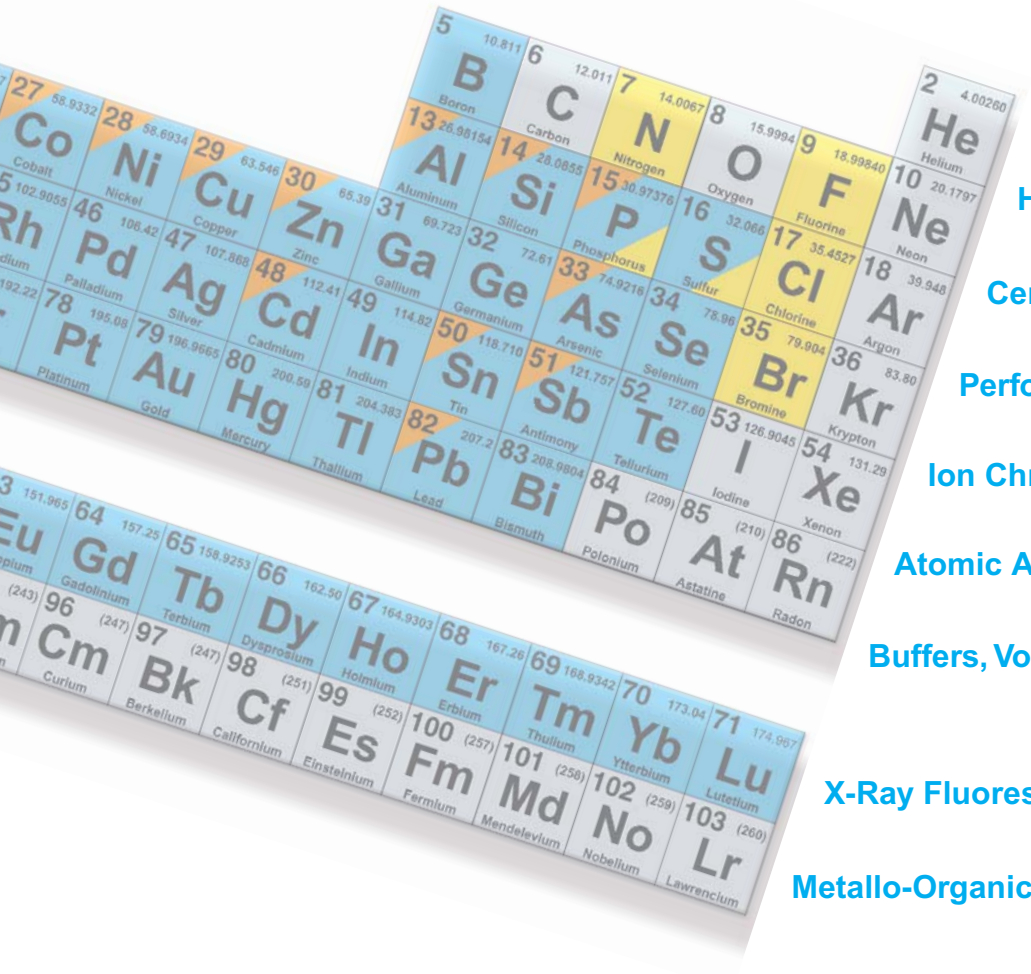
SCP SCIENCE

Standards & Reagents & Certified Reference Materials



- ICP-AES/MS Standards
- High Purity Acids & Reagents
- Certified Reference Materials
- Performance Evaluation Standards
- Ion Chromatography Standards
- Atomic Absorption Standards
- Buffers, Volumetric Reagents & Titrants
- X-Ray Fluorescence Standards
- Metallo-Organic Standards

SCP SCIENCE
www.scpscience.com

Standards, Reagents & Certified Reference Materials

Table of Contents

Introduction

Dear Valued Customer:

Thank you for your interest in **SCP SCIENCE** Standards, Reagents and Certified Reference Materials.

Founded in 1980, we are proud to celebrate 25 years of service to the scientific laboratory market. **SCP SCIENCE** "Standards, Reagents, and Certified Reference Materials" catalogue is redesigned and is an excellent tool for ordering your laboratory consumables. This 3rd Edition incorporates nine (9) sections and over fifty (50) subsections. In addition, we offer new products and services to better serve our customers.

Products recently introduced:

- Wide range of *Plasma***PURE** high purity acids and reagents
- Complete line of Pure and Ultra Pure fusion fluxes for AA, ICP-AES/MS, and XRF spectroscopy
- Cost effective *Accu***SPEC** COD tubes in multiple concentrations
- Multi-Element Ion Chromatography Standards custom made and "off the shelf"
- Sulfur standards in a variety of new matrices for XRF spectroscopy
- Multi-element metallo-organic standards
- Wide range of ICP-AES/MS Multi-Element Standards recommended by the OEM's

Services recently introduced:

- Integrated ERP software to reduce delivery delays and improve service
- MSDS and Certificates of Analysis available on-line at **www.scpscience.com**
- Our Paris, France facility maintains a stock of regular **SCP SCIENCE** products for improved service to European customers

For additional information, please contact **SCP SCIENCE** sales representative or local distributor. Our website, at **www.scpscience.com,** contains up to date information on all our products.

We look forward to serving your laboratory needs.

Yours truly,

_____
George Feilders
President

Statement of Quality Assurance

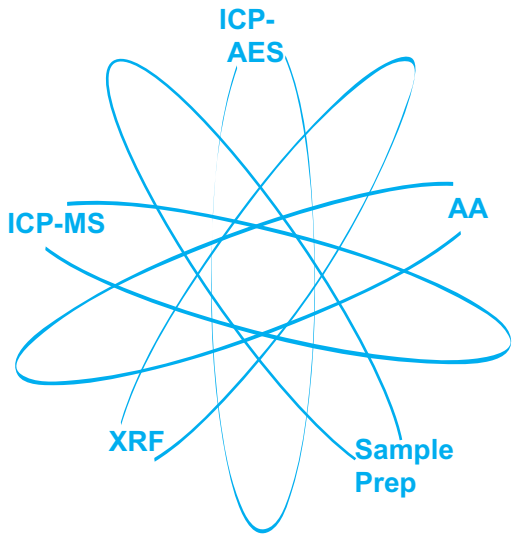
At **SCP SCIENCE**, Quality is not only related to the actual product, but to the entire process. When you interface with our company, we strive to provide you with Quality throughout the process - information requests, quotations, order entry, product manufacturing, shipping, and after-sales service. Our staff has been extensively trained and is profoundly dedicated to providing a superior quality of service.

SCP SCIENCE operates a Quality Management System that was designed according to the guidelines set forth by the ISO 9001:2000 international standard. Our objective is to ensure full customer satisfaction through the manufacture and distribution of top quality products. By adhering to the requirements of an internationally recognized standard, our customers are guaranteed to receive a quality product, time and time again.

Always striving to better ourselves and to meet or exceed the needs of our customers, we are working on conforming to the stringent requirements of ISO 17025 in order to officially accredit the competency of our laboratory. The scope of our accreditation will include activities such as metals analysis by ICP Spectroscopy, ions analysis by Ion Chromatography (IC), conductivity and pH certifications and Acid-Base Titration. Stay tuned for developments.

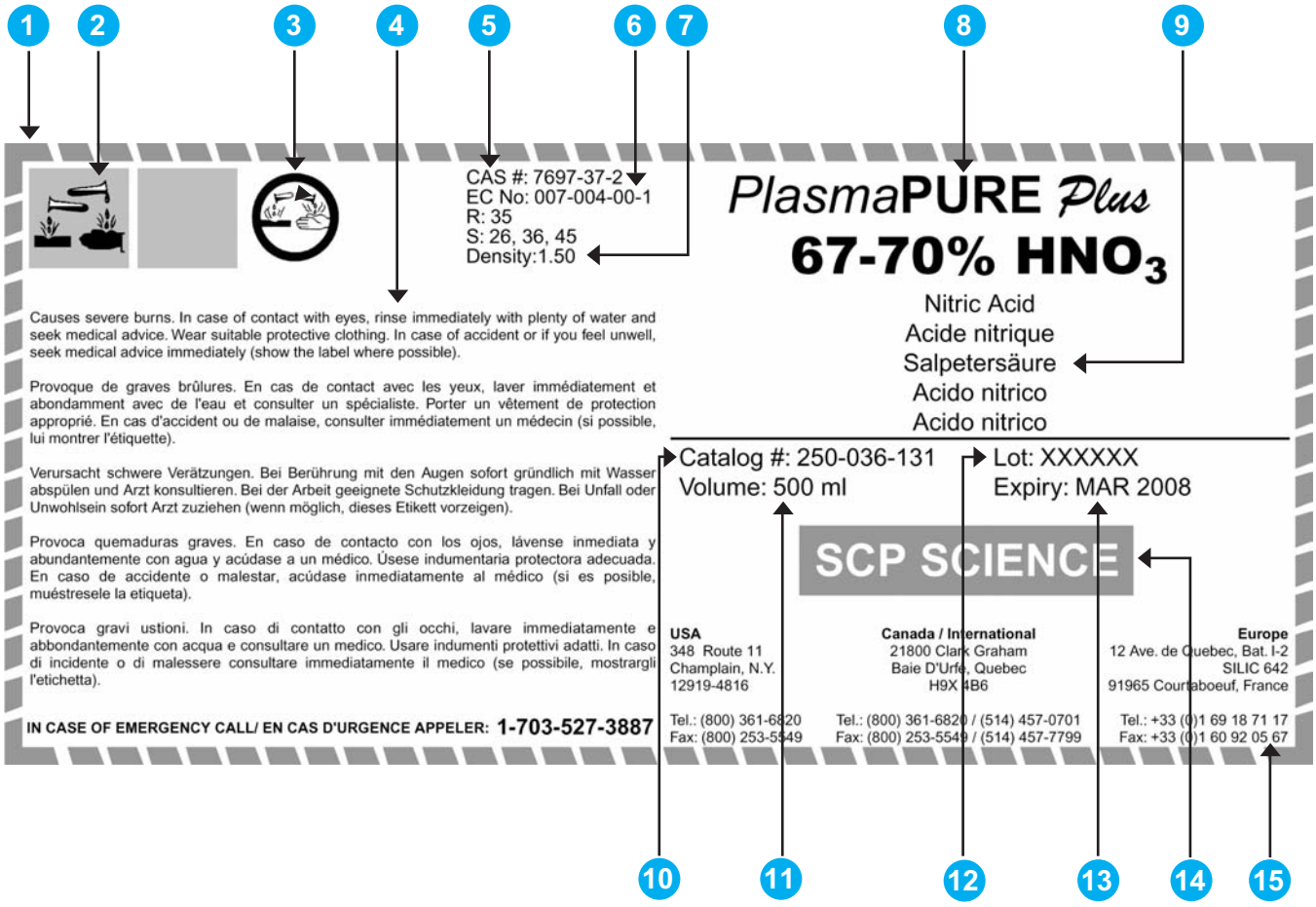
SCP SCIENCE is a member of the Chemical Reference Material Manufacturers' Association (CRMMA); an association of the major manufacturers of calibration standards whose mandate is "...to promote the production and marketing of high quality materials and to promote continuous improvement of industry products and standards..."

SCP SCIENCE is a leader in the field of standards and volumetric solutions and yet one of our key goals is to continually improve to serve you better. This catalogue includes many new products in response to your requests and to the new requirements of governments and organizations. Should you require a product that is not listed in this catalog, please do not hesitate to contact our Customer Service Group.



Product Label Information

SCP SCIENCE labeling provides technical and safety information in an easy-to-read format. Labels meet North American, European, and International regulations. For MSDS and Certificates of Analysis, please visit **www.scpscience.com**.

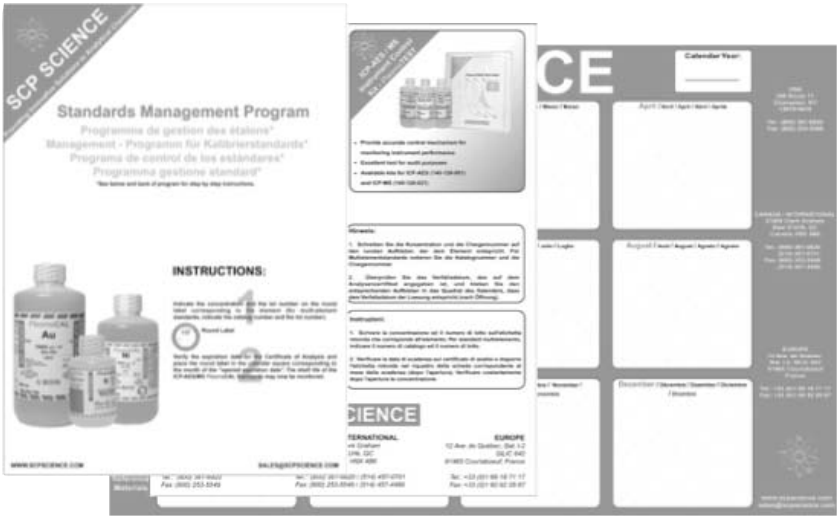


1. Canadian Workplace Hazardous Materials Information System: (WHIMS) border for WHMIS controlled products.
2. European Hazardous Pictogram
3. Hazard Symbols: in accordance with WHMIS classification.
4. Precautionary text in English, French, German, Italian, and Spanish, provides statements of hazards, precautionary measures and first aid guidance.
5. Chemical Abstract Services Number (CAS)
6. European Index Number
7. Density
8. Product Group
9. Product/Chemical name in English, French, German, Italian, and Spanish.
10. Catalog Number
11. Package Size
12. Lot Number
13. Expiry Date
14. Company Logo
15. Contact Information

Our Special Customer Programs

Standards Management Program

The Standards Management Program is an exclusive **SCP SCIENCE** feature which assists labs in tracking and stocking calibration standards. With your first order of *Plasma***CAL** standards, you will receive a monthly calendar and individual stickers for each standard on your order. Simply affix each sticker to the calendar in the square for the month corresponding to the expiry date. You now have a convenient, visual reminder of expiration dates.



Standards Bank Savings Program*

Use the **SCP SCIENCE** Standards Bank to reduce shipping costs when you qualify for a free standard or to synchronize Standards expiration dates. If you have qualified for a free 125 ml, 1000 µg/ml *Plasma***CAL** ICP-AES/MS standard (or a 500 ml, 1000 µg/ml AA standard), but do not wish to take receipt at the time of the order, simply request that the standard be placed in your "Bank Account". Simply withdraw the standard(s) when you are placing a *Plasma***CAL** standards order.

* Hazardous shipment charges are not included. The following elements are excluded from all special offers: Au, Ir, Os, Pd, Pt, Re, Rh, Ru, Sc & Tm.

Ordering Information

Technical Sales and Customer Service Representatives are ready to respond to your lab needs. It would be our pleasure to receive your order, respond to inquiries, and offer the support you deserve. When placing orders, please clearly indicate quantity, catalog number, and a brief description of each product. Written confirmation of phone orders is required when tax exemptions have been requested. Credit card orders must be confirmed with a signed fax. In North America, a minimum order of $50.00 is requested; in Europe, a minimum order of 80 Euros is requested; outside North America and Europe, customers should consult their distributor for minimum order requirements.

