guide 34 "General Requirements for the Competence of Reference Material Producers"

11.0 CERTIFICATION, LOT EXPIRATION AND PERIOD OF VALIDITY

11.1 Certification Issue Date

August 11, 2015

11.2 Lot Expiration Date

- August 11, 2018

11.3 Period of Validity

12.0 NAMES AND SIGNATURES OF CERTIFYING OFFICERS

Certificate Prepared By:
Donna Sears
Product Documentation Technician

Certificate Approved By:
Brian Alexander
PhD., Technical Process Director

Certifying Officer:
Paul Gaines
PhD., Senior Technical Director

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

**Contact us for a sample.**

## Certificate of Analysis (CoA)

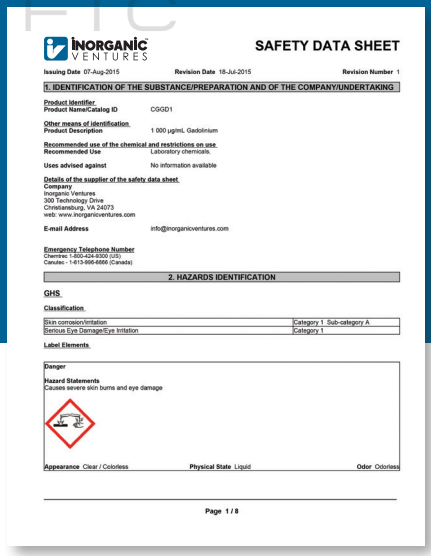
Nearly every CRM we manufacture includes a highly detailed Certificate of Analysis. As an ISO 17034, A2LA accredited manufacturer, we provide certificates that include extensive data to meet the quality requirements of any laboratory:

- **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 14 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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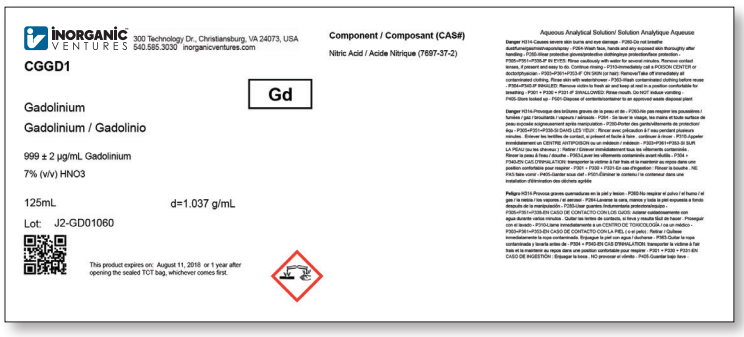
## Inorganic Ventures Label



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-OES 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-OES & 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

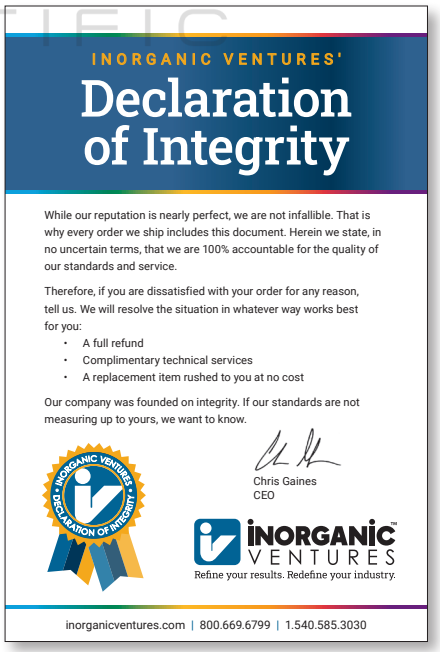
- inorganicventures.com/forum



# 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

WHY CHOOSE INORGANIC VENTURES?

# ONLINE TECH CENTER

## Education

### Chemistry Resources for Lab Techs and Spectroscopists

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

**Interactive Periodic Table**
Entries for each element, with details like storage and handling recommendations, chemical compatibility, and stability data intended specifically for use in spectroscopy.
Learn More

**Technical Questions Forum**
Whether you need detailed assistance or quick troubleshooting, the team at Inorganic Ventures is here to help with this searchable database. Can't find what you need? Send us an email!
Learn More

**Technical Videos**
Questions about our science or our products? Our PhDs break it down for you in a series of brief videos.
Learn More

**ICP Operations Guide**
A must-have guide for anyone operating and preparing samples and standards for measurement using ICP-MS and ICP-OES.
Learn More

**Sample Preparation Guide**
Our sample preparation guide provides specific, highly-detailed information about certain elements in regard to sample preparation.
Learn More

**Trace Analysis Guide**
An essential resource for trace analysts at any experience level, written by Paul Gaines, Ph.D.
Learn More

**Periodic Table Guide**
The Periodic Table for ICP Users Guide provides essential data for 70+ elements for every ICP user, including: chemical compatibilities, preferred emission lines, as well as major interferences and detection limits for both ICP and ICP-MS.
Learn More

**Instrument Cross Reference Guide**
Our cross-reference guide provides a quick key to Inorganic Ventures' part numbers to match the CRMs for your specific instrument.
Learn More

**Guides and Papers**
We believe that sharing knowledge lifts the scientific community as a whole. We hope you find this information helpful.
Learn More

**TCT Information**
Inorganic Ventures is committed to ensuring the accuracy of your CRMs, regardless of shipping or storage conditions. Learn more about the value of our industry-leading packaging technique.
Learn More

**Bios**
Learn more about our extraordinary technical team.
Learn More

**Fun for Chemists**
If you're looking for a laugh, check out our chemistry jokes and riddles!
Learn More

**Links for Chemists**
Professional organizations and associations, as well as EPA resources and other useful links.
Learn More

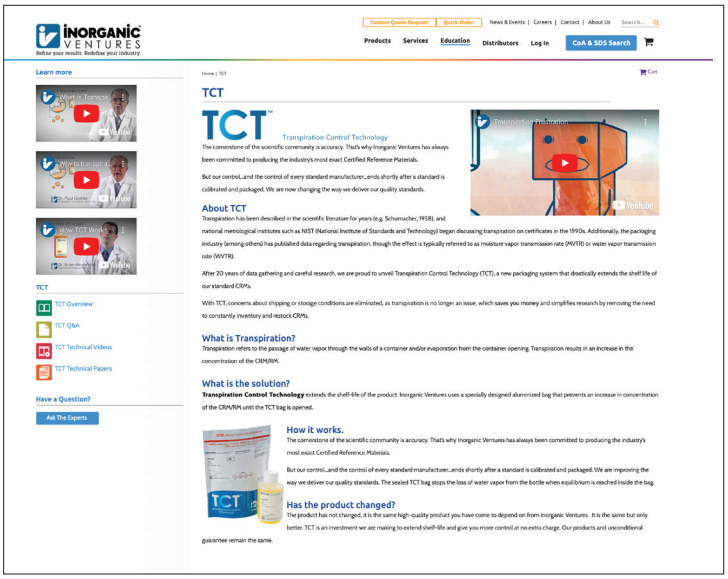
**Frequently Asked Questions**
Answers to questions we get asked a lot.
Learn More

**inorganicventures.com/tech-center**
Visit us online to see all of our upgraded features.



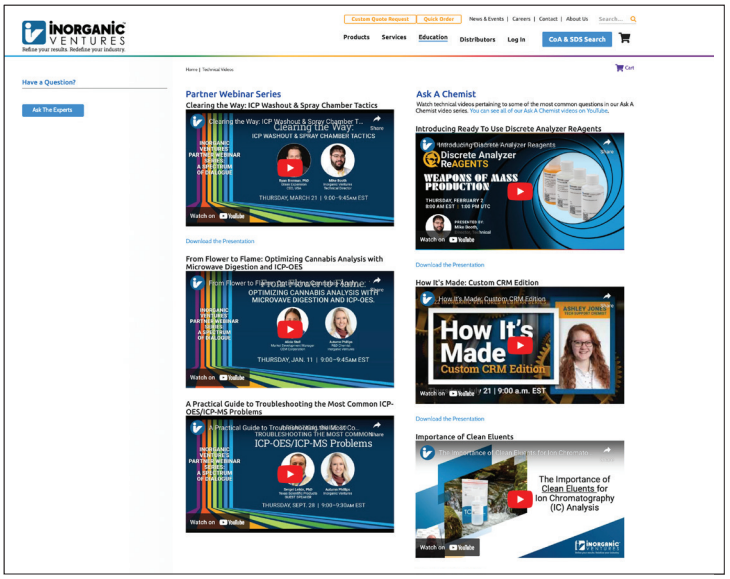

### Bench Boost by Inorganic Ventures

Join our host and Inorganic Ventures Technical Director, Mike Booth, as he sparks insightful conversations with our panel of experts in Bench Boost, the go-to podcast for analytical chemistry enthusiasts. Together, they explore the realm of ICP, sharing tips and tricks and diving deep into all things analytical chemistry.



