

INORGANIC CUSTOM & STOCK CERTIFIED REFERENCE MATERIALS





Welcome to our 2014–2015 Catalog!

Our goal as a reference material manufacturer is to provide certified reference materials (CRMs) that meet your needs. Our manufacturing process must fall within the ISO Guide 34 guidelines, and we accept this as a baseline requirement. Our goal is not only to provide the highest-quality product, but also to provide the best customer service and technical support in the industry. I would like for you to try us and experience this for yourself. If any aspect of your IV experience is not the best you have encountered, please let us know. We greatly value your opinions and suggestions. We are continually striving to Flex to Your Specs.

In closing, I'd like to sincerely thank you for your continued support and for choosing Inorganic Ventures as your CRM manufacturer.

A handwritten signature in black ink that reads "Paul R. Gaines".

Paul R. Gaines, Ph.D.

CEO & Fellow Chemist
Serving You in Chemistry



Pictured front cover: Lee Hawthorne, Manufacturing Technician

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Linda Gaines, Chief Financial Officer

Inorganic Ventures is located in Christiansburg, Virginia.

For more than 28 years, Inorganic Ventures has focused on manufacturing inorganic certified reference materials (CRMs) for analytical markets worldwide, offering you unparalleled speed, quality, service and support.

Let us show you how **we flex to your specs**.

Our international facility. Our international distribution center is located in Santander, Spain. This fully stocked facility provides fast delivery and competitive shipping rates for our global customers.

Quality

A history of accreditation. For more than 13 years Inorganic Ventures has been accredited by A2LA to ISO Guide 34 & ISO 17025. These are the core standards of the analytical testing community, and Inorganic Ventures continues to lead the way in obtaining and developing these quality standards. This means every CRM is engineered to be stable, compatible, NIST traceable and manufactured and tested under ISO Guide 34 & ISO 17025 guidelines.

Registered to ISO 9001 since 1996, we have developed our quality management system to include four robust quality objectives that are an integral part of our daily operations. They are:

- **Customer Satisfaction: No justified customer complaints**
- **Every order will ship on time**
- **Complete and accurate testing of all our products**
- **Defect-free processing**

Our Quality Statement:

We will “flex to the customer’s specs” and strive to exceed the customer’s expectations regarding our products and service.

Elizabeth Day, Quality Assurance Specialist, and
Gary Costa, Quality Control Technician



Customs

Fast, credible, cooperative. Our vast experience in custom blending allows us to create precise, distinctive CRM blends quickly and ship them anywhere in five business days or less.

Did you know that Inorganic Ventures has the capability of producing certified analytes on various filter paper and other solid media?

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



In the lab. All products ship with the required SDS and Certificate of Analysis. Additionally, our stock SDSs and CofAs can be found on our website for current lots as well as many older ones.

**For more new features, see page 94.*

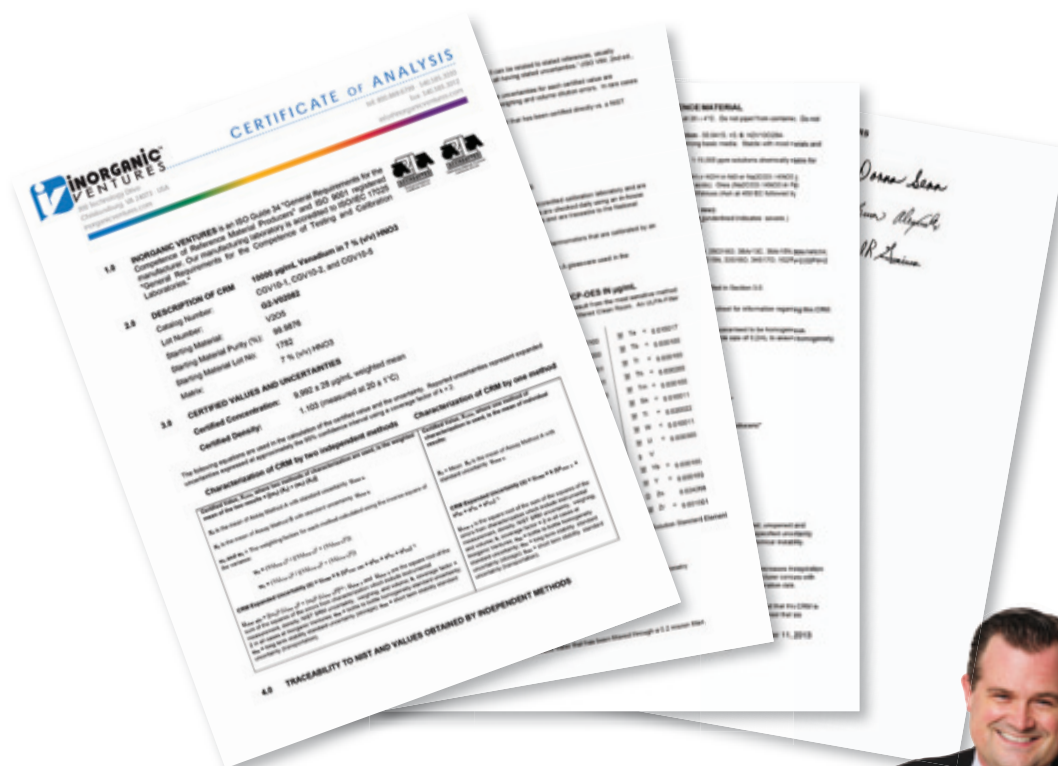


Michael Scott, Vice President

CERTIFICATE OF ANALYSIS

Certificates of Analysis. Nearly every CRM we manufacture includes a highly detailed Certificate of Analysis. As an ISO Guide 34, A2LA accredited manufacturer, our certificates include extensive data to meet the quality requirements of any laboratory:

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



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

Contact us for a sample.

Christopher Gaines, Vice President, and
Brian Alexander, Ph.D., Technical Process Director



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

Our technical advisors are available to assist you Monday through Friday, 8:00 a.m.– 6:00 p.m. EST.

Phone

- 1.800.669.6799 (US & Canada)
- 1.540.585.3030 (International)

Email

- info@inorganicventures.com

Online

- inorganicventures.com

We can assist you with...

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



Michele Newton, CSR–International, and
William Marble, Lead, CSR–International

WE FLEX TO YOUR SPECS 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.



Josephine Wall, Quality Control Technician, and
Peter-Philip Booth, Manufacturing Supervisor



Speed. Credibility. Cooperation.

We can prepare almost any inorganic blend within the boundaries of science. Whether you need two analytes or 20, milliliters or liters, 0.001 µg/mL or 10,000, we can make it for you — fast. It's our specialty.

Customization — The most prominent way that we flex to your specs.

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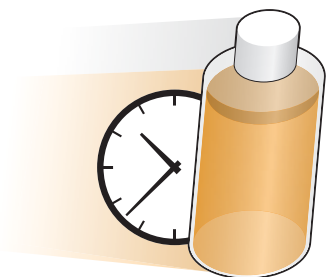
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- ✓ Traceable to NIST SRMs and lots
- ✓ Produced under ISO 9001
- ✓ Produced under ISO 17025
- ✓ Produced under ISO Guide 34
- ✓ Assayed by optimal validated procedures



Michael Booth,
Technical Support
Specialist, and
Donna Senn,
Product
Documentation
Technician

Our catalog reveals only a fraction of the inorganic solutions we're able to make. Much of our business is devoted entirely to custom blending. Laboratories across the globe trust us exclusively to manufacture their inorganic standards.



Fast

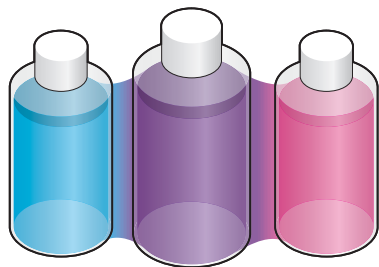
Our specialization in custom blending means faster service without sacrificing quality. Our experienced technicians can identify stability and compatibility issues before production even begins. Almost every blend we make is prepared, certified and shipped in five business days or less.



Credible

Since 1999, our tri-tier ISO quality system has ensured that every standard we make is engineered to be stable, compatible and easy to use. These international accreditations guarantee that you're receiving a true Certified Reference Material.

- **ISO Guide 34** ensures the reliability of our reference materials.
- **ISO 17025** ensures the competency of our laboratory.
- **ISO 9001** ensures the quality of our services.



Cooperative

Speed and credibility often come at a higher price. We offer specialized purchasing options and other incentives to better accommodate your budget. Just ask. We're happy to manufacture nearly any solution in bulk quantities. This prevents the need for repeat labor, which means you'll save money. Plus, there's no waiting when you reorder the material—it'll ship the day you order.



Vickie Ayers, Packaging Technician, and
Christy Shortridge, Product Documentation Technician

1

REQUEST your Customs.

Generate and request any number of custom solutions at inorganicventures.com. Or call in your request to 1.800.669.6799 and discuss your needs with a specialist. You may also fax the quotation request form to 540.585.3012.

2

REVIEW our Quotation.

Often you'll receive our pricing within hours. If you like what you see, place your order by phone, fax or web. However, if you're not happy with our quoted price, let us know. We may be able to better accommodate your budget.

3

RECEIVE your Order.

Ninety-nine percent of the custom orders we prepare ship in five business days or less. If we expect it to take longer, we'll let you know. When your need is truly urgent, we offer RUSH manufacturing* at no additional charge—just ask. Plus, everything we make is backed by our Declaration of Integrity. Your satisfaction is 100 percent guaranteed for the lifetime of the solution.

*Arrival time is 48 to 72 hours when you specify *RUSH* manufacturing.



Jared Phillips, Packaging Supervisor, and
Judith Sclafani, Receptionist/CSR

QUOTATION REQUEST FORM

To: Customer Service
Inorganic Ventures
300 Technology Drive
Christiansburg, VA 24073

Page ____ of ____

Date: _____ (Prices guaranteed for 60 days.)

- 1 Photocopy this page.
- 2 Fill out the form.
- 3 Fax to 1.540.585.3012.

From: Name _____
Company _____
Address _____

Email _____
Account No. _____
Phone _____
Fax _____

Describe Your Blend:

ANALYTE	CONCENTRATION	ANALYTE	CONCENTRATION
1. _____		21. _____	
2. _____		22. _____	
3. _____		23. _____	
4. _____		24. _____	
5. _____		25. _____	
6. _____		26. _____	
7. _____		27. _____	
8. _____		28. _____	
9. _____		29. _____	
10. _____		30. _____	
11. _____		31. _____	
12. _____		32. _____	
13. _____		33. _____	
14. _____		34. _____	
15. _____		35. _____	
16. _____		36. _____	
17. _____		37. _____	
18. _____		38. _____	
19. _____		39. _____	
20. _____		40. _____	

UNITS:

☐ µg/mL	☐ mg/L
☐ µg/L	☐ ng/mL
☐ µg/g	☐ ng/g
☐ µg/Kg	☐ g/mL

VOLUME:

☐ 125 mL	☐ quantity
☐ 250 mL	☐ quantity
☐ 500 mL	☐ quantity
☐ 1,000 mL	☐ quantity
☐ _____ L	☐ quantity

MATRIX:

☐ _____
☐ Inorganic Ventures can specify

Requested Delivery Date: _____

☐ **RUSH Manufacturing**

Solution will arrive in 48–72 business hours
at no additional manufacturing charge.

Specified Requirements: _____

You may also request quotations online:
inorganicventures.com



- ✓ Traceable to NIST SRMs and lots
- ✓ Produced under ISO 9001
- ✓ Produced under ISO 17025
- ✓ Produced under ISO Guide 34
- ✓ Assayed by validated wet chemical procedures
- ✓ Assayed by validated ICP-OES procedures
- ✓ Trace metallic impurities determined by ICP and ICP-MS

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

User-Driven Development — Another fundamental way in which we flex to your specs.

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Barry Arnold,
Quality Manager,
Amy James,
Manufacturing Technician

Custom 10 µg/mL standards are available upon request.

10 µg/mL

ANALYTE	MATRIX	STARTING MATERIAL	VOLUME	CATALOG #
Aluminum, Al	HNO ₃	Al metal	125 mL	MSAL-10PPM
Antimony, Sb	HNO ₃ / Tartaric	Sb metal	125 mL	MSSB-10PPM
Arsenic, As	HNO ₃	As metal	125 mL	MSAS-10PPM
Barium, Ba	HNO ₃	Ba(NO ₃) ₂	125 mL	MSBA-10PPM
Beryllium, Be	HNO ₃	Be ₄ O(C ₂ H ₃ O ₂) ₆	125 mL	MSBE-10PPM
Bismuth, Bi	HNO ₃	Bi metal	125 mL	MSBI-10PPM
Boron, B	HNO ₃	H ₃ BO ₃	125 mL	MSB-10PPM
Cadmium, Cd	HNO ₃	Cd metal	125 mL	MSCD-10PPM
Calcium, Ca	HNO ₃	CaO	125 mL	MSCA-10PPM
Cerium, Ce	HNO ₃	CeO ₂	125 mL	MSCE-10PPM
Cesium, Cs	HNO ₃	CsNO ₃	125 mL	MSCS-10PPM
Chromium ⁺³ , Cr ⁺³	HNO ₃	Cr metal	125 mL	MSCR(3)-10PPM
Chromium ⁺⁶ , Cr ⁺⁶	H ₂ O	(NH ₄) ₂ Cr ₂ O ₇	125 mL	MSCR(6)-10PPM
Cobalt, Co	HNO ₃	Co metal	125 mL	MSCO-10PPM
Copper, Cu	HNO ₃	Cu metal	125 mL	MSCU-10PPM
Germanium, Ge	HNO ₃ / HF	Ge metal	125 mL	MSGE-10PPM
Gold, Au	HCl	HAuCl ₄ •xH ₂ O	125 mL	MSAU-10PPM
Hafnium, Hf	HNO ₃ / HF	HfO ₂	125 mL	MSHF-10PPM
Holmium, Ho	HNO ₃	Ho ₂ O ₃	125 mL	MSHO-10PPM
Indium, In	HNO ₃	In metal	125 mL	MSIN-10PPM
Iron, Fe	HNO ₃	Fe metal	125 mL	MSFE-10PPM
Lead, Pb	HNO ₃	Pb(NO ₃) ₂	125 mL	MSPB-10PPM
Lithium, Li	HNO ₃	Li ₂ CO ₃	125 mL	MSLI-10PPM
⁶ Lithium, ⁶ Li	HNO ₃	⁶ Li metal	125 mL	MS6LI-10PPM
Magnesium, Mg	HNO ₃	Mg metal	125 mL	MSMG-10PPM
Manganese, Mn	HNO ₃	Mn metal	125 mL	MSMN-10PPM
Mercury, Hg	HCl	Hg metal	125 mL	MSHG-10PPM
Mercury, Hg	HNO ₃	Hg metal	125 mL	MSHGN-10PPM
Molybdenum, Mo	NH ₄ OH	(NH ₄) ₂ MoO ₄	125 mL	MSMO-10PPM
Nickel, Ni	HNO ₃	Ni metal	125 mL	MSNI-10PPM
Osmium, Os	HCl	(NH ₄) ₂ OsCl ₆	125 mL	MSOS-10PPM
Phosphorus, P	H ₂ O	H ₃ PO ₄	125 mL	MSP-10PPM
Platinum, Pt	HCl	PtCl ₄	125 mL	MSPT-10PPM
Potassium, K	HNO ₃	KNO ₃	125 mL	MSK-10PPM
Rhodium, Rh	HCl	RhCl ₃	125 mL	MSRH-10PPM
Rhodium, Rh	HNO ₃	RhNO ₃	125 mL	MSRHN-10PPM
Scandium, Sc	HNO ₃	Sc ₂ O ₃	125 mL	MSSC-10PPM
Selenium, Se	HNO ₃	Se metal	125 mL	MSSE-10PPM
Silicon, Si	HNO ₃ / HF	SiO ₂	125 mL	MSSI-10PPM
Silver, Ag	HNO ₃	Ag metal	125 mL	MSAG-10PPM
Sodium, Na	HNO ₃	Na ₂ CO ₃	125 mL	MSNA-10PPM
Strontium, Sr	HNO ₃	SrCO ₃	125 mL	MSSR-10PPM
Sulfur, S	H ₂ O	H ₂ SO ₄	125 mL	MSS-10PPM
Tellurium, Te	HNO ₃	Te Metal	125 mL	MSTEN-10PPM
Terbium, Tb	HNO ₃	Tb ₄ O ₇	125 mL	MSTB-10PPM
Thallium, Tl	HNO ₃	TlNO ₃	125 mL	MSTL-10PPM
Thorium, Th	HNO ₃	Th(NO ₃) ₄ •4H ₂ O	125 mL	MSTH-10PPM
Tin, Sn	HNO ₃ / HF	Sn metal	125 mL	MSSN-10PPM
Titanium, Ti	HNO ₃ / HF	Ti metal	125 mL	MSTI-10PPM
Tungsten, W	HNO ₃ / HF	W Metal	125 mL	MSW-10PPM
Uranium, U	HNO ₃	UO ₂ (NO ₃) ₂	125 mL	MSU-10PPM
Vanadium, V	HNO ₃	V ₂ O ₅	125 mL	MSV-10PPM
Yttrium, Y	HNO ₃	Y ₂ O ₃	125 mL	MSY-10PPM
Zinc, Zn	HNO ₃	Zn metal	125 mL	MSZN-10PPM

SINGLE - ELEMENT STANDARDS

100 µg/mL Standards

Custom 100 µg/mL standards are available upon request.