To place an order or for more information:

SCP SCIENCE (in North America)

Hours: Monday - Friday
8: 30 AM - 7 PM (EST)

Phone: (800) 361-6820 (toll free) or
(514) 457-0701

Fax: (800) 253-5549 (toll free) or
(514) 457-4499
(24 hours)

Email: sales@scpscience.com

Canadian
Mail: **SCP SCIENCE**
21800 Clark Graham
Baie D'Urfé, Québec
H9X 4B6
CANADA

USA
Mail: **SCP SCIENCE**
348 Route 11
Champlain, N.Y.
12919-4816
U.S.A

SCP SCIENCE (in Europe)

Hours: Monday - Friday
9:00 AM - 17:30 PM (GMT + 1)

Phone: +33 (0)1 69 18 71 17

Fax: +33 (0)1 60 92 05 67
(24 hours)

Email: sales@scpscience.com

Europe
Mail: **SCP SCIENCE**
12, avenue du Québec Bat. I-2
SILIC 642
91965 COURTABOEUF CEDEX
FRANCE

SCP SCIENCE (outside North American and Europe)

Contact your local **SCP SCIENCE** distributor or:

Phone: 1 514 457 0701

Fax: 1 514 457 4499
(24 hours)

Email: sales@scpscience.com

Terms of Payment:
"Net 30 Days" with established credit, unless otherwise arranged. New customers are asked to complete a Credit Application Form, listing their bank and three commercial references. For the convenience of customers without established credit, prepayment, including transportation charges (if applicable) and taxes, will release orders immediately for shipment. Visa, MasterCard, and American Express (US only) are accepted.

Shipment:
Courier or truck F.O.B. our Warehouses in Canada: Baie D'Urfé, QC; USA: Champlain, NY; Europe: Courtaboeuf, Paris, France. Insurance covering the full value of the shipment is included with the transportation charges. If you wish to select a specific carrier, and/or have insurance to cover your shipment, please contact us immediately.

Claims:
SCP SCIENCE takes great care in the packaging of goods prior to shipment. In the event that breakage occurs during shipment, claims for damaged merchandise must be made to the transport company and reported to **SCP SCIENCE** within 5 days of receipt of order. The damaged goods along with the original packaging must be kept, and a Damage Report Claim filed with the transport company. Claims for short-shipments should be made immediately with **SCP SCIENCE**.

Returns:
Returns must be authorized. Please contact **SCP SCIENCE** for a Return Authorization Number and proper shipping instructions before returning merchandise. No returns can be accepted without prior approval. Restocking charges may be applicable.

Customer Response:
SCP SCIENCE is at your service. We appreciate comments, criticism, and suggestions, and we will make every effort to meet your expectations for high-quality products and services. If you would like your name added to our mailing list, please contact **SCP SCIENCE**.

Disclaimer:
Products supplied are for laboratory use only and should not be used for any household, medical, or therapeutic application. **SCP SCIENCE** presumes that only trained and qualified individuals, familiar with procedures suitable to the products ordered, will handle them. Our customers are solely responsible for the safe storage, handling, and the use of these products.

Distribution:
SCP SCIENCE products are available worldwide through a network of distributors. Please contact **SCP SCIENCE** directly for the name and contact information of your local distributor. Distributor terms and conditions may vary.

ICP-AES & MS Standards - Notes

NOTES

*Plasma***CAL** Single Element Calibration Standards (1000 & 10 000 µg/ml) for ICP-AES and ICP-MS are packaged with the economic needs of the modern laboratory in mind. Multiple volumes and extended expiry dates ensure that maximum cost efficiency is achieved. Standards are manufactured following ISO 9001:2000 and 17025 Quality Assurance Programs.

Single Element Standards 1000 µg/ml

"The Best Quality at the Best Value" - is what defines *Plasma***CAL** Single Element Calibration Standards for ICP-AES and ICP-MS. *Plasma***CAL** Standards are fully traceable to National Institute of Standards and Technology (NIST). A Standards Management Program included with each standard ensures that expiry dates are tracked.

- 2 expiry dates* (up to 21 months unopened & 15 months opened)
  - Longer shelf life for unopened bottles
- Guaranteed to +/- 0.5% of actual concentration
  - Confidence in long-term stability and accuracy
- Calibration for testing using NIST 3100 Series
  - Direct traceability to NIST

Element	Symbol	Matrix	Code	Catalog Number 1000 µg/ml 125 ml	250 ml	500 ml
Aluminum	Al	HNO_3	✓ ⑧	140-051-131	140-051-132	140-051-135
Aluminum	Al	HCl	✓ ⑧	140-052-131	140-052-132	140-052-135
Antimony	Sb	HNO_3*	✓ ⑧	140-051-511	140-051-512	140-051-515
Arsenic	As	HNO_3	✓ ⑧	140-051-331	140-051-332	140-051-335
Barium	Ba	HNO_3	✓ ⑧	140-051-561	140-051-562	140-051-565
Beryllium	Be	HNO_3	✓ ⑧	140-051-041	140-051-042	140-051-045
Bismuth	Bi	HNO_3	✓ ⑧	140-051-831	140-051-832	140-051-835
Boron	B	H_20		140-050-051	140-050-052	140-050-055
Cadmium	Cd	HNO_3	✓ ⑧	140-051-481	140-051-482	140-051-485
Calcium	Ca	HNO_3	✓ ⑧	140-051-201	140-051-202	140-051-205
Cerium	Ce	HNO_3	✓ ⑧	140-051-581	---	---
Cesium	Cs	HNO_3	✓ ⑧	140-051-551	---	---
Chromium	Cr	HNO_3	✓ ⑧	140-051-241	140-051-242	140-051-245
Chromium	Cr	HCl	✓ ⑧	140-052-241	140-052-242	140-052-245
Cobalt	Co	HNO_3	✓ ⑧	140-051-271	140-051-272	140-051-275
Copper	Cu	HNO_3	✓ ⑧	140-051-291	140-051-292	140-051-295
Dysprosium	Dy	HNO_3	✓ ⑧	140-051-661	---	---
Erbium	Er	HNO_3	✓ ⑧	140-051-681	---	---
Europium	Eu	HNO_3	✓ ⑧	140-051-631	---	---
Gadolinium	Gd	HNO_3	✓ ⑧	140-051-641	---	---
Gallium	Ga	HNO_3	✓ ⑧	140-051-311	140-051-312	140-051-315
Germanium	Ge	H_20		140-050-321	---	---
Gold	Au	HCl	✓ ⑧	140-052-791	140-052-792	140-052-795
Hafnium	Hf	HCl	✓ ⑧	140-052-721	---	---
Holmium	Ho	HNO_3	✓ ⑧	140-051-671	---	---
Indium	In	HNO_3	✓ ⑧	140-051-491	---	---

**Traces of tartaric acid*

⊗ *Glass Container* ⑥ *Poison* ③ *Flammable*
✓ *Dangerous Goods** ⑧ *Corrosive* ⑤ *Oxidant*

* as defined by :
- Hazardous Materials Regulations of the U.S. Department of Transportation, Tariff No. BOE-6000-R
- Canadian Transportation of Dangerous Goods Act and Regulations, Revision December 2000
- International Air Transport Association - Dangerous Goods Regulation, 40th Edition

Single Element Standards
1000 µg/ml

Element	Symbol	Matrix	Code	Catalog Number 1000 µg/ml 125 ml	250 ml	500 ml
Iridium	Ir	HCl	✓ ⑧	140-052-771	---	---
Iron	Fe	HNO_3	✓ ⑧	140-051-261	140-051-262	140-051-265
Lanthanum	La	HNO_3	✓ ⑧	140-051-571	---	---
Lead	Pb	HNO_3	✓ ⑧	140-051-821	140-051-822	140-051-825
Lithium	Li	HNO_3	✓ ⑧	140-051-031	140-051-032	140-051-035
Lutetium	Lu	HNO_3	✓ ⑧	140-051-711	---	---
Magnesium	Mg	HNO_3	✓ ⑧	140-051-121	140-051-122	140-051-125
Manganese	Mn	HNO_3	✓ ⑧	140-051-251	140-051-252	140-051-255
Mercury	Hg	HNO_3	✓ ⑧	140-051-801	140-051-802	140-051-805
Molybdenum	Mo	H_20		140-050-421	140-050-422	140-050-425
Neodymium	Nd	HNO_3	✓ ⑧	140-051-601	---	---
Nickel	Ni	HNO_3	✓ ⑧	140-051-281	140-051-282	140-051-285
Niobium	Nb	HF	✓ ⑧	140-050-411	---	---
Osmium*	Os	HCl	✓ ⑧	140-052-761	---	---
Palladium	Pd	HCl	✓ ⑧	140-052-461	140-052-462	140-052-465
Phosphorus	P	H_20		140-050-151	140-050-152	140-050-155
Platinum	Pt	HCl	✓ ⑧	140-052-781	140-052-782	140-052-785
Potassium	K	HNO_3	✓ ⑧	140-051-191	140-051-192	140-051-195
Praseodymium	Pr	HNO_3	✓ ⑧	140-051-591	---	---
Rhenium	Re	H_20		140-050-751	---	---
Rhodium	Rh	HCl	✓ ⑧	140-052-451	---	---
Rubidium	Rb	HNO_3	✓ ⑧	140-051-371	---	---
Ruthenium	Ru	HCl	✓ ⑧	140-052-441	---	---
Samarium	Sm	HNO_3	✓ ⑧	140-051-621	---	---
Scandium	Sc	HNO_3	✓ ⑧	140-051-211	140-051-212	140-051-215
Selenium	Se	HNO_3	✓ ⑧	140-051-341	140-051-342	140-051-345
Silicon	Si	H_20/tr. HF		140-050-141	140-050-142	140-050-145
Silver	Ag	HNO_3	✓ ⑧	140-051-471	140-051-472	140-051-475
Sodium	Na	HNO_3	✓ ⑧	140-051-111	140-051-112	140-051-115
Strontium	Sr	HNO_3	✓ ⑧	140-051-381	140-051-382	140-051-385
Sulfur	S	H_20		140-050-161	140-050-162	140-050-165
Tantalum	Ta	HF	✓ ⑧	140-050-731	---	---
Tellurium	Te	HCl	✓ ⑧	140-052-521	---	---
Terbium	Tb	HNO_3	✓ ⑧	140-051-651	---	---
Thallium	Tl	HNO_3	✓ ⑧	140-051-811	140-051-812	140-051-815
Thorium	Th	HNO_3	✓ ⑧	140-051-901	---	---
Thulium	Tm	HNO_3	✓ ⑧	140-051-691	---	---
Tin	Sn	HCl	✓ ⑧	140-052-501	140-052-502	140-052-505
Titanium	Ti	H_20/tr. HF		140-050-221	140-050-222	140-050-225
Tungsten	W	H_20		140-050-741	140-050-742	140-050-745
Uranium	U	HNO_3	✓ ⑧	140-051-921	---	---
Vanadium	V	HNO_3	✓ ⑧	140-051-231	140-051-232	140-051-235
Ytterbium	Yb	HNO_3	✓ ⑧	140-051-701	---	---
Yttrium	Y	HNO_3	✓ ⑧	140-051-391	140-051-392	140-051-395
Zinc	Zn	HNO_3	✓ ⑧	140-051-301	140-051-302	140-051-305
Zirconium	Zr	HNO_3	✓ ⑧	140-051-401	140-051-402	140-051-405

** Osmium (OS) has an expiry date of 12 months opened and 15 months unopened*

⊗ *Glass Container* ⑥ *Poison* ③ *Flammable*
✓ *Dangerous Goods** ⑧ *Corrosive* ⑤ *Oxidant*

* as defined by :
- Hazardous Materials Regulations of the U.S. Department of Transportation, Tariff No. BOE-6000-R
- Canadian Transportation of Dangerous Goods Act and Regulations, Revision December 2000
- International Air Transport Association - Dangerous Goods Regulation, 40th Edition

Single Element Standards
10 000 µg/ml

Element	Symbol	Matrix	Code	Catalog Number 125 ml	250 ml 10 000 µg/ml	500 ml
Aluminum	Al	HNO_3	✓ ⑧	140-061-131	140-061-132	140-061-135
Aluminum	Al	HCl	✓ ⑧	140-062-131	140-062-132	140-062-135
Antimony	Sb	HNO_3*	✓ ⑧	140-061-511	140-061-512	140-061-515
Arsenic	As	HNO_3	✓ ⑧	140-061-331	140-061-332	140-061-335
Barium	Ba	HNO_3	✓ ⑧	140-061-561	140-061-562	140-061-565
Beryllium	Be	HNO_3	✓ ⑧	140-061-041	140-061-042	140-061-045
Bismuth	Bi	HNO_3	✓ ⑧	140-061-831	140-061-832	140-061-835
Boron	B	H_20		140-060-051	140-060-052	140-060-055
Cadmium	Cd	HNO_3	✓ ⑧	140-061-481	140-061-482	140-061-485
Calcium	Ca	HNO_3	✓ ⑧	140-061-201	140-061-202	140-061-205
Cerium	Ce	HNO_3	✓ ⑧	140-061-581	---	---
Cesium	Cs	HNO_3	✓ ⑧	140-061-551	---	---
Chromium	Cr	HNO_3	✓ ⑧	140-061-241	140-061-242	140-061-245
Chromium	Cr	HCl	✓ ⑧	140-062-241	140-062-242	140-062-245
Cobalt	Co	HNO_3	✓ ⑧	140-061-271	140-061-272	140-061-275
Copper	Cu	HNO_3	✓ ⑧	140-061-291	140-061-292	140-061-295
Dysprosium	Dy	HNO_3	✓ ⑧	140-061-661	---	---
Erbium	Er	HNO_3	✓ ⑧	140-061-681	---	---
Europium	Eu	HNO_3	✓ ⑧	140-061-631	---	---
Gadolinium	Gd	HNO_3	✓ ⑧	140-061-641	---	---
Gallium	Ga	HNO_3	✓ ⑧	140-061-311	140-061-312	140-061-315
Germanium	Ge	H_20		140-060-321	---	---
Gold	Au	HCl	✓ ⑧	140-062-791	140-062-792	140-062-795
Hafnium	Hf	HCl	✓ ⑧	140-062-721	---	---
Holmium	Ho	HNO_3	✓ ⑧	140-061-671	---	---
Indium	In	HNO_3	✓ ⑧	140-061-491	---	---
Iridium	Ir	HCl	✓ ⑧	140-062-771	---	---
Iron	Fe	HNO_3	✓ ⑧	140-061-261	140-061-262	140-061-265
Lanthanum	La	HNO_3	✓ ⑧	140-061-571	---	---
Lead	Pb	HNO_3	✓ ⑧	140-061-821	140-061-822	140-061-825
Lithium	Li	HNO_3	✓ ⑧	140-061-031	140-061-032	140-061-035
Magnesium	Mg	HNO_3	✓ ⑧	140-061-121	140-061-122	140-061-125
Manganese	Mn	HNO_3	✓ ⑧	140-061-251	140-061-252	140-061-255
Mercury	Hg	HNO_3	✓ ⑧	140-061-801	140-061-802	140-061-805
Molybdenum	Mo	H_20		140-060-421	140-060-422	140-060-425
Neodymium	Nd	HNO_3	✓ ⑧	140-061-601	---	---
Nickel	Ni	HNO_3	✓ ⑧	140-061-281	140-061-282	140-061-285
Niobium	Nb	HF	✓ ⑧	140-060-411	---	---
Palladium	Pd	HCl	✓ ⑧	140-062-461	140-062-462	140-062-465
Phosphorus	P	H_20		140-060-151	140-060-152	140-060-155
Potassium	K	HNO_3	✓ ⑧	140-061-191	140-061-192	140-061-195
Praseodymium	Pr	HNO_3	✓ ⑧	140-061-591	---	---