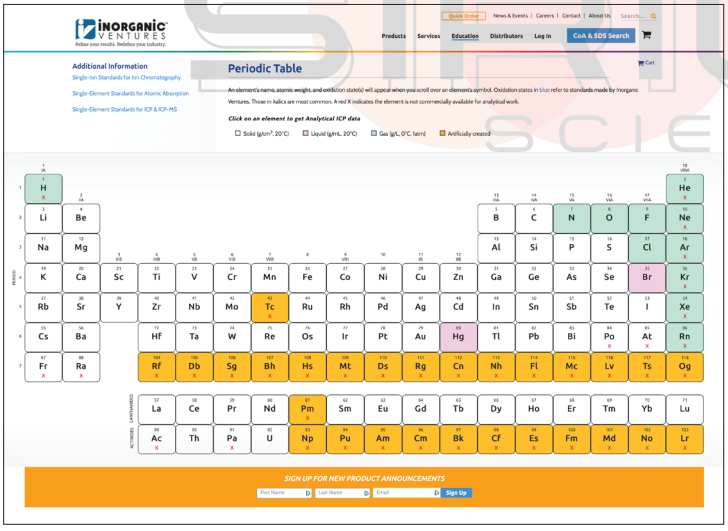

## Transpiration Control Technology

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



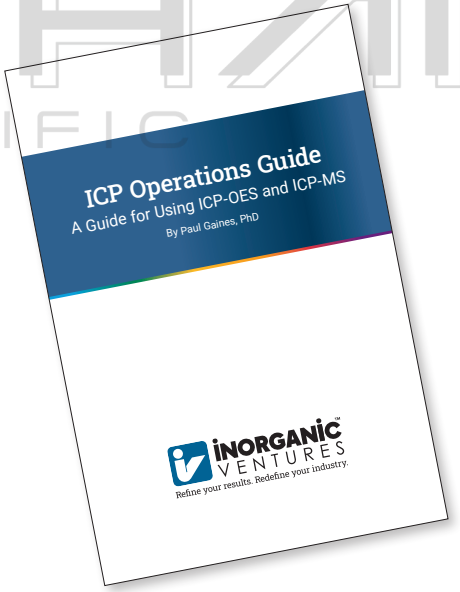

## Technical Videos

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




## 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.

# IV IGNITE


## Experience Chemistry in a New *light*

IV Ignite is a virtual training academy, covering topics related to **ICP-MS**, and **ICP-OES**.

**EXPERIENCE ALL THE COMMUNITY HAS TO OFFER**

- Extensive Course Catalog: New courses each month
- *Bench Boost Podcast:* New episodes every Tuesday
- Downloadable Resources: interference tables, slides, etc.
- Forums to engage with fellow learners and instructors
- Live *Spark Sessions* to meet with instructors
- Earn PDUs and certificates as you complete milestones

**COURSE CATALOG INCLUDES**

- ICP Instrument Maintenance
- Controlling Sample Washout
- Common Sources of Contamination in the Lab

***And so much more!***

**Try it FREE! Scan to learn more or visit**
**inorganicventures.com/iv-ignite**

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**

FIVE YEAR SHELF LIFE 5 WITH TCT

## 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.

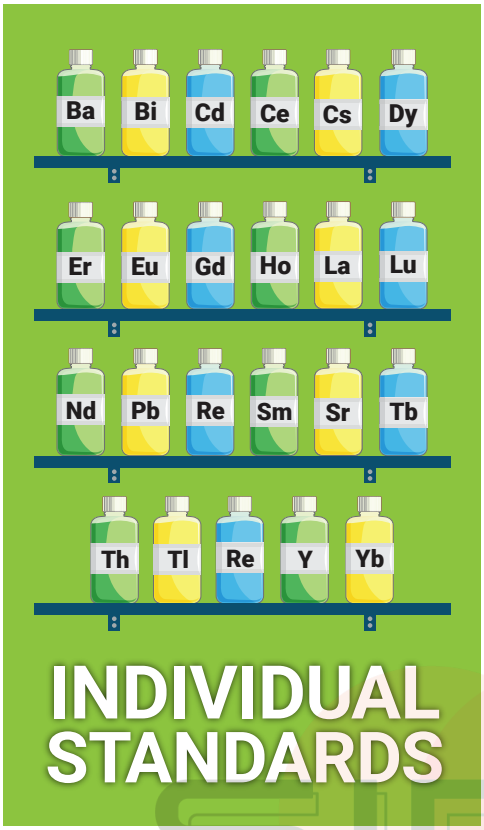
### Contents



### 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 shelf life 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 a 5-year shelf, thanks to our Transpiration Control Technology (TCT) which puts you in control of the expiration date!

Our Custom Product Development Team is available to facilitate sample preparation and troubleshoot any problems that may arise during testing.

# 70,000 BLENDS AND COUNTING

Join thousands of laboratories worldwide in purchasing our custom standards. 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. Also save with custom pricing, calculated around your volume requirements.** | ✔ |
| 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 | TCT™ TRANSPIRATION CONTROL TECHNOLOGY | **Transpiration Control Technology (TCT) provides 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.** | ✔ |
| Limited Support Availablity | | **Work with dedicated chemists one-on-one to discuss your unique testing requirements.** | ✔ |

# Primary Certified Reference Materials

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

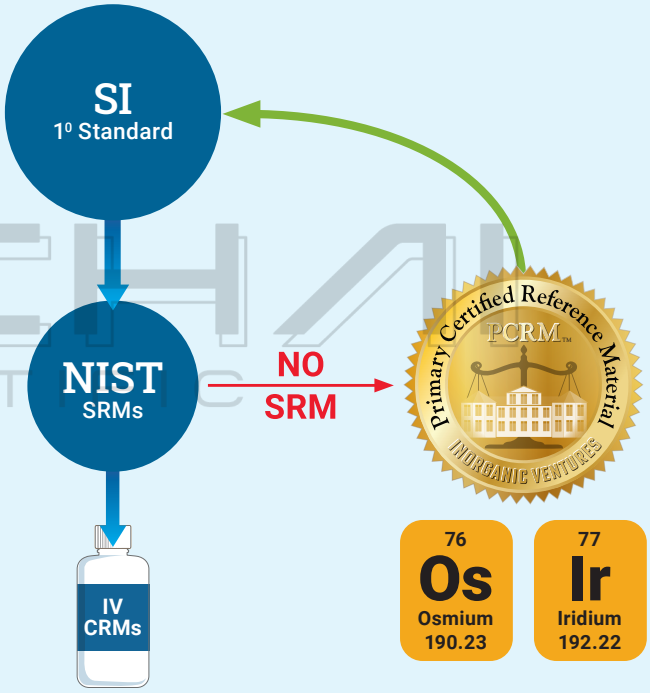
Osmium and Iridium PCRMs are the only rigorously developed solution standards traceable to the International System of Units (SI) for these elements. They can be used with the same degree of confidence as solution standards from National Metrology Institutes (NMIs).

**PRIMARY CERTIFIED REFERENCE MATERIALS (PCRMs)**

**PCRM-IR-1000**
1000 ug/g Ir solution standard in 10% v/v HCl 5x10ML Ampoules

**PCRM-OS-1000**
1000 ug/g Os solution standard in 15% 10% v/v HCl 5x10ML Ampoules


## Traceability to the SI




Scan to download the whitepaper and learn more about tracebility.

## 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.

**www.inorganicventures.com/quote/instrumentsetup/index**
**email: quotes@inorganicventures.com**

## 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 70,000 blends that have been developed over the last 38 years. If they don't find a match, they start formulating your exact custom standard. During this process, the blend is reviewed for stability and chemical compatibility. Your quote will be processed within two business days!*

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

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

### Custom Product Development Team

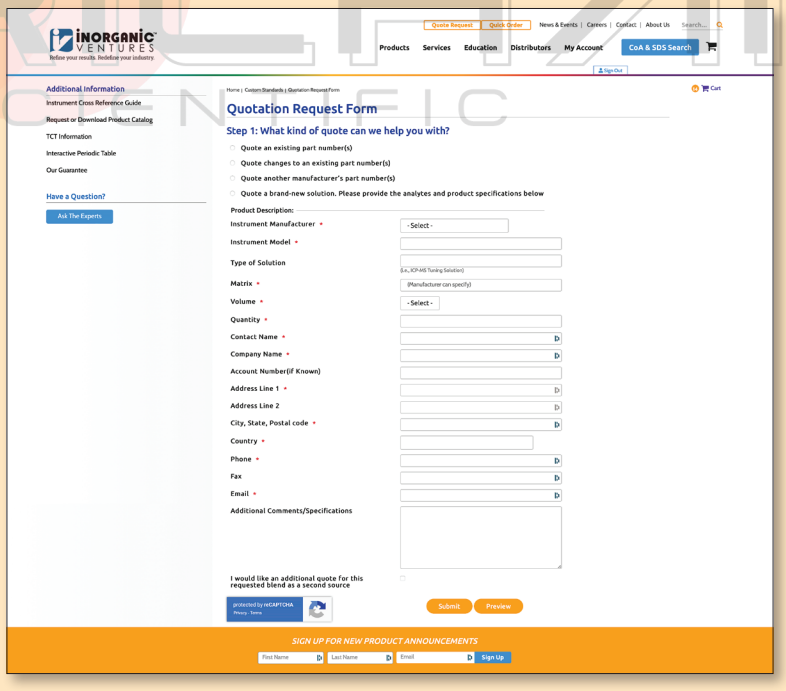
Representatives are available Monday through Friday, between 8:00 a.m. and 5:00 p.m. EST.

**PHONE:**
800.669.6799 / +1.540.585.3030

**FAX:**
540.585.3012

**EMAIL:**
quotes@inorganicventures.com

**ONLINE:**
inorganicventures.com




** 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.*

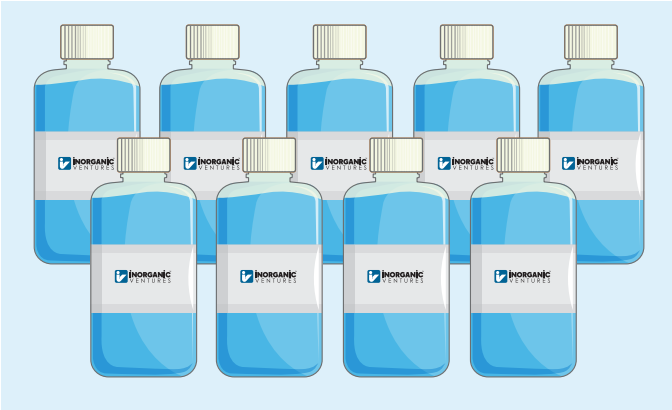
# Effortless Savings. Efficient Ordering.