100 µg/mL

ANALYTE	MATRIX	STARTING MATERIAL	VOLUME	CATALOG #
Aluminum, Al	HNO ₃	Al metal	125 mL	MSAL-100PPM
Antimony, Sb	HNO ₃ / Tartaric	Sb metal	125 mL	MSSB-100PPM
Arsenic, As	HNO ₃	As metal	125 mL	MSAS-100PPM
Barium, Ba	HNO ₃	Ba(NO ₃) ₂	125 mL	MSBA-100PPM
Beryllium, Be	HNO ₃	Be ₄ O(C ₂ H ₃ O ₂) ₆	125 mL	MSBE-100PPM
Bismuth, Bi	HNO ₃	Bi metal	125 mL	MSBI-100PPM
Boron, B	HNO ₃	H ₃ BO ₃	125 mL	MSB-100PPM
Cadmium, Cd	HNO ₃	Cd metal	125 mL	MSCD-100PPM
Calcium, Ca	HNO ₃	CaO	125 mL	MSCA-100PPM
Cerium, Ce	HNO ₃	CeO ₂	125 mL	MSCE-100PPM
Cesium, Cs	HNO ₃	CsNO ₃	125 mL	MSCS-100PPM
Chromium ⁺³ , Cr ⁺³	HNO ₃	Cr metal	125 mL	MSCR(3)-100PPM
Chromium ⁺⁶ , Cr ⁺⁶	H ₂ O	(NH ₄) ₂ Cr ₂ O ₇	125 mL	MSCR(6)-100PPM
Cobalt, Co	HNO ₃	Co metal	125 mL	MSCO-100PPM
Copper, Cu	HNO ₃	Cu metal	125 mL	MSCU-100PPM
Germanium, Ge	HNO ₃ / HF	Ge metal	125 mL	MSGE-100PPM
Gold, Au	HCl	HAuCl ₄ •xH ₂ O	125 mL	MSAU-100PPM
Hafnium, Hf	HNO ₃ / HF	HfO ₂	125 mL	MSHF-100PPM
Holmium, Ho	HNO ₃	Ho ₂ O ₃	125 mL	MSHO-100PPM
Indium, In	HNO ₃	In metal	125 mL	MSIN-100PPM
Iron, Fe	HNO ₃	Fe metal	125 mL	MSFE-100PPM
Lead, Pb	HNO ₃	Pb(NO ₃) ₂	125 mL	MSPB-100PPM
Lithium, Li	HNO ₃	Li ₂ CO ₃	125 mL	MSLI-100PPM
⁶ Lithium, ⁶ Li	HNO ₃	⁶ Li metal	125 mL	MS6LI-100PPM
Magnesium, Mg	HNO ₃	Mg metal	125 mL	MSMG-100PPM
Manganese, Mn	HNO ₃	Mn metal	125 mL	MSMN-100PPM
Mercury, Hg	HCl	Hg metal	125 mL	MSHG-100PPM
Mercury, Hg	HNO ₃	Hg metal	125 mL	MSHGN-100PPM
Molybdenum, Mo	NH ₄ OH	(NH ₄) ₂ MoO ₄	125 mL	MSMO-100PPM
Nickel, Ni	HNO ₃	Ni metal	125 mL	MSNI-100PPM
Osmium, Os	HCl	(NH ₄) ₂ OsCl ₆	125 mL	MSOS-100PPM
Phosphorus, P	H ₂ O	H ₃ PO ₄	125 mL	MSP-100PPM
Platinum, Pt	HCl	PtCl ₄	125 mL	MSPT-100PPM
Potassium, K	HNO ₃	KNO ₃	125 mL	MSK-100PPM
Rhodium, Rh	HCl	RhCl ₃	125 mL	MSRH-100PPM
Rhodium, Rh	HNO ₃	RhNO ₃	125 mL	MSRHN-100PPM
Scandium, Sc	HNO ₃	Sc ₂ O ₃	125 mL	MSSC-100PPM
Selenium, Se	HNO ₃	Se metal	125 mL	MSSE-100PPM
Silicon, Si	HNO ₃ / HF	SiO ₂	125 mL	MSSI-100PPM
Silver, Ag	HNO ₃	Ag metal	125 mL	MSAG-100PPM
Sodium, Na	HNO ₃	Na ₂ CO ₃	125 mL	MSNA-100PPM
Strontium, Sr	HNO ₃	SrCO ₃	125 mL	MSSR-100PPM
Sulfur, S	H ₂ O	H ₂ SO ₄	125 mL	MSS-100PPM
Tellurium, Te	HNO ₃	Te Metal	125 mL	MSTEN-100PPM
Terbium, Tb	HNO ₃	Tb ₄ O ₇	125 mL	MSTB-100PPM
Thallium, Tl	HNO ₃	TlNO ₃	125 mL	MSTL-100PPM
Thorium, Th	HNO ₃	Th(NO ₃) ₄ •4H ₂ O	125 mL	MSTH-100PPM
Tin, Sn	HNO ₃ / HF	Sn metal	125 mL	MSSN-100PPM
Titanium, Ti	HNO ₃ / HF	Ti metal	125 mL	MSTI-100PPM
Tungsten, W	HNO ₃ / HF	W Metal	125 mL	MSW-100PPM
Uranium, U	HNO ₃	UO ₂ (NO ₃) ₂	125 mL	MSU-100PPM
Vanadium, V	HNO ₃	V ₂ O ₅	125 mL	MSV-100PPM
Yttrium, Y	HNO ₃	Y ₂ O ₃	125 mL	MSY-100PPM
Zinc, Zn	HNO ₃	Zn metal	125 mL	MSZN-100PPM

Custom 1,000 µg/mL standards are available upon request.

1,000 µg/mL

ANALYTE	MATRIX	STARTING MATERIAL	VOLUME	CATALOG #
Aluminum, Al	HNO ₃	Al metal	125 mL	CGAL1-1
			500 mL	CGAL1-5
Aluminum, Al	HCl	Al metal	125 mL	CGALCL1-1
			500 mL	CGALCL1-5
Antimony, Sb	HNO ₃ / Tartaric Acid	Sb metal	125 mL	CGSB1-1
			500 mL	CGSB1-5
Antimony, Sb	HNO ₃ / HF	Sb metal	125 mL	CGSBF1-1
			500 mL	CGSBF1-5
Arsenic, As	HNO ₃	As metal	125 mL	CGAS1-1
			500 mL	CGAS1-5
Barium, Ba	HNO ₃	Ba(NO ₃) ₂	125 mL	CGBA1-1
			500 mL	CGBA1-5
Beryllium, Be	HNO ₃	Be ₄ O(C ₂ H ₃ O ₂) ₆	125 mL	CGBE1-1
			500 mL	CGBE1-5
Bismuth, Bi Can be used as an Internal Standard for ICP-MS.	HNO ₃	Bi metal	125 mL	CGBI1-1
			500 mL	CGBI1-5
Boron, B	NH ₄ OH	H ₃ BO ₃	125 mL	CGB1-1
			500 mL	CGB1-5
Bromide, Br- To be used for analyzing Bromide by ICP-OES.	H ₂ O	NH ₄ Br	125 mL	CGICBR1-1
			500 mL	CGICBR1-5
Cadmium, Cd	HNO ₃	Cd metal	125 mL	CGCD1-1
			500 mL	CGCD1-5
Calcium, Ca	HNO ₃	CaO	125 mL	CGCA1-1
			500 mL	CGCA1-5
Carbon, C No metallic impurities.	HNO ₃	Tartaric acid	125 mL	CGC1-1
			500 mL	CGC1-5
Carbon, C To be used for TOC as per standard methods.	H ₂ O	KHP	125 mL	TOCKHP1-1
			500 mL	TOCKHP1-5
Cerium, Ce	HNO ₃	CeO ₂	125 mL	CGCE1-1
			500 mL	CGCE1-5
Cesium, Cs	HNO ₃	CsNO ₃	125 mL	CGCS1-1
			500 mL	CGCS1-5
Chloride, Cl- To be used for analyzing Chloride by ICP-OES.	H ₂ O	NH ₄ Cl	125 mL	CGICCL1-1
			500 mL	CGICCL1-5
Chromium⁺³, Cr⁺³	HNO ₃	Cr metal	125 mL	CGCR(3)1-1
			500 mL	CGCR(3)1-5
Chromium⁺⁶, Cr⁺⁶	H ₂ O	(NH ₄) ₂ Cr ₂ O ₇	125 mL	CGCR(6)1-1
			500 mL	CGCR(6)1-5
Cobalt, Co	HNO ₃	Co metal	125 mL	CGCO1-1
			500 mL	CGCO1-5
Copper, Cu	HNO ₃	Cu metal	125 mL	CGCU1-1
			500 mL	CGCU1-5
Dysprosium, Dy	HNO ₃	Dy ₂ O ₃	125 mL	CGDY1-1
			500 mL	CGDY1-5
Erbium, Er	HNO ₃	Er ₂ O ₃	125 mL	CGER1-1
			500 mL	CGER1-5
Europium, Eu	HNO ₃	Eu ₂ O ₃	125 mL	CGEU1-1
			500 mL	CGEU1-5

1,000 µg/mL Standards

Custom 1,000 µg/mL standards are available upon request.

1,000 µg/mL

ANALYTE	MATRIX	STARTING MATERIAL	VOLUME	CATALOG #
Gadolinium, Gd	HNO ₃	Gd ₂ O ₃	125 mL 500 mL	CGGD1-1 CGGD1-5
Gallium, Ga	HNO ₃	Ga metal	125 mL 500 mL	CGGA1-1 CGGA1-5
Germanium, Ge	HNO ₃ / HF	Ge metal	125 mL 500 mL	CGGE1-1 CGGE1-5
Gold, Au	HCl	HAuCl ₄ •xH ₂ O	125 mL 500 mL	CGAU1-1 CGAU1-5
Gold, Au	HNO ₃	HAuCl ₄ •xH ₂ O	125 mL 500 mL	CGAUN1-1 CGAUN1-5
Hafnium, Hf	HNO ₃ / HF	HfO ₂	125 mL 500 mL	CGHF1-1 CGHF1-5
Holmium, Ho Can be used as an Internal Standard for ICP-MS.	HNO ₃	Ho ₂ O ₃	125 mL 500 mL	CGHO1-1 CGHO1-5
Indium, In Can be used as an Internal Standard for ICP-MS.	HNO ₃	In metal	125 mL 500 mL	CGIN1-1 CGIN1-5
 Iodide, I⁻ Can be used for analyzing Iodide by ICP-OES.	H ₂ O / stabilizer	NH ₄ I	125 mL 500 mL	CGIC11-1 CGIC11-5
Iridium, Ir	HCl	IrCl ₃	125 mL 500 mL	CGIR1-1 CGIR1-5
Iron, Fe	HNO ₃	Fe metal	125 mL 500 mL	CGFE1-1 CGFE1-5
Lanthanum, La	HNO ₃	La ₂ O ₃	125 mL 500 mL	CGLA1-1 CGLA1-5
Lead, Pb	HNO ₃	Pb(NO ₃) ₂	125 mL 500 mL	CGPB1-1 CGPB1-5
Lithium, Li	HNO ₃	Li ₂ CO ₃	125 mL 500 mL	CGLI1-1 CGLI1-5
⁶Lithium, ⁶Li Can be used as an Internal Standard for ICP-MS.	HNO ₃	⁶ Li metal	125 mL 500 mL	CG6LI1-1 CG6LI1-5
Lutetium, Lu	HNO ₃	Lu ₂ O ₃	125 mL 500 mL	CGLU1-1 CGLU1-5
Magnesium, Mg	HNO ₃	Mg metal	125 mL 500 mL	CGMG1-1 CGMG1-5
Manganese, Mn	HNO ₃	Mn metal	125 mL 500 mL	CGMN1-1 CGMN1-5
Mercury, Hg	HNO ₃	Hg metal	125 mL 500 mL	CGHG1-1 CGHG1-5
Molybdenum, Mo	NH ₄ OH	(NH ₄) ₂ MoO ₄	125 mL 500 mL	CGM01-1 CGM01-5
Neodymium, Nd	HNO ₃	Nd ₂ O ₃	125 mL 500 mL	CGND1-1 CGND1-5
Nickel, Ni	HNO ₃	Ni metal	125 mL 500 mL	CGNI1-1 CGNI1-5
Niobium, Nb	HNO ₃ / HF	Nb ₂ O ₅	125 mL 500 mL	CGNB1-1 CGNB1-5
Osmium, Os	HCl	(NH ₄) ₂ OsCl ₆	125 mL 500 mL	CGOS1-1 CGOS1-5

Custom 1,000 µg/mL standards are available upon request.

1,000 µg/mL

ANALYTE	MATRIX	STARTING MATERIAL	VOLUME	CATALOG #
Palladium, Pd	HNO ₃	Pd(NO ₃) ₂	125 mL	CGPDN1-1
			500 mL	CGPDN1-5
Palladium, Pd	HCl	PdCl ₂	125 mL	CGPD1-1
			500 mL	CGPD1-5
Phosphorus, P	H ₂ O	H ₃ PO ₄	125 mL	CGP1-1
			500 mL	CGP1-5
Platinum, Pt	HNO ₃	PtCl ₄	125 mL	CGPTN1-1
			500 mL	CGPTN1-5
Platinum, Pt	HCl	PtCl ₄	125 mL	CGPT1-1
			500 mL	CGPT1-5
 Platinum, Pt Chloride Free	HNO ₃	Pt(NO ₃) ₂ (NH ₃) ₄	125 mL	CGPTN031-1
			500 mL	CGPTN031-5
Potassium, K	HNO ₃	KNO ₃	125 mL	CGK1-1
			500 mL	CGK1-5
Praseodymium, Pr	HNO ₃	Pr ₆ O ₁₁	125 mL	CGPR1-1
			500 mL	CGPR1-5
Rhenium, Re	HNO ₃	Re metal	125 mL	CGRE1-1
			500 mL	CGRE1-5
Rhodium, Rh Can be used as an Internal Standard for ICP-MS.	HCl	RhCl ₃	125 mL	CGRH1-1
			500 mL	CGRH1-5
Rhodium, Rh Can be used as an Internal Standard for ICP-MS.	HNO ₃	RhNO ₃	125 mL	CGRHN1-1
			500 mL	CGRHN1-5
Rubidium, Rb	HNO ₃	RbNO ₃	125 mL	CGRB1-1
			500 mL	CGRB1-5
Ruthenium, Ru	HCl	RuCl ₃	125 mL	CGRU1-1
			500 mL	CGRU1-5
Samarium, Sm	HNO ₃	Sm ₂ O ₃	125 mL	CGSM1-1
			500 mL	CGSM1-5
Scandium, Sc Can be used as an Internal Standard for ICP-MS.	HNO ₃	Sc ₂ O ₃	125 mL	CGSC1-1
			500 mL	CGSC1-5
Selenium⁺⁴, Se⁺⁴	HNO ₃	Se metal	125 mL	CGSE(4)1-1
			500 mL	CGSE(4)1-5
Silica, SiO₂	HNO ₃ / HF	SiO ₂	125 mL	CGSI01-1
			500 mL	CGSI01-5
Silica, SiO₂	NaOH	SiO ₂	125 mL	CGSIONA1-1
			500 mL	CGSIONA1-5
Silicon, Si	HNO ₃ / HF	SiO ₂	125 mL	CGSI1-1
			500 mL	CGSI1-5
Silicon, Si	NaOH	SiO ₂	125 mL	CGSINA1-1
			500 mL	CGSINA1-5
Silver, Ag	HNO ₃	Ag metal	125 mL	CGAG1-1
			500 mL	CGAG1-5
Sodium, Na	HNO ₃	Na ₂ CO ₃	125 mL	CGNA1-1
			500 mL	CGNA1-5
Strontium, Sr	HNO ₃	SrCO ₃	125 mL	CGSR1-1
			500 mL	CGSR1-5

Custom 1,000 µg/mL standards are available upon request.