** Traces of tartaric acid*

⊗ *Glass Container* ⑥ *Poison* ③ *Flammable*
✓ *Dangerous Goods** ⑧ *Corrosive* ⑤ *Oxidant*

* as defined by :
- Hazardous Materials Regulations of the U.S. Department of Transportation, Tariff No. BOE-6000-R
- Canadian Transportation of Dangerous Goods Act and Regulations, Revision December 2000
- International Air Transport Association - Dangerous Goods Regulation, 40th Edition

"Use soft words and hard arguments." **-English Proverb-**

Single Element Standards
10 000 µg/ml

Element	Symbol	Matrix	Code	Catalog Number 125 ml	250 ml 10 000 µg/ml	500 ml
Rhodium	Rh	HCl	✓ ⑧	140-062-451	---	---
Rubidium	Rb	HNO_3	✓ ⑧	140-061-371	---	---
Ruthenium	Ru	HCl	✓ ⑧	140-062-441	---	---
Samarium	Sm	HNO_3	✓ ⑧	140-061-621	---	---
Scandium	Sc	HNO_3	✓ ⑧	140-061-211	140-061-212	140-061-215
Selenium	Se	HNO_3	✓ ⑧	140-061-341	140-061-342	140-061-345
Silicon	Si	H_20/tr. HF		140-060-141	140-060-142	140-060-145
Silver	Ag	HNO_3	✓ ⑧	140-061-471	140-061-472	140-061-475
Sodium	Na	HNO_3	✓ ⑧	140-061-111	140-061-112	140-061-115
Strontium	Sr	HNO_3	✓ ⑧	140-061-381	140-061-382	140-061-385
Sulfur	S	H_20		140-060-161	140-060-162	140-060-165
Tantalum	Ta	HF	✓ ⑧	140-060-731	---	---
Tellurium	Te	HCl	✓ ⑧	140-062-521	---	---
Terbium	Tb	HNO_3	✓ ⑧	140-061-651	---	---
Thallium	Tl	HNO_3	✓ ⑧	140-061-811	140-061-812	140-061-815
Thorium	Th	HNO_3	✓ ⑧	140-061-901	---	---
Thulium	Tm	HNO_3	✓ ⑧	140-061-691	---	---
Tin	Sn	HCl	✓ ⑧	140-062-501	140-062-502	140-062-505
Titanium	Ti	H_20/tr. HF		140-060-221	140-060-222	140-060-225
Uranium	U	HNO_3	✓ ⑧	140-061-921	---	---
Vanadium*	V	HNO_3	✓ ⑧	140-061-231	140-061-232	140-061-235
Ytterbium	Yb	HNO_3	✓ ⑧	140-061-701	---	---
Yttrium	Y	HNO_3	✓ ⑧	140-061-391	140-061-392	140-061-395
Zinc	Zn	HNO_3	✓ ⑧	140-061-301	140-061-302	140-061-305
Zirconium	Zr	HNO_3	✓ ⑧	140-061-401	140-061-402	140-061-405

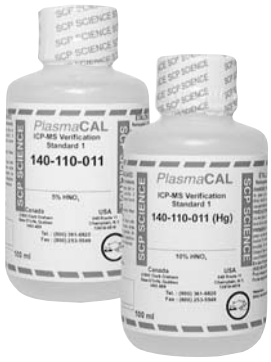
** Vanadium (V) has an expiry date of 12 months opened and 15 months unopened*

⊗ *Glass Container* ⑥ *Poison* ③ *Flammable*
✓ *Dangerous Goods** ⑧ *Corrosive* ⑤ *Oxidant*

* as defined by :
- Hazardous Materials Regulations of the U.S. Department of Transportation, Tariff No. BOE-6000-R
- Canadian Transportation of Dangerous Goods Act and Regulations, Revision December 2000
- International Air Transport Association - Dangerous Goods Regulation, 40th Edition

Multi-Element ICP-AES & MS Calibration Standards for U.S. EPA Methods & CLP Programs

*Plasma***CAL** Multi-Element Standards for Environmental Protection Agency (EPA) & the Contract Laboratory Program (CLP) provide an economical alternative to preparing in-house multi-element standards. Available for a range of prescribed methods and in multiple volumes.



- Designed specifically for EPA 200.7, 200.8, 6010 and Superfund CLP
  - Save money and time in preparation
- Available in 2 or 3 sizes (100, 250 & 500 ml)
  - Save by buying only what is required
- Complete Certificates of Analysis listing actual concentrations and traceability to NIST
  - Complete documentation for audit purposes

* ***Note***: *Some manufacturers may list the same Multi-Element Standard with different element concentrations. Ask your Representative or local distributor about our Custom Multi-Element Standards where most combinations of elements and concentrations are possible.*

Quality Control Standards

Quality Control Standard 1 (QC 19)

Element	Concentration
Sb	100 µg/ml
As	100 µg/ml
Be	100 µg/ml
Cd	100 µg/ml
Ca	100 µg/ml
Cr	100 µg/ml
Co	100 µg/ml
Cu	100 µg/ml
Fe	100 µg/ml
Pb	100 µg/ml
Mg	100 µg/ml
Mn	100 µg/ml
Mo	100 µg/ml
Ni	100 µg/ml
Se	100 µg/ml
Tl	100 µg/ml
Ti	100 µg/ml
V	100 µg/ml
Zn	100 µg/ml

Matrix: 5% HNO_3

Catalog Number	Code	Volume
140-102-011	✓ ⑧	100 ml
140-102-012	✓ ⑧	250 ml
140-102-015	✓ ⑧	500 ml

Quality Control Standard 2 (QC 7)

Element	Concentration
Al	100 µg/ml
Ba	100 µg/ml
B	100 µg/ml
K	1000 µg/ml
Si	50 µg/ml
Ag	100 µg/ml
Na	100 µg/ml

Matrix: 5% HNO_3

Catalog Number	Code	Volume
140-102-021	✓ ⑧	100 ml
140-102-022	✓ ⑧	250 ml
140-102-025	✓ ⑧	500 ml

Quality Control Set

(includes one of QC-1 & QC-2)

Catalog Number	Code	Volume
140-102-031	✓ ⑧	100 ml
140-102-032	✓ ⑧	250 ml
140-102-035	✓ ⑧	500 ml

⊗ *Glass Container* ⑥ *Poison* ③ *Flammable*
✓ *Dangerous Goods** ⑧ *Corrosive* ⑤ *Oxidant*

* as defined by :
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Multi-Element ICP-AES & MS Calibration Standards for U.S. EPA Methods & CLP Programs

Quality Control Standard 3 (QC 21)

Element	Concentration
Sb	100 µg/ml
As	100 µg/ml
Be	100 µg/ml
Cd	100 µg/ml
Ca	100 µg/ml
Cr	100 µg/ml
Co	100 µg/ml
Cu	100 µg/ml
Fe	100 µg/ml
Pb	100 µg/ml
Li	100 µg/ml
Mg	100 µg/ml
Mn	100 µg/ml
Mo	100 µg/ml
Nit	100 µg/ml
Se	100 µg/ml
Sr	100 µg/ml
Tl	100 µg/ml
Ti	100 µg/ml
V	100 µg/ml
Zn	100 µg/ml

Matrix: 5% HNO_3

Catalog Number	Code	Volume
140-102-051	✓ ⑧	100 ml
140-102-052	✓ ⑧	250 ml
140-102-055	✓ ⑧	500 ml

Quality Control Standard 4 (QC 26)

Element	Concentration
Al	100 µg/ml
Sb	100 µg/ml
As	100 µg/ml
B	100 µg/ml
Ba	100 µg/ml
Be	100 µg/ml
Ca	100 µg/ml
Cd	100 µg/ml
Co	100 µg/ml
Cr	100 µg/ml
Cu	100 µg/ml
Fe	100 µg/ml
K	1000 µg/ml
Mg	100 µg/ml
Mn	100 µg/ml
Mo	100 µg/ml
Na	100 µg/ml
Ni	100 µg/ml
Pb	100 µg/ml
Ag	100 µg/ml
Se	100 µg/ml
Si	50 µg/ml
Ti	100 µg/ml
Tl	100 µg/ml
V	100 µg/ml
Zn	100 µg/ml

Matrix: 5% HNO_3

Catalog Number	Code	Volume
140-102-041	✓ ⑧	100 ml
140-102-042	✓ ⑧	250 ml
140-102-045	✓ ⑧	500 ml

EPA 200.7 Mixed Calibration Standards

Mixed Calibration Standard 1

Solution A

Element	Concentration
Ag	50 µg/ml
B	200 µg/ml
Ba	100 µg/ml
Ca	1000 µg/ml
Cd	200 µg/ml
Cu	200 µg/ml
Mn	200 µg/ml
Sb	500 µg/ml
Se	500 µg/ml

Matrix: 5% HNO_3
Dilution: 1 to 100

Catalog Number	Code	Volume
141-120-011	✓ ⑧	100 ml
141-120-015	✓ ⑧	500 ml

Solution B

Element	Concentration
As	1000 µg/ml

Matrix: 5% HNO_3
Dilution: 1 to 100

Catalog Number	Code	Volume
140-051-331	✓ ⑧	100 ml
140-051-335	✓ ⑧	500 ml

Solution A & B Set

Catalog Number	Code	Volume
140-120-011	✓ ⑧	100 ml
140-120-015	✓ ⑧	500 ml

⊗ *Glass Container* ⑥ *Poison* ③ *Flammable*
✓ *Dangerous Goods** ⑧ *Corrosive* ⑤ *Oxidant*

* as defined by :
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Multi-Element ICP-AES & MS Calibration Standards for U.S. EPA Methods & CLP Programs

Mixed Calibration Standard 2

Element	Concentration
K	2000 µg/ml
Li	500 µg/ml
Mo	1000 µg/ml
Na	1000 µg/ml
Sr	100 µg/ml

Matrix: 5% HNO_3
Dilution: 1 to 100

Catalog Number	Code	Volume
140-120-021	✓ ⑧	100 ml
140-120-025	✓ ⑧	500 ml

Mixed Calibration Standard 3

Element	Concentration
Co	200 µg/ml
V	200 µg/ml
P	1000 µg/ml

Matrix: 5% HNO_3
Dilution: 1 to 100

Catalog Number	Code	Volume
140-120-031	✓ ⑧	100 ml
140-120-035	✓ ⑧	500 ml

Mixed Calibration Standard 4

Solution A

Element	Concentration
Al	1000 µg/ml
Cr	500 µg/ml
Hg	200 µg/ml
Zn	500 µg/ml

Matrix: 5% HNO_3
Dilution: 1 to 100

Catalog Number	Code	Volume
141-120-041	✓ ⑧	100 ml
141-120-045	✓ ⑧	500 ml

Solution B

Element	Concentration
Sn	400 µg/ml

Matrix: 5% HNO_3
Dilution: 1 to 100

Catalog Number	Code	Volume
141-120-141	✓ ⑧	100 ml
141-120-145	✓ ⑧	500 ml

Solution C

Element	Concentration
Si	1000 µg/ml

Matrix: 5% HNO_3
Dilution: 1 to 100

Catalog Number	Code	Volume
140-050-141	✓ ⑧	100 ml
140-050-145	✓ ⑧	500 ml

Solution A, B & C Set

Catalog Number	Code	Volume
140-120-041	✓ ⑧	100 ml
140-120-045	✓ ⑧	500 ml

Mixed Calibration Standard 5

Element	Concentration
Be	100 µg/ml
Fe	1000 µg/ml
Mg	1000 µg/ml
Ni	200 µg/ml
Pb	1000 µg/ml
Tl	500 µg/ml

Matrix: 5% HNO_3
Dilution: 1 to 100

Catalog Number	Code	Volume
140-120-051	✓ ⑧	100 ml
140-120-055	✓ ⑧	500 ml

Mixed Calibration Set

(includes one of each standard)

Catalog Number	Code	Volume
140-120-061	✓ ⑧	100 ml
140-120-065	✓ ⑧	500 ml

⊗ Glass Container *⑥ Poison* *③ Flammable*
*✓ Dangerous Goods** *⑧ Corrosive* *⑤ Oxidant*

* as defined by :
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Multi-Element ICP-AES & MS Calibration Standards for U.S. EPA Methods & CLP Programs

ICP-MS Verification Standards

ICP-MS Verification Standard 1

Solution A

Element	Concentration
Al	10 µg/ml
As	10 µg/ml
Ba	10 µg/ml
Be	10 µg/ml
Bi	10 µg/ml
Ca	10 µg/ml
Cd	10 µg/ml
Cr	10 µg/ml
Co	10 µg/ml
Cu	10 µg/ml
Fe	10 µg/ml
Ga	10 µg/ml
Pb	10 µg/ml
Li	10 µg/ml
Mg	10 µg/ml
Mn	10 µg/ml
Ni	10 µg/ml
K	10 µg/ml
Se	10 µg/ml
Ag	10 µg/ml
Na	10 µg/ml
Sr	10 µg/ml
Tl	10 µg/ml
V	10 µg/ml
Zn	10 µg/ml

Matrix: 5% HNO_3

Catalog Number	Code	Volume
141-110-011	✓ ⑧	100 ml
141-110-012	✓ ⑧	250 ml
141-110-015	✓ ⑧	500 ml

Solution B

Element	Concentration
Hg	10 µg/ml

Matrix: 10% HNO_3

Catalog Number	Code	Volume
141-110-111	✓ ⑧	100 ml
141-110-112	✓ ⑧	250 ml
141-110-115	✓ ⑧	500 ml

Solution A & B Set

Catalog Number	Code	Volume
140-110-011	✓ ⑧	100 ml
140-110-012	✓ ⑧	250 ml
140-110-015	✓ ⑧	500 ml

ICP-MS Verification Standard 2

Element	Concentration
B	10 µg/ml
Mo	10 µg/ml
S	10 µg/ml
Si	10 µg/ml
Tl	10 µg/ml
W	10 µg/ml

Matrix: 1% HF

Catalog Number	Code	Volume
140-110-021	✓ ⑧	100 ml
140-110-022	✓ ⑧	250 ml
140-110-025	✓ ⑧	500 ml

ICP-MS Verification Set

(includes one of each standard)

Catalog Number	Code	Volume
140-110-031	✓ ⑧	100 ml
140-110-032	✓ ⑧	250 ml
140-110-035	✓ ⑧	500 ml