## With Total Volume Pricing on Custom Standards

### 1. Consolidate into ready-made.


Consolidate your single element standards into one ready-made custom standard. Compatibility concerns? Our world-class chemists will use your specifications and do the work for you.

### 2. Plan ahead with extended shelf life.



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# ICP-OES & ICP–MS

Whether you use ICP-OES 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



- ✔ **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**

10 µg/mL Standards

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

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

## 10 µg/mL

| ANALYTE | MATRIX | VOLUME | CATALOG # |
|---|---|---|---|
| **Aluminum, Al** | $HNO_3$ | 125 mL | MSAL-10PPM-125ML |
| **Antimony, Sb** | $HNO_3$/ Tartaric Acid | 125 mL | MSSB-10PPM-125ML |
| **Arsenic, As** | $HNO_3$ | 125 mL | MSAS-10PPM-125ML |
| **Barium, Ba** | $HNO_3$ | 125 mL | MSBA-10PPM-125ML |
| **Beryllium, Be** | $HNO_3$ | 125 mL | MSBE-10PPM-125ML |
| **Bismuth, Bi** | $HNO_3$ | 125 mL | MSBI-10PPM-125ML |
| **Boron, B** | $HNO_3$ | 125 mL | MSB-10PPM-125ML |
| **$^{10}$Boron, $^{10}$B** | $HNO_3$ | 100 mL* | MS10B-10PPM-100ML |
| **$^{11}$Boron, $^{11}$B** | $HNO_3$ | 100 mL* | MS11B-10PPM-100ML |
| **Cadmium, Cd** | $HNO_3$ | 125 mL | MSCD-10PPM-125ML |
| **Calcium, Ca** | $HNO_3$ | 125 mL<br>500 mL | MSCA-10PPM-125ML<br>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<br>500 mL | MSAU-10PPM-125ML<br>MSAU-10PPM-500ML |
| **Hafnium, Hf** | $HNO_3$ / HF | 125 mL<br>500 mL | MSHF-10PPM-125ML<br>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<br>500 mL | MSMG-10PPM-125ML<br>MSMG-10PPM-500ML |
| **Manganese, Mn** | $HNO_3$ | 125 mL<br>500 mL | MSMN-10PPM-125ML<br>MSMN-10PPM-500ML |

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

# SINGLE-ELEMENT STANDARDS

10 µg/mL Standards

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

## 10 µg/mL

| ANALYTE | MATRIX | VOLUME | CATALOG # |
|---|---|---|---|
| **Mercury, Hg** | HCl | 125 mL<br>500 mL | MSHG-10PPM-125ML<br>MSHG-10PPM-500ML |
| **Mercury, Hg** | $HNO_3$ | 125 mL<br>500 mL | MSHGN-10PPM-125ML<br>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<br>500 mL | MSNA-10PPM-125ML<br>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<br>500 mL | MSSN-10PPM-125ML<br>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<br>500 mL | MSU-10PPM-125ML<br>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<br>500 mL | MSZN-10PPM-125ML<br>MSZN-10PPM-500ML |

100 µg/mL Standards

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## 100 µg/mL

| ANALYTE | MATRIX | VOLUME | CATALOG # |
|---|---|---|---|
| **Aluminum, Al** | $HNO_3$ | 125 mL<br>500 mL | MSAL-100PPM-125ML<br>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<br>500 mL | MSCA-100PPM-125ML<br>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<br>500 mL | MSAU-100PPM-125ML<br>MSAU-100PPM-500ML |
| **Hafnium, Hf** | $HNO_3$ / HF | 125 mL<br>500 mL | MSHF-100PPM-125ML<br>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<br>500 mL | MSFE-100PPM-125ML<br>MSFE-100PPM-500ML |
| **Lead, Pb** | $HNO_3$ | 125 mL<br>500 mL | MSPB-100PPM-125ML<br>MSPB-100PPM-500ML |
| **Lithium, Li** | $HNO_3$ | 125 mL<br>500 mL | MSLI-100PPM-125ML<br>MSLI-100PPM-500ML |
| **$^6$Lithium, $^6$Li** | $HNO_3$ | 125 mL | MS6LI-100PPM-125ML |
| **Magnesium, Mg** | $HNO_3$ | 125 mL<br>500 mL | MSMG-100PPM-125ML<br>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<br>500 mL | MSP-100PPM-125ML<br>MSP-100PPM-500ML |
| **Platinum, Pt** | HCl | 125 mL | MSPT-100PPM-125ML |
| **Potassium, K** | $HNO_3$ | 125 mL<br>500 mL | MSK-100PPM-125ML<br>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<br>500 mL | MSSC-100PPM-125ML<br>MSSC-100PPM-500ML |
| **Selenium, Se** | $HNO_3$ | 125 mL | MSSE-100PPM-125ML |
| **Silicon, Si** | $HNO_3$ / HF | 125 mL<br>500 mL | MSSI-100PPM-125ML<br>MSSI-100PPM-500ML |
| **Silver, Ag** | $HNO_3$ | 125 mL<br>500 mL | MSAG-100PPM-125ML<br>MSAG-100PPM-500ML |
| **Sodium, Na** | $HNO_3$ | 125 mL<br>500 mL | MSNA-100PPM-125ML<br>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<br>500 mL | MSW-100PPM-125ML<br>MSW-100PPM-500ML |
| **Uranium, U** | $HNO_3$ | 125 mL<br>500 mL | MSU-100PPM-125ML<br>MSU-100PPM-500ML |
| **Vanadium, V** | $HNO_3$ | 125 mL | MSV-100PPM-125ML |
| **Yttrium, Y** | $HNO_3$ | 125 mL<br>500 mL | MSY-100PPM-125ML<br>MSY-100PPM-500ML |
| **Zinc, Zn** | $HNO_3$ | 125 mL<br>500 mL | MSZN-100PPM-125ML<br>MSZN-100PPM-500ML |

1,000 µg/mL Standards

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## 1,000 µg/mL

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

# SINGLE-ELEMENT STANDARDS

1,000 µg/mL Standards

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## 1,000 µg/mL

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

1,000 µg/mL Standards

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## 1,000 µg/mL

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

# SINGLE-ELEMENT STANDARDS

1,000 µg/mL Standards

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## 1,000 µg/mL

| ANALYTE | MATRIX | VOLUME | CATALOG # |
|---|---|---|---|
| **Niobium, Nb**<br>High purity, low Tantalum | $HNO_3$ / HF | 125 mL<br>500 mL | CGNB2O51-125ML<br>CGNB2O51-500ML |
| **Osmium, Os** | HCl | 30 mL<br>125 mL<br>500 mL | CGOS1-30ML<br>CGOS1-125ML<br>CGOS1-500ML |
| **Palladium, Pd** | HCl | 30 mL<br>125 mL<br>500 mL | CGPD1-30ML<br>CGPD1-125ML<br>CGPD1-500ML |
| **Palladium, Pd** | $HNO_3$ | 30 mL<br>125 mL<br>500 mL | CGPDN1-30ML<br>CGPDN1-125ML<br>CGPDN1-500ML |
| **Phosphorus, P** | $H_2O$ | 30 mL<br>125 mL<br>500 mL | CGP1-30ML<br>CGP1-125ML<br>CGP1-500ML |
| **Platinum, Pt**<br>Contains Chloride | $HNO_3$ | 30 mL<br>125 mL<br>500 mL | CGPTN1-30ML<br>CGPTN1-125ML<br>CGPTN1-500ML |
| **Platinum, Pt** | HCl | 30 mL<br>125 mL<br>500 mL | CGPT1-30ML<br>CGPT1-125ML<br>CGPT1-500ML |
| **Platinum, Pt**<br>Chloride Free | $HNO_3$ | 30 mL<br>125 mL<br>500 mL | CGPTNO31-30ML<br>CGPTNO31-125ML<br>CGPTNO31-500ML |
| **Potassium, K** | $HNO_3$ | 30 mL<br>125 mL<br>500 mL | CGK1-30ML<br>CGK1-125ML<br>CGK1-500ML |
| **Praseodymium, Pr** | $HNO_3$ | 30 mL<br>125 mL<br>500 mL | CGPR1-30ML<br>CGPR1-125ML<br>CGPR1-500ML |
| **Rhenium, Re** | $HNO_3$ | 30 mL<br>125 mL<br>500 mL | CGRE1-30ML<br>CGRE1-125ML<br>CGRE1-500ML |
| **Rhodium, Rh**<br>Commonly used as an Internal Standard for ICP-MS. | HCl | 30 mL<br>125 mL<br>500 mL | CGRH1-30ML<br>CGRH1-125ML<br>CGRH1-500ML |
| **Rhodium, Rh**<br>Commonly used as an Internal Standard for ICP-MS. | $HNO_3$ | 30 mL<br>125 mL<br>500 mL | CGRHN1-30ML<br>CGRHN1-125ML<br>CGRHN1-500ML |
| **Rubidium, Rb** | $HNO_3$ | 30 mL<br>125 mL | CGRB1-30ML<br>CGRB1-125ML |
| **Ruthenium, Ru** | HCl | 30 mL<br>125 mL<br>500 mL | CGRU1-30ML<br>CGRU1-125ML<br>CGRU1-500ML |
| **Samarium, Sm** | $HNO_3$ | 30 mL<br>125 mL<br>500 mL | CGSM1-30ML<br>CGSM1-125ML<br>CGSM1-500ML |