1,000 µg/mL

ANALYTE	MATRIX	STARTING MATERIAL	VOLUME	CATALOG #
Sulfur, S Prevents incompatibility issues when mixing with Ba and Pb.	H ₂ O	Methanesulfonic acid	125 mL 500 mL	CGMSA1-1 CGMSA1-5
Sulfur, S	H ₂ O	H ₂ SO ₄	125 mL 500 mL	CGS1-1 CGS1-5
Tantalum, Ta	HNO ₃ / HF	Ta metal	125 mL 500 mL	CGTA1-1 CGTA1-5
Tellurium, Te	HCl	Te metal	125 mL 500 mL	CGTE1-1 CGTE1-5
Tellurium, Te	HNO ₃	Te metal	125 mL 500 mL	CGTEN1-1 CGTEN1-5
Terbium, Tb Can be used as an Internal Standard for ICP-MS.	HNO ₃	Tb ₄ O ₇	125 mL 500 mL	CGTB1-1 CGTB1-5
Thallium, Tl	HNO ₃	TlNO ₃	125 mL 500 mL	CGTL1-1 CGTL1-5
Thorium, Th	HNO ₃	Th(NO ₃) ₄ •4H ₂ O	125 mL 500 mL	CGTH1-1 CGTH1-5
Thulium, Tm	HNO ₃	Tm ₂ O ₃	125 mL 500 mL	CGTM1-1 CGTM1-5
Tin, Sn	HCl	Sn metal	125 mL 500 mL	CGSNCL1-1 CGSNCL1-5
Tin, Sn	HNO ₃ / HF	Sn metal	125 mL 500 mL	CGSN1-1 CGSN1-5
Titanium, Ti	HNO ₃ / HF	Ti metal	125 mL 500 mL	CGTI1-1 CGTI1-5
Tungsten, W	HNO ₃ / HF	W metal	125 mL 500 mL	CGW1-1 CGW1-5
 Tungsten, W	H ₂ O	Ammonium Metatungstate	125 mL 500 mL	CGWH201-1 CGWH201-5
Uranium, U	HNO ₃	UO ₂ (NO ₃) ₂	125 mL 500 mL	CGU1-1 CGU1-5
Vanadium, V	HNO ₃	V ₂ O ₅	125 mL 500 mL	CGV1-1 CGV1-5
Ytterbium, Yb	HNO ₃	Yb ₂ O ₃	125 mL 500 mL	CGYB1-1 CGYB1-5
Yttrium, Y Can be used as an Internal Standard for ICP-MS.	HNO ₃	Y ₂ O ₃	125 mL 500 mL	CGY1-1 CGY1-5
Zinc, Zn	HNO ₃	Zn metal	125 mL 500 mL	CGZN1-1 CGZN1-5
Zirconium, Zr	HNO ₃ / HF	ZrO ₂	125 mL 500 mL	CGZR1-1 CGZR1-5

Custom 10,000 µg/mL standards are available upon request.

10,000 µg/mL

ANALYTE	MATRIX	STARTING MATERIAL	VOLUME	CATALOG #
Aluminum, Al	HNO ₃	Al metal	125 mL	CGAL10-1
			500 mL	CGAL10-5
Antimony, Sb	HNO ₃ / Tartaric Acid	Sb metal	125 mL	CGSB10-1
			500 mL	CGSB10-5
Arsenic, As	HNO ₃	As metal	125 mL	CGAS10-1
			500 mL	CGAS10-5
Barium, Ba	HNO ₃	Ba(NO ₃) ₂	125 mL	CGBA10-1
			500 mL	CGBA10-5
Beryllium, Be	HNO ₃	Be ₄ O(C ₂ H ₃ O ₂) ₆	125 mL	CGBE10-1
			500 mL	CGBE10-5
Bismuth, Bi	HNO ₃	Bi metal	125 mL	CGBI10-1
			500 mL	CGBI10-5
Boron, B	NH ₄ OH	H ₃ BO ₃	125 mL	CGB10-1
			500 mL	CGB10-5
Cadmium, Cd	HNO ₃	Cd metal	125 mL	CGCD10-1
			500 mL	CGCD10-5
Calcium, Ca	HNO ₃	CaO	125 mL	CGCA10-1
			500 mL	CGCA10-5
Carbon, C	HNO ₃	Tartaric acid	125 mL	CGC10-1
			500 mL	CGC10-5
Cerium, Ce	HNO ₃	CeO ₂	125 mL	CGCE10-1
			500 mL	CGCE10-5
Cesium, Cs	HNO ₃	CsNO ₃	125 mL	CGCS10-1
			500 mL	CGCS10-5
Chromium⁺³, Cr⁺³	HNO ₃	Cr metal	125 mL	CGCR(3)10-1
			500 mL	CGCR(3)10-5
Cobalt, Co Can be used as an Internal Standard for ICP-OES.	HNO ₃	Co metal	125 mL	CGCO10-1
			500 mL	CGCO10-5
Copper, Cu	HNO ₃	Cu metal	125 mL	CGCU10-1
			500 mL	CGCU10-5
Dysprosium, Dy	HNO ₃	Dy ₂ O ₃	125 mL	CGDY10-1
			500 mL	CGDY10-5
Erbium, Er	HNO ₃	Er ₂ O ₃	125 mL	CGER10-1
			500 mL	CGER10-5
Europium, Eu	HNO ₃	Eu ₂ O ₃	125 mL	CGEU10-1
			500 mL	CGEU10-5
Gadolinium, Gd	HNO ₃	Gd ₂ O ₃	125 mL	CGGD10-1
			500 mL	CGGD10-5
Gallium, Ga	HNO ₃	Ga metal	125 mL	CGGA10-1
			500 mL	CGGA10-5
Germanium, Ge	HNO ₃ / HF	Ge metal	125 mL	CGGE10-1
			500 mL	CGGE10-5
Gold, Au	HCl	HAuCl ₄ •xH ₂ O	125 mL	CGAU10-1
			500 mL	CGAU10-5
Hafnium, Hf	HNO ₃ / HF	HfO ₂	125 mL	CGHF10-1
			500 mL	CGHF10-5
Holmium, Ho	HNO ₃	Ho ₂ O ₃	125 mL	CGHO10-1
			500 mL	CGHO10-5
Indium, In Can be used as an Internal Standard for ICP-OES.	HNO ₃	In metal	125 mL	CGIN10-1
			500 mL	CGIN10-5
Iridium, Ir	HCl	IrCl ₃	125 mL	CGIR10-1
			500 mL	CGIR10-5

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10,000 µg/mL

ANALYTE	MATRIX	STARTING MATERIAL	VOLUME	CATALOG #
Iron, Fe	HNO ₃	Fe metal	125 mL	CGFE10-1
			500 mL	CGFE10-5
Lanthanum, La	HNO ₃	La ₂ O ₃	125 mL	CGLA10-1
			500 mL	CGLA10-5
Lead, Pb	HNO ₃	Pb(NO ₃) ₂	125 mL	CGPB10-1
			500 mL	CGPB10-5
Lithium, Li	HNO ₃	Li ₂ CO ₃	125 mL	CGLI10-1
			500 mL	CGLI10-5
Lutetium, Lu	HNO ₃	Lu ₂ O ₃	125 mL	CGLU10-1
			500 mL	CGLU10-5
Magnesium, Mg	HNO ₃	Mg metal	125 mL	CGMG10-1
			500 mL	CGMG10-5
Manganese, Mn	HNO ₃	Mn metal	125 mL	CGMN10-1
			500 mL	CGMN10-5
Mercury, Hg	HNO ₃	Hg metal	125 mL	CGHG10-1
			500 mL	CGHG10-5
Molybdenum, Mo	NH ₄ OH	(NH ₄) ₂ MoO ₄	125 mL	CGMO10-1
			500 mL	CGMO10-5
Neodymium, Nd	HNO ₃	Nd ₂ O ₃	125 mL	CGND10-1
			500 mL	CGND10-5
Nickel, Ni	HNO ₃	Ni metal	125 mL	CGNI10-1
			500 mL	CGNI10-5
Niobium, Nb	HNO ₃ / HF	Nb ₂ O ₅	125 mL	CGNB10-1
			500 mL	CGNB10-5
Palladium, Pd	HCl	Pd(NO ₃) ₂	125 mL	CGPD10-1
			500 mL	CGPD10-5
Phosphorus, P	H ₂ O	H ₃ PO ₄	125 mL	CGP10-1
			500 mL	CGP10-5
Platinum, Pt	HCl	PtCl ₄	125 mL	CGPT10-1
			500 mL	CGPT10-5
Potassium, K	HNO ₃	KNO ₃	125 mL	CGK10-1
			500 mL	CGK10-5
Praseodymium, Pr	HNO ₃	Pr ₆ O ₁₁	125 mL	CGPR10-1
			500 mL	CGPR10-5
Rhenium, Re	HNO ₃	Re metal	125 mL	CGRE10-1
			500 mL	CGRE10-5
Rhodium, Rh	HCl	RhCl ₃	125 mL	CGRH10-1
			500 mL	CGRH10-5
Rubidium, Rb	HNO ₃	RbNO ₃	125 mL	CGRB10-1
			500 mL	CGRB10-5
Ruthenium, Ru	HCl	NH ₄ RuCl ₆	125 mL	CGRU10-1
			500 mL	CGRU10-5
Samarium, Sm	HNO ₃	Sm ₂ O ₃	125 mL	CGSM10-1
			500 mL	CGSM10-5
Scandium, Sc Can be used as an Internal Standard for ICP-OES.	HNO ₃	Sc ₂ O ₃	125 mL	CGSC10-1
			500 mL	CGSC10-5
Selenium, Se	HNO ₃	Se metal	125 mL	CGSE10-1
			500 mL	CGSE10-5
Silicon, Si	HNO ₃ / HF	SiO ₂	125 mL	CGSI10-1
			500 mL	CGSI10-5
Silver, Ag	HNO ₃	Ag metal	125 mL	CGAG10-1
			500 mL	CGAG10-5

Custom 10,000 µg/mL standards are available upon request.

10,000 µg/mL

ANALYTE	MATRIX	STARTING MATERIAL	VOLUME	CATALOG #
Sodium, Na	HNO ₃	Na ₂ CO ₃	125 mL 500 mL	CGNA10-1 CGNA10-5
Strontium, Sr	HNO ₃	SrCO ₃	125 mL 500 mL	CGSR10-1 CGSR10-5
Sulfur, S Prevents incompatibility issues when mixing with Ba and Pb.	H ₂ O	Methanesulfonic acid	125 mL 500 mL	CGMSA10-1 CGMSA10-5
Sulfur, S	H ₂ O	H ₂ SO ₄	125 mL 500 mL	CGS10-1 CGS10-5
Tantalum, Ta	HNO ₃ / HF	Ta metal	125 mL 500 mL	CGTA10-1 CGTA10-5
Tellurium, Te	HCl	Te metal	125 mL 500 mL	CGTE10-1 CGTE10-5
Terbium, Tb	HNO ₃	Tb ₄ O ₇	125 mL 500 mL	CGTB10-1 CGTB10-5
Thallium, Tl	HNO ₃	TlNO ₃	125 mL 500 mL	CGTL10-1 CGTL10-5
Thorium, Th	HNO ₃	Th(NO ₃) ₄ •4H ₂ O	125 mL 500 mL	CGTH10-1 CGTH10-5
Thulium, Tm	HNO ₃	Tm ₂ O ₃	125 mL 500 mL	CGTM10-1 CGTM10-5
Tin, Sn	HNO ₃ / HF	Sn metal	125 mL 500 mL	CGSN10-1 CGSN10-5
Titanium, Ti	HNO ₃ / HF	Ti metal	125 mL 500 mL	CGTI10-1 CGTI10-5
Tungsten, W	HNO ₃ / HF	W metal	125 mL 500 mL	CGW10-1 CGW10-5
Uranium, U	HNO ₃	UO ₂ (NO ₃) ₂	125 mL 500 mL	CGU10-1 CGU10-5
Vanadium, V	HNO ₃	V ₂ O ₅	125 mL 500 mL	CGV10-1 CGV10-5
Ytterbium, Yb	HNO ₃	Yb ₂ O ₃	125 mL 500 mL	CGYB10-1 CGYB10-5
Yttrium, Y Can be used as an Internal Standard for ICP-OES.	HNO ₃	Y ₂ O ₃	125 mL 500 mL	CGY10-1 CGY10-5
Zinc, Zn	HNO ₃	Zn metal	125 mL 500 mL	CGZN10-1 CGZN10-5
Zirconium, Zr	HF	ZrO ₂	125 mL 500 mL	CGZR10-1 CGZR10-5

Isotopic Standards

Custom isotopic standards are available upon request.

ANALYTE	µg/mL	MATRIX	STARTING MATERIAL	VOLUME	CATALOG #
¹³⁵ Barium, ¹³⁵ Ba	10	HNO ₃	¹³⁵ BaCO ₃	100 mL	MS135BA-10PPM
¹⁰ Boron, ¹⁰ B	10	HNO ₃	¹⁰ B oxide	100 mL	MS10B-10PPM
¹¹ Boron, ¹¹ B	10	HNO ₃	¹¹ B oxide	100 mL	MS11B-10PPM
¹⁰⁶ Cadmium, ¹⁰⁶ Cd	10	HNO ₃	¹⁰⁶ Cd metal	100 mL	MS106CD-10PPM
⁵⁰ Chromium, ⁵⁰ Cr	10	HNO ₃	⁵⁰ Cr metal	100 mL	MS50CR-10PPM
⁶⁵ Copper, ⁶⁵ Cu	10	HNO ₃	⁶⁵ Cu metal	100 mL	MS65CU-10PPM
⁵⁴ Iron, ⁵⁴ Fe	10	HNO ₃	⁵⁴ Fe metal	100 mL	MS54FE-10PPM
⁵⁷ Iron, ⁵⁷ Fe	10	HNO ₃	⁵⁷ Fe metal	100 mL	MS57FE-10PPM
²⁰⁴ Lead, ²⁰⁴ Pb	10	HNO ₃	²⁰⁴ PbCO ₃	100 mL	MS204PB-10PPM
²⁰⁶ Lead, ²⁰⁶ Pb	10	HNO ₃	²⁰⁶ PbCO ₃	100 mL	MS206PB-10PPM
²⁰⁷ Lead, ²⁰⁷ Pb	10	HNO ₃	²⁰⁷ PbCO ₃	100 mL	MS207PB-10PPM
⁶ Lithium, ⁶ Li	10	HNO ₃	⁶ Li metal	125 mL	MS6LI-10PPM
⁶ Lithium, ⁶ Li	100	HNO ₃	⁶ Li metal	125 mL	MS6LI-100PPM
⁶ Lithium, ⁶ Li Can be used as an Internal Standard for ICP-MS.	1,000	HNO ₃	⁶ Li metal	125 mL 500 mL	CG6LI1-1 CG6LI1-5
²⁵ Magnesium, ²⁵ Mg	10	HNO ₃	²⁵ Mg oxide	100 mL	MS25MG-10PPM
⁶¹ Nickel, ⁶¹ Ni	10	HNO ₃	⁶¹ Ni metal	100 mL	MS61NI-10PPM
⁷⁸ Selenium, ⁷⁸ Se	10	HNO ₃	⁷⁸ Se metal	100 mL	MS78SE-10PPM
⁸² Selenium, ⁸² Se	10	HNO ₃	⁸² Se metal	100 mL	MS82SE-10PPM
¹⁰⁹ Silver, ¹⁰⁹ Ag	10	HNO ₃	¹⁰⁹ Ag metal	100 mL	MS109AG-10PPM
⁸⁶ Strontium, ⁸⁶ Sr	10	HNO ₃	⁸⁶ SrCO ₃	100 mL	MS86SR-10PPM
²⁰³ Thallium, ²⁰³ Tl	10	HNO ₃	²⁰³ Tl oxide	100 mL	MS203TL-10PPM
²⁰⁵ Thallium, ²⁰⁵ Tl	10	HNO ₃	²⁰⁵ Tl oxide	100 mL	MS205TL-10PPM
¹²² Tin, ¹²² Sn	10	HNO ₃ / HF	¹²² Sn metal	100 mL	MS122SN-10PPM
⁶⁷ Zinc, ⁶⁷ Zn	10	HNO ₃	⁶⁷ Zn metal	100 mL	MS67ZN-10PPM

Speciation Standards

Custom speciation standards are available upon request.