ICP-MS Internal Standards

Element	Matrix	Concentration (µg/ml)	Code	Catalog Number 100 ml	250 ml	500 ml
Bismuth (Bi)	HNO_3	100	✓ ⑧	140-111-021	140-111-022	140-111-025
Holmium (Ho)	HNO_3	100	✓ ⑧	140-111-041	140-111-042	140-111-045
Indium (In)	HNO_3	100	✓ ⑧	140-111-051	140-111-052	140-111-055
Rhodium (Rh)	HCl	100	✓ ⑧	140-111-061	140-111-062	140-111-065
Scandium (Sc)	HNO_3	100	✓ ⑧	140-111-011	140-111-012	140-111-015
Terbium (Tb)	HNO_3	100	✓ ⑧	140-111-071	140-111-072	140-111-075
Yttrium (Y)	HNO_3	100	✓ ⑧	140-111-031	140-111-032	140-111-035

⊗ *Glass Container* ⑥ *Poison* ③ *Flammable*
✓ *Dangerous Goods** ⑧ *Corrosive* ⑤ *Oxidant*

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Multi-Element ICP-AES & MS Calibration Standards for U.S. EPA Methods & CLP Programs

Laboratory Performance Check Solution Set

Solution A

Element	Concentration
Ag	50 µg/ml
Al	200 µg/ml
As	200 µg/ml
B	200 µg/ml
Ba	200 µg/ml
Be	200 µg/ml
Ca	200 µg/ml
Cd	200 µg/ml
Co	200 µg/ml
Cr	200 µg/ml

Matrix: 5% HNO_3
Dilution: 1 to 100

Catalog Number	Code	Volume
141-123-011	✓ ⑧	100 ml
141-123-015	✓ ⑧	500 ml

Solution B

Element	Concentration
Cu	200 µg/ml
Fe	200 µg/ml
Hg	200 µg/ml
K	1000 µg/ml
Li	200 µg/ml
Mg	200 µg/ml
Mn	200 µg/ml
Mo	200 µg/ml
Na	200 µg/ml
Ni	200 µg/ml

Matrix: 5% HNO_3
Dilution: 1 to 100

Catalog Number	Code	Volume
141-123-021	✓ ⑧	100 ml
141-123-025	✓ ⑧	500 ml

Solution C

Element	Concentration
P	1000 µg/ml
Pb	200 µg/ml
Sb	200 µg/ml
Se	200 µg/ml
Si	1000 µg/ml
Sr	200 µg/ml
Tl	200 µg/ml
V	200 µg/ml
Zn	200 µg/ml

Matrix: 5% HNO_3
Dilution: 1 to 100

Catalog Number	Code	Volume
141-123-021	✓ ⑧	100 ml
141-123-025	✓ ⑧	500 ml

Solution D

Element	Concentration
Sn	200 µg/ml

Matrix: 20% HCl
Dilution: 1 to 100

Catalog Number	Code	Volume
141-123-041	✓ ⑧	100 ml
141-123-045	✓ ⑧	500 ml

Solution A, B, C & D Set

Catalog Number	Code	Volume
140-123-011	✓ ⑧	100 ml
140-123-015	✓ ⑧	500 ml

Plasma Solution

Element	Concentration
As	100 µg/ml
Pb	100 µg/ml
Se	100 µg/ml
Tl	100 µg/ml

Matrix: 5% HNO_3
Dilution: 1 to 10

Catalog Number	Code	Volume
140-121-011	✓ ⑧	100 ml
140-121-015	✓ ⑧	500 ml

Tuning Solution

Element	Concentration
Cu	100 µg/ml
Pb	100 µg/ml

Matrix: 5% HNO_3
Dilution: 1 to 10

Catalog Number	Code	Volume
140-122-011	✓ ⑧	100 ml
140-122-015	✓ ⑧	500 ml

⊗ Glass Container *⑥ Poison* *③ Flammable*
*✓ Dangerous Goods** *⑧ Corrosive* *⑤ Oxidant*

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Multi-Element Calibration Standards

Calibration Std. 1

Element	Concentration
Be	50 µg/ml
Cd	150 µg/ml
Pb	500 µg/ml
Mn	100 µg/ml
Se	200 µg/ml
Zn	150 µg/ml

Matrix: 5% HNO_3

Catalog Number	Code	Volume
140-101-011	✓ ⑧	100 ml
140-101-012	✓ ⑧	250 ml
140-101-015	✓ ⑧	500 ml

Calibration Std. 2

Element	Concentration
Ba	100 µg/ml
Co	100 µg/ml
Cu	100 µg/ml
Fe	1000 µg/ml
V	100 µg/ml

Matrix: 5% HNO_3

Catalog Number	Code	Volume
140-101-021	✓ ⑧	100 ml
140-101-022	✓ ⑧	250 ml
140-101-025	✓ ⑧	500 ml

Calibration Std. 3

Element	Concentration
As	500 µg/ml
Mo	100 µg/ml

Matrix: 5% HNO_3

Catalog Number	Code	Volume
140-101-031	✓ ⑧	100 ml
140-101-032	✓ ⑧	250 ml
140-101-035	✓ ⑧	500 ml

Calibration Std. 4

Element	Concentration
Al	200 µg/ml
Ca	1000 µg/ml
Cr	20 µg/ml
Ni	20 µg/ml
K	400 µg/ml
Na	200 µg/ml
Li	100 µg/ml
Sr	10 µg/ml

Matrix: 5% HNO_3

Catalog Number	Code	Volume
140-101-041	✓ ⑧	100 ml
140-101-042	✓ ⑧	250 ml
140-101-045	✓ ⑧	500 ml

Calibration Std. 5

Element	Concentration
Sb	200 µg/ml
Mg	1000 µg/ml
Ag	50 µg/ml
Tl	200 µg/ml

Matrix: 5% HNO_3

Catalog Number	Code	Volume
140-101-051	✓ ⑧	100 ml
140-101-052	✓ ⑧	250 ml
140-101-055	✓ ⑧	500 ml

Calibration Std. 6

Element	Concentration
P	200 µg/ml

Matrix: H_2O

Catalog Number	Code	Volume
140-101-071	✓ ⑧	100 ml
140-101-072	✓ ⑧	250 ml
140-101-075	✓ ⑧	500 ml

Calibration Std. Set

(Includes one of each standard)

Catalog Number	Code	Volume
140-101-061	✓ ⑧	100 ml
140-101-062	✓ ⑧	250 ml
140-101-065	✓ ⑧	500 ml

⊗ *Glass Container* ⑥ *Poison* ③ *Flammable*
✓ *Dangerous Goods** ⑧ *Corrosive* ⑤ *Oxidant*

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Multi-Element ICP-AES & MS Calibration Standards for U.S. EPA Methods & CLP Programs

CLP Instrument Calibration Standards

Calibration Std. 1

Element	Concentration
Ca	2500 µg/ml
Mg	2500 µg/ml
K	2500 µg/ml
Na	2500 µg/ml

Matrix: 5% HNO_3

Catalog Number	Code	Volume
140-114-011	✓ ⑧	100 ml
140-114-015	✓ ⑧	500 ml

Calibration Std. 2

Element	Concentration
Ag	100 µg/ml
Cr	100 µg/ml
Mn	150 µg/ml
Ni	400 µg/ml
Zn	200 µg/ml

Matrix: 5% HNO_3

Catalog Number	Code	Volume
140-114-021	✓ ⑧	100 ml
140-114-025	✓ ⑧	500 ml

Calibration Std. 3

Element	Concentration
Al	2000 µg/ml
Ba	2000 µg/ml
Be	50 µg/ml
Co	500 µg/ml
Cu	250 µg/ml
Fe	1000 µg/ml
V	500 µg/ml

Matrix: 5% HNO_3

Catalog Number	Code	Volume
140-114-031	✓ ⑧	100 ml
140-114-035	✓ ⑧	500 ml

Calibration Std. 4

Element	Concentration
As	100 µg/ml
Cd	50 µg/ml
Pb	50 µg/ml
Se	50 µg/ml
Tl	100 µg/ml

Matrix: 5% HNO_3

Catalog Number	Code	Volume
140-114-041	✓ ⑧	100 ml
140-114-045	✓ ⑧	500 ml

Calibration Std. 5

Element	Concentration
Sb	600 µg/ml

Matrix: 5% HNO_3

Catalog Number	Code	Volume
140-114-051	✓ ⑧	100 ml
140-114-055	✓ ⑧	500 ml

Calibration Std. 6

Element	Concentration
Hg	100 µg/ml

Matrix: 2% HNO_3

Catalog Number	Code	Volume
140-114-061	✓ ⑧	100 ml
140-114-065	✓ ⑧	500 ml

⊗ Glass Container *⑥ Poison* *③ Flammable*
*✓ Dangerous Goods** *⑧ Corrosive* *⑤ Oxidant*

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Bonus Custom Standards Offer!!

- With the purchase of every 500 ml bottle of custom ICP AES/MS standard, receive an additional 500 ml of the same multi-element standard at 1/2 price!
- Larger volume discounts also available

"Square meals often make round people." -E. Joseph Cossman-

Multi-Element ICP-AES & MS Calibration Standards for U.S. EPA Methods & CLP Programs

Initial Calibration Verification I

Verification I Std. 1

Element	Concentration
Ba	100 µg/ml
Be	40 µg/ml
Cd	50 µg/ml
Co	100 µg/ml
Cu	100 µg/ml
Fe	100 µg/ml
Pb	100 µg/ml
Mn	100 µg/ml
Ni	100 µg/ml
Ag	20 µg/ml
Tl	100 µg/ml
Zn	100 µg/ml

Matrix: 5% HNO_3

Catalog Number	Code	Volume
140-115-011	✓ ⑧	100 ml
140-115-015	✓ ⑧	500 ml

Verification I Std. 2

Element	Concentration
Al	100 µg/ml
Sb	100 µg/ml
As	100 µg/ml
Ca	1000 µg/ml
Cr	100 µg/ml
Mg	1000 µg/ml
K	1000 µg/ml
Se	100 µg/ml
Na	1000 µg/ml
V	100 µg/ml

Matrix: 5% HNO_3

Catalog Number	Code	Volume
140-115-021	✓ ⑧	100 ml
140-115-025	✓ ⑧	500 ml

Initial Calibration Verification II

Verification II Std. 1

Element	Concentration
Ba	500 µg/ml
Be	200 µg/ml
Cd	250 µg/ml
Co	500 µg/ml
Cu	500 µg/ml
Fe	500 µg/ml
Pb	500 µg/ml
Mn	500 µg/ml
Ni	500 µg/ml
Ag	100 µg/ml
Tl	500 µg/ml
Zn	500 µg/ml

Matrix: 5% HNO_3

Catalog Number	Code	Volume
140-116-011	✓ ⑧	100 ml
140-116-015	✓ ⑧	500 ml

Verification II Std. 2 Solution A

Element	Concentration
Al	500 µg/ml
As	500 µg/ml
Cr	500 µg/ml
Se	500 µg/ml
V	500 µg/ml

Matrix: 5% HNO_3

Catalog Number	Code	Volume
141-116-021	✓ ⑧	100 ml
141-116-025	✓ ⑧	500 ml

Verification II Std. 2 Solution B

Element	Concentration
Sb	500 µg/ml

Matrix: 5% HNO_3

Catalog Number	Code	Volume
141-116-121	✓ ⑧	100 ml
141-116-125	✓ ⑧	500 ml

Verification II Std. 2 Solution A&B Set

Catalog Number	Code	Volume
140-116-021	✓ ⑧	100 ml
140-116-025	✓ ⑧	500 ml

Verification II Std. 3

Element	Concentration
Ca	2500 µg/ml
Mg	2500 µg/ml
K	2500 µg/ml
Na	2500 µg/ml

Matrix: 5% HNO_3

Catalog Number	Code	Volume
140-114-011	✓ ⑧	100 ml
140-114-015	✓ ⑧	500 ml

⊗ *Glass Container* ⑥ *Poison* ③ *Flammable*
✓ *Dangerous Goods** ⑧ *Corrosive* ⑤ *Oxidant*

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Multi-Element ICP-AES & MS Calibration Standards for U.S. EPA Methods & CLP Programs

Contract Required Quantitation Limits (CRQL)

Superfund CLP ICP-MS

Element	Concentration
Ag	10 µg/ml
As	10 µg/ml
Ba	100 µg/ml
Be	10 µg/ml
Cd	10 µg/ml
Co	10 µg/ml
Cr	20 µg/ml
Cu	20 µg/ml
Mn	10 µg/ml
Ni	10 µg/ml
Pb	10 µg/ml
Sb	20 µg/ml
Se	50 µg/ml
Tl	10 µg/ml
V	10 µg/ml
Zn	20 µg/ml

Matrix: 5% HNO_3

Catalog Number	Code	Volume
140-117-021	✓ ⑧	100 ml
140-117-025	✓ ⑧	500 ml

Superfund CLP ICP-OES

Element	Concentration
Al	200 µg/ml
As	10 µg/ml
Ba	200 µg/ml
Be	5 µg/ml
Ca	5000 µg/ml
Cd	5 µg/ml
Co	50 µg/ml
Cr	10 µg/ml
Cu	25 µg/ml
Fe	100 µg/ml
K	5000 µg/ml
Mg	5000 µg/ml
Mn	15 µg/ml
Ni	40 µg/ml
Pb	10 µg/ml
Sb	60 µg/ml
Se	35 µg/ml
Tl	25 µg/ml
V	50 µg/ml
Zn	60 µg/ml

Matrix: 5% HNO_3

Catalog Number	Code	Volume
140-117-031	✓ ⑧	100 ml
140-117-035	✓ ⑧	500 ml

Contract Required Detection Limits (CRDL)

Element	Concentration
Ag	10 µg/ml
Al	200 µg/ml
As	15 µg/ml
Ba	200 µg/ml
Be	5 µg/ml
Ca	5000 µg/ml
Cd	5 µg/ml
Co	50 µg/ml
Cr	10 µg/ml
Cu	25 µg/ml
Fe	100 µg/ml
K	5000 µg/ml
Li	50 µg/ml
Mg	5000 µg/ml
Mn	15 µg/ml
Na	5000 µg/ml
Ni	40 µg/ml
Pb	10 µg/ml
Se	35 µg/ml
Sr	50 µg/ml
Tl	25 µg/ml
V	50 µg/ml
Zn	60 µg/ml

Matrix: 10% HNO_3

Catalog Number	Code	Volume
140-117-041	✓ ⑧	100 ml
140-117-045	✓ ⑧	500 ml

Interference Checks

Interferents A

Element	Concentration
Al	2500 µg/ml
Ca	2500 µg/ml
Fe	1000 µg/ml
Mg	2500 µg/ml

Matrix: 5% HNO_3

Catalog Number	Code	Volume
140-118-011	✓ ⑧	100 ml
140-118-015	✓ ⑧	500 ml

Alternate Interferents A

Element	Concentration
Cr	1000 µg/ml
Cu	1000 µg/ml
Mn	1000 µg/ml
Ni	1000 µg/ml
Ti	1000 µg/ml
V	1000 µg/ml

Matrix: 5% HNO_3

Catalog Number	Code	Volume
140-118-031	✓ ⑧	100 ml
140-118-035	✓ ⑧	500 ml

⊗ Glass Container *⑥ Poison* *③ Flammable*
*✓ Dangerous Goods** *⑧ Corrosive* *⑤ Oxidant*