1,000 µg/mL Standards

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## 1,000 µg/mL

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

# SINGLE-ELEMENT STANDARDS

1,000 µg/mL Standards

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## 1,000 µg/mL

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



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

10,000 µg/mL Standards

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## 10,000 µg/mL

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

# SINGLE-ELEMENT STANDARDS

10,000 µg/mL Standards

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## 10,000 µg/mL

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

10,000 µg/mL Standards

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## 10,000 µg/mL

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

10,000 µg/mL Standards

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## 10,000 µg/mL

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

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## 10,000 µg/mL

| ANALYTE | MATRIX | VOLUME | CATALOG # |
|---|---|---|---|
| **Zinc, Zn** | $HNO_3$ | 30 mL<br>125 mL<br>500 mL | CGZN10-30ML<br>CGZN10-125ML<br>CGZN10-500ML |
| **Zirconium, Zr** | HF | 30 mL<br>125 mL<br>500 mL | CGZR10-30ML<br>CGZR10-125ML<br>CGZR10-500ML |
| **Zirconium, Zr**<br>HF free | HCl | 125 mL<br>500 mL | CGZRCL10-125ML<br>CGZRCL10-500ML |

# CYANIDE STANDARDS

Cyanide Standards

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

Custom cyanide standards are available upon request.

## 1,000 µg/mL

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

Instrument Cross-Reference Table

## Cross-Reference Table Symbols

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.

- 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>

**Common Multi-Element Standards (C)**

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| 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)**

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| IV-STOCK-40 | p.53 |
| IV-STOCK-41 | p.53 |
| IV-STOCK-60 | p.53 |
| IV-STOCK-65 | p.53 |
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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 |
| 5183-4682 | **IV-13676** | *Custom* |
| 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 |
| 5188-6526 | IV-17685 | *Custom* |
| 5188-6527 | **6020ICS-9B** | p.82 |
| 5188-6564 | **AGI-TS-1** | p.49 |
| 5190-0465 | IV-37576 | *Custom* |
| 5190-7001 | IV-ACID-BLANK | p.108 |
| 5190-8338 | **MM-MG-10** | p.98 |
| 5190-8593 | IV-63636 | *Custom* |
| 5190-8596 | **2008TS** | p.65, 78 |
| 5190-8599 | **CLPP-ICS-A** | p.60, 64 |

| Agilent/Varian# | Inorganic Ventures# | Page |
|---|---|---|
| 5190-9409 | **IV-STOCK-34** | p.42 |
| 5190-9418 | IV-12022 | *Custom* |
| 5190-9423 | IV-36669 | *Custom* |
| 5190-9766 | **IV-STOCK-65** | p.53, 57 |
| 5190-9770 | IV-45454 | *Custom* |
| 8500-6940 | **IV-48812-A** | *Custom* |
| 8500-6942 | **IV-STOCK-29** | p.42 |
| 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 |
| G1820-60259 | IV-DI-BLANK | p.108 |
| ICM-240A | WW-IPC-1 | p.71 |

## HORIBA Jobin Yvon JY

| Jobin Yvon# | Inorganic Ventures# | Page |
|---|---|---|
| JYICP-MIX7 | IV-7 | p.68, 74 |
| JYICP-MIX7HSI | **IV-21575** | *Custom* |
| JYICP-MIX21 | IV-21 | p.69, 74 |
| JYICP-MIX23 | **IV-STOCK-4** | p.38 |
| JYICP-MIXHM | IV-56240 | *Custom* |
| JYICP-MIXMAJ | **IV-STOCK-34** | p.42 |
| JYICP-QC1 | IV-43846 | *Custom* |
| JYICP-QCACT | IV-73264 | *Custom* |

## Thermo Scientific T

| Thermo Scientific# | Inorganic Ventures# | Page |
|---|---|---|
| 12956213 | **IV-41701** | *Custom* |
| 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 |
| 4301 228 21411 | IV-25579 | *Custom* |

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# INSTRUMENT CROSS-REFERENCE TABLE

## 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 |
| N0691579 | IV-32706 | *Custom* |
| N0691580 | IV-37123 | *Custom* |
| N0691581 | **CGCA10** | p.30 |
| N8122017 | IV-57490 | *Custom* |
| N8125030 | IV-12922 | *Custom* |
| N8125032 | **IV-STOCK-22** | p.41 |
| N8125035 | IV-9442 | *Custom* |
| N8125040 | IV-48130 | *Custom* |
| N8125041 | IV-9443 | *Custom* |
| N8145051 | IV-STOCK-77 | p.44 |
| N8145052 | IV-152 | *Custom* |
| N8145053 | IV-56364 | *Custom* |
| N8145054 | IV-4628 | *Custom* |
| N8145059 | IV-162 | *Custom* |
| N8145060 | IV-13373 | *Custom* |
| N8145289 | IV-66502 | *Custom* |
| N9300200 | IV-56238 | *Custom* |
| N9300205 | **2007ICS-3** | p.67 |
| N9300208 | IV-STOCK-54 | p.43 |
| N9300211 | IV-56263 | *Custom* |
| N9300215 | IV-41880 | *Custom* |
| N9300216 | **IV-56261-A** | *Custom* |
| N9300217 | IV-56262 | *Custom* |
| N9300218 | **IV-32395** | p.42 |
| N9300220 | IV-35380 | *Custom* |
| N9300221 | IV-35377 | *Custom* |
| N9300223 | **MSHGN-100PPM** | p. 21, 48, 55 |
| N9300224 | **IV-13160** | *Custom* |
| N9300225 | **IV-9752** | *Custom* |
| N9300226 | **CLPP-ICA-A** | p.60, 62, 64 |
| N9300227 | **CLPP-ICS-B4** | p.62, 64 |
| N9300231 | **IV-STOCK-30** | p.42 |
| N9300232 | IV-STOCK-26 | p.41 |
| N9300233 | **IV-48** | *Custom* |
| N9300234 | IV-STOCK-28 | p.42 |
| N9300235 | **IV-STOCK-29** | p.42 |
| N9300241 | IV-46289 | *Custom* |
| N9300244 | IV-STOCK-18 | p.40 |
| N9300253 | **MSHGN-10PPM** | p. 20, 48, 55 |
| N9300281 | **IV-21** | p. 69, 75 |
| N9301720 | IV-STOCK-21 | p.40 |
| N9301721 | **IV-14208** | *Custom* |
| N9302946 | IV-STOCK-55 | p.44 |
| N9303813<br>N9303814 | IV-DI-BLANK | p.108 |
| N9303816 | IV-1868 | *Custom* |
| N9303818 | **IV-STOCK-35** | p.42 |
| N9303821 | **PE-CHK-1** | p.49 |
| N9303822 | **IV-15473** | p.49 |
| N9303827 | **60201CS-9A** | p.81 |
| N9303828 | **6020ICS-0A** | p.83 |
| N9303832<br>N9303833 | IV-STOCK-53<br>**IV-STOCK-53** | p.43 |
| N9303834 | IV-13360 | *Custom* |
| N9303835 | IV-56512 | *Custom* |
| N9303839 | **IV-9633** | *Custom* |
| N9303940 | IV-STOCK-1 | *Custom* |
| N9303941 | **IV-STOCK-4** | p.53 |
| N9303942 | IV-STOCK-8 | p.39 |
| N9303843 | **PE-TS-1** | p.50 |
| N9303944 | **IV-STOCK-10** | p.39 |
| N9303946 | IV-STOCK-13 | p.39 |
| N9303948 | IV-56292 | *Custom* |
| N9303949 | **WW-MSCAL-1** | p.76 |

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 |
|---|---|---|
| N9303952 | IV-41880 | *Custom* |
| N9303953 | IV-66459 | *Custom* |
| N9303954 | IV-56291 | *Custom* |
| N9307113 | IV-25755 | *Custom* |
| N9307114 | IV-18652 | *Custom* |
| N9307115 | IV-33350 | *Custom* |
| N9307116 | IV-18653 | *Custom* |
| N9307741 | **IV-STOCK-6** | p.54 |
| N9307805 | **IV-34160** | *Custom* |
| N9307806 | IV-44364 | *Custom* |
| N9307809<br>N9308571 | IV-ACID-BLANK | p.108 |
| N9308543 | IV-63920 | *Custom* |
| N93078058 | IV-12490-A | *Custom* |

## Spectro (S)

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

## NIST Multi-Element Standards (N)

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|---|---|---|
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## Merck/MilliporeSigma (M)

| Merck# | Inorganic Ventures# | Page |
|---|---|---|
| 109410 | IV-STOCK-23 | p.41 |
| 109411 | **IV-STOCK-24** | p.41 |
| 109480 | IV-8217 | *Custom* |
| 109481 | **IV-STOCK-14** | p.40 |
| 109482 | IV-STOCK-55 | p.44 |
| 109487 | **IV-21** | p.69, 75 |
| 109490 | **IV-19770** | *Custom* |
| 109491 | IV-73446 | *Custom* |
| 109492 | **IV-STOCK-8** | p.39 |
| 109493 | IV-STOCK-10 | p.39 |
| 109494 | IV-72380 | *Custom* |
| 109495 | IV-STOCK-17 | p.40 |
| 109497 | **IV-16603** | *Custom* |
| 109498 | IV-STOCK-21 | p.40 |
| 109500 | IV-STOCK-18 | p.40 |
| 110322 | IV-STOCK-7 | p.39 |
| 110580 | IV-STOCK-6 | p.38 |
| 110714 | **IV-STOCK-5** | p.38 |
| 111355 | **IV-STOCK-4** | p.38 |
| 115626 | IV-STOCK-16 | p.40 |