ANALYTE	µg/mL	MATRIX	STARTING MATERIAL	VOLUME	CATALOG #
Arsenic⁺³, As⁺³	1,000	HCl / NaOH / NaHCO ₃	As ₂ O ₃	125 mL 500 mL	CGAS(3)1-1 CGAS(3)1-5
Arsenic⁺⁵, As⁺⁵	1,000	H ₂ O	As ₂ O ₅	125 mL 500 mL	CGAS(5)1-1 CGAS(5)1-5
Chromium⁺³, Cr⁺³	10	HNO ₃	Cr metal	125 mL	MSCR(3)-10PPM
Chromium⁺³, Cr⁺³	100	HNO ₃	Cr metal	125 mL	MSCR(3)-100PPM
Chromium⁺³, Cr⁺³	1,000	HNO ₃	Cr metal	125 mL 500 mL	CGCR(3)1-1 CGCR(3)1-5
Chromium⁺³, Cr⁺³	10,000	HNO ₃	Cr metal	125 mL 500 mL	CGCR(3)10-1 CGCR(3)10-5
Chromium⁺⁶, Cr⁺⁶	10	H ₂ O	(NH ₄) ₂ Cr ₂ O ₇	125 mL	MSCR(6)-10PPM
Chromium⁺⁶, Cr⁺⁶	100	H ₂ O	(NH ₄) ₂ Cr ₂ O ₇	125 mL	MSCR(6)-100PPM
Chromium⁺⁶, Cr⁺⁶	1,000	H ₂ O	(NH ₄) ₂ Cr ₂ O ₇	125 mL 500 mL	CGCR(6)1-1 CGCR(6)1-5
Selenium⁺⁴, Se⁺⁴	1,000	HNO ₃	Se metal	125 mL 500 mL	CGSE(4)1-1 CGSE(4)1-5
Selenium⁺⁶, Se⁺⁶	1,000	HNO ₃	Selenic acid	125 mL 500 mL	CGSE(6)1-1 CGSE(6)1-5

Cyanide Standards

Custom cyanide standards are available upon request.

1,000 µg/mL

ANALYTE	µg/mL	MATRIX	STARTING MATERIAL	VOLUME	CATALOG #
Copper, Cu	1,000	NaCN	Cu metal	125 mL 500 mL	AACUCN-1 AACUCN-5
Gold, Au	1,000	NaCN	HAuCl ₄ •xH ₂ O	125 mL 500 mL	AAAUCN-1 AAAUCN-5
Silver, Ag	1,000	NaCN	Ag metal	125 mL 500 mL	AAAGCN-1 AAAGCN-5
Zinc, Zn	1,000	NaCN	Zn metal	125 mL 500 mL	AAZNCN-1 AAZNCN-5

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/MS. 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.

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

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

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



Thomas Kozikowski,
Technical Support Group Supervisor, and
Maurice Harris, Packaging Technician



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Identical or **near identical** formulations.

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AV Agilent/Varian

JY Jobin Yvon

M Merck

N NIST

PE Perkin Elmer

S Spectro

T Thermo Scientific

C Common Multi-Element Standards

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MULTI-ELEMENT STANDARDS

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ICP Calibration Standard			
IV-STOCK-1 M		Volume: 125 mL Matrix: HNO ₃	
Analyte	µg/mL	Analyte	µg/mL
Ag	50	Fe	15
Al	100	Ga	150
B	15	In	200
Ba	5	Mn	5
Be	1	Ni	50
Bi	200	Pb	200
Cd	20	Sr	1
Co	20	Tl	400
Cr	25	Zn	20
Cu	20		

ICP Calibration Standard			
IV-STOCK-2 C		Volume: 125 mL Matrix: HNO ₃	
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		Volume: 125 mL Matrix: HNO ₃	
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		Volume: 125 mL Matrix: HNO ₃	
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		

Wavelength Calibration Standard			
IV-STOCK-5 M		Volume: 500 mL Matrix: HCl	
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 M S		Volume: 125 mL Matrix: HNO ₃	
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

C Common Multi-Element Standards

JY Jobin Yvon

M Merck

S Spectro

MULTI-ELEMENT STANDARDS

Identical or near identical formulations | Cross-Reference Blends

Cation Calibration Standard			
IV-STOCK-7 M I		Volume: 125 mL Matrix: HNO ₃	
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		Volume: 125 mL Matrix: HNO ₃	
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 M		Volume: 125 mL Matrix: HNO ₃	
Analyte	µg/mL	Analyte	µg/mL
As	100	Pb	100
Be	100	Se	100
Cd	100	Tl	100
Ni	100		

ICP Calibration Standard – Surface Water			
IV-STOCK-10 M		Volume: 125 mL Matrix: HNO ₃	
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 Calibration Standard – Sewage Sludge			
IV-STOCK-11 M		Volume: 125 mL Matrix: HNO ₃	
Analyte	µg/mL	Analyte	µg/mL
Cd	10	Ni	200
Cr	900	Pb	900
Cu	800	Zn	2,500

ICP-MS Calibration Standard			
IV-STOCK-12 T		Volume: 125 mL Matrix: HNO ₃	
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

I Common Multi-Ion Standards**M** Merck**T** Thermo Scientific

ICP Calibration Standard – Trace Metals

IV-STOCK-13 M PE		Volume: 125 mL Matrix: HNO ₃	
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

Wavelength Calibration Standard

IV-STOCK-14 M PE		Volume: 500 mL Matrix: HCl/HNO ₃ /HF	
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 T		Volume: 125 mL Matrix: HNO ₃	
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 M		Volume: 125 mL Matrix: HNO ₃	
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		Volume: 125 mL Matrix: HCl/HNO ₃ /HF	
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		Volume: 125 mL Matrix: HNO ₃	
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 Detection Limit Standard

IV-STOCK-19 M PE		Volume: 125 mL Matrix: HNO ₃	
Analyte	µg/L*	Analyte	µg/L*
Be	10	Tl	10
Co	10	U	10
In	10		

*Parts per billion

ICP Plasma Setup Solution

IV-STOCK-20 M PE		Volume: 1 Liter Matrix: HNO ₃ /HF	
Analyte	µg/L*	Analyte	µg/L*
Ba	10	Pb	10
Cd	10	Rh	10
Ce	10	Sc	10
Cu	10	Tb	10
Ge	10	Tl	10
Mg	10		

*Parts per billion

- M Merck
- PE Perkin Elmer
- T Thermo Scientific

ICP Calibration Standard			
IV-STOCK-21 M PE		Volume: 125 mL Matrix: HNO ₃	
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		

ICP Calibration Standard			
IV-STOCK-22 M PE		Volume: 125 mL Matrix: HNO ₃	
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		Volume: 500 mL Matrix: HNO ₃	
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 M		Volume: 500 mL Matrix: HNO ₃	
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		

AA Calibration Standard			
IV-STOCK-25 C		Volume: 500 mL Matrix: HNO ₃	
Analyte	µg/mL	Analyte	µg/mL
Cr	3	Ni	10

ICP Calibration Standard			
IV-STOCK-26 AV PE		Volume: 125 mL Matrix: HNO ₃	
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		

- AV** Agilent/Varian
- C** Common Multi-Element Standards
- M** Merck
- PE** Perkin Elmer

ICP Calibration Standard			
IV-STOCK-27 AV		Volume: 125 mL Matrix: HNO ₃	
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		

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

ICP Calibration Standard			
IV-STOCK-29 AV PE		Volume: 125 mL Matrix: HNO ₃ /HF	
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

AV Agilent/Varian

C Common Multi-Element Standards

JY Jobin Yvon

PE Perkin Elmer

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

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

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

ICP Calibration Standard			
IV-STOCK-34 PE JY		Volume: 500 mL Matrix: HNO ₃	
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		Volume: 125 mL Matrix: HNO ₃	
Analyte	µg/mL	Analyte	µg/mL
Ca	1,000	Mg	1,000
Fe	1,000	Na	1,000
K	1,000		

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

USP <232> Precious Metals Elemental Impurities			
IV-STOCK-38 		Volume: 125 mL Matrix: HCl	
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 		Volume: 125 mL Matrix: HNO ₃	
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 		Volume: 125 mL Matrix: HNO ₃	
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

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

 7500 Series PA Tuning Solution 1 (set with IV-Stock-52)			
IV-STOCK-51 		Volume: 125 mL Matrix: HNO ₃	
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 (set with IV-Stock-51)			
IV-STOCK-52 		Volume: 125 mL Matrix: HCl	
Analyte	µg/mL	Analyte	µg/mL
Ge	10	Ru	10
Ir	5	Sb	10
Mo	10	Sn	10
Pd	10	Ti	5

-  Agilent/Varian
 Common Multi-Element Standards
 USP Method <232>

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

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

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

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

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

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

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

- AV

 Agilent/Varian

C

 Common Multi-Element Standards

I

 Common Multi-Ion Standards

PE

 Perkin Elmer



Nancy Sue Hicks, Accounting Assistant and
Bruce Johnson, Purchasing Agent

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

65-Element Group

Rare Earth ICP-MS Standard			
CMS-1		Volume: 125 mL Matrix: HNO ₃	
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

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

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

Hot Plasma ICP-MS Complete Standard			
CMS-4		Volume: 125 mL Matrix: HNO ₃	
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		

Cool Plasma ICP-MS Complete Standard			
CMS-5		Volume: 125 mL Matrix: HNO ₃	
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		

C Common Multi-Element Standard

These elements are grouped for ease of use. Intended for ICP-MS, they can be used individually or combined in any combination upon dilution into 1% HNO_3 . Custom calibration standards are available upon request.

69-Element Group

Rare Earth ICP-MS Standard			
CCS-1 C		Volume: 125 mL Matrix: HNO_3	
Analyte	$\mu\text{g/mL}$	Analyte	$\mu\text{g/mL}$
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

Fluoride Soluble ICP-MS Standard			
CCS-5 C		Volume: 125 mL Matrix: HNO_3/HF	
Analyte	$\mu\text{g/mL}$	Analyte	$\mu\text{g/mL}$
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		

Precious Metals ICP-MS Standard			
CCS-2 C		Volume: 125 mL Matrix: HCl	
Analyte	$\mu\text{g/mL}$	Analyte	$\mu\text{g/mL}$
Au	100	Pt	100
Ir	100	Rh	100
Pd	100	Ru	100

Transition ICP-MS Standard			
CCS-6 C		Volume: 125 mL Matrix: HNO_3	
Analyte	$\mu\text{g/mL}$	Analyte	$\mu\text{g/mL}$
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		

Alkali, Alkaline, Non-Transition ICP-MS Standard			
CCS-4 C		Volume: 125 mL Matrix: HNO_3	
Analyte	$\mu\text{g/mL}$	Analyte	$\mu\text{g/mL}$
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

Tellurium ICP-MS Standard	
MSTEN-100PPM C	
Volume: 125 mL Matrix: HNO_3	
Analyte	$\mu\text{g/mL}$
Te	100

C Common Multi-Element Standard

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

71-Element Group

ICP-MS Complete Standard			
IV-ICPMS-71A C		Volume: 125 mL Matrix: HNO ₃	
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		

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

ICP-MS Refractory Elements Standard			
IV-ICPMS-71B C		Volume: 125 mL Matrix: HNO ₃ / HF	
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

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

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

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

C Common Multi-Element Standard

AGI Tuning Solution

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

CIROS Tuning Solution

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

GENESIS Calibration Standard

GENESIS-ICAL 		Volume: 125 mL Matrix: HNO ₃ /HCl/HF	
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

Trace Metals in Water– SRM1643

IV-STOCK-1643 		Volume: 125 mL Matrix: HNO ₃	
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

Instrument Check Standard

PE-CHK-1 		Volume: 125 mL Matrix: HNO ₃ /HF	
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		

Tuning Solution

PE-TS-1 		Volume: 125 mL Matrix: HNO ₃	
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

 Agilent/Varian NIST Perkin Elmer Spectro

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

*Parts per billion

N ICP-MS Tuning Solution – ICAPQ			
THERMO-5A T		Volume: 250 mL Matrix: HNO ₃	
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

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

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

Calibration Standard			
VAR-CAL-2 AV		Volume: 125 mL Matrix: HNO ₃	
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

Calibration Standard			
VAR-CAL-7 AV		Volume: 125 mL Matrix: HNO ₃ /HF	
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		

- AV Agilent/Varian
C Common Multi-Element Standard
T Thermo Scientific

Cross-Reference Blends

Identical or **near identical** formulations

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

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

Don't see what you need?

Contact us with the solution part number and instrument manufacturer you're seeking and we'll give you a very competitive price!

 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-5	Volume: 500 mL Matrix: HNO ₃
Analyte	µg/mL
Cs	10,000
High Purity buffer; ideal for Axial View ICP-OES	

2% Lithium Ionization Buffer	
LINB2-5	Volume: 500 mL Matrix: HNO ₃
Analyte	µg/mL
Li	20,000

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



ILMO3.0

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

Calibration Standard			
CLPP-CAL-1		Volume: 125 mL Matrix: HNO ₃ Dilution 1:100	
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

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

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

CICV Standards – Continuing and Initial Calibration Verification

CICV Standard†			
QCP-CICV-1		Volume: 125 mL Matrix: HNO ₃ Dilution 1:100 or 1:500	
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

†Manufactured from in-house Second Source concentrates.

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

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

Lesley Owens, Ph.D., Chemist, R&D, and
Stephan Blaakman, Manufacturing Technician

**CRDL Standards – Contract Required
Detection Limit**

CRDL Standard			
CRI-CRA-1		Volume: 125 mL Matrix: HNO ₃ Dilution 1:100	
Analyte	µg/mL	Analyte	µg/mL
Ag	200	Mn	300
Be	100	Ni	800
Co	1,000	V	1,000
Cr	200	Zn	400
Cu	500		

CRDL Standard	
CRI-CRA-2	Volume: 125 mL Matrix: HNO ₃ /Tartaric Acid Dilution 1:100
Analyte	µg/mL
Sb	600

CRDL Standard			
CRI-CRA-3		Volume: 125 mL Matrix: HNO ₃ Dilution 1:100	
Analyte	µg/mL	Analyte	µg/mL
As	100	Se	50
Cd	50	Tl	100
Pb	30		

Soil & Water Spike Standards

Spike Standard*			
CLPP-SPK-1		Volume: 125 mL Matrix: HNO ₃ Dilution 1:1,000	
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

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

Spike Standard*			
CLPP-SPK-3		Volume: 125 mL Matrix: HNO ₃ Dilution 1:1,000	
Analyte	µg/mL	Analyte	µg/mL
As	2,000	Se	2,000
Cd	50	Tl	2,000
Pb	500		

*Instructions included.

Interference Check Standards

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

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

Standards for ILM04.0 are designed for use with ICP-OES. Custom EPA standards are available upon request.

Calibration Standards

Calibration Standard			
CLPP-CAL-1		Volume: 125 mL Matrix: HNO ₃ Dilution 1:100	
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

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

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

CICV Standards – Continuing and Initial Calibration Verification

CICV Standard [†]			
QCP-CICV-1		Volume: 125 mL Matrix: HNO ₃ Dilution 1:100 or 1:500	
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

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

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

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

**CRDL Standards – Contract Required
Detection Limit**

CRDL Standard			
CRI-CRA-1		Volume: 125 mL Matrix: HNO ₃ Dilution 1:100	
Analyte	µg/mL	Analyte	µg/mL
Ag	200	Mn	300
Be	100	Ni	800
Co	1,000	V	1,000
Cr	200	Zn	400
Cu	500		

CRDL Standard	
CRI-CRA-2	Volume: 125 mL Matrix: HNO ₃ /Tartaric Acid Dilution 1:100
Analyte	µg/mL
Sb	600

CRDL Standard			
CRI-CRA-3		Volume: 125 mL Matrix: HNO ₃ Dilution 1:100	
Analyte	µg/mL	Analyte	µg/mL
As	100	Se	50
Cd	50	Tl	100
Pb	30		

Soil & Water Spike Standards

Spike Standard*			
CLPP-SPK-1		Volume: 125 mL Matrix: HNO ₃ Dilution 1:1,000	
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

Spike Standard*			
CLPP-SPK-4		Volume: 125 mL Matrix: HNO ₃ Dilution 1:1,000	
Analyte	µg/mL	Analyte	µg/mL
As	40	Sb	100
Cd	50	Se	10
Pb	20	Tl	50

*Instructions included.