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Multi-Element ICP-AES & MS Calibration Standards for U.S. EPA Methods & CLP Programs

Interferents B

Element	Concentration
Ag	100 µg/ml
Ba	50 µg/ml
Be	50 µg/ml
Cd	100 µg/ml
Co	50 µg/ml
Cr	50 µg/ml
Cu	50 µg/ml
Mn	50 µg/ml
Ni	100 µg/ml
Pb	100 µg/ml
V	50 µg/ml
Zn	100 µg/ml

Matrix: 5% HNO_3

Catalog Number	Code	Volume
140-118-021	✓ ⑧	100 ml
140-118-025	✓ ⑧	500 ml

Alternate Interferents B

Element	Concentration
Al	100 µg/ml
As	100 µg/ml
B	100 µg/ml
Ca	10 µg/ml
Fe	10 µg/ml
Mg	10 µg/ml
Mo	100 µg/ml
Na	100 µg/ml
Sb	100 µg/ml
Se	100 µg/ml
Si	10 µg/ml
Tl	100 µg/ml

Matrix: 5% HNO_3

Catalog Number	Code	Volume
140-118-041	✓ ⑧	100 ml
140-118-045	✓ ⑧	500 ml

Interference Standards

Interference Std. 1

Element	Concentration
As	100 µg/ml
Ba	30 µg/ml
Be	10 µg/ml
Cd	30 µg/ml
Cr	30 µg/ml
Co	30 µg/ml
Cu	30 µg/ml
Pb	100 µg/ml
Mn	20 µg/ml
Hg	5 µg/ml
Ni	30 µg/ml
K	2000 µg/ml
Se	50 µg/ml
Ag	30 µg/ml
Tl	100 µg/ml
V	30 µg/ml
Zn	30 µg/ml

Matrix: 5% HNO_3

Catalog Number	Code	Volume
140-104-011	✓ ⑧	100 ml
140-104-012	✓ ⑧	250 ml
140-104-015	✓ ⑧	500 ml

Interference Std. 2

Element	Concentration
Sb	1000 µg/ml

Matrix: 4% HNO_3

Catalog Number	Code	Volume
140-104-021	✓ ⑧	100 ml
140-104-022	✓ ⑧	250 ml
140-104-025	✓ ⑧	500 ml

Interference Std. 3

Element	Concentration
B	500 µg/ml
Mo	300 µg/ml
Si	250 µg/ml
Ti	1000 µg/ml

Matrix: 1% HF

Catalog Number	Code	Volume
140-104-031	✓ ⑧	100 ml
140-104-032	✓ ⑧	250 ml
140-104-035	✓ ⑧	500 ml

⊗ Glass Container *⑥ Poison* *③ Flammable*
*✓ Dangerous Goods** *⑧ Corrosive* *⑤ Oxidant*

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Multi-Element ICP-AES & MS Calibration Standards for U.S. EPA Methods & CLP Programs

Interference Std. 4

Element	Concentration
Al	400 µg/ml
Ca	2000 µg/ml
Fe	2000 µg/ml
Mg	1000 µg/ml

Matrix: 5% HNO_3

Catalog Number	Code	Volume
140-104-041	✓ ⑧	100 ml
140-104-042	✓ ⑧	250 ml
140-104-045	✓ ⑧	500 ml

Interference Std. 5

Element	Concentration
Na	5000 µg/ml

Matrix: 4% HNO_3

Catalog Number	Code	Volume
140-104-051	✓ ⑧	100 ml
140-104-052	✓ ⑧	250 ml
140-104-055	✓ ⑧	500 ml

Interference Std. 5
(Includes one of each standard)

Catalog Number	Code	Volume
140-104-061	✓ ⑧	100 ml
140-104-062	✓ ⑧	250 ml
140-104-065	✓ ⑧	500 ml

Spectral Interference Checks

SIC I

Element	Concentration
Mo	500 µg/ml

Matrix: H_2O
Dilution: 1 to 10

Catalog Number	Code	Volume
140-124-011	✓ ⑧	100 ml
140-124-015	✓ ⑧	500 ml

SIC II

Element	Concentration
Co	100 µg/ml
Cr	200 µg/ml
Mn	200 µg/ml
V	200 µg/ml
Cu	400 µg/ml

Matrix: 5% HNO_3
Dilution: 1 to 10

Catalog Number	Code	Volume
140-124-021	✓ ⑧	100 ml
140-124-025	✓ ⑧	500 ml

SIC III

Element	Concentration
Ni	200 µg/ml
Al	300 µg/ml
Fe	1500 µg/ml

Matrix: 5% HNO_3
Dilution: 1 to 10

Catalog Number	Code	Volume
140-124-031	✓ ⑧	100 ml
140-124-035	✓ ⑧	500 ml

⊗ *Glass Container* ⑥ *Poison* ③ *Flammable*
✓ *Dangerous Goods** ⑧ *Corrosive* ⑤ *Oxidant*

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Instrument Wavelength Standards

Instrument Std. 1

Element	Concentration
Al	10 µg/ml
Ba	1 µg/ml
Be	1 µg/ml
B	10 µg/ml
Ca	1 µg/ml
Ni	10 µg/ml
P	100 µg/ml
Sc	1 µg/ml
Zn	10 µg/ml

Matrix: 2% HNO_3

Catalog Number	Code	Volume
140-103-011	✓ ⑧	100 ml
140-103-012	✓ ⑧	250 ml
140-103-015	✓ ⑧	500 ml

Instrument Std. 2

Element	Concentration
Ba	50 µg/ml
Be	20 µg/ml
Mn	20 µg/ml
Ni	20 µg/ml
Sc	20 µg/ml
Zn	20 µg/ml

Matrix: 2% HNO_3

Catalog Number	Code	Volume
140-103-021	✓ ⑧	100 ml
140-103-022	✓ ⑧	250 ml
140-103-025	✓ ⑧	500 ml

Instrument Std. 3

Element	Concentration
As	20 µg/ml
Li	20 µg/ml
Mn	20 µg/ml
Mo	20 µg/ml
Ni	20 µg/ml
P	100 µg/ml
K	100 µg/ml
Sc	20 µg/ml
Na	20 µg/ml

Matrix: 2% HNO_3

Catalog Number	Code	Volume
140-103-031	✓ ⑧	100 ml
140-103-032	✓ ⑧	250 ml
140-103-035	✓ ⑧	500 ml

Instrument Std. 4

Element	Concentration
Al	10 µg/ml
As	10 µg/ml
Ba	1 µg/ml
Cu	10 µg/ml
Pb	10 µg/ml
Mn	10 µg/ml
Ni	10 µg/ml
P	10 µg/ml
K	50 µg/ml
Sc	10 µg/ml
Na	10 µg/ml
Zn	10 µg/ml

Matrix: 2% HNO_3

Catalog Number	Code	Volume
140-103-041	✓ ⑧	100 ml
140-103-042	✓ ⑧	250 ml
140-103-045	✓ ⑧	500 ml

Instrument Std. 5

Element	Concentration
Al	100 µg/ml
As	100 µg/ml
Cd	100 µg/ml
Cr	100 µg/ml
Co	100 µg/ml
Cu	100 µg/ml
Fe	100 µg/ml
Pb	100 µg/ml
Mg	100 µg/ml
Mn	100 µg/ml
Ni	100 µg/ml
K	100 µg/ml
Na	100 µg/ml
Zn	100 µg/ml
Y	600 µg/ml

Matrix: 2% HNO_3

Catalog Number	Code	Volume
140-103-051	✓ ⑧	100 ml
140-103-052	✓ ⑧	250 ml
140-103-055	✓ ⑧	500 ml

Instrument Std. 6

Element	Concentration
Al	50 µg/ml
As	50 µg/ml
Cr	50 µg/ml
Co	50 µg/ml
Cu	50 µg/ml
Pb	50 µg/ml
P	50 µg/ml
K	50 µg/ml
Na	50 µg/ml

Matrix: 2% HNO_3

Catalog Number	Code	Volume
140-103-061	✓ ⑧	100 ml
140-103-062	✓ ⑧	250 ml
140-103-065	✓ ⑧	500 ml

⊗ *Glass Container* ⑥ *Poison* ③ *Flammable*
✓ *Dangerous Goods** ⑧ *Corrosive* ⑤ *Oxidant*

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Multi-Element ICP-AES & MS Calibration Standards for U.S. EPA Methods & CLP Programs

Instrument Std. 7

Element	Concentration
Al	50 µg/ml
Ba	50 µg/ml
Cd	50 µg/ml
Cu	50 µg/ml
Mn	50 µg/ml
K	500 µg/ml
Zn	50 µg/ml

Matrix: 2% HNO_3

Catalog Number	Code	Volume
140-103-071	✓ ⑧	100 ml
140-103-072	✓ ⑧	250 ml
140-103-075	✓ ⑧	500 ml

Spike Sample Analysis

Spike Sample Std. 1

Element	Concentration
Al	200 µg/ml
Sb	50 µg/ml
As	200 µg/ml
Ba	200 µg/ml
Be	5 µg/ml
Cd	5 µg/ml
Cr	20 µg/ml
Co	50 µg/ml
Cu	25 µg/ml
Fe	100 µg/ml
Pb	50 µg/ml
Mn	50 µg/ml
Ni	50 µg/ml
Se	200 µg/ml
Ag	5 µg/ml
Tl	200 µg/ml
V	50 µg/ml
Zn	55 µg/ml

Matrix: 5% HNO_3

Catalog Number	Code	Volume
140-119-011	✓ ⑧	100 ml
140-119-015	✓ ⑧	500 ml

Spike Sample Std. 2A (Water)

Element	Concentration
Al	2000 µg/ml
Ba	2000 µg/ml
Be	50 µg/ml
Cr	200 µg/ml
Co	500 µg/ml
Cu	250 µg/ml
Fe	1000 µg/ml
Mn	500 µg/ml
Ni	500 µg/ml
Ag	50 µg/ml
V	500 µg/ml
Zn	500 µg/ml

Matrix: 5% HNO_3

Catalog Number	Code	Volume
140-119-021	✓ ⑧	100 ml
140-119-025	✓ ⑧	500 ml

Spike Sample Std. 2B (Water)

Element	Concentration
Sb	500 µg/ml

Matrix: 5% HNO_3

Catalog Number	Code	Volume
140-119-031	✓ ⑧	100 ml
140-119-035	✓ ⑧	500 ml

⊗ *Glass Container* ⑥ *Poison* ③ *Flammable*
✓ *Dangerous Goods** ⑧ *Corrosive* ⑤ *Oxidant*

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Multi-Element ICP-AES & MS Calibration Standards for U.S. EPA Methods & CLP Programs

Spike Sample Std. 2C (Water)

Element	Concentration
As	2000 µg/ml
Cd	50 µg/ml
Pb	500 µg/ml
Se	2000 µg/ml
Tl	2000 µg/ml

Matrix: 5% HNO_3

Catalog Number	Code	Volume
140-119-041	✓ ⑧	100 ml
140-119-045	✓ ⑧	500 ml

Spike Sample Std. 3 (Soil)

Element	Concentration
Sb	100 µg/ml
As	400 µg/ml
Ba	400 µg/ml
Be	10 µg/ml
Cd	10 µg/ml
Cr	40 µg/ml
Co	100 µg/ml
Cu	50 µg/ml
Pb	100 µg/ml
Mn	100 µg/ml
Ni	100 µg/ml
Se	400 µg/ml
Ag	10 µg/ml
Tl	400 µg/ml
V	100 µg/ml
Zn	100 µg/ml

Matrix: 5% HNO_3

Catalog Number	Code	Volume
140-119-051	✓ ⑧	100 ml
140-119-055	✓ ⑧	500 ml

Groundwater & Wastewater (Trace Metals) Standards

Trace Metals I

Element	Concentration
Al	500 µg/ml
As	100 µg/ml
Be	100 µg/ml
Cd	25 µg/ml
Cr	100 µg/ml
Co	100 µg/ml
Cu	100 µg/ml
Fe	100 µg/ml
Pb	100 µg/ml
Mn	100 µg/ml
Hg	5 µg/ml
Ni	100 µg/ml
Se	25 µg/ml
V	250 µg/ml
Zn	100 µg/ml

Matrix: 5% HNO_3

Catalog Number	Code	Volume
140-106-011	✓ ⑧	100 ml
140-106-012	✓ ⑧	250 ml
140-106-015	✓ ⑧	500 ml

Trace Metals II

Element	Concentration
Sb	20 µg/ml
Ag	10 µg/ml
Tl	20 µg/ml

Matrix: 2% HNO_3

Catalog Number	Code	Volume
140-106-021	✓ ⑧	100 ml
140-106-022	✓ ⑧	250 ml
140-106-025	✓ ⑧	500 ml

Trace Metals III

Element	Concentration
Ba	500 µg/ml
Ca	500 µg/ml
Mg	100 µg/ml
Mo	500 µg/ml
K	100 µg/ml
Na	500 µg/ml

Matrix: 2% HNO_3

Catalog Number	Code	Volume
140-106-031	✓ ⑧	100 ml
140-106-032	✓ ⑧	250 ml
140-106-035	✓ ⑧	500 ml

Trace Metals Set

(Includes one of each standard)

Catalog Number	Code	Volume
140-106-041	✓ ⑧	100 ml
140-106-042	✓ ⑧	250 ml
140-106-045	✓ ⑧	500 ml

⊗ Glass Container *⑥ Poison* *③ Flammable*
*✓ Dangerous Goods** *⑧ Corrosive* *⑤ Oxidant*

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Multi-Element ICP-AES & MS Calibration Standards for U.S. EPA Methods & CLP Programs

Water & Wastewater (Alternate Metals) Standards

Alternate Metals I

Element	Concentration
Al	20 µg/ml
Sb	5 µg/ml
Be	5 µg/ml
Co	10 µg/ml
Cu	10 µg/ml
Fe	20 µg/ml
Mn	10 µg/ml
Ni	10 µg/ml
Tl	5 µg/ml
V	20 µg/ml
Zn	10 µg/ml

Matrix: 2% HNO_3

Catalog Number	Code	Volume
140-107-011	✓ ⑧	100 ml
140-107-012	✓ ⑧	250 ml
140-107-015	✓ ⑧	500 ml

Alternate Metals II

Element	Concentration
Ca	500 µg/ml
Mg	100 µg/ml
K	100 µg/ml
Na	500 µg/ml

Matrix: 2% HNO_3

Catalog Number	Code	Volume
140-107-021	✓ ⑧	100 ml
140-107-022	✓ ⑧	250 ml
140-107-025	✓ ⑧	500 ml

Alternate Metals Set
(Includes one of each standard)

Catalog Number	Code	Volume
140-107-031	✓ ⑧	100 ml
140-107-032	✓ ⑧	250 ml
140-107-035	✓ ⑧	500 ml

Drinking Water Standards

Primary Drinking Water Metals

Solution A

Element	Concentration
As	10 µg/ml
Ba	100 µg/ml
Cd	5 µg/ml
Cr	10 µg/ml
Pb	10 µg/ml
Se	5 µg/ml
Ag	10 µg/ml

Matrix: 2% HNO_3

Catalog Number	Code	Volume
141-105-011	✓ ⑧	100 ml
141-105-012	✓ ⑧	250 ml
141-105-015	✓ ⑧	500 ml

Solution B

Element	Concentration
Hg	10 µg/ml

Matrix: 10% HNO_3

Catalog Number	Code	Volume
141-105-111	✓ ⑧	100 ml
141-105-112	✓ ⑧	250 ml
141-105-115	✓ ⑧	500 ml

Solution A & B Set

Catalog Number	Code	Volume
140-105-011	✓ ⑧	100 ml
140-105-012	✓ ⑧	250 ml
140-105-015	✓ ⑧	500 ml

Secondary Drinking Water Metals

Element	Concentration
Cu	100 µg/ml
Fe	30 µg/ml
Mn	5 µg/ml
Zn	500 µg/ml

Matrix: 2% HNO_3

Catalog Number	Code	Volume
141-105-021	✓ ⑧	100 ml
141-105-022	✓ ⑧	250 ml
141-105-025	✓ ⑧	500 ml

Drinking Water Sets (Primary & Secondary)

Catalog Number	Code	Volume
140-105-031	✓ ⑧	100 ml
140-105-032	✓ ⑧	250 ml
140-105-035	✓ ⑧	500 ml

⊗ *Glass Container* ⑥ *Poison* ③ *Flammable*
✓ *Dangerous Goods** ⑧ *Corrosive* ⑤ *Oxidant*

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Toxicity Characteristic Leachate Procedure (TCLP) Standards

TCLP Std.