# IONS

## Common Multi-Ion Standards (I)

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| IC-FAS-1A | p.89 |
| IC-SCS1 | p.89 |
| IV-STOCK-7 | p.39, 89 |
| IV-STOCK-59 | p.89 |

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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**<br>**IV-STOCK-2-500ML** | | Volume: 125 mL<br>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**<br>**IV-STOCK-3-500ML** | | Volume: 125 mL<br>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**<br>**IV-STOCK-4-500ML** | | Volume: 125 mL<br>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** — Volume: 125 mL
**IV-STOCK-7-500ML** — Volume: 500 mL

| Analyte | µg/mL | Analyte | µg/mL |
|---|---|---|---|
| $Ba^{+2}$ | 100 | $Mn^{+2}$ | 100 |
| $Ca^{+2}$ | 100 | $Na^{+}$ | 100 |
| $K^{+}$ | 100 | $NH_4^{+}$ | 100 |
| $Li^{+}$ | 100 | $Sr^{+2}$ | 100 |
| $Mg^{+2}$ | 100 | | |

## ICP Calibration Standard

**IV-STOCK-8** (M) — Matrix: $HNO_3$

**IV-STOCK-8-125ML** — Volume: 125 mL
**IV-STOCK-8-500ML** — Volume: 500 mL

| Analyte | µg/mL | Analyte | µg/mL |
|---|---|---|---|
| Al | 100 | K | 100 |
| B | 100 | Li | 100 |
| Ba | 100 | Mg | 100 |
| Be | 100 | Mn | 100 |
| Bi | 100 | Na | 100 |
| Ca | 100 | Ni | 100 |
| Cd | 100 | Pb | 100 |
| Co | 100 | Se | 100 |
| Cr | 100 | Sr | 100 |
| Cu | 100 | Te | 100 |
| Fe | 100 | Tl | 100 |
| Ga | 100 | Zn | 100 |

## ICP Calibration Standard – Toxic Elements

**IV-STOCK-9** — Matrix: $HNO_3$

**IV-STOCK-9-125ML** — Volume: 125 mL

| Analyte | µg/mL | Analyte | µg/mL |
|---|---|---|---|
| As | 100 | Pb | 100 |
| Be | 100 | Se | 100 |
| Cd | 100 | Tl | 100 |
| Ni | 100 | | |

(I) Common Multi-Ion Standards

(M) Merck/MilliporeSigma

## ICP Calibration Standard – Surface Water

**IV-STOCK-10** (M) — Matrix: $HNO_3$

**IV-STOCK-10-125ML** — Volume: 125 mL

| Analyte | µg/L* | Analyte | µg/L* |
|---|---|---|---|
| As | 50 | Mg | 15,000 |
| B | 100 | Mn | 30 |
| Ba | 50 | Mo | 100 |
| Be | 20 | Na | 8,000 |
| Bi | 10 | Ni | 50 |
| Ca | 35,000 | Pb | 25 |
| Cd | 20 | Se | 10 |
| Co | 25 | Sr | 100 |
| Cr | 20 | Tl | 10 |
| Cu | 20 | V | 50 |
| Fe | 100 | Zn | 50 |
| K | 3,000 | | |

*Parts per billion

## ICP-MS Calibration Standard

**IV-STOCK-12** — Matrix: $HNO_3$

**IV-STOCK-12-125ML** — Volume: 125 mL

| Analyte | µg/mL | Analyte | µg/mL |
|---|---|---|---|
| Ba | 10 | In | 10 |
| Be | 10 | Li | 10 |
| Bi | 10 | Ni | 10 |
| Ce | 10 | Pb | 10 |
| Co | 10 | U | 10 |

## ICP Calibration Standard – Trace Metals

**IV-STOCK-13** (M) — Matrix: $HNO_3$

**IV-STOCK-13-125ML** — Volume: 125 mL

| Analyte | µg/mL | Analyte | µg/mL |
|---|---|---|---|
| Al | 500 | Fe | 100 |
| As | 100 | Mn | 100 |
| Be | 100 | Ni | 100 |
| Cd | 25 | Pb | 100 |
| Co | 100 | Se | 25 |
| Cr | 100 | V | 250 |
| Cu | 100 | Zn | 100 |

# 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.

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

(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**<br>**IV-STOCK-24-500ML** | Volume: 125 mL<br>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

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-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 |

## 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 |

## Calibration Standard – Mix Majors

| IV-STOCK-33 (AV) | Matrix: $HNO_3$ | | |
|---|---|---|---|
| **IV-STOCK-33-125ML**<br>**IV-STOCK-33-500ML** | Volume: 125 mL<br>Volume: 500 mL | | |
| **Analyte** | **µg/mL** | **Analyte** | **µg/mL** |
| Ca | 500 | Mg | 500 |
| Fe | 500 | Na | 500 |
| K | 500 | | |

## 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-34 (PE, JY) | Matrix: $HNO_3$ | | |
|---|---|---|---|
| **IV-STOCK-34-125ML**<br>**IV-STOCK-34-500ML** | Volume: 125 mL<br>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<br>IV-STOCK-36-500ML | Volume: 125 mL<br>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 | 1,000 |
| 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 | 1,000 | Zn | 10 |
| Mg | 1,000 | | |

## 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 |
| $^6$Li | 10 | | |

## 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 |
| $^6$Li | 5 | Y | 2.5 |
| Lu | 5 | Yb | 2.5 |
| Mg | 10 | Zn | 20 |

## 7500 Series PA Tuning Solution 2
**(commonly used with IV-Stock-51)**

| IV-STOCK-52 | Matrix: HCl | | |
|---|---|---|---|
| IV-STOCK-52-125ML | Volume: 125 mL | | |
| **Analyte** | **µg/mL** | **Analyte** | **µg/mL** |
| Ge | 10 | Ru | 10 |
| Ir | 5 | Sb | 10 |
| Mo | 10 | Sn | 10 |
| Pd | 10 | Ti | 5 |

## Interference Check Standard

| IV-STOCK-54 (PE) | Matrix: $HNO_3$ | | |
|---|---|---|---|
| IV-STOCK-54-125ML | Volume: 125 mL | | |
| **Analyte** | **µg/mL** | **Analyte** | **µg/mL** |
| Al | 1,200 | Mg | 3,000 |
| Ca | 6,000 | Na | 1,000 |
| Fe | 5,000 | | |

(AV) Agilent/Varian
(C) Common Multi-Element Standards
(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.

## 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 |
| $^6Li$ | 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**<br>**CMS-2-500ML** | | Volume: 125 mL<br>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**<br>**CMS-4-500ML** | | Volume: 125 mL<br>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**<br>**CMS-5-500ML** | | Volume: 125 mL<br>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<br>CCS-1-500ML | Volume: 125 mL<br>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<br>CCS-4-500ML | Volume: 125 mL<br>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<br>CCS-5-500ML | Volume: 125 mL<br>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**<br>**CCS-6-500ML** | | Volume: 125 mL<br>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**<br>**IV-ICPMS-71B-500ML** | | Volume: 125 mL<br>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**<br>**IV-ICPMS-71A-500ML** | | Volume: 125 mL<br>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**<br>**IV-ICPMS-71C-500ML** | | Volume: 125 mL<br>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**<br>**IV-ICPMS-71D-500ML** | | Volume: 125 mL<br>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**<br>**MSHG-10PPM-500ML** | Volume: 125 mL<br>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

## AGI Tuning Solution

| AGI-TS-1 (AV) | Matrix: $HNO_3$ |
|---|---|
| AGI-TS-1-125ML<br>AGI-TS-1-500ML | Volume: 125 mL<br>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<br>GENESIS-ICAL-500ML | Volume: 125 mL<br>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<br>IV-STOCK-1643-500ML | Volume: 125 mL<br>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<br>PE-TS-1-500ML | Volume: 125 mL<br>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<br>THERMO-4AREV-1L | Volume: 500 mL<br>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<br>THERMO-5A-250ML | Volume: 125 mL<br>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

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

## 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<br>VAR-CAL-1-500ML | Volume: 125 mL<br>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<br>VAR-CAL-7-500ML | Volume: 125 mL<br>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

# 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 |

| 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 | | |

(U) USP Method <232>

USP Method <232> — Elemental Impurities Compliance Standards

| 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 | | |

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

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

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

U USP Method <232>

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 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<br>500 mL | MSHG-10PPM-125ML<br>MSHG-10PPM-500ML |
| **Mercury, Hg** | $HNO_3$ | 125 mL<br>500 mL | MSHGN-10PPM-125ML<br>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<br>500 mL | MSPB-100PPM-125ML<br>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<br>125 mL<br>500 mL | CGAS1-30ML<br>CGAS1-125ML<br>CGAS1-500ML |
| **Arsenic$^{+3}$, As$^{+3}$** | HCl / NaOH / $NaHCO_3$ | 30 mL<br>125 mL<br>500 mL | CGAS(3)1-30ML<br>CGAS(3)1-125ML<br>CGAS(3)1-500ML |
| **Arsenic$^{+5}$, As$^{+5}$** | $H_2O$ | 30 mL<br>125 mL<br>500 mL | CGAS(5)1-30ML<br>CGAS(5)1-125ML<br>CGAS(5)1-500ML |
| **Cadmium, Cd** | $HNO_3$ | 30 mL<br>125 mL<br>500 mL | CGCD1-30ML<br>CGCD1-125ML<br>CGCD1-500ML |
| **Lead, Pb** | $HNO_3$ | 30 mL<br>125 mL<br>500 mL | CGPB1-30ML<br>CGPB1-125ML<br>CGPB1-500ML |
| **Mercury, Hg** | $HNO_3$ | 30 mL<br>125 mL<br>500 mL | CGHG1-30ML<br>CGHG1-125ML<br>CGHG1-500ML |