Interference Check Standards

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

Interference Check Standard B4			
CLPP-ICS-B4		Volume: 125 mL Matrix: HNO ₃ Dilution 1:1,000	
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

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

Calibration Standards

Calibration Standard			
CLPP-CAL-1		Volume: 125 mL Matrix: HNO ₃ Dilution 1:100	
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 with ICP-OES. Designed for ILMO5.2 and ILMO5.3.

Calibration Standard			
CLP-MS-CAL		Volume: 125 mL Matrix: HNO ₃ /Tartaric Acid Dilution 1:100 to 1:1,000	
Analyte	µg/mL	Analyte	µg/mL
Ag	20	Mg	20
Al	20	Mn	20
As	20	Ni	20
Ba	20	Pb	20
Be	20	Sb	20
Cd	20	Se	20
Co	20	Tl	20
Cr	20	V	20
Cu	20	Zn	20

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

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

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

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

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



Keith Harden, Packaging Technician, and
Brenda Francis, Lead Product Documentation Technician

CICV Standards – Continuing and Initial Calibration Verification

CICV Standard [†]			
QCP-CICV-1		Volume: 125 mL Matrix: HNO ₃ Dilution 1:100 or 1:500	
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 with ICP-OES. Designed for ILMO5.2 and ILMO5.3.

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

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

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

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

CICV Standard [†]			
CLP-MS-CICV		Volume: 125 mL Matrix: HNO ₃ Dilution 1:100 to 1:1,000	
Analyte	µg/mL	Analyte	µg/mL
Ag	10	Mg	10
Al	10	Mn	10
As	10	Ni	10
Ba	10	Pb	10
Be	10	Sb	10
Cd	10	Se	10
Co	10	Tl	10
Cr	10	V	10
Cu	10	Zn	10

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

CICV Standard [†]			
QCP-ICV-1REV		Volume: 125 mL Matrix: HNO ₃ Dilution 1:100 to 1:1,000	
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 use with ICP-MS. Designed for ILMO5.2 and ILMO5.3.

[†]Manufactured from in-house Second Source concentrates.Zachary Saunders, Product Documentation Technician, and
Linda Reed, Human Resources Manager

Contract Required Detection Limit (CRDL) and Contract Required Quantitation Limit (CRQL) Standards

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

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

CRQL Standard			
CLP-AES-CRQL-2		Volume: 125 mL Matrix: HNO ₃ Dilution 1:100 (water samples) 1:500 (soil samples)	
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 with ICP-OES. Designed for ILMO5.3.

CRQL Standard			
CLP-MS-CRQL-2		Volume: 125 mL Matrix: HNO ₃ Dilution 1:1,000	
Analyte	µg/mL	Analyte	µg/mL
Ag	1	Mn	1
As	1	Ni	1
Ba	10	Pb	1
Be	1	Sb	2
Cd	1	Se	5
Co	1	Tl	1
Cr	2	V	1
Cu	2	Zn	2

For use with ICP-OES. Designed for ILMO5.3.

CRQL Standard			
CLP-AES-CRQL		Volume: 125 mL Matrix: HNO ₃ /Tartaric Acid Dilution 1:100 (water samples) 1:500 (soil samples)	
Analyte	µg/mL	Analyte	µg/mL
Ag	1	K	500
Al	20	Mg	500
As	1.5	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 with ICP-MS. Designed for ILMO5.2.

CRQL Standard			
CLP-MS-CRQL		Volume: 125 mL Matrix: HNO ₃ Dilution 1:1,000	
Analyte	µg/mL	Analyte	µg/mL
Ag	1	Mn	0.5
Al	30	Ni	1
As	1	Pb	1
Ba	10	Sb	2
Be	1	Se	5
Cd	1	Tl	1
Co	0.5	V	1
Cr	2	Zn	1
Cu	2		

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

CRQL Standard			
CLP-MS-CRQL-3		Volume: 125 mL Matrix: HNO ₃ Dilution 1:1,000	
Analyte	µg/mL	Analyte	µg/mL
Ag	1	Mn	1
As	1	Ni	1
Ba	10	Pb	1
Be	1	Sb	2
Cd	1	Se	5
Co	1	Tl	1
Cr	2	V	5
Cu	2	Zn	2

Interference Check Standards

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

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

Interference Check Standard B			
CLP-MS-ICS-B		Volume: 125 mL Matrix: HNO ₃ Dilution 1:100	
Analyte	µg/mL	Analyte	µg/mL
Ag	2	Mg	2
Al	2	Mn	2
As	2	Ni	2
Ba	2	Pb	2
Be	2	Sb	2
Cd	2	Se	2
Co	2	Tl	2
Cr	2	V	2
Cu	2	Zn	2

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

Interference Check Standard B4			
CLPP-ICS-B4		Volume: 125 mL Matrix: HNO ₃ Dilution 1:100	
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 with ICP-OES and ICP-MS. Designed for ILM05.2 and ILM05.3.

Soil & Water Spike Standards

Spike Standard			
CLP-MS-SPK		Volume: 125 mL Matrix: HNO ₃ Dilution 1:100	
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 with ICP-MS. Designed for ILM05.2 and ILM05.3. Instructions included.

Spike Standard			
CLPP-SPK-1		Volume: 125 mL Matrix: HNO ₃ Dilution 1:1,000	
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 with ICP-OES. Designed for ILM05.2 and ILM05.3. Instructions included.

Spike Standard			
CLPP-SPK-5		Volume: 125 mL Matrix: HNO ₃ Dilution 1:1,000	
Analyte	µg/mL	Analyte	µg/mL
As	40	Sb	100
Cd	50	Se	50
Pb	20	Tl	50

For use with ICP-OES. Designed for ILM05.2 and ILM05.3. Instructions included.

Internal Standards & Tuning Solutions

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

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

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

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

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

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

Blank & Rinse Solutions

Blank & rinse solutions are prepared using double-distilled nitric acid and ASTM Type 1 water. They come packaged in ultra-clean LDPE bottles.

1% (v/v) Nitric Acid Calibration Blank	
CLP-MS-BLANK	Volume: 125 mL Matrix: HNO ₃ Dilution: Ready to Use

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

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

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



Ragan Phillips, Production Processing Coordinator,
and Justin DiRico, Packaging Technician

Standards for Method 200.7 are designed for use with ICP-OES. Custom EPA standards are available upon request.

200.7 Calibration

Standards are designed for Method 200.7 (1982), Method 3120, Method 6010A Rev. 1, and Method 200.7 CLP-M.

Calibration Standard		
WW-CAL-1A		Volume: 125 mL Matrix: HNO ₃ Dilution 1:100
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.

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

Calibration Standard		
WW-CAL-2		Volume: 125 mL Matrix: HNO ₃ / HF Dilution 1:100
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

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

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

Calibration Standard		
WW-CAL-4B		Volume: 125 mL Matrix: HNO ₃ / HF Dilution 1:100
Analyte	µg/mL	λ(nm)
SiO ₂	1,000	251.611
Sn	400	189.980

Calibration Standard		
WW-CAL-5		Volume: 125 mL Matrix: HNO ₃ / HF Dilution 1:100
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

200.7 Interference Checks

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

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

Interference Check Standard			
2007ICS-3		Volume: 125 mL Matrix: HNO ₃ Dilution 1:100	
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

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

200.7 Quality Controls

Quality Control Standard [†]		
QCP-QCS-1		Volume: 125 mL Matrix: HNO ₃ Dilution 1:100
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	196.099
Sr	100	421.552
Tl	500	190.864
V	100	292.402
Zn	100	213.856

Quality Control Standard [†]		
QCP-QCS-2		Volume: 125 mL Matrix: HNO ₃ / HF Dilution 1:100
Analyte	µg/mL	λ(nm)
Mo	100	203.844
Sb	200	206.833
SiO₂	500	251.611
Sn	500	189.980
Ti	100	334.941

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

200.7 Quality Controls

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

Quality Control Standard [†]			
IV-19		Volume: 125 mL Matrix: HNO ₃ / HF Dilution 1:100	
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		Volume: 125 mL Matrix: HNO ₃ / HF Dilution 1:100	
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		Volume: 125 mL Matrix: HNO ₃ / HF Dilution 1:100	
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		Volume: 125 mL Matrix: HNO ₃ / HF Dilution 1:100	
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.

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

Calibration Standard		
WW-CAL-1A		Volume: 125 mL Matrix: HNO ₃ Dilution 1:100
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.

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

Calibration Standard		
WW-CAL-2		Volume: 125 mL Matrix: HNO ₃ Dilution 1:100
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

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

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

Calibration Standard		
WW-CAL-4B		Volume: 125 mL Matrix: HNO ₃ / HF Dilution 1:100
Analyte	µg/mL	λ(nm)
SiO ₂	1,000	251.611
Sn	400	189.980

Calibration Standard		
WW-CAL-5		Volume: 125 mL Matrix: HNO ₃ / HF Dilution 1:100
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

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

Instrument Performance Check		
WW-IPC-1		Volume: 125 mL Matrix: HNO ₃ Dilution 1:100
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

Instrument Performance Check		
WW-IPC-3		Volume: 125 mL Matrix: HNO ₃ Dilution 1:100
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

Instrument Performance Check		
WW-IPC-2		Volume: 125 mL Matrix: HNO ₃ / HF Dilution 1:100
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

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		Volume: 125 mL Matrix: HNO ₃ Dilution 1:100
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		
WW-LFS-2		Volume: 125 mL Matrix: HNO ₃ / HF Dilution 1:100
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

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

Quality Control Standard†		
QCP-QCS-1		Volume: 125 mL Matrix: HNO ₃ Dilution 1:100
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	196.099
Sr	100	421.552
Tl	500	190.864
V	100	292.402
Zn	100	213.856

Quality Control Standard†		
QCP-QCS-2		Volume: 125 mL Matrix: HNO ₃ / HF Dilution 1:100
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

†Manufactured from in-house Second Source concentrates.

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

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

Quality Control Standard [†]			
IV-19		Volume: 125 mL Matrix: HNO ₃ / HF Dilution 1:100	
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		Volume: 125 mL Matrix: HNO ₃ / HF Dilution 1:100	
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		Volume: 125 mL Matrix: HNO ₃ / HF Dilution 1:100	
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		Volume: 125 mL Matrix: HNO ₃ / HF Dilution 1:100	
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.

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		Volume: 125 mL Matrix: HNO ₃ / HF Dilution 1:100	
Analyte	µg/mL	Analyte	µg/mL
Mo	20	Sb	20

Designed for Rev. 4.4 and 5.4.

Calibration Standard			
2008CAL-2		Volume: 125 mL Matrix: HNO ₃ Dilution 1:100	
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.

Calibration Standard			
WW-MSCAL-2		Volume: 125 mL Matrix: HNO ₃ Dilution 1:100	
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.

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

Designed for Rev. 5.4.

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



Tracy Lancaster, Shipping Technician, and
James King, Technical Support Specialist

Rev. 4.4 & 5.4 Internal Standards

Internal Standard			
2008ISS		Volume: 125 mL Matrix: HNO ₃ Dilution 1:100 to 1:1,000	
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 CGAUN1-1 for Rev. 5.4 if Hg is to be determined by direct analysis.

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

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

Rev. 4.4 & 5.4 Quality Controls

Quality Control Standard [†]			
QCP-QCS-3		Volume: 125 mL Matrix: HNO ₃ Dilution 1:100	
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.

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

Designed for Rev. 4.4 and 5.4.

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

Rev. 4.4 & 5.4 Tuning

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

Designed for Rev. 4.4 and 5.4.



Jhiam Marasigan, Technical Liaison, and
Madeline Gozzi, Chemist-Technical Support

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		Volume: 125 mL Matrix: HNO ₃ Dilution 1:100	
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

Interference Check Standard			
6020ICS-8A		Volume: 500 mL Matrix: HNO ₃ Dilution 1:10	
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

Interference Check Standard			
6020ICS-8B		Volume: 125 mL Matrix: HNO ₃ Dilution 1:100	
Analyte	µg/mL	Analyte	µg/mL
Ag	20	Mn	20
As	10	Ni	20
Cd	10	Se	10
Co	20	V	20
Cr	20	Zn	10
Cu	20		

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

Memory Check Standard			
6020MCC-1		Volume: 125 mL Matrix: HNO ₃ / HF Dilution 1:2	
Analyte	µg/mL	Analyte	µg/mL
Ag	20	Mg	1,000
Al	1,000	Mn	20
As	20	Mo	20
Ba	20	Na	1,000
Be	20	Ni	20
C	2,000	Pb	20
Ca	1,000	Sb	20
Cd	20	Se	20
Co	20	Ti	20
Cr	20	Tl	20
Cu	20	V	20
Fe	1,000	Zn	20
K	1,000		

NOTE: For use with 6020MCC-2. When combined, these concentrates will precipitate. The precipitate will not adversely affect the results for this method.

Memory Check Standard			
6020MCC-2		Volume: 125 mL Matrix: HNO ₃ Dilution 1:2	
Analyte	µg/mL	Analyte	µg/mL
Cl ⁻	7,200	S	1,000
P	1,000		

NOTE: For use with 6020MCC-1. When combined, these concentrates will precipitate. The precipitate will not adversely affect the results for this method.

CLP-M Version 8

Spike Standard – Soil			
6020SPK-S		Volume: 125 mL Matrix: HNO ₃ Dilution 1:100	
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		

Spike Standard – Water			
6020SPK-W		Volume: 125 mL Matrix: HNO ₃ Dilution 1:100	
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		

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

CLP-M Version 9

Calibration Standard			
6020CAL-1		Volume: 125 mL Matrix: HNO ₃ Dilution 1:100	
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

Interference Check Standard			
6020ICS-9A		Volume: 500 mL Matrix: HNO ₃ Dilution 1:10	
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

Interference Check Standard			
6020ICS-9B		Volume: 125 mL Matrix: HNO ₃ Dilution 1:100	
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		

CLP-M Version 9

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

Memory Check Standard			
6020MCC-1		Volume: 125 mL Matrix: HNO ₃ / HF Dilution 1:2	
Analyte	µg/mL	Analyte	µg/mL
Ag	20	Mg	1,000
Al	1,000	Mn	20
As	20	Mo	20
Ba	20	Na	1,000
Be	20	Ni	20
C	2,000	Pb	20
Ca	1,000	Sb	20
Cd	20	Se	20
Co	20	Ti	20
Cr	20	Tl	20
Cu	20	V	20
Fe	1,000	Zn	20
K	1,000		

NOTE: For use with 6020MCC-2. When combined, these concentrates will precipitate. The precipitate will not adversely affect the results for this method.

Memory Check Standard			
6020MCC-2		Volume: 125 mL Matrix: HNO ₃ Dilution 1:2	
Analyte	µg/mL	Analyte	µg/mL
Cl ⁻	7,200	S	1,000
P	1,000		

NOTE: For use with 6020MCC-1. When combined, these concentrates will precipitate. The precipitate will not adversely affect the results for this method.

Spike Standard – Soil			
6020SPK-S		Volume: 125 mL Matrix: HNO ₃ Dilution 1:100	
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		

Spike Standard – Water			
6020SPK-W		Volume: 125 mL Matrix: HNO ₃ Dilution 1:100	
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		

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

REV. 0

Calibration Standard			
6020CAL-1		Volume: 125 mL Matrix: HNO ₃ Dilution 1:100	
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

CICV Standard†			
QCP-ICV-1REV		Volume: 125 mL Matrix: HNO ₃ Dilution 1:100 to 1:1,000	
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		

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

†Manufactured from in-house Second Source concentrates.