Element	Concentration
As	25 µg/ml
Ba	500 µg/ml
Cd	5 µg/ml
Cr	25 µg/ml
Pb	25 µg/ml
Se	5 µg/ml
Ag	25 µg/ml

Matrix: 5% HNO_3

Catalog Number	Code	Volume
140-112-011	✓ ⑧	100 ml
140-112-012	✓ ⑧	250 ml
140-112-015	✓ ⑧	500 ml

TCLP Mercury Std.

Element	Concentration
Hg	20 µg/ml

Matrix: 2% HNO_3

Catalog Number	Code	Volume
140-112-041	✓ ⑧	100 ml
140-112-042	✓ ⑧	250 ml
140-112-045	✓ ⑧	500 ml

Matrix Blanks

Matrix	Code	Catalog Number		
		100 ml	250 ml	500 ml
HNO_3 5% $^{v}/_{v}$	✓ ⑧	140-113-011	140-113-012	140-113-015
HCl 5% $^{v}/_{v}$	✓ ⑧	140-113-021	140-113-022	140-113-025
H_2O (ASTM Type I)		140-113-031	140-113-032	140-113-035

⊗ *Glass Container*
✓ *Dangerous Goods**
⑥ *Poison*
⑧ *Corrosive*
③ *Flammable*
⑤ *Oxidant*

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Instrument Calibration Standards

Wavecal Standard I for PE 40, 400, 1000, & 2000

Element	Concentration
Al	20 µg/ml
K	100 µg/ml
La	20 µg/ml
Li	20 µg/ml
Mn	20 µg/ml
Mo	20 µg/ml
Na	20 µg/ml
Ni	20 µg/ml
P	100 µg/ml
S	100 µg/ml
Sc	20 µg/ml

Matrix: 2% HNO_3

Catalog Number	Volume	Code
140-128-111	100 ml	✓ ⑧
140-128-112	250 ml	✓ ⑧
140-128-115	500 ml	✓ ⑧

Wavecal Standard II for PE 6000, 6500(XR)

Element	Concentration
Ba	50 µg/ml
Be	20 µg/ml
La	20 µg/ml
Mn	20 µg/ml
Ni	20 µg/ml
Sc	20 µg/ml
Zn	20 µg/ml

Matrix: 2% HNO_3

Catalog Number	Volume	Code
140-128-141	100 ml	✓ ⑧
140-128-142	250 ml	✓ ⑧
140-128-145	500 ml	✓ ⑧

Wavecal Standard III for Optima 3000 Vista

Element	Concentration
Ba	1 µg/ml
Ca	1 µg/ml
K	50 µg/ml
La	10 µg/ml
Li	10 µg/ml
Mn	10 µg/ml
Na	10 µg/ml
Sr	10 µg/ml

Matrix: 2% HNO_3

Catalog Number	Volume	Code
140-128-231	100 ml	✓ ⑧
140-128-232	250 ml	✓ ⑧
140-128-235	500 ml	✓ ⑧

Reprofiling Solution for Spectro CIROS

Element	Concentration
Fe	10 µg/ml
K	10 µg/ml
La	10 µg/ml
Mg	5 µg/ml
Mn	5 µg/ml
P	10 µg/ml
S	50 µg/ml
Sc	10 µg/ml
Ti	10 µg/ml

Matrix: 5% HCl / 2% HNO_3

Catalog Number	Volume	Code
140-128-201	100 ml	✓ ⑧
140-128-202	250 ml	✓ ⑧
140-128-205	500 ml	✓ ⑧

SCP-12-AES for Thermo IRIS Tuning Solution

Concentration	Code	Catalog Number	
		125 ml	500 ml
100ppm	✓ ⑧	140-130-311	140-130-315

Matrix: 5% HNO_3
Element Blend Containing: Al, As, Ba, Cd, Cu, K, Mn, Pb, S, Se, Tl, Zn

***Note: Ba = 10ppm**

SCP-14-AES for Varian Vista Tuning Solution

Concentration	Code	Catalog Number	
		125 ml	500 ml
50ppm	✓ ⑧	140-130-341	140-130-345

Matrix: 5% HNO_3
Element Blend Containing: Al, As, Ba, Cd, Co, Cr, Mn, Mo, Ni, Pb, Se, Sr, Zn, K*

***Note: K = 500ppm**

⊗ *Glass Container* ⑥ *Poison* ③ *Flammable*
✓ *Dangerous Goods** ⑧ *Corrosive* ⑤ *Oxidant*

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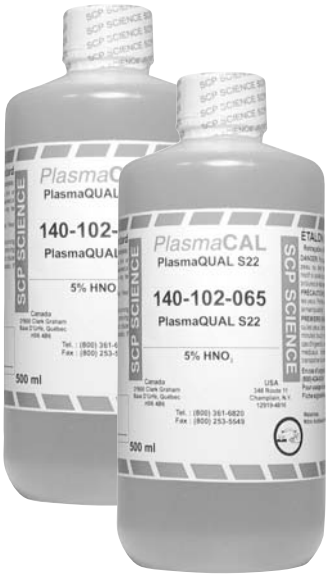
*Plasma*QUAL S22

Element	Concentration
Al	100 µg/ml
As	1000 µg/ml
Ba	10 µg/ml
Ca	10 µg/ml
Cd	100 µg/ml
Co	100 µg/ml
Cr	100 µg/ml
Cu	100 µg/ml
Fe	100 µg/ml
K	1000 µg/ml
Li	10 µg/ml
Mg	10 µg/ml
Mn	100 µg/ml
Na	100 µg/ml
Ni	100 µg/ml
Pb	100 µg/ml
Se	1000 µg/ml
Sr	10 µg/ml
Ti	10 µg/ml
Tl	1000 µg/ml
V	100 µg/ml
Zn	100 µg/ml

Catalog Number	Volume	Code
140-102-061	100 ml	✓ ⑧
140-102-062	250 ml	✓ ⑧
140-102-065	500 ml	✓ ⑧



SCP-28-AES for Thermo ICP-AES

Concentration	Code	Catalog Number 125 ml	Catalog Number 500 ml
100ppm	✓ ⑧	140-130-301	140-130-305

Matrix: 5% HNO_3
Element Blend Containing: Ag, Al, As, B, Ba, Be, Bi, Ca, Cd, Co, Cr, Cu, Fe, K, Li, Mg, Mn, Mo, Na, Ni, Pb, Sb, Se, Sr, Ti, Tl, V, Zn

SCP-11-MS for Thermo and PE ICP-MS

Concentration	Code	Catalog Number 125 ml	Catalog Number 500 ml
10ppm	✓ ⑧	140-130-331	140-331-335

Matrix: 5% HNO_3
Element Blend Containing: Ba, Be, Ce, Co, In, K, Li, Mg, Pb, Rh, U

SCP-33-MS for Thermo and PE ICP-MS

Concentration	Code	Catalog Number 125 ml	Catalog Number 500 ml
10ppm	✓ ⑧	140-130-321	140-130-325

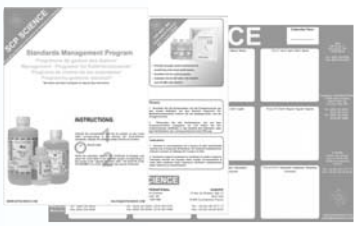
Matrix: 5% HNO_3
Element Blend Containing: Ag, Al, As, B, Ba, Be, Bi, Ca, Cd, Ce, Co, Cr, Cu, Fe, K, La, Li, Mg, Mn, Mo, Na, Ni, Pb, Rb, Sb, Se, Sn, Sr, Ti, Tl, U, V, Zn

⊗ *Glass Container* ⑥ *Poison* ③ *Flammable*
✓ *Dangerous Goods** ⑧ *Corrosive* ⑤ *Oxidant*

* as defined by :
- Hazardous Materials Regulations of the U.S. Department of Transportation, Tariff No. BOE-6000-R
- Canadian Transportation of Dangerous Goods Act and Regulations, Revision December 2000
- International Air Transport Association - Dangerous Goods Regulation, 40th Edition

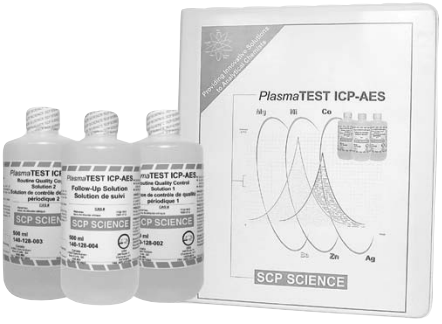
Free Standards Management Program

- Accurately track the expiry dates of your standards
- An invaluable tool when compliance auditing of standards is required



Instrument Control Kits
*Plasma*TEST ICP-AES

The *Plasma***TEST ICP-AES** kit contains the necessary solutions and documentation required to continually monitor multiple parameters for one or more ICP spectrometers. A comprehensive logbook provides a full description for each test procedure, data tables and charts for recording of results, and criteria for interpretation of results. Replacement solutions are available separately.



- Warm-up time
  - Optimum analysis scheduling
- Long-term stability
  - Minimize frequency of re-standardization
- Resolution
  - Minimize spectral interferences
- Plasma Robustness
  - Monitor sensitivity to different matrices
- Signal/Noise Ratio
  - Optimize detection limits
- Repeatability
  - Monitor stability
- Raw Count
  - Monitor repeatability

Ordering Information

Description	Code	Catalog Number
*Plasma***TEST for ICP-AES Kit (English)**	✓ ⑧	140-128-001
*Plasma***TEST for ICP-AES Kit (French)**	✓ ⑧	140-128-011

Re-ordering Information

Description	Code	Catalog Number
RQC-1 Solution	✓ ⑧	140-128-002
RQC-2 Solution	✓ ⑧	140-128-003
Follow-Up Solution	✓ ⑧	140-128-004
Log Book (English)		140-128-005
Log Book (French)		140-128-015

⊗ *Glass Container* ⑥ *Poison* ③ *Flammable*
✓ *Dangerous Goods** ⑧ *Corrosive* ⑤ *Oxidant*

* as defined by :
- Hazardous Materials Regulations of the U.S. Department of Transportation, Tariff No. BOE-6000-R
- Canadian Transportation of Dangerous Goods Act and Regulations, Revision December 2000
- International Air Transport Association - Dangerous Goods Regulation, 40th Edition

Instrument Control Kits
*Plasma*TEST ICP-MS

The *Plasma***TEST ICP-MS** kit ensures maximum operation efficiency for your ICP-MS Mass Spectrometer. The Total Quality Kit includes testing schedules, control charts, and all required solutions.

- Isotopic Ratio
  - Ensures accuracy of concentration measurements when using Isotope Dilution Method
- Resolution
  - Minimize mass number interferences
- Oxide & Double Charged Ion Ratios
  - Control the oxide level to minimize mass number interferences
- Sensitivity & Stability
  - Verify the repeatability of the instrument
- Mass Accuracy & Stability
  - Evaluation of the accuracy of the analysis
- Short & Long Term Stability
  - Evaluate of the precision of the analysis
- Cross Calibration
  - Verify the calibration of the pulse & analog detectors
- Mass Abundance
  - Verify the ability of the instrument to measure different isotopes
- "Cool" Plasma & Dynamic Reaction Cell (DRC) Performance
  - Verify the Isobaric Spectral Overlaps
- Detector "Cut-Off"
  - Detect potential problems at low concentrations

Ordering Information

Description	Code	Catalog Number
*Plasma***TEST for ICP-MS Kit (English)**	✓ ⑧	140-128-021
*Plasma***TEST for ICP-MS Kit (French)**	✓ ⑧	140-128-031

Re-ordering Information

Description	Code	Catalog Number
Ratio Solution	✓ ⑧	140-128-022
Stability Solution	✓ ⑧	140-128-023
Stability (Brine)	✓ ⑧	140-128-024
Verification Solution	✓ ⑧	140-128-025
Plasma Solution	✓ ⑧	140-128-026
Log Book (English)		140-128-027
Log Book (French)		140-128-037

⊗ *Glass Container* ⑥ *Poison* ③ *Flammable*
✓ *Dangerous Goods** ⑧ *Corrosive* ⑤ *Oxidant*

* as defined by :
- Hazardous Materials Regulations of the U.S. Department of Transportation, Tariff No. BOE-6000-R
- Canadian Transportation of Dangerous Goods Act and Regulations, Revision December 2000
- International Air Transport Association - Dangerous Goods Regulation, 40th Edition

Certificate of Analysis: Single Element Standard

Certificate of Analysis

Mg

Catalogue Number : **140-051-121 / 140-051-122 / 140-051-125**
Description : ***Plasma*CAL Standard - Magnesium 1000 µg/ml**
Starting Material : **Magnesium Metal 99.99%**
Lot Number : **SC4363253**
Expiration Date : **October 2006**
(*Unopened Bottle*)

Opened Bottle Expiry Information
15 months after opening, up to unopened expiration date

_____
Date bottle opened

Analysis of Solution Standard by Inductively Coupled Plasma Spectroscopy (ICP-AES) traceable to NIST Standard Reference Material 3131a.