## 10,000 µg/mL

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

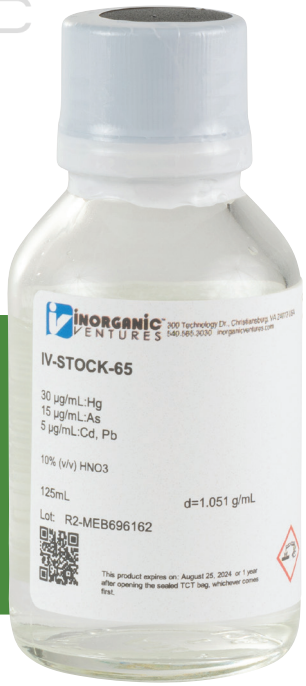
| USP <232> / ICH Q3D Class 1 Oral Elemental Impurities | | | |
|---|---|---|---|
| **IV-STOCK-65-125ML** | | Volume: 125 mL | Matrix: $HNO_3$ |
| **Analyte** | **µg/mL** | **Analyte** | **µg/mL** |
| **As** | 15 | **Hg** | 30 |
| **Cd** | 5 | **Pb** | 5 |

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



- ✔ **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**<br>**CLPP-ICS-A-500ML** | | Volume: 125 mL<br>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 | | |

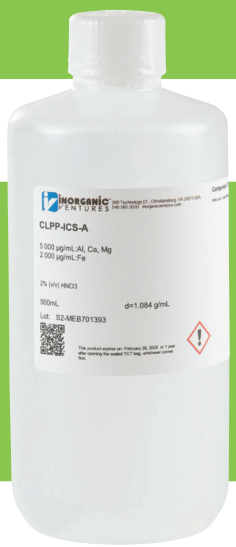
For use as initial/continuing calibration verification standard in EPA Contract Laboratory Program (CLP) methods. Does not contain antimony (Sb). Please see CGSB1 or QCP-CICV-2 for suitable Sb reference standard.

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**<br>**CLPP-ICS-A-500ML** | | Volume: 125 mL<br>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: $HNO_3$<br>Dilution 1:100 (water samples)<br>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: $HNO_3$<br>Dilution 1:10 | |
| CLPP-ICS-A-125ML<br>CLPP-ICS-A-500ML | | Volume: 125 mL<br>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: $HNO_3$<br>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**<br>**6020ISS-500ML** | | Volume: 125 mL<br>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**<br>**CLP-MS-RINSE-500ML** | Volume: 125 mL<br>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.

## 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 |

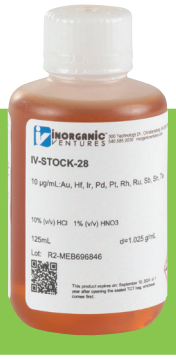
For use as ICP-OES QC standard in EPA Method 200.7. Based upon Revisions 3.3 and 4.4 and suitable for all 200.7 versions.

| 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† | | | |
|---|---|---|---|
| **IV-19** | | Matrix: $HNO_3$ / HF Dilution 1:100 | |
| **IV-19-125ML** | | Volume: 125 mL | |
| Analyte | µg/mL | Analyte | µg/mL |
| As | 100 | Mo | 100 |
| Be | 100 | Ni | 100 |
| Ca | 100 | Pb | 100 |
| Cd | 100 | Sb | 100 |
| Co | 100 | Se | 100 |
| Cr | 100 | Ti | 100 |
| Cu | 100 | Tl | 100 |
| Fe | 100 | V | 100 |
| Mg | 100 | Zn | 100 |
| Mn | 100 | | |

| Quality Control Standard† | | | |
|---|---|---|---|
| **IV-21** | | Matrix: $HNO_3$ / HF Dilution 1:100 | |
| **IV-21-125ML** | | Volume: 125 mL | |
| Analyte | µg/mL | Analyte | µg/mL |
| As | 100 | Mo | 100 |
| Be | 100 | Ni | 100 |
| Ca | 100 | Pb | 100 |
| Cd | 100 | Sb | 100 |
| Co | 100 | Se | 100 |
| Cr | 100 | Sr | 100 |
| Cu | 100 | Ti | 100 |
| Fe | 100 | Tl | 100 |
| Li | 100 | V | 100 |
| Mg | 100 | Zn | 100 |
| Mn | 100 | | |

| Quality Control Standard† | | | |
|---|---|---|---|
| **IV-26** | | Matrix: $HNO_3$ / HF Dilution 1:100 | |
| **IV-26-125ML**<br>**IV-26-500ML** | | Volume: 125 mL<br>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**<br>**IV-28-500ML** | | Volume: 125 mL<br>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.

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| 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.



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 | | |

| Quality Control Standard† | | | |
|---|---|---|---|
| **IV-26** | | Matrix: $HNO_3$ / HF Dilution 1:100 | |
| **IV-26-125ML**<br>**IV-26-500ML** | | Volume: 125 mL<br>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**<br>**IV-28-500ML** | | Volume: 125 mL<br>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 200.8

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<br>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: $HNO_3$<br>Dilution 1:100 | |
| **2008CAL-2-125ML**<br>**2008CAL-2-500ML** | | Volume: 125 mL<br>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: $HNO_3$<br>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: $HNO_3$<br>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**<br>**MSHG-1PPM-500ML** | Volume: 125 mL<br>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: $HNO_3$<br>Dilution 1:100 to 1:1,000 | |
| **2008ISS-125ML**<br>**2008ISS-500ML** | | Volume: 125 mL<br>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: $HNO_3$<br>Dilution 1:100 |
| **CGAUN1-30ML**<br>**CGAUN1-125ML**<br>**CGAUN1-500ML** | Volume: 30 mL<br>Volume: 125 mL<br>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.

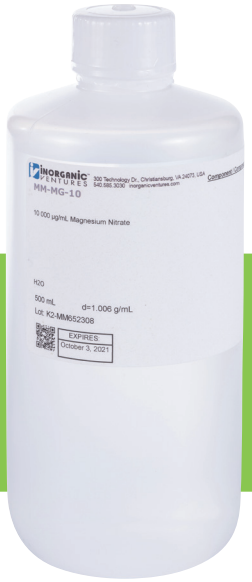
| TCLP Hg Standard | |
|---|---|
| **TCLP-AA-HG** | Matrix: $HNO_3$<br>Dilution: As required |
| **TCLP-AA-HG-125ML** | Volume: 125 mL |
| **Analyte** | **µg/mL** |
| **Hg** | 20 |

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

| TCLP Standard | | | |
|---|---|---|---|
| **TCLP-1REV** | | Matrix: $HNO_3$<br>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).






## 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.

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**<br>**6020ICS-8A-500ML** | | Volume: 125 mL<br>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**<br>**6020ISS-500ML** | | Volume: 125 mL<br>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**<br>**6020ICS-9A-500ML** | | Volume: 125 mL<br>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.

| 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.

| Internal Standard | | | |
|---|---|---|---|
| **6020ISS** | | Matrix: $HNO_3$ Dilution 1:100 | |
| **6020ISS-125ML**<br>**6020ISS-500ML** | | Volume: 125 mL<br>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.

| 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

| 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**<br>**6020ISS-500ML** | | Volume: 125 mL<br>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**<br>**6020ICS-0A-500ML** | | Volume: 125 mL<br>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.