Rebecca Weddle, Lead, Packaging Technician, and
Zachary Cantrell, Student Lab Assistant-Technical Support

Interference Check Standard			
6020ICS-0A		Volume: 500 mL Matrix: HNO ₃ Dilution 1:10	
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

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



Rev. 0

Memory Check Standard			
6020MCC-1		Volume: 125 mL Matrix: HNO ₃ / HF Dilution 1:2	
Analyte	µg/mL	Analyte	µg/mL
Ag	20	Mg	1,000
Al	1,000	Mn	20
As	20	Mo	20
Ba	20	Na	1,000
Be	20	Ni	20
C	2,000	Pb	20
Ca	1,000	Sb	20
Cd	20	Se	20
Co	20	Ti	20
Cr	20	Tl	20
Cu	20	V	20
Fe	1,000	Zn	20
K	1,000		

NOTE: For use with 6020MCC-2. When combined, these concentrates will precipitate. The precipitate will not adversely affect the results for this method.

Memory Check Standard			
6020MCC-2		Volume: 125 mL Matrix: H ₂ O Dilution 1:2	
Analyte	µg/mL	Analyte	µg/mL
Cl⁻	7,200	S	1,000
P	1,000		

NOTE: For use with 6020MCC-1. When combined, these concentrates will precipitate. The precipitate will not adversely affect the results for this method.

Spike Standard – Soil			
6020SPK-S		Volume: 125 mL Matrix: HNO ₃ Dilution 1:100	
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		

Spike Standard – Water			
6020SPK-W		Volume: 125 mL Matrix: HNO ₃ Dilution 1:100	
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		

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



- ✓ Traceable to NIST SRMs and lots
- ✓ Produced under ISO 9001
- ✓ Produced under ISO 17025
- ✓ Produced under ISO Guide 34
- ✓ Assayed by validated Wet Chemical procedures
- ✓ Assayed by validated IC procedures

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Lee Hawthorne,
Manufacturing Technician,
and Jeanette Preston,
Packaging Technician

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 ₂ O	Sodium acetate	125 mL 500 mL	ICOAC1-1 ICOAC1-5
Adipate, $C_6H_8O_4^{-2}$	H ₂ O	Adipic acid	125 mL 500 mL	ICADP1-1 ICADP1-5
Benzoate, $C_6H_5CO_2^-$	H ₂ O	Benzoic acid	125 mL 500 mL	ICBEN1-1 ICBEN1-5
Bromate, BrO_3^-	H ₂ O	KBrO ₃	125 mL 500 mL	ICBR031-1 ICBR031-5
Bromide, Br^-	H ₂ O	KBr	125 mL 500 mL	ICBR1-1 ICBR1-5
Butyrate, $C_4H_7O_2^-$	H ₂ O	Butyric acid	125 mL 500 mL	ICBTR1-1 ICBTR1-5
Carbonate, CO_3^{-2}	H ₂ O	Na ₂ CO ₃	125 mL 500 mL	ICCO31-1 ICCO31-5
Chlorate, ClO_3^-	H ₂ O	KClO ₃	125 mL 500 mL	ICCLO31-1 ICCLO31-5
Chloride, Cl^-	H ₂ O	KCl	125 mL 500 mL	ICCL1-1 ICCL1-5
Chlorite, ClO_2^-	H ₂ O	NaClO ₂	125 mL 500 mL	ICCLO21-1 ICCLO21-5
Chromate, CrO_4^{-2}	H ₂ O	(NH ₄) ₂ Cr ₂ O ₇	125 mL 500 mL	ICCRO41-1 ICCRO41-5
Citrate, $C_6H_5O_7^{-3}$	H ₂ O	Citric acid	125 mL 500 mL	ICCIT1-1 ICCIT1-5
Cyanide, NaCN	H ₂ O	Sodium cyanide	20 mL	CN-1000-25
Fluoride, F^-	H ₂ O	NaF	125 mL 500 mL	ICF1-1 ICF1-5
Formate, HCO_2^-	H ₂ O	Sodium formate	125 mL 500 mL	ICHCO1-1 ICHCO1-5
Glutarate, $C_5H_6O_4^{-2}$	H ₂ O	Glutaric acid	125 mL 500 mL	ICGTR1-1 ICGTR1-5
Glycolate, $C_2H_3O_3^-$	H ₂ O	Glycolic acid	125 mL 500 mL	ICGLY1-1 ICGLY1-5
Iodide, I^-	H ₂ O / stabilizer	NH ₄ I	125 mL 500 mL	ICI1-1 ICI1-5
Lactate, $C_3H_5O_3^-$	H ₂ O	Lactic acid	125 mL 500 mL	ICLCT1-1 ICLCT1-5
Malate, $C_4H_4O_5^{-2}$	H ₂ O	Malic acid	125 mL 500 mL	ICMLA1-1 ICMLA1-5
Maleate, $C_4H_2O_4^{-2}$	H ₂ O	Maleic acid	125 mL 500 mL	ICMLE1-1 ICMLE1-5
Malonate, $C_3H_2O_4^{-2}$	H ₂ O	Malonic acid	125 mL 500 mL	ICML01-1 ICML01-5
Methanesulfonate, $CH_3SO_3^-$	H ₂ O	Methanesulfonic acid	125 mL 500 mL	ICMSA1-1 ICMSA1-5
Nitrate, NO_3^-	H ₂ O	NaNO ₃	125 mL 500 mL	ICNO31-1 ICNO31-5

ION CHROMATOGRAPHY

ANION STANDARDS

1,000 µg/mL Anions

Custom anion standards are available upon request.

1,000 µg/mL

ANALYTE	MATRIX	STARTING MATERIAL	VOLUME	CATALOG #
Nitrate as Nitrogen	H ₂ O	NaNO ₃	125 mL 500 mL	ICNNO31-1 ICNNO31-5
Nitrilotriacetate, NC ₆ H ₆ O ₆ ⁻³	H ₂ O	Nitrilotriacetic acid	125 mL 500 mL	ICNTA1-1 ICNTA1-5
Nitrite, NO ₂ ⁻	H ₂ O	NaNO ₂	125 mL 500 mL	ICNO21-1 ICNO21-5
Nitrite as Nitrogen	H ₂ O	NaNO ₂	125 mL 500 mL	ICNNO21-1 ICNNO21-5
Oxalate, C ₂ O ₄ ⁻²	H ₂ O	Sodium oxalate	125 mL 500 mL	ICOXAX1-1 ICOXAX1-5
Perchlorate, ClO ₄ ⁻	H ₂ O	KClO ₄	125 mL 500 mL	ICCLO41-1 ICCLO41-5
Phosphate, PO ₄ ⁻³	H ₂ O	NH ₄ H ₂ PO ₄	125 mL 500 mL	ICPO41-1 ICPO41-5
Phosphate as Phosphorus	H ₂ O	NH ₄ H ₂ PO ₄	125 mL 500 mL	ICPPO41-1 ICPPO41-5
Phthalate, C ₆ H ₄ (CO ₂) ₂ ⁻²	H ₂ O	Potassium hydrogen phthalate	125 mL 500 mL	ICKHP1-1 ICKHP1-5
Propionate, C ₂ H ₅ CO ₂ ⁻	H ₂ O	Sodium propionate	125 mL 500 mL	ICOPR1-1 ICOPR1-5
Succinate, C ₄ H ₄ O ₄ ⁻²	H ₂ O	Succinic acid	125 mL 500 mL	ICSCC1-1 ICSCC1-5
Sulfate, SO ₄ ⁻²	H ₂ O	K ₂ SO ₄	125 mL 500 mL	ICSO41-1 ICSO41-5
Tartrate, C ₄ H ₄ O ₆ ⁻²	H ₂ O	Tartaric acid	125 mL 500 mL	ICTRTR1-1 ICTRTR1-5
Thiocyanate, SCN ⁻	H ₂ O	KSCN	125 mL 500 mL	ICSCN1-1 ICSCN1-5
Thiosulfate, S ₂ O ₃ ⁻²	H ₂ O	Sodium thiosulfate	125 mL 500 mL	ICS2031-1 ICS2031-5

10,000 µg/mL Anions

Custom anion standards are available upon request.

10,000 µg/mL

ANALYTE	MATRIX	STARTING MATERIAL	VOLUME	CATALOG #
Chloride, Cl ⁻	H ₂ O	KCl	125 mL 500 mL	ICCL10-1 ICCL10-5
Sulfate, SO ₄ ⁻²	H ₂ O	K ₂ SO ₄	125 mL 500 mL	ICSO410-1 ICSO410-5

1,000 µg/mL Cations

Custom cation standards are available upon request.

1,000 µg/mL

ANALYTE	MATRIX	STARTING MATERIAL	VOLUME	CATALOG #
3-Methoxypropylamine $\text{CH}_3\text{O}(\text{CH}_2)_3\text{NH}_2$	HCl	3-Methoxypropylamine	125 mL 500 mL	ICMPA1-1 ICMPA1-5
Ammonium, NH_4^+	H_2O	NH_4Cl	125 mL 500 mL	ICNH41-1 ICNH41-5
Ammonium as Nitrogen	H_2O	NH_4Cl	125 mL 500 mL	ICNNH41-1 ICNNH41-5
Barium, Ba^{+2}	HNO_3	$\text{Ba}(\text{NO}_3)_2$	125 mL 500 mL	ICBA1-1 ICBA1-5
Calcium, Ca^{+2}	HNO_3	CaO	125 mL 500 mL	ICCA1-1 ICCA1-5
Cesium, Cs^+	HNO_3	CsNO_3	125 mL 500 mL	ICCS1-1 ICCS1-5
Diethanolamine, $(\text{HOCH}_2\text{CH}_2)_2\text{NH}$	H_2O	Diethanolamine	125 mL 500 mL	ICDEA1-1 ICDEA1-5
Dimethylamine, $\text{NH}(\text{CH}_3)_2$	HCl	Dimethylamine	125 mL 500 mL	ICDMA1-1 ICDMA1-5
Lithium, Li^+	HNO_3	Li_2CO_3	125 mL 500 mL	ICLI1-1 ICLI1-5
Magnesium, Mg^{+2}	HNO_3	Mg metal	125 mL 500 mL	ICMG1-1 ICMG1-5
Monoethanolamine, $\text{HOCH}_2\text{CH}_2\text{NH}_2$	H_2O	Monoethanolamine	125 mL 500 mL	ICMEA1-1 ICMEA1-5
Monomethylamine, NH_2CH_3	HCl	Monomethylamine	125 mL 500 mL	ICMMA1-1 ICMMA1-5
Potassium, K^+	HNO_3	KNO_3	125 mL 500 mL	ICK1-1 ICK1-5
Rubidium, Rb^+	HNO_3	RbNO_3	125 mL 500 mL	ICRB1-1 ICRB1-5
Sodium, Na^+	HNO_3	Na_2CO_3	125 mL 500 mL	ICNA1-1 ICNA1-5
Strontium, Sr^{+2}	HNO_3	SrCO_3	125 mL 500 mL	ICSR1-1 ICSR1-5
Tetramethylammonium, $\text{N}^+(\text{CH}_3)_4$	H_2O	Tetramethylammonium hydroxide	125 mL 500 mL	ICTMAH1-1 ICTMAH1-5
Triethanolamine, $(\text{HOCH}_2\text{CH}_2)_3\text{N}$	H_2O	Triethanolamine	125 mL 500 mL	ICTEA1-1 ICTEA1-5
Triethylamine, $(\text{CH}_3\text{CH}_2)_3\text{N}$	HCl	Triethylamine	125 mL 500 mL	ICTA1-1 ICTA1-5
Trimethylamine, $(\text{CH}_3)_3\text{N}$	HCl	Trimethylamine	125 mL 500 mL	ICTMA1-1 ICTMA1-5

ION CHROMATOGRAPHY MULTI-ION STANDARDS

Multi-Ion Standards

Custom multi-ion standards are available upon request.

Anion Calibration Standard			
IC-FAS-1A 		Volume: 125 mL Matrix: H ₂ O	
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		

Cation Calibration Standard			
IC-SCS1-1 		Volume: 125 mL Matrix: HNO ₃	
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.

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

Cation Calibration Standard			
IV-STOCK-7 		Volume: 125 mL Matrix: HNO ₃	
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.

ELUENT CONCENTRATES

Custom eluent concentrates are available upon request.

0.18 M Sodium Carbonate/0.17 M Sodium Bicarbonate		
ELUENT1817-1 ELUENT1817-5	100 mL 500 mL	Matrix: H ₂ O Dilution: 1:100
For preparation of 1.8 mM CO ₃ ⁻² / 1.7 mM HCO ₃ ⁻ eluent.		

0.5 M Sodium Bicarbonate		
BICARB-1 BICARB-5	100 mL 500 mL	Matrix: H ₂ O Dilution: 1:100
For preparation of various CO ₃ ⁻² / HCO ₃ ⁻ eluents.		

0.35 M Sodium Carbonate/0.10 M Sodium Bicarbonate		
ELUENT3510-1 ELUENT3510-5	100 mL 500 mL	Matrix: H ₂ O Dilution: 1:100
For preparation of 3.5 mM CO ₃ ⁻² / 1.0 mM HCO ₃ ⁻ eluent.		

0.5 M Sodium Carbonate		
CARB-1 CARB-5	100 mL 500 mL	Matrix: H ₂ O Dilution: 1:100
For preparation of various CO ₃ ⁻² / HCO ₃ ⁻ eluents.		

1.8 M Methanesulfonic Acid		
MSAELUENT-1 MSAELUENT-5	100 mL 500 mL	Matrix: H ₂ O Dilution: 1:100
For preparation of 18 mM CH ₃ SO ₃ H eluent for analyzing cations.		

 Common Multi-Ion Standards

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**

ELUENT1817-1	100 mL	Matrix: H ₂ O
ELUENT1817-5	500 mL	Dilution 1:100

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

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

Dichloroacetate Standard

ICDCA-S-1	125 mL	Matrix: H ₂ O
ICDCA-S-5	500 mL	
Analyte	µg/mL	
Cl₂HC₂O₂⁻	500	

For use as a surrogate analyte.

Laboratory Fortification Stock Standard

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

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

QC Standard/Instrument Performance Check[†]

QCP-QCS-5		Volume: 125 mL Matrix: H ₂ O Dilution 1:10 to 1:100	
Analyte	µg/mL	Analyte	µg/mL
Br⁻	50	Nitrite as Nitrogen	15
Cl⁻	15	Nitrate as Nitrogen	10
F⁻	10	Phosphate as Phosphorus	25
SO₄⁻²	75		

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

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

Allyson Guilliams,
Quality Control Supervisor,
and Theron Lester,
Shipping Technician



300.1 Part B Custom EPA standards are available upon request.

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

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

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

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

NOTE: Contains less than 10ppm ClO₃⁻.

Dichloroacetate Standard		
ICDCA-S-1	125 mL	Matrix: H ₂ O
ICDCA-S-5	500 mL	
Analyte	µg/mL	
Cl ₂ HC ₂ O ₂ ⁻	500	

For use as a surrogate analyte.

Custom EPA standards are available upon request.

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

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

Mixed Anion Stock Solution	
314-ANION-STOCK	Volume: 125 mL Matrix: H ₂ O
Analyte	µg/mL
Cl ⁻	25,000
CO ₃ ⁻²	25,000
SO ₄ ⁻²	25,000

NOTE: This is not a CRM. This is the anion stock solution used to determine the MCT (Matrix Conductivity Threshold) for Method 314.0.