Actual Concentration : **1004 µg/ml**
Matrix : **4% HNO_3**
Density : **1.021 g/ml @ 21.8 °C**

Trace Metallic Impurities

1. Starting Material

Element	Conc. (ppm)
Al, Fe, Si, Zn	5-15
Cu, Mn	5-10

2. Final Solution

Element	Conc. (ppm)	Element	Conc. (ppm)	Element	Conc. (ppm)
Ag	< 0.005	Ho	< 0.006	S	*
Al	< 0.013	In	< 0.034	Sb	< 0.029
As	< 0.001	Ir	< 0.016	Sc	< 0.002
Au	< 0.004	K	< 0.093	Se	< 0.027
B	< 0.017	La	< 0.004	Si	< 0.005
Ba	< 0.0005	Li	< 0.003	Sm	< 0.003
Be	< 0.001	Lu	< 0.0006	Sn	< 0.037
Bi	< 0.026	Mg	**N/A**	Sr	< 0.001
Ca	**0.014**	Mn	**0.019**	Ta	< 0.013
Cd	< 0.003	Mo	< 0.016	Tb	< 0.006
Ce	< 0.019	Na	< 0.011	Te	< 0.014
Co	< 0.007	Nb	< 0.009	Th	< 0.012
Cr	< 0.004	Nd	< 0.018	Ti	< 0.001
Cs	*	Ni	< 0.006	Tl	< 0.013
Cu	< 0.0003	Os	*	Tm	< 0.007
Dy	< 0.004	P	< 0.034	U	< 0.137
Er	< 0.008	Pb	< 0.041	V	< 0.001
Eu	< 0.002	Pd	< 0.007	W	< 0.015
Fe	< 0.002	Pr	< 0.213	Y	< 0.003
Ga	< 0.011	Pt	< 0.017	Yb	< 0.0008
Gd	< 0.003	Rb	< 0.027	Zn	**0.024**
Ge	< 0.011	Re	< 0.004	Zr	< 0.007
Hf	< 0.025	Rh	< 0.024		
Hg	*	Ru	< 0.008	*: Not Tested	

Certified by : _____
Alketa Mixha, Chemist

Certification Date : **January 19, 2005**

This ICP-AES & ICP-MS Standard is guaranteed to be stable and accurate to within ± 0.5% of the actual concentration up to the unopened expiry date, if sealed, or 15 months after opening, up to the unopened expiry date, provided the solution is kept tightly capped and stored under normal laboratory conditions. For these solutions, 18 meghom/cm double deionized water, high-purity acids, Class A glassware and acid-cleaned bottles are used. The Material Safety Data Sheet and this Certificate of Analysis are available on our web site. (Ce certificat est également disponible en français)

Manufactured according to an ISO 9001:2000 Quality System and ISO 17025 (in-process)

SCP SCIENCE
21800 Clark Graham, Baie D'Urfé, QC, Canada H9X 4B6
Phone : (514) 457-0701 Fax : (514) 457-4499
Web Site: www.scpscience.com

Certificate of Analysis

Catalogue Number : **140-102-051/140-102-052/140-102-055**
Description : ***Plasma*CAL- Q.C. Standard 3**
Lot Number : **SC4365281**
Expiration Date : **April 2006**

Analysis of Solution Standard by Inductively Coupled Plasma Spectroscopy (ICP-AES) traceable to NIST Standard Reference Materials : 3103a, 3105a, 3109a, 3108, 3113, 3112a, 3114, 3126a, 3129a, 3131a, 3132, 3134, 3136, 3128, 3102a, 3149, 3153a, 3162a, 3158, 3165, 3168a

Actual Concentrations

As :	**100.5 µg/ml**	**Fe :**	**100.9 µg/ml**	**Sb :**	**101.0 µg/ml**
Be :	**99.8 µg/ml**	**Li :**	**100.5 µg/ml**	**Se :**	**100.1 µg/ml**
Ca :	**100.8 µg/ml**	**Mg :**	**101.0 µg/ml**	**Sr :**	**100.9 µg/ml**
Cd :	**100.3 µg/ml**	**Mn :**	**100.8 µg/ml**	**Ti :**	**100.7 µg/ml**
Co :	**100.7 µg/ml**	**Mo :**	**100.7 µg/ml**	**Tl :**	**100.3 µg/ml**
Cr :	**100.3 µg/ml**	**Ni :**	**100.5 µg/ml**	**V :**	**100.2 µg/ml**
Cu :	**99.4 µg/ml**	**Pb :**	**100.6 µg/ml**	**Zn :**	**100.4 µg/ml**

Matrix : **5% HNO_3**

Certified by : _____
Alketa Mixha, Chemist

Certification Date : **January 13, 2005**

This ICP-AES & ICP-MS Standard is guaranteed to be stable and accurate to within plus or minus 1.0% of the actual concentration up to the expiry date, provided the solution is kept tightly capped and stored under normal laboratory conditions. For these solutions, 18 megohm/cm double deionized water, high-purity acids, Class A glassware and acid-cleaned bottles are used. The Material Safety Data Sheet and this Certificate of Analysis are available on our web site. (Ce certificat est également disponible en français)

Manufactured according to an ISO 9001:2000 Quality System and ISO 17025 (in-process)
SCP SCIENCE
21800 Clark Graham, Baie D'Urfé, QC, Canada H9X 4B6
Phone : (514) 457-0701 Fax : (514) 457-4499
Web Site: www.scpscience.com

Certificate of Analysis: Custom Multi Standard

Certificate of Analysis

Catalogue Number : **901-6A8-102**
Description : ***Plasma*CAL - Multi-Element Standard**
Lot Number : **SC5026493**
Expiration Date : **February 2006**

Analysis of Solution Standard by Inductively Coupled Plasma Spectroscopy (ICP-AES) traceable to NIST Standard Reference Materials : 3151, 3101a, 3103a, 3107, 3104a, 3105a, 3106, 3109a, 3108, 3113, 3112a, 3114, 3126a, 3119a, 3141a, 3127a, 3129a, 3131a, 3132, 3134, 3152a, 3136, 3128, 3102a, 3149, 3153a, 3159, 3162a, 3158, 3165, 3168a

Actual Concentrations

Ag :	**9.94 µg/ml**	**Cu :**	**9.95 µg/ml**	**Pb :**	**10.08 µg/ml**
Al :	**9.97 µg/ml**	**Fe :**	**10.03 µg/ml**	**Sb :**	**10.09 µg/ml**
As :	**10.06 µg/ml**	**Ga :**	**9.99 µg/ml**	**Se :**	**9.92 µg/ml**
B :	**10.05 µg/ml**	**K :**	**10.01 µg/ml**	**Sr :**	**10.04 µg/ml**
Ba :	**9.97 µg/ml**	**La :**	**9.97 µg/ml**	**Th :**	**9.98 µg/ml**
Be :	**9.90 µg/ml**	**Li :**	**10.01 µg/ml**	**Ti :**	**10.00 µg/ml**
Bi :	**10.03 µg/ml**	**Mg**	**10.00 µg/ml**	**Tl :**	**9.99 µg/ml**
Ca :	**9.97 µg/ml**	**Mn**	**10.05 µg/ml**	**V :**	**9.96 µg/ml**
Cd :	**9.98 µg/ml**	**Mo**	**9.98 µg/ml**	**Zn :**	**9.98 µg/ml**
Co :	**9.90 µg/ml**	**Na :**	**10.01 µg/ml**		
Cr :	**9.94 µg/ml**	**Ni :**	**9.97 µg/ml**		

Matrix : **5% HNO_3**

Certified by : _____
Alketa Mixha, Chemist

Certification Date : **February 3, 2005**

This ICP-AES & ICP-MS Standard is guaranteed to be stable and accurate to within plus or minus 1.0% of the actual concentration up to the expiry date, provided the solution is kept tightly capped and stored under normal laboratory conditions. For these solutions, 18 megohm/cm double deionized water, high-purity acids, Class A glassware and acid-cleaned bottles are used. The Material Safety Data Sheet and this Certificate of Analysis are available on our web site. (Ce certificat est également disponible en français)

Manufactured according to an ISO 9001:2000 Quality System and ISO 17025 (in-process)

SCP SCIENCE
21800 Clark Graham, Baie D'Urfé, QC, Canada H9X 4B6
Phone : (514) 457-0701 Fax : (514) 457-4499
Web Site: www.scpscience.com

*Plasma*CAL Single Element Standards Request Form

Complete this form to place an order or to receive a quotation for your specific *Plasma***CAL** Single Element Standard. Photocopy for use with multiple requests.

Contact Information:

Name: _____

Title: _____

Company: _____

Mailing Address: _____

City: _____ Province/State: _____ PC/Zip: _____ Country: _____

Telephone: _____ Fax: _____

E-mail: _____ Account No: _____

Please indicate the element, volume and concentration required:

		125 ml	250 ml	500 ml	1000 µg/ml	10 000 µg/ml
Al	Aluminum (HNO_3)	☐	☐	☐	☐	☐
Al	Aluminum (HCl)	☐	☐	☐	☐	☐
Ag	Silver	☐	☐	☐	☐	☐
As	Arsenic	☐	☐	☐	☐	☐
Au	Gold	☐	☐	☐	☐	☐
B	Boron	☐	☐	☐	☐	☐
Ba	Barium	☐	☐	☐	☐	☐
Be	Beryllium	☐	☐	☐	☐	☐
Bi	Bismuth	☐	☐	☐	☐	☐
Ca	Calcium	☐	☐	☐	☐	☐
Cd	Cadmium	☐	☐	☐	☐	☐
Ce	Cerium	☐			☐	☐
Co	Cobalt	☐	☐	☐	☐	☐
Cr	Chromium (HNO_3)	☐	☐	☐	☐	☐
Cr	Chromium (HCl)	☐	☐	☐	☐	☐
Cs	Cesium	☐			☐	☐
Cu	Copper	☐	☐	☐	☐	☐
Dy	Dysprosium	☐			☐	☐
Er	Erbium	☐			☐	☐
Eu	Europium	☐			☐	☐
Fe	Iron	☐	☐	☐	☐	☐
Ga	Gallium	☐	☐	☐	☐	☐
Gd	Gadolinium	☐			☐	☐
Ge	Germanium	☐			☐	☐
Hf	Hafnium	☐			☐	☐
Hg	Mercury	☐	☐	☐	☐	☐
Ho	Holmium	☐			☐	☐
In	Indium	☐			☐	☐
Ir	Iridium	☐			☐	☐
K	Potassium	☐	☐	☐	☐	☐
La	Lanthanum	☐			☐	☐
Li	Lithium	☐	☐	☐	☐	☐
Lu	Lutetium	☐			☐	☐
Mg	Magnesium	☐	☐	☐	☐	☐
Mn	Manganese	☐	☐	☐	☐	☐
Mo	Molybdenum	☐	☐	☐	☐	☐
Na	Sodium	☐	☐	☐	☐	☐
Nb	Niobium	☐			☐	☐
Nd	Neodymium	☐			☐	☐
Ni	Nickel	☐	☐	☐	☐	☐
Os	Osmium	☐			☐	
P	Phosphorus	☐	☐	☐	☐	☐
Pb	Lead	☐	☐	☐	☐	☐
Pd	Palladium	☐	☐	☐	☐	☐
Pr	Praseodymium	☐			☐	☐
Pt	Platinum	☐	☐	☐	☐	
Rb	Rubidium	☐			☐	☐
Re	Rhenium	☐			☐	☐
Rh	Rhodium	☐			☐	☐
Ru	Ruthenium	☐			☐	☐
S	Sulfur	☐	☐	☐	☐	☐
Sb	Antimony	☐	☐	☐	☐	☐
Sc	Scandium	☐	☐	☐	☐	☐
Se	Selenium	☐	☐	☐	☐	☐
Si	Silicon	☐	☐	☐	☐	☐
Sm	Samarium	☐			☐	☐
Sn	Tin	☐	☐	☐	☐	☐
Sr	Strontium	☐	☐	☐	☐	☐
Ta	Tantalum	☐			☐	☐
Tb	Terbium	☐			☐	☐
Te	Tellurium	☐			☐	☐
Th	Thorium	☐			☐	☐
Ti	Titanium	☐	☐	☐	☐	☐
Tl	Thallium	☐	☐	☐	☐	☐
Tm	Thulium	☐			☐	☐
U	Uranium	☐			☐	☐
V	Vanadium	☐	☐	☐	☐	☐
W	Tungsten	☐	☐	☐	☐	
Y	Yttrium	☐	☐	☐	☐	☐
Yb	Ytterbium	☐			☐	☐
Zn	Zinc	☐	☐	☐	☐	☐
Zr	Zirconium	☐	☐	☐	☐	☐

Fax form back to:

USA **(800) 253-5549**
Canada / International **(800) 253-5549 / (514) 457-4499**
Europe **+33 (0)1 60 92 05 67**

Custom Standards Request Form

Complete this form to receive a quotation for your specific Custom Multi-Element Standard. Purchase 500 ml of a custom standard and receive an additional 500 ml bottle of the same standard at 1/2 price. Photocopy for use with multiple requests.

Contact Information:

Name: _____

Title: _____

Company: _____

Mailing Address: _____

City: _____ Province/State: _____ PC/Zip: _____ Country: _____

Telephone: _____ Fax: _____

E-mail: _____ Account No: _____

Please indicate the concentration µg/ml (ppm) required for each element:

Al	Aluminum	In	Indium	Sc	Scandium
Ag	Silver	Ir	Iridium	Se	Selenium
As	Arsenic	K	Potassium	Si	Silicon
Au	Gold	La	Lanthanum	Sm	Samarium
B	Boron	Li	Lithium	Sn	Tin
Ba	Barium	Lu	Lutetium	Sr	Strontium
Be	Beryllium	Mg	Magnesium	Ta	Tantalum
Bi	Bismuth	Mn	Manganese	Tb	Terbium
Ca	Calcium	Mo	Molybdenum	Te	Tellurium
Cd	Cadmium	Na	Sodium	Th	Thorium
Ce	Cerium	Nb	Niobium	Ti	Titanium
Co	Cobalt	Nd	Neodymium	Tl	Thallium
Cr	Chromium	Ni	Nickel	Tm	Thulium
Cs	Cesium	Os	Osmium	U	Uranium
Cu	Copper	P	Phosphorus	V	Vanadium
Dy	Dysprosium	Pb	Lead	W	Tungsten
Er	Erbium	Pd	Palladium	Y	Yttrium
Eu	Europium	Pr	Praseodymium	Yb	Ytterbium
Fe	Iron	Pt	Platinum	Zn	Zinc
Ga	Gallium	Rb	Rubidium	Zr	Zirconium
Gd	Gadolinium	Re	Rhenium		
Ge	Germanium	Rh	Rhodium		
Hf	Hafnium	Ru	Ruthenium		
Hg	Mercury	S	Sulfur		
Ho	Holmium	Sb	Antimony		

Matrix Required: _____

Rate of Use (L/yr): _____

Special Requirements: _____

Fax form back to:

USA	**(800) 253-5549**
Canada / International	**(800) 253-5549 / (514) 457-4499**
Europe	**+33 (0)1 60 92 05 67**

SCP SCIENCE offers two grades of high purity acids. *Plasma***PURE** and *Plasma***PURE** *Plus* acids are manufactured for use in trace metal analysis. Supplied with a detailed Certificate of Analysis listing over 60 elements. Select the appropriate grade, either *Plasma***PURE** or *Plasma***PURE** *Plus*, according to your application requirements. Ideal for use in sample preparation prior to ICP-MS, ICP-OES, and GFAA's.