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

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- ✔ **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<br>500 mL | ICOAC1-125ML<br>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<br>500 mL | ICBRO31-125ML<br>ICBRO31-500ML |
| **Bromide, Br-** | $H_2O$ | KBr | 125 mL<br>500 mL | ICBR1-125ML<br>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<br>500 mL | ICCO31-125ML<br>ICCO31-500ML |
| **Chlorate, $ClO_3$-** | $H_2O$ | $KClO_3$ | 125 mL<br>500 mL | ICCLO31-125ML<br>ICCLO31-500ML |
| **Chloride, Cl-** | $H_2O$ | KCl | 125 mL<br>500 mL | ICCL1-125ML<br>ICCL1-500ML |
| **Chlorite, $ClO_2$-** | $H_2O$ | $NaClO_2$ | 125 mL<br>500 mL | ICCLO21-125ML<br>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<br>500 mL | ICCIT1-125ML<br>ICCIT1-500ML |
| **Cyanide, NaCN** | $H_2O$ | Sodium cyanide | 20 mL | CN-1000-25-20ML |
| **Fluoride, F-** | $H_2O$ | NaF | 125 mL<br>500 mL | ICF1-125ML<br>ICF1-500ML |
| **Formate, $HCO_2$-** | $H_2O$ | Sodium formate | 125 mL<br>500 mL | ICHCO1-125ML<br>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<br>500 mL | ICI1-125ML<br>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<br>500 mL | ICNO31-125ML<br>ICNO31-500ML |
| **Nitrate as Nitrogen** | $H_2O$ | $NaNO_3$ | 125 mL<br>500 mL | ICNNO31-125ML<br>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<br>500 mL | ICNO21-125ML<br>ICNO21-500ML |
| **Nitrite as Nitrogen** | $H_2O$ | $NaNO_2$ | 125 mL<br>500 mL | ICNNO21-125ML<br>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<br>500 mL | ICOXA1-125ML<br>ICOXA1-500ML |
| **Perchlorate, $ClO_4$-** | $H_2O$ | $KClO_4$ | 125 mL<br>500 mL | ICCLO41-125ML<br>ICCLO41-500ML |
| **Phosphate, $PO_4^{-3}$** | $H_2O$ | $NH_4H_2PO_4$ | 125 mL<br>500 mL | ICPO41-125ML<br>ICPO41-500ML |
| **Phosphate as Phosphorus** | $H_2O$ | $NH_4H_2PO_4$ | 125 mL<br>500 mL | ICPPO41-125ML<br>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<br>500 mL | ICSO41-125ML<br>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<br>500 mL | ICS2O31-125ML<br>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<br>500 mL | ICCL10-125ML<br>ICCL10-500ML |
| **Sulfate, $SO_4^{-2}$** | $H_2O$ | $K_2SO_4$ | 125 mL<br>500 mL | ICSO410-125ML<br>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<br>500 mL | ICNH41-125ML<br>ICNH41-500ML |
| **Ammonium as Nitrogen** | $H_2O$ | $NH_4Cl$ | 125 mL<br>500 mL | ICNNH41-125ML<br>ICNNH41-500ML |
| **Barium, $Ba^{+2}$** | $HNO_3$ | $Ba(NO_3)_2$ | 125 mL | ICBA1-125ML |
| **Calcium, $Ca^{+2}$** | $HNO_3$ | CaO | 125 mL<br>500 mL | ICCA1-125ML<br>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<br>500 mL | ICMG1-125ML<br>ICMG1-500ML |
| **Monoethanolamine, $HOCH_2CH_2NH_2$** | $H_2O$ | Monoethanolamine | 125 mL<br>500 mL | ICMEA1-125ML<br>ICMEA1-500ML |
| **Monomethylamine, $NH_2CH_3$** | HCl | Monomethylamine | 125 mL | ICMMA1-125ML |
| **Potassium, $K^+$** | $HNO_3$ | $KNO_3$ | 125 mL<br>500 mL | ICK1-125ML<br>ICK1-500ML |
| **Rubidium, $Rb^+$** | $HNO_3$ | $RbNO_3$ | 125 mL | ICRB1-125ML |
| **Sodium, $Na^+$** | $HNO_3$ | $Na_2CO_3$ | 125 mL<br>500 mL | ICNA1-125ML<br>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<br>IC-FAS-1A-500ML | | Volume: 125 mL<br>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<br>IV-STOCK-7-500ML | | Volume: 125 mL<br>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<br>IV-STOCK-59-500ML | | Volume: 125 mL<br>Volume: 500 mL | |
| Analyte | µg/mL | Analyte | µg/mL |
| Br- | 1,000 | $NO_2$- | 1,000 |
| Cl- | 1,000 | $PO_4^{-3}$ | 1,000 |
| F- | 1,000 | $SO_4^{-2}$ | 1,000 |
| $NO_3$- | 1,000 | | |

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<br>IV-STOCK-61-500ML | Volume: 125 mL<br>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

| 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**<br>**IV-STOCK-64-500ML** | Volume: 125 mL<br>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. All Eluents supplied with Product Information Sheet.

| 0.18 M Sodium Carbonate/0.17 M Sodium Bicarbonate | | |
|---|---|---|
| **ELUENT1817-100ML**<br>**ELUENT1817-500ML** | Volume: 100 mL<br>Volume: 500 mL | Matrix: $H_2O$<br>Dilution: 1:100 |
| For preparation of 1.8 mM $CO_3^{-2}$ / 1.7 mM $HCO_3$- eluent. | | |

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

| 0.35 M Sodium Carbonate/0.10 M Sodium Bicarbonate | | |
|---|---|---|
| **ELUENT3510-100ML**<br>**ELUENT3510-500ML** | Volume: 100 mL<br>Volume: 500 mL | Matrix: $H_2O$<br>Dilution: 1:100 |
| For preparation of 3.5 mM $CO_3^{-2}$ / 1.0 mM $HCO_3$- eluent. | | |

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

| 0.45 M Sodium Carbonate/0.14 M Sodium Bicarbonate | | |
|---|---|---|
| **ELUENT4514-500ML** | Volume: 500 mL | Matrix: $H_2O$<br>Dilution: 1:100 |
| For preparation of 3.5 mM $CO_3^{-2}$ / 1.0 mM $HCO_3$- eluent. | | |

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

| 0.5 M Sodium Bicarbonate | | |
|---|---|---|
| **BICARB-100ML**<br>**BICARB-500ML** | Volume: 100 mL<br>Volume: 500 mL | Matrix: $H_2O$<br>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.

Eluent Concentrates

| 0.5 M Sodium Carbonate | | |
|---|---|---|
| **CARB-100ML**<br>**CARB-500ML** | Volume: 100 mL<br>Volume: 500 mL | Matrix: $H_2O$<br>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**<br>**MSAELUENT-500ML** | Volume: 100 mL<br>Volume: 500 mL | Matrix: $H_2O$<br>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**<br>**ELUENT1817-500ML** | Volume: 100 mL<br>Volume: 500 mL | Matrix: $H_2O$<br>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**<br>**300-CAL-A-500ML** | | Volume: 125 mL<br>Volume: 500 mL | Matrix: $H_2O$<br>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**<br>**ICDCA-S-500ML** | Volume: 125 mL<br>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: $H_2O$<br>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: $H_2O$<br>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<br>ICBRO31-500ML | Volume: 125 mL<br>Volume: 500 mL |
| Analyte | µg/mL |
| $BrO_3$- | 1,000 |

| Chlorate | |
|---|---|
| ICCLO31 | Matrix: $H_2O$ |
| ICCLO31-125ML<br>ICCLO31-500ML | Volume: 125 mL<br>Volume: 500 mL |
| Analyte | µg/mL |
| $ClO_3$- | 1,000 |

| Bromide | |
|---|---|
| ICBR1 | Matrix: $H_2O$ |
| ICBR1-125ML<br>ICBR1-500ML | Volume: 125 mL<br>Volume: 500 mL |
| Analyte | µg/mL |
| Br- | 1,000 |

| Dichloroacetate Standard | |
|---|---|
| ICDCA-S | Matrix: $H_2O$ |
| ICDCA-S-125ML<br>ICDCA-S-500ML | Volume: 125 mL<br>Volume: 500 mL |
| Analyte | µg/mL |
| $Cl_2HC_2O_2$- | 500 |

For use as a surrogate analyte.

| Chlorite | |
|---|---|
| ICCLO21 | Matrix: $H_2O$ |
| ICCLO21-125ML<br>ICCLO21-500ML | Volume: 125 mL<br>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<br>CON1400-25-500ML<br>CON1400-25-1L | Volume: 125 mL<br>Volume: 500 mL<br>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<br>ICCLO41-500ML | Volume: 125 mL<br>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.


## Contents



- ✔ **Five-year shelf life**
- ✔ **Traceable to NIST SRMs**
- ✔ **Produced under ISO 9001**
- ✔ **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<br>500 mL | AAAL1-125ML<br>AAAL1-500ML |
| **Antimony, Sb** | $HNO_3$ / Tartaric Acid | 125 mL<br>500 mL | AASB1-125ML<br>AASB1-500ML |
| **Arsenic, As** | $HNO_3$ | 125 mL<br>500 mL | AAAS1-125ML<br>AAAS1-500ML |
| **Barium, Ba** | $HNO_3$ | 125 mL<br>500 mL | AABA1-125ML<br>AABA1-500ML |
| **Beryllium, Be** | $HNO_3$ | 125 mL<br>500 mL | AABE1-125ML<br>AABE1-500ML |
| **Bismuth, Bi** | $HNO_3$ | 125 mL<br>500 mL | AABI1-125ML<br>AABI1-500ML |
| **Boron, B** | $NH_4OH$ | 125 mL<br>500 mL | AAB1-125ML<br>AAB1-500ML |
| **Cadmium, Cd** | $HNO_3$ | 125 mL<br>500 mL | AACD1-125ML<br>AACD1-500ML |
| **Calcium, Ca** | $HNO_3$ | 125 mL<br>500 mL | AACA1-125ML<br>AACA1-500ML |
| **Cerium, Ce** | $HNO_3$ | 125 mL<br>500 mL | AACE1-125ML<br>AACE1-500ML |
| **Cesium, Cs** | $HNO_3$ | 125 mL<br>500 mL | AACS1-125ML<br>AACS1-500ML |
| **Chromium, Cr** | $HNO_3$ | 125 mL<br>500 mL | AACR1-125ML<br>AACR1-500ML |
| **Cobalt, Co** | $HNO_3$ | 125 mL<br>500 mL | AACO1-125ML<br>AACO1-500ML |
| **Copper, Cu** | $HNO_3$ | 125 mL<br>500 mL | AACU1-125ML<br>AACU1-500ML |
| **Dysprosium, Dy** | $HNO_3$ | 125 mL<br>500 mL | AADY1-125ML<br>AADY1-500ML |
| **Erbium, Er** | $HNO_3$ | 125 mL<br>500 mL | AAER1-125ML<br>AAER1-500ML |
| **Europium, Eu** | $HNO_3$ | 125 mL<br>500 mL | AAEU1-125ML<br>AAEU1-500ML |
| **Gadolinium, Gd** | $HNO_3$ | 125 mL<br>500 mL | AAGD1-125ML<br>AAGD1-500ML |
| **Gallium, Ga** | $HNO_3$ | 125 mL<br>500 mL | AAGA1-125ML<br>AAGA1-500ML |
| **Germanium, Ge** | $HNO_3$ / HF | 125 mL<br>500 mL | AAGE1-125ML<br>AAGE1-500ML |
| **Gold, Au** | HCl | 125 mL<br>500 mL | AAAU1-125ML<br>AAAU1-500ML |
| **Hafnium, Hf** | $HNO_3$ / HF | 125 mL<br>500 mL | AAHF1-125ML<br>AAHF1-500ML |
| **Holmium, Ho** | $HNO_3$ | 125 mL<br>500 mL | AAHO1-125ML<br>AAHO1-500ML |
| **Indium, In** | $HNO_3$ | 125 mL<br>500 mL | AAIN1-125ML<br>AAIN1-500ML |