Joel Cadwell, Accounting Manager, and
Kathy Stoner, International Accounting Specialist

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



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Noelle Newman, CSR–International, and
Jeffrey Ifle, International Business Manager

- ✓ Traceable to NIST SRMs
- ✓ Produced under ISO 9001
- ✓ Assayed by validated procedures



1,000 µg/mL

ANALYTE	MATRIX	STARTING MATERIAL	VOLUME	CATALOG #
Aluminum, Al	HNO ₃	Al metal	125 mL	AAAL1-1
			500 mL	AAAL1-5
Antimony, Sb	HNO ₃ / Tartaric Acid	Sb metal	125 mL	AASB1-1
			500 mL	AASB1-5
Arsenic, As	HNO ₃	As metal	125 mL	AAAS1-1
			500 mL	AAAS1-5
Barium, Ba	HNO ₃	Ba(NO ₃) ₂	125 mL	AABA1-1
			500 mL	AABA1-5
Beryllium, Be	HNO ₃	Be ₄ O(C ₂ H ₃ O ₂) ₆	125 mL	AABE1-1
			500 mL	AABE1-5
Bismuth, Bi	HNO ₃	Bi metal	125 mL	AABI1-1
			500 mL	AABI1-5
Boron, B	H ₂ O	H ₃ BO ₃	125 mL	AAB1-1
			500 mL	AAB1-5
Cadmium, Cd	HNO ₃	Cd metal	125 mL	AACD1-1
			500 mL	AACD1-5
Calcium, Ca	HNO ₃	CaO	125 mL	AACA1-1
			500 mL	AACA1-5
Cerium, Ce	HNO ₃	CeO ₂	125 mL	AACE1-1
			500 mL	AACE1-5
Cesium, Cs	HNO ₃	CsNO ₃	125 mL	AACS1-1
			500 mL	AACS1-5
Chromium, Cr	HNO ₃	Cr metal	125 mL	AACR1-1
			500 mL	AACR1-5
Cobalt, Co	HNO ₃	Co metal	125 mL	AAC01-1
			500 mL	AAC01-5
Copper, Cu	HNO ₃	Cu metal	125 mL	AACU1-1
			500 mL	AACU1-5
Dysprosium, Dy	HNO ₃	Dy ₂ O ₃	125 mL	AADY1-1
			500 mL	AADY1-5
Erbium, Er	HNO ₃	Er ₂ O ₃	125 mL	AAER1-1
			500 mL	AAER1-5
Europium, Eu	HNO ₃	Eu ₂ O ₃	125 mL	AAEU1-1
			500 mL	AAEU1-5
Gadolinium, Gd	HNO ₃	Gd ₂ O ₃	125 mL	AAGD1-1
			500 mL	AAGD1-5
Gallium, Ga	HNO ₃	Ga metal	125 mL	AAGA1-1
			500 mL	AAGA1-5
Germanium, Ge	HNO ₃ / HF	Ge metal	125 mL	AAGE1-1
			500 mL	AAGE1-5
Gold, Au	HCl	HAuCl ₄ •xH ₂ O	125 mL	AAAU1-1
			500 mL	AAAU1-5
Hafnium, Hf	HNO ₃ / HF	HfO ₂	125 mL	AAHF1-1
			500 mL	AAHF1-5
Holmium, Ho	HNO ₃	Ho ₂ O ₃	125 mL	AAH01-1
			500 mL	AAH01-5
Indium, In	HNO ₃	In metal	125 mL	AAIN1-1
			500 mL	AAIN1-5

1,000 µg/mL Standards

1,000 µg/mL

ANALYTE	MATRIX	STARTING MATERIAL	VOLUME	CATALOG #
Iridium, Ir	HCl	IrCl ₃	125 mL	AAIR1-1
			500 mL	AAIR1-5
Iron, Fe	HNO ₃	Fe metal	125 mL	AAFE1-1
			500 mL	AAFE1-5
Lanthanum, La	HNO ₃	La ₂ O ₃	125 mL	AALA1-1
			500 mL	AALA1-5
Lead, Pb	HNO ₃	Pb(NO ₃) ₂	125 mL	AAPB1-1
			500 mL	AAPB1-5
Lithium, Li	HNO ₃	Li ₂ CO ₃	125 mL	AALI1-1
			500 mL	AALI1-5
Lutetium, Lu	HNO ₃	Lu ₂ O ₃	125 mL	AALU1-1
			500 mL	AALU1-5
Magnesium, Mg	HNO ₃	Mg metal	125 mL	AAMG1-1
			500 mL	AAMG1-5
Manganese, Mn	HNO ₃	Mn metal	125 mL	AAMN1-1
			500 mL	AAMN1-5
Mercury, Hg	HNO ₃	Hg metal	125 mL	AAHG1-1
			500 mL	AAHG1-5
Molybdenum, Mo	NH ₄ OH	(NH ₄) ₂ MoO ₄	125 mL	AAM01-1
			500 mL	AAM01-5
Neodymium, Nd	HNO ₃	Nd ₂ O ₃	125 mL	AAND1-1
			500 mL	AAND1-5
Nickel, Ni	HNO ₃	Ni metal	125 mL	AANI1-1
			500 mL	AANI1-5
Niobium, Nb	HNO ₃ / HF	Nb ₂ O ₅	125 mL	AANB1-1
			500 mL	AANB1-5
Palladium, Pd	HCl	Pd(NO ₃) ₂	125 mL	AAPD1-1
			500 mL	AAPD1-5
Phosphorus, P	H ₂ O	H ₃ PO ₄	125 mL	AAP1-1
			500 mL	AAP1-5
Platinum, Pt	HCl	PtCl ₄	125 mL	AAPT1-1
			500 mL	AAPT1-5
Potassium, K	HNO ₃	KNO ₃	125 mL	AAK1-1
			500 mL	AAK1-5
Praseodymium, Pr	HNO ₃	Pr ₆ O ₁₁	125 mL	AAPR1-1
			500 mL	AAPR1-5
Rhenium, Re	HNO ₃	Re metal	125 mL	AARE1-1
			500 mL	AARE1-5
Rhodium, Rh	HCl	RhCl ₃	125 mL	AARH1-1
			500 mL	AARH1-5
Rubidium, Rb	HNO ₃	RbNO ₃	125 mL	AARB1-1
			500 mL	AARB1-5
Ruthenium, Ru	HCl	NH ₄ RuCl ₆	125 mL	AARU1-1
			500 mL	AARU1-5
Samarium, Sm	HNO ₃	Sm ₂ O ₃	125 mL	AASM1-1
			500 mL	AASM1-5
Scandium, Sc	HNO ₃	Sc ₂ O ₃	125 mL	AASC1-1
			500 mL	AASC1-5

1,000 µg/mL

ANALYTE	MATRIX	STARTING MATERIAL	VOLUME	CATALOG #
Selenium, Se	HNO ₃	Se metal	125 mL	AASE1-1
			500 mL	AASE1-5
Silicon, Si	HNO ₃ / HF	SiO ₂	125 mL	AASI1-1
			500 mL	AASI1-5
Silver, Ag	HNO ₃	Ag metal	125 mL	AAAG1-1
			500 mL	AAAG1-5
Sodium, Na	HNO ₃	Na ₂ CO ₃	125 mL	AANA1-1
			500 mL	AANA1-5
Strontium, Sr	HNO ₃	SrCO ₃	125 mL	AASR1-1
			500 mL	AASR1-5
Sulfur, S	H ₂ O	H ₂ SO ₄	125 mL	AAS1-1
			500 mL	AAS1-5
Tantalum, Ta	HNO ₃ / HF	Ta metal	125 mL	AATA1-1
			500 mL	AATA1-5
Tellurium, Te	HCl	Te metal	125 mL	AATE1-1
			500 mL	AATE1-5
Terbium, Tb	HNO ₃	Tb ₄ O ₇	125 mL	AATB1-1
			500 mL	AATB1-5
Thallium, Tl	HNO ₃	TlNO ₃	125 mL	AATL1-1
			500 mL	AATL1-5
Thorium, Th	HNO ₃	Th(NO ₃) ₄ •4H ₂ O	125 mL	AATH1-1
			500 mL	AATH1-5
Thulium, Tm	HNO ₃	Tm ₂ O ₃	125 mL	AATM1-1
			500 mL	AATM1-5
Tin, Sn	HNO ₃ / HF	Sn metal	125 mL	AASN1-1
			500 mL	AASN1-5
Titanium, Ti	HNO ₃ / HF	Ti metal	125 mL	AATI1-1
			500 mL	AATI1-5
Tungsten, W	HNO ₃ / HF	W metal	125 mL	AAW1-1
			500 mL	AAW1-5
Uranium, U	HNO ₃	UO ₂ (NO ₃) ₂	125 mL	AAU1-1
			500 mL	AAU1-5
Vanadium, V	HNO ₃	V ₂ O ₅	125 mL	AAV1-1
			500 mL	AAV1-5
Ytterbium, Yb	HNO ₃	Yb ₂ O ₃	125 mL	AAYB1-1
			500 mL	AAYB1-5
Yttrium, Y	HNO ₃	Y ₂ O ₃	125 mL	AAY1-1
			500 mL	AAY1-5
Zinc, Zn	HNO ₃	Zn metal	125 mL	AAZN1-1
			500 mL	AAZN1-5
Zirconium, Zr	HF	ZrO ₂	125 mL	AAZR1-1
			500 mL	AAZR1-5

MODIFIERS, BUFFERS & RELEASING AGENTS

Modifiers, Buffers & Releasing Agents

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

0.3% Palladium/0.2% Magnesium Modifier			
MM-PDMG-32		Volume: 125 mL Matrix: HNO ₃	
Analyte	µg/mL	Analyte	µg/mL
Mg(NO ₃) ₂	2,000	Pd	3,000

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

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

2% Lithium Ionization Buffer	
LINB2-5	
Volume: 500 mL Matrix: HNO ₃	
Analyte	µg/mL
Li	20,000

1% Lanthanum Releasing Agent	
LACB1-5	
Volume: 500 mL Matrix: HCl	
Analyte	µg/mL
La	10,000

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

1% Magnesium Nitrate Modifier	
MM-MG-10	
Volume: 125 mL Matrix: HNO ₃	
Analyte	µg/mL
Mg(NO ₃) ₂	10,000

MULTI-ELEMENT STANDARDS

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

GFAA Calibration Standard			
IV-STOCK-18 		Volume: 125 mL Matrix: HNO ₃	
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

AA Calibration Standard			
IV-STOCK-25 		Volume: 500 mL Matrix: HNO ₃	
Analyte	µg/mL	Analyte	µg/mL
Cr	3	Ni	10

 Common Multi-Element Standards

 Merck

Multi-Element Standards

TCLP

Custom EPA standards are available upon request.

Toxicity Characteristic Leachate Procedure (TCLP)

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

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

Custom EPA standards are available upon request.

Analytical Spiking Standard			
CLPF-ASPK-1		Volume: 125 mL Matrix: HNO ₃ Dilution 1:10	
Analyte	µg/mL	Analyte	µg/mL
As	20	Sb	120
Cd	10	Se	10
Pb	20	Tl	20

CCV/ICV Standard†			
QCP-CICV-4		Volume: 125 mL Matrix: HNO ₃ Dilution 1:50	
Analyte	µg/mL	Analyte	µg/mL
As	25	Sb	50
Cd	5	Se	50
Pb	25	Tl	25

Calibration Standard			
CLPF-CAL-1		Volume: 125 mL Matrix: HNO ₃ Dilution 1:100	
Analyte	µg/mL	Analyte	µg/mL
As	50	Sb	100
Cd	10	Se	100
Pb	50	Tl	50

Predigestion Spiking Standard			
CLPF-PSPK-1		Volume: 125 mL Matrix: HNO ₃ Dilution 1:1,000	
Analyte	µg/mL	Analyte	µg/mL
As	40	Sb	100
Cd	5	Se	10
Pb	20	Tl	50

†Manufactured from in-house Second Source concentrates.

CLP Graphite Furnace Standards



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. Our priority is your total satisfaction.

Customer Satisfaction — The primary reason we flex to your specs.

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- ✓ Traceable to NIST SRMs and lots
- ✓ Produced under ISO 9001
- ✓ Produced under ISO 17025
- ✓ Produced under ISO Guide 34
- ✓ Assayed by optimal validated procedures

Courtney Dowdy,
CSR–Domestic, and
George Akers Jr.,
Facilities & Safety
Coordinator/Shipping
Supervisor



Custom potable water standards are available upon request.

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

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

Cation Standard	
QCP-CAT	Volume: 20 mL Matrix: HNO ₃ Dilution 1:100
Analyte	Range
Ca ⁺²	3.5–110 mg/L
K ⁺	4–40 mg/L
Mg ⁺²	2–40 mg/L
Na ⁺	6–100 mg/L

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

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

NOTE: Contains less than 10ppm ClO₃⁻.

Cyanide Standard	
QCP-CN	Volume: 20 mL Matrix: H ₂ O Dilution 1:200
Analyte	Range
Total Cyanide	0.1–1 mg/L
Free Cyanide	0.05–0.5 mg/L
Cyanide Amenable to Chlorination	0.05–0.5 mg/L

Demand Standard	
QCP-DMD	Volume: 20 mL Matrix: H ₂ O Dilution 1:200
Analyte	Range
TOC	6–100 mg/L
COD	30–250 mg/L
CBOD	15–250 mg/L
BOD	15–250 mg/L

Hg Standard	
QCP-HG	Volume: 20 mL Matrix: HNO ₃ Dilution 1:200
Analyte	Range*
Hg	2–30 µg/L

Used in conjunction with QCP-TMS and QCP-MTL. *Parts per billion

Water Hardness Standard	
QCP-WH	Volume: 500 mL Matrix: HNO ₃ Dilution: Ready to Use
Analyte	Range
Ca	8.7–275 mg/L
Mg	2.9–92 mg/L
Hardness as CaCO ₃	17–440 mg/L

pH Standard	
QCP-PH	Volume: 20 mL Matrix: H ₂ O Dilution: Ready to Use
Analyte	Range
pH	5–10 units

POTABLE WATER STANDARDS

Potable Water Standards

Metals Standard	
QCP-MTL	Volume: 20 mL Matrix: HNO ₃ Dilution 1:200
Analyte	Range*
Ag	26–1,000 µg/L
Al	200–4,000 µg/L
As	70–900 µg/L
Ba	100–2,500 µg/L
Be	8–900 µg/L
Ca	3.5–110 mg/L
Cd	8–1,000 µg/L
Cr	17–1,000 µg/L
Cu	40–1,000 µg/L
Fe	200–4,000 µg/L
Mn	70–4,000 µg/L
Ni	80–3,000 µg/L
Pb	70–3,000 µg/L
Sb	90–900 µg/L
Se	90–2,000 µg/L
Tl	60–900 µg/L
Zn	100–2,000 µg/L

*Parts per billion

Minerals Standard	
QCP-MIN	Volume: 500 mL Matrix: H ₂ O Dilution: Ready to Use
Analyte	Range
Cl⁻	35–275 mg/L
F⁻	0.3–4 mg/L
K⁺	4–40 mg/L
Nitrate as Nitrogen	0.25–40 mg/L
Conductivity	200–1,200 µmhos
Alkalinity	10–400 mg/L
Na⁺	6–100 mg/L
SO₄⁻²	5–125 mg/L

Nitrite Standard	
QCP-NT	Volume: 20 mL Matrix: H ₂ O Dilution: 1:100
Analyte	Range
Nitrite as Nitrogen	0.4–4 mg/L

Simple Nutrients Standard	
QCP-NUT-1	Volume: 20 mL Matrix: H ₂ O Dilution 1:200
Analyte	Range
Phosphate as Phosphorus	0.5–5.5 mg/L
Nitrate plus Nitrite as Nitrogen	0.25–40 mg/L
Nitrate as Nitrogen	0.25–40 mg/L
Ammonium as Nitrogen	0.65–20 mg/L

Simulated Rainwater Standard	
QCP-RAIN	Volume: 125 mL Matrix: H ₂ O Dilution: Ready to Use
Analyte	Range
Ca⁺²	3.5–110 mg/L
Cl⁻	35–275 mg/L
F⁻	0.3–4 mg/L
K⁺	4–40 mg/L
Mg⁺²	2–40 mg/L
pH	5–10 units
Conductivity	200–1,200 µmhos
Na⁺	6–100 mg/L
NH₄⁺	0.79–24 mg/L
NO₃⁻	1.1–177 mg/L
SO₄⁻²	5–125 mg/L

Total Residual Chlorine Standard	
QCP-TRC	Volume: 10 mL Matrix: H ₂ O Dilution 1:200
Analyte	Range
Total Residual Chlorine	0.5–3.0 mg/L

Turbidity Standard	
QCP-TURB	Volume: 20 mL Matrix: H ₂ O Dilution: 1:100
Analyte	Range
Turbidity	2–30 NTU

Custom wastewater standards are available upon request.

Cation Standard	
QCP-CAT	Volume: 20 mL Matrix: HNO ₃ Dilution 1:100
Analyte	Range
Ca ⁺²	3.5–110 mg/L
K ⁺	4–40 mg/L
Mg ⁺²	2–40 mg/L
Na ⁺	6–100 mg/L

Demand Standard	
QCP-DMD	Volume: 20 mL Matrix: H ₂ O Dilution 1:200
Analyte	Range
TOC	6–100 mg/L
COD	30–250 mg/L
CBOD	15–250 mg/L
BOD	15–250 mg/L

Chromium ⁺⁶ Standard	
QCP-CR6	Volume: 20 mL Matrix: H ₂ O Dilution 1:100
Analyte	Range*
Cr ⁺⁶	45–900 µg/L

*Parts per billion

Hardness Standard	
QCP-WH	Volume: 500 mL Matrix: HNO ₃ Dilution: Ready to Use
Analyte	Range
Ca	8.7–275 mg/L
Mg	2.9–92 mg/L
Hardness as CaCO ₃	17–440 mg/L

Complex Nutrients Standard	
QCP-NUT-2	Volume: 20 mL Matrix: H ₂ O Dilution 1:200
Analyte	Range
Total Organic Phosphorus as Phosphorus (P)	0.5–10 mg/L
Total Kjeldahl Nitrogen as Nitrogen (N)	1.5–35 mg/L

Cyanide Standard	
QCP-CN	Volume: 20 mL Matrix: H ₂ O Dilution 1:200
Analyte	Range
Total Cyanide	0.01–1 mg/L
Free Cyanide	0.05–0.5 mg/L
Cyanide Amenable to Chlorination	0.05–0.5 mg/L



Roy Pesciotta, Regulatory Administrator, and
Tammy Shepherd, Domestic Sales and Marketing Supervisor

Custom wastewater standards are available upon request.