1,000 µg/mL Standards

## 1,000 µg/mL

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

1,000 µg/mL Standards

## 1,000 µg/mL

| ANALYTE | MATRIX | VOLUME | CATALOG # |
|---|---|---|---|
| **Selenium, Se** | $HNO_3$ | 125 mL<br>500 mL | AASE1-125ML<br>AASE1-500ML |
| **Silicon, Si** | $HNO_3$ / HF | 125 mL<br>500 mL | AASI1-125ML<br>AASI1-500ML |
| **Silver, Ag** | $HNO_3$ | 125 mL<br>500 mL | AAAG1-125ML<br>AAAG1-500ML |
| **Sodium, Na** | $HNO_3$ | 125 mL<br>500 mL | AANA1-125ML<br>AANA1-500ML |
| **Strontium, Sr** | $HNO_3$ | 125 mL<br>500 mL | AASR1-125ML<br>AASR1-500ML |
| **Sulfur, S** | $H_2O$ | 125 mL<br>500 mL | AAS1-125ML<br>AAS1-500ML |
| **Tantalum, Ta** | $HNO_3$ / HF | 125 mL<br>500 mL | AATA1-125ML<br>AATA1-500ML |
| **Tellurium, Te** | HCl | 125 mL<br>500 mL | AATE1-125ML<br>AATE1-500ML |
| **Terbium, Tb** | $HNO_3$ | 125 mL<br>500 mL | AATB1-125ML<br>AATB1-500ML |
| **Thallium, Tl** | $HNO_3$ | 125 mL<br>500 mL | AATL1-125ML<br>AATL1-500ML |
| **Thorium, Th** | $HNO_3$ | 125 mL<br>500 mL | AATH1-125ML<br>AATH1-500ML |
| **Thulium, Tm** | $HNO_3$ | 125 mL<br>500 mL | AATM1-125ML<br>AATM1-500ML |
| **Tin, Sn** | $HNO_3$ / HF | 125 mL<br>500 mL | AASN1-125ML<br>AASN1-500ML |
| **Titanium, Ti** | $HNO_3$ / HF | 125 mL<br>500 mL | AATI1-125ML<br>AATI1-500ML |
| **Tungsten, W** | $HNO_3$ / HF | 125 mL<br>500 mL | AAW1-125ML<br>AAW1-500ML |
| **Uranium, U** | $HNO_3$ | 125 mL<br>500 mL | AAU1-125ML<br>AAU1-500ML |
| **Vanadium, V** | $HNO_3$ | 125 mL<br>500 mL | AAV1-125ML<br>AAV1-500ML |
| **Ytterbium, Yb** | $HNO_3$ | 125 mL<br>500 mL | AAYB1-125ML<br>AAYB1-500ML |
| **Yttrium, Y** | $HNO_3$ | 125 mL<br>500 mL | AAY1-125ML<br>AAY1-500ML |
| **Zinc, Zn** | $HNO_3$ | 125 mL<br>500 mL | AAZN1-125ML<br>AAZN1-500ML |
| **Zirconium, Zr** | HF | 125 mL<br>500 mL | AAZR1-125ML<br>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**<br>**MM-PD-5-500ML** | Volume: 125 mL<br>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**<br>**MM-PD-10-500ML** | Volume: 125 mL<br>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**<br>**MM-PDMG-32-500ML** | | Volume: 125 mL<br>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





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

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

| Bromate | |
|---|---|
| **ICBRO31** | Matrix: $H_2O$ |
| **ICBRO31-125ML**<br>**ICBRO31-500ML** | Volume: 125 mL<br>Volume: 500 mL |
| **Analyte** | **µg/mL** |
| **$BrO_3$-** | 1,000 |

| Chlorate | |
|---|---|
| **ICCLO31** | Matrix: $H_2O$ |
| **ICCLO31-125ML**<br>**ICCLO31-500ML** | Volume: 125 mL<br>Volume: 500 mL |
| **Analyte** | **µg/mL** |
| **$ClO_3$-** | 1,000 |

| Bromide | |
|---|---|
| **ICBR1** | Matrix: $H_2O$ |
| **ICBR1-125ML**<br>**ICBR1-500ML** | Volume: 125 mL<br>Volume: 500 mL |
| **Analyte** | **µg/mL** |
| **Br-** | 1,000 |

| Chlorite | |
|---|---|
| **ICCLO21** | Matrix: $H_2O$ |
| **ICCLO21-125ML**<br>**ICCLO21-500ML** | Volume: 125 mL<br>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<br>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**<br>**MSHG-1PPM-500ML** | Volume: 125 mL<br>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<br>500 mL | TOCKHP1-125ML<br>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.

- ✔ **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



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 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 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 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 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 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 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 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 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 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<br>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.

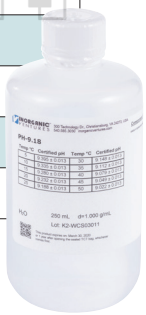
## pH Buffer Features:

- **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 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.

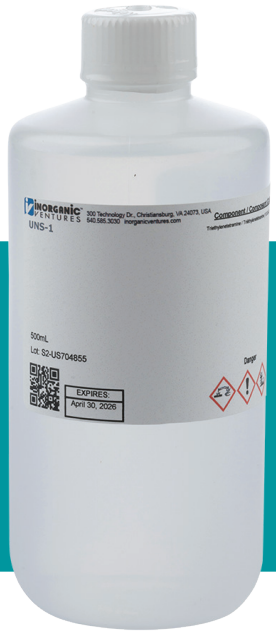
The following products are intended to be used together; UA-1 for sample dissolution and UNS-1 for neutralization and stabilization. Please see the article titled Elemental Analysis of Zeolites on our website for more information. Custom dissolution reagents for specific applications are available upon 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*** | Volume: 500 mL |
| Designed for use with UA-1. | |

*UA-1-500ML and UNS-1-500ML are custom solutions, made to order with 10-day turnaround time. Please request a custom quote.






## 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: $H_2O$<br>Volume: 500 mL |
| 0.05M EDTA, 500mL | |

| 0.5M EDTA | |
|---|---|
| **0.5M-EDTA-500ML** | Matrix: $H_2O$<br>Volume: 500 mL |
| 0.5M EDTA, 500mL | |

| 0.1M Hydrochloric Acid | |
|---|---|
| **0.1M-HCL-500ML** | Matrix: $H_2O$<br>Volume: 500 mL |
| 0.1M Hydrochloric Acid, 500mL | |

| 1.0M Hydrochloric Acid | |
|---|---|
| **1.0M-HCL-500ML** | Matrix: $H_2O$<br>Volume: 500 mL |
| 1.0M Hydrochloric Acid, 500mL | |

| 0.1M Nitric Acid | |
|---|---|
| **0.1M-HNO3-500ML** | Matrix: $H_2O$<br>Volume: 500 mL |
| 0.1M Nitric Acid, 500mL | |

| 1.0M Nitric Acid | |
|---|---|
| **1.0M-HNO3-500ML** | Matrix: $H_2O$<br>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<br>Volume: 500 mL |
| 0.1M Perchloric Acid, 500mL | |

| 0.1N Silver Nitrate | |
|---|---|
| **0.1N-AGNO3-500ML** | Matrix: $H_2O$<br>Volume: 500 mL |
| 0.1N Silver Nitrate, 500mL | |

| 0.1M Sodium Hydroxide | |
|---|---|
| **0.1M-NAOH-500ML** | Matrix: $H_2O$<br>Volume: 500 mL |
| 0.1M Sodium Hydroxide, 500mL | |

| 0.1N Sodium Thiosulfate | |
|---|---|
| **0.1N-NA2S2O3-500ML** | Matrix: $H_2O$<br>Volume: 500 mL |
| 0.1N Sodium Thiosulfate 500 mL. Prepared and standardized according to USP specifications. | |

| 1M Sodium Hydroxide | |
|---|---|
| **1M-NAOH-500ML** | Matrix: $H_2O$<br>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**<br>**Ultra Pure** | Matrix: $HNO_3$<br>Dilution: Ready to Use |
| **CLP-MS-RINSE-125ML**<br>**CLP-MS-RINSE-500ML** | Volume: 125 mL<br>Volume: 500 mL |

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

| 5% (v/v) Nitric Acid Blank | |
|---|---|
| **IV-ACID-BLANK**<br>**Ultra Pure** | Matrix: $HNO_3$ |
| **IV-ACID-BLANK-500ML**<br>**IV-ACID-BLANK-1L** | Volume: 500 mL<br>Volume: 1 L |

| Deionized Blank | |
|---|---|
| **IV-DI-BLANK** | Matrix: $H_2O$ |
| **IV-DI-BLANK-500ML**<br>**IV-DI-BLANK-1L** | Volume: 500 mL<br>Volume: 1 L |

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

**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. 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.



* 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


REGISTERED ISO 9001 QSR-1034 BY QSR

ACCREDITED ISO 17025 0883.01 BY A2LA

ACCREDITED ISO 17034 0883.02 BY A2LA

Please recycle this catalog.