Hg Standard	
QCP-HG	Volume: 20 mL Matrix: HNO ₃ Dilution 1:200
Analyte	Range*
Hg	2–30 µg/L

Used in conjunction with QCP-TMS and QCP-MTL. *Parts per billion.

Minerals Standard	
QCP-MIN	Volume: 500 mL Matrix: H ₂ O Dilution: Ready to Use
Analyte	Range
Cl ⁻	35–275 mg/L
F ⁻	0.3–4 mg/L
K ⁺	4–40 mg/L
Nitrate as Nitrogen	0.25–40 mg/L
Conductivity	200–1,200 µmhos
Alkalinity	10–400 mg/L
Na ⁺	6–100 mg/L
SO ₄ ⁻²	5–125 mg/L

Oil & Grease Standard	
QCP-OG-A	Volume: 20 mL Matrix: Acetone Dilution 1:100
Analyte	Range
Oil & Grease	20–200 mg/L

Applicable to gravimetric methods only.

Oil & Grease Standard	
QCP-OG-W	Volume: 250 mL Matrix: H ₂ O Dilution: Ready to Use
Analyte	Range
Oil & Grease	20–200 mg/L

pH Standard	
QCP-PH	Volume: 20 mL Matrix: H ₂ O Dilution: Ready to Use
Analyte	Range
pH	5–10 units

Phenolics Standard	
QCP-PHEN	Volume: 20 mL Matrix: H ₂ O Dilution 1:200
Analyte	Range
Total Phenolics	0.06–5 mg/L

Simple Nutrients Standard	
QCP-NUT-1	Volume: 20 mL Matrix: H ₂ O Dilution 1:200
Analyte	Range
Phosphate as Phosphorus	0.5–5.5 mg/L
Nitrate plus Nitrite as Nitrogen	0.25–40 mg/L
Nitrate as Nitrogen	0.25–40 mg/L
Ammonium as Nitrogen	0.65–20 mg/L



Laura Dickerson, Manufacturing Technician, and
Nicholas Plymale, Quality Control Technician

Solids Standard	
QCP-SLD	Volume: 450 mL Matrix: H ₂ O Dilution: Ready to Use
Analyte	Range
Total Solids (total residue)	140–800 mg/L
Suspended Solids (nonfilterable residue)	20–100 mg/L
Dissolved Solids (filterable residue)	140–800 mg/L

Total Residual Chlorine Standard	
QCP-TRC	Volume: 10 mL Matrix: H ₂ O Dilution: 1:200
Analyte	Range
Total Residual Chlorine	0.5–3.0 mg/L

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

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

Trace Metals Standard	
QCP-TMS	Volume: 20 mL Matrix: HNO ₃ Dilution 1:100
Analyte	Range*
Ag	26–1,000 µg/L
Al	200–4,000 µg/L
As	70–900 µg/L
B	800–2,000 µg/L
Ba	100–2,500 µg/L
Be	8–900 µg/L
Cd	8–1,000 µg/L
Co	28–1,000 µg/L
Cr	17–1,000 µg/L
Cu	40–1,000 µg/L
Fe	200–4,000 µg/L
Mn	70–4,000 µg/L
Mo	60–600 µg/L
Ni	80–3,000 µg/L
Pb	70–3,000 µg/L
Sb	90–900 µg/L
Se	90–2,000 µg/L
Sr	30–500 µg/L
Tl	60–900 µg/L
V	50–2,000 µg/L
Zn	100–2,000 µg/L

*Parts per billion

Turbidity Standard	
QCP-TURB	Volume: 20 mL Matrix: H ₂ O Dilution: 1:100
Analyte	Range
Turbidity	2–30 NTU

1,000 µg/mL Standards

Custom wastewater standards are available upon request.

1,000 µg/mL

ANALYTE	MATRIX	STARTING MATERIAL	VOLUME	CATALOG #
Carbon, C	H ₂ O	KHP	125 mL 500 mL	TOCKHP1-1 TOCKHP1-5



- ✓ Traceable to NIST SRMs and lots*
- ✓ Produced under ISO 9001
- ✓ Produced under ISO 17025*
- ✓ Produced under ISO Guide 34*
- ✓ Assayed by optimal validated procedures

*Not applicable for sample preparation products.

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.

Shared Knowledge — The most rewarding part of how we flex to your specs.

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Uyen Truong,
Quality Control
Technician, and
Tabitha Wright,
Administrative Assistant

2 μ mhos/cm Conductivity at 25°C	
Matrix: H ₂ O	
CON2-25	Volume: 125 mL
CON2-25-5 	Volume: 500 mL

10 μ mhos/cm Conductivity at 25°C	
Matrix: H ₂ O	
CON10-25	Volume: 125 mL
CON10-25-5 	Volume: 500 mL

100 μ mhos/cm Conductivity at 25°C	
Matrix: H ₂ O	
CON100-25	Volume: 125 mL
CON100-25-5 	Volume: 500 mL
CON100-25-1L 	Volume: 1 L

147 μ mhos/cm Conductivity at 25°C	
Matrix: H ₂ O	
CON147-25	Volume: 125 mL
CON147-25-5 	Volume: 500 mL
CON147-25-1L 	Volume: 1 L

500 μ mhos/cm Conductivity at 25°C	
Matrix: H ₂ O	
CON500-25	Volume: 125 mL
CON500-25-5 	Volume: 500 mL
CON500-25-1L 	Volume: 1 L

1,000 μ mhos/cm Conductivity at 25°C	
Matrix: H ₂ O	
CON1000-25	Volume: 125 mL
CON1000-25-5 	Volume: 500 mL
CON1000-25-1L 	Volume: 1 L

1,200 μ mhos/cm Conductivity at 25°C	
Matrix: H ₂ O	
CON1200-25	Volume: 125 mL
CON1200-25-5 	Volume: 500 mL
CON1200-25-1L 	Volume: 1 L

1,400 μ mhos/cm Conductivity at 25°C	
Matrix: H ₂ O	
CON1400-25	Volume: 125 mL
CON1400-25-5 	Volume: 500 mL
CON1400-25-1L 	Volume: 1 L

1,413 μ mhos/cm Conductivity at 25°C	
Matrix: H ₂ O	
CON1413-25	Volume: 125 mL
CON1413-25-5 	Volume: 500 mL
CON1413-25-1L 	Volume: 1 L

1,430 μ mhos/cm Conductivity at 25°C	
Matrix: H ₂ O	
CON1430-25	Volume: 125 mL
CON1430-25-5 	Volume: 500 mL
CON1430-25-1L 	Volume: 1 L

10,000 μ mhos/cm Conductivity at 25°C	
Matrix: H ₂ O	
CON10000-25	Volume: 125 mL
CON10000-25-5 	Volume: 500 mL
CON10000-25-1L 	Volume: 1 L

100,000 μ mhos/cm Conductivity at 25°C	
Matrix: H ₂ O	
CON100000-25	Volume: 125 mL
CON100000-25-5 	Volume: 500 mL
CON100000-25-1L 	Volume: 1 L

Cyanide Standards

Custom cyanide standards are available upon request.

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

pH Standards

Custom pH standards are available upon request.

PH	STARTING MATERIAL	VOLUME	CATALOG #
pH 1.68	Potassium tetroxalate	250 mL	PH-1.68
		500 mL	PH-1.68-5
		1 L	PH-1.68-1L
		4 L	PH-1.68-4L
		10 L	PH-1.68-10L
pH 2	Potassium chloride and hydrochloric acid	250 mL	PH-2
		500 mL	PH-2-5
		1 L	PH-2-1L
		4 L	PH-2-4L
		10 L	PH-2-10L
pH 3	Potassium acid phthalate and hydrochloric acid	250 mL	PH-3
		500 mL	PH-3-5
		1 L	PH-3-1L
		4 L	PH-3-4L
		10 L	PH-3-10L
pH 4	Potassium acid phthalate	250 mL	PH-4
		500 mL	PH-4-5
		1 L	PH-4-1L
		4 L	PH-4-4L
		10 L	PH-4-10L
pH 5	Potassium acid phthalate and sodium hydroxide	250 mL	PH-5
		500 mL	PH-5-5
		1 L	PH-5-1L
		4 L	PH-5-4L
		10 L	PH-5-10L
pH 6	Monobasic potassium phosphate and sodium hydroxide	250 mL	PH-6
		500 mL	PH-6-5
		1 L	PH-6-1L
		4 L	PH-6-4L
		10 L	PH-6-10L
pH 7	Monobasic potassium phosphate and sodium hydroxide	250 mL	PH-7
		500 mL	PH-7-5
		1 L	PH-7-1L
		4 L	PH-7-4L
		10 L	PH-7-10L
pH 8	Monobasic potassium phosphate and sodium hydroxide	250 mL	PH-8
		500 mL	PH-8-5
		1 L	PH-8-1L
		4 L	PH-8-4L
		10 L	PH-8-10L
pH 9	Boric acid, potassium chloride and sodium hydroxide	250 mL	PH-9
		500 mL	PH-9-5
		1 L	PH-9-1L
		4 L	PH-9-4L
		10 L	PH-9-10L
pH 10	Sodium bicarbonate and sodium carbonate	250 mL	PH-10
		500 mL	PH-10-5
		1 L	PH-10-1L
		4 L	PH-10-4L
		10 L	PH-10-10L
pH 11	Dibasic sodium phosphate and sodium hydroxide	250 mL	PH-11
		500 mL	PH-11-5
		1 L	PH-11-1L
		4 L	PH-11-4L
		10 L	PH-11-10L
pH 12	Potassium chloride and sodium hydroxide	250 mL	PH-12
		500 mL	PH-12-5
		1 L	PH-12-1L
		4 L	PH-12-4L
		10 L	PH-12-10L

pH Standards in Color

ISO Guide 34 and ISO 17025 pH Buffers Now in color

Introducing pH 4, 7, and 10 colored buffers certified to ISO Guide 34 and ISO 17025 requirements. These products complement our full colorless pH line pH 1.68-12 ISO Guide 34 and ISO 17025 buffers.



 pH 4 Red	
Part Number	Volume
PHRED-4	250mL
PHRED-4-5	500mL
PHRED-4-1L	1 Liter
PHRED-4-4L	4 Liter
PHRED-4-10L	10 Liter

 pH 7 Yellow	
Part Number	Volume
PHYELLOW-7	250mL
PHYELLOW-7-5	500mL
PHYELLOW-7-1L	1 Liter
PHYELLOW-7-4L	4 Liter
PHYELLOW-7-10L	10 Liter

 pH 10 Blue	
Part Number	Volume
PHBLUE-10	250mL
PHBLUE-10-5	500mL
PHBLUE-10-1L	1 Liter
PHBLUE-10-4L	4 Liter
PHBLUE-10-10L	10 Liter

Dissolution Reagents

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. The dissolution of these types of materials requires HF. See the article entitled *Elemental Analysis of Zeolites* on our website for more information.

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

Acid Dissolution Reagent [†]	
UA-2	500 mL
Designed to dissolve coal fly ash and aluminosilicates.	

Acid Dissolution Reagent*	
UA-3	500 mL
Similar to UA-2, except UA-3 can handle higher levels of iron.	

Acid Dissolution Reagent	
UA-4	500 mL
Designed for the dissolution of aluminosilicates, such as zeolites, containing moderate to high levels of fluoride-insoluble elements.	

Acid Dissolution Reagent	
UA-5	500 mL
Designed to handle samples high in calcium, such as limestone.	

Acid Dissolution Reagent	
UA-6	500 mL
Designed for samples high in magnesium, such as dolomite.	

Acid Dissolution Reagent	
UA-7	500 mL
Designed for the determination of trace elements in samples containing predominately silica, such as silica gel.	

[†]Boron cannot be determined.

*Boron and Phosphorus cannot be determined.

Blank & Rinse Solutions

Blank and rinse solutions are prepared using double-distilled nitric acid and ASTM Type 1 water. They come packaged in ultra-clean LDPE bottles. Custom blank and rinse solutions are available upon request.

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

1% (v/v) Nitric Acid Calibration Blank	
CLP-MS-BLANK	Volume: 125 mL Matrix: HNO ₃ Dilution: Ready to Use

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

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

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

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

Neutralizers & Stabilizers

These products are applicable to the determination of aluminosilicates containing various elements. For details, refer to the description for Dissolution Reagents on the preceding page.

Stabilizing Reagent	
UNS-1	2.5 L
Designed for use with UA-1.	

Stabilizing Reagent	
UNS-2-SET	2.5 L
Two reagent set consisting of equal amounts of UNS-2A and UNS-2B. Recommended for use with UA-2, UA-3, UA-4, or UA-5.	

Stabilizing Reagent	
UNS-3	2.5 L
Designed for use with UA-7.	

Stabilizing Reagent	
UNS-4	2.5 L
Prevents salting-out effects from borate fusions and/or boric acid treated HF preparations. Also recommended for use with UA-6.	

Stabilizing Reagent	
UNS-100	2.5 L
For use with all acids and applications. Improved capacity. Contact us for more information.	

Stabilizing Reagent	
UNS-300	2.5 L
For use with all acids and applications. Improved capacity. Contact us for more information.	

Fusion Fluxes

Custom fusion fluxes are available upon request.

Lithium Carbonate	
FF-LI2C03	500 g
See section 13 of the Reliable Measurements Guide found on our website for a sample preparation method designed to work perfectly with this product.	



Robert Cortez, Lead, CSR–Domestic, and
Melissa Holtz, CSR–Domestic

Updated Pricing Available Online | inorganicventures.com

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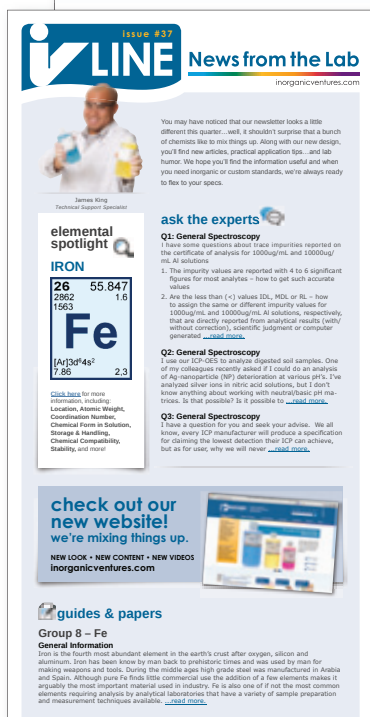
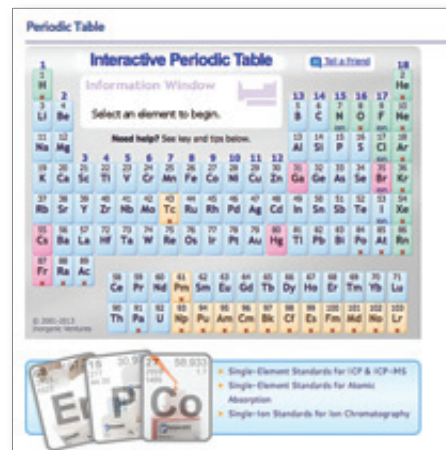
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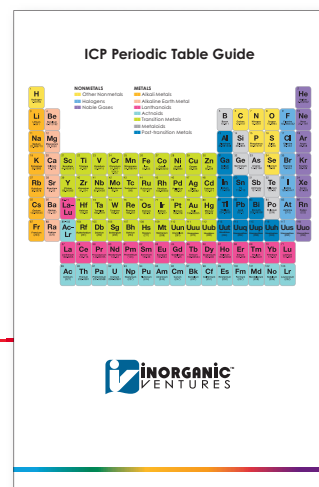
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