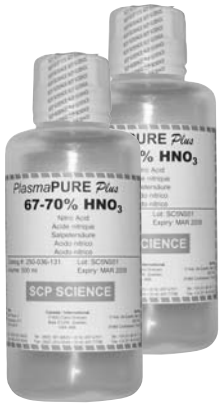
High Purity Acids & Reagents - Notes

NOTES

*Plasma*PURE *Plus* Acids & Reagents

*Plasma*PURE *Plus* acids are manufactured with trace metal levels less than 10 ppt (0.01 ppb). Commonly used in semiconductor, nuclear, clinical, pharmaceutical, and geochemical analysis. Used for sample and standards preparation for ICP-AES, ICP-MS, Flame AA and Graphite Furnace AA spectroscopy.

- Complete with a Certificate of Analysis with lot number, expiry date, and maximum concentration specification for over 60 elements
  - Complete documentation for audit purposes
- Packaged in Class 10 cleanroom conditions
  - Supplied in preleached Teflon bottles for optimum quality
- Available in sizes from 250 ml to 2 liters
  - Flexibility - Buy only what is required. Save money with large volumes



Maximum Specifications

Element	Acetic Acid (ppt)	Ammonia Solution (ppt)	Nitric Acid (ppt)	Sulphuric Acid (ppt)	Hydrochloric Acid (ppt)	Hydrofluoric Acid (ppt)
Aluminum (Al)	50	20	20	50	20	20
Antimony (Sb)	50	10	10	50	20	20
Arsenic (As)	50	10	20	500	50	50
Barium (Ba)	10	10	10	10	10	10
Beryllium (Be)	10	10	10	10	10	10
Bismuth (Bi)	10	10	10	10	10	10
Boron (B)	N/A	N/A	20	N/A	100	100
Cadmium (Cd)	10	10	10	10	10	10
Calcium (Ca)	50	20	20	100	20	20
Cerium (Ce)	10	10	10	10	10	10
Cesium (Cs)	10	10	10	10	10	10
Chromium (Cr)	10	10	20	10	20	20
Cobalt (Co)	10	10	10	10	10	10
Copper (Cu)	50	20	20	10	20	20
Dysprosium (Dy)	1	10	1	10	1	1
Erbium (Er)	1	10	1	10	1	1
Europium (Eu)	1	10	1	10	1	1
Gadolinium (Gd)	1	10	1	10	1	1
Gallium (Ga)	10	10	10	10	10	10
Germanium (Ge)	10	10	10	100	N/A	10
Gold (Au)	N/A	10	20	N/A	100	20
Hafnium (Hf)	10	N/A	10	10	10	10
Holmium (Ho)	1	10	1	10	1	1
Indium (In)	1	10	1	10	1	1
Iron (Fe)	50	20	20	50	20	20
Lanthanum (La)	1	10	1	10	1	10
Lead (Pb)	10	10	10	10	10	10
Lithium (Li)	10	10	10	10	10	10
Lutetium (Lu)	10	10	1	10	10	1
Magnesium (Mg)	50	20	10	50	10	10

⊗ *Glass Container* ⑥ *Poison* ③ *Flammable*
✓ *Dangerous Goods** ⑧ *Corrosive* ⑤ *Oxidant*

* as defined by :
- Hazardous Materials Regulations of the U.S. Department of Transportation, Tariff No. BOE-6000-R
- Canadian Transportation of Dangerous Goods Act and Regulations, Revision December 2000
- International Air Transport Association - Dangerous Goods Regulation, 40th Edition

PlasmaPURE Plus Acids & Reagents

Maximum Specifications

Element	Acetic Acid (ppt)	Ammonia Solution (ppt)	Nitric Acid (ppt)	Sulphuric Acid (ppt)	Hydrochloric Acid (ppt)	Hydrofluoric Acid (ppt)
Manganese (Mn)	10	10	10	10	10	10
Mercury (Hg)	N/A	N/A	100	100	100	100
Molybdenum (Mo)	10	10	10	10	10	10
Neodymium (Nd)	1	10	1	10	1	1
Nickel (Ni)	50	10	50	50	50	50
Niobium (Nb)	N/A	10	1	10	1	10
Palladium (Pd)	N/A	N/A	20	N/A	N/A	20
Platinum (Pt)	50	N/A	20	N/A	N/A	20
Potassium (K)	50	20	10	50	10	10
Praseodymium (Pr)	1	10	1	10	1	1
Rhenium (Re)	10	N/A	10	N/A	10	10
Rhodium (Rh)	50	10	10	50	10	20
Rubidium (Rb)	10	10	10	10	10	20
Ruthenium (Ru)	50	N/A	20	N/A	10	20
Samarium (Sm)	1	10	1	10	1	1
Scandium (Sc)	10	10	10	10	10	10
Selenium (Se)	N/A	N/A	N/A	500	N/A	N/A
Silver (Ag)	50	10	10	50	10	10
Sodium (Na)	100	20	10	50	10	10
Strontium (Sr)	10	10	10	10	10	10
Tantalum (Ta)	N/A	N/A	N/A	N/A	N/A	N/A
Tellurium (Te)	1	10	1	100	1	1
Terbium (Tb)	1	10	1	10	1	1
Thallium (Tl)	10	10	10	10	10	10
Thorium (Th)	1	10	1	10	1	1
Thulium (Tm)	1	10	1	10	1	1
Tin (Sn)	50	10	20	50	20	20
Titanium (Ti)	10	10	10	50	20	50
Tungsten (W)	10	10	10	10	10	20
Uranium (U)	1	10	1	10	1	1
Vanadium (V)	10	10	10	10	10	10
Ytterbium (Yb)	1	10	1	10	1	1
Yttrium (Y)	1	10	1	10	1	1
Zinc (Zn)	50	10	20	50	20	20
Zirconium (Zr)	10	10	10	10	10	10

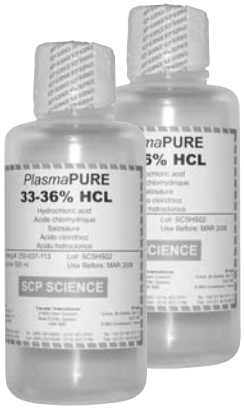
Always in Stock

Description	Assay	Molecular Weight	CAS Number	Merck Index	Code	Catalog Number 250 ml	500 ml	1 L	2 L
Acetic Acid	>99% CH_3COOH	60.05	64-19-7	13.56	✓ ⑧	250-036-101	250-036-103	250-036-105	---
Ammonia Solution	20-22% NH_3	17.03	7664-41-7	---	✓ ⑧ ⑥	250-036-107	250-036-109	250-036-111	---
Nitric Acid	67-70% HNO_3	63.01	7697-37-2	13.6608	✓ ⑧ ⑤	250-036-129	250-036-131	250-036-133	250-036-135
Sulphuric Acid	93-98% H_2SO_4	98.08	7664-93-9	13.9064	✓ ⑧ ⑥	250-036-137	250-036-139	250-036-141	250-036-143
Hydrochloric Acid	32-35% HCl	36.46	7647-01-0	13.4801	✓ ⑧	250-036-113	250-036-115	250-036-117	250-036-119
Hydrofluoric Acid	47-51% HF	20.01	7664-39-3	---	✓ ⑧	250-036-121	250-036-123	250-036-125	250-036-127
Hydrogen Peroxide	30%	---	---	---	✓ ⑧ ⑤	---	250-036-145	---	---

⊗ *Glass Container*
✓ *Dangerous Goods**
⑥ *Poison*
⑧ *Corrosive*
③ *Flammable*
⑤ *Oxidant*

* as defined by :
- Hazardous Materials Regulations of the U.S. Department of Transportation, Tariff No. BOE-6000-R
- Canadian Transportation of Dangerous Goods Act and Regulations, Revision December 2000
- International Air Transport Association - Dangerous Goods Regulation, 40th Edition

*Plasma***PURE** acids are manufactured with trace metals equal to or less than 1 ppb. Used for environmental and industrial applications in ICP-AES and flame atomic absorption spectroscopy.



- Complete with a Certificate of Analysis with lot number, expiry date, and maximum specification for over 60 analytes
  - Complete documentation for audit purposes
- Refined for low level trace metal analysis
- 2 expiry dates (up to 3 years unopened & 15 months opened)
  - Long shelf life for unopened bottles

Maximum Specifications

Element	Nitric Acid (ppb)	Hydrofluroric Acid (ppb)	Sulphuric Acid (ppb)	Hydrochloric Acid (ppb)
Aluminum (Al)	1	1	1	1
Antimony (Sb)	1	1	1	1
Arsenic (As)	1	1	1	1
Barium (Ba)	1	1	1	1
Beryllium (Be)	1	1	1	1
Bismuth (Bi)	1	1	1	1
Boron (B)	1	1	N/A	1
Cadmium (Cd)	1	1	1	1
Calcium (Ca)	1	1	1	1
Cerium (Ce)	0.5	0.5	0.5	0.5
Cesium (Cs)	0.5	0.5	0.5	0.5
Chromium (Cr)	1	1	1	1
Cobalt (Co)	1	1	1	1
Copper (Cu)	1	1	1	1
Dysprosium (Dy)	0.5	0.5	0.5	0.5
Erbium (Er)	0.5	0.5	0.5	0.5
Europium (Eu)	0.5	0.5	0.5	0.5
Gadolinium (Gd)	0.5	0.5	0.5	0.5
Gallium (Ga)	1	1	1	1
Germanium (Ge)	1	1	1	N/A
Gold (Au)	1	1	N/A	1
Hafnium (Hf)	0.5	0.5	0.5	0.5
Holmium (Ho)	0.5	0.5	0.5	0.5
Indium (In)	0.5	0.5	0.5	0.5
Iron (Fe)	1	1	1	1
Lanthanum (La)	0.5	0.5	0.5	0.5
Lead (Pb)	1	1	1	1
Lithium (Li)	1	1	1	1
Lutetium (Lu)	0.5	0.5	0.5	0.5
Magnesium (Mg)	1	1	1	1

⊗ *Glass Container* ⑥ *Poison* ③ *Flammable*
✓ *Dangerous Goods** ⑧ *Corrosive* ⑤ *Oxidant*

* as defined by :
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*Plasma*PURE Acids

Maximum Specifications

Element	Nitric Acid (ppb)	Hydrofluroric Acid (ppb)	Sulphuric Acid (ppb)	Hydrochloric Acid (ppb)
Manganese (Mn)	1	1	1	1
Mercury (Hg)	1	1	1	1
Molybdenum (Mo)	1	1	1	1
Neodymium (Nd)	0.5	0.5	0.5	0.5
Nickel (Ni)	1	1	1	1
Niobium (Nb)	1	0.5	1	1
Palladium (Pd)	0.5	0.5	N/A	N/A
Platinum (Pt)	0.5	0.5	N/A	N/A
Potassium (K)	1	1	1	1
Praseodymium (Pr)	0.5	0.5	0.5	0.5
Rhenium (Re)	0.5	0.5	N/A	0.5
Rhodium (Rh)	0.5	0.5	0.5	0.5
Rubidium (Rb)	0.5	0.5	0.5	0.5
Ruthenium (Ru)	0.5	0.5	N/A	0.5
Samarium (Sm)	0.5	0.5	0.5	0.5
Scandium (Sc)	0.5	0.5	0.5	0.5
Selenium (Se)	1	1	1	1
Silver (Ag)	1	1	1	1
Sodium (Na)	1	1	1	1
Strontium (Sr)	1	1	1	1
Tantalum (Ta)	N/A	N/A	N/A	N/A
Tellurium (Te)	0.5	0.5	0.5	0.5
Terbium (Tb)	0.5	0.5	0.5	0.5
Thallium (Tl)	1	0.5	1	1
Thorium (Th)	1	1	1	1
Thulium (Tm)	0.5	0.5	0.5	0.5
Tin (Sn)	1	1	1	1
Titanium (Ti)	1	1	1	1
Tungsten (W)	0.5	0.5	0.5	0.5
Uranium (U)	1	1	1	1
Vanadium (V)	1	1	1	1
Ytterbium (Yb)	0.5	0.5	0.5	0.5
Yttrium (Y)	0.5	0.5	0.5	0.5
Zinc (Zn)	1	1	1	1
Zirconium (Zr)	1	1	1	1

Always in Stock

Element	Assay	Molecular Weight	CAS Number	Merck Index	Code	500 ml	Catalog Number 2.5L	Catalog Number 2.5L SC*	4L
Nitric Acid	67-70% $HN0_3$	63.01	7697-37-2	13.6608	✓ ⑧ ⊗ ⑤	250-037-129	250-037-131	250-037-133	---
Hydrofluoric Acid**	47-51% HF	20.01	7664-39-3	N/A	✓ ⑧	250-037-121	---	---	250-037-123
Sulphuric Acid	94-98% H_2SO_4	98.08	7664-93-9	13.9064	✓ ⑧ ⊗ ⑥	250-037-137	250-037-139	250-037-141	---
Hydrochloric Acid	33-36% HCL	36.46	7647-01-0	13.4801	✓ ⑧ ⊗	250-037-113	250-037-115	250-037-117	250-037-119

* Coated Glass Bottle
** Packaged in LDPE Bottle

⊗ *Glass Container* ⑥ *Poison* ③ *Flammable*
✓ *Dangerous Goods** ⑧ *Corrosive* ⑤ *Oxidant*

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Certificate of Analysis

*Plasma*PURE *Plus* **NITRIC ACID** (67-70% HNO_3)

Catalogue Number:	**250-036-131**
Lot Number:	**SC5NS01**
Assay (HNO_3 w/w):	**70%**
Expiry Date:	**January 2008**

Opened Bottle Expiry Information
15 months after opening, up to unopened expiration date
_____
Date bottle opened

Analyte	Maximum Specification	Actual Value (in ppt)	Analyte	Maximum Specification	Actual Value (in ppt)
Aluminum (Al)	20 ppt	<10	Neodymium (Nd)	1 ppt	< 0.05
Antimony (Sb)	10 ppt	<10	Nickel (Ni)	50 ppt	<10
Arsenic (As)	20 ppt	<10	Niobium (Nb)	1 ppt	<1
Barium (Ba)	10 ppt	<1	Palladium (Pd)	20 ppt	<10
Beryllium (Be)	10 ppt	<5	Platinum (Pt)	20 ppt	<1
Bismuth (Bi)	10 ppt	<0.1	Potassium (K)	10 ppt	<5
Boron (B)	20 ppt	<10	Praseodymium (pr)	1 ppt	<0.05
Cadmium (Cd)	10 ppt	<1	Rhenium (Re)	10 ppt	<1
Calcium (Ca)	20 ppt	<10	Rhodium (Rh)	10 ppt	<1
Cerium (Ce)	10 ppt	<0.05	Rubidium (Rb)	10 ppt	<1
Cesium (Cs)	10 ppt	<0.05	Ruthenium (Ru)	20 ppt	<10
Chromium (Cr)	20 ppt	<10	Samarium (Sm)	1 ppt	<0.01
Cobalt (Co)	10 ppt	<1	Scandium (Sc)	10 ppt	<20
Copper (Cu)	20 ppt	<3	Selenium (Se)	Information Only	<20
Dysprosium (Dy)	1 ppt	<0.01	Silver (Ag)	10 ppt	<2
Erbium (Er)	1 ppt	<0.01	Sodium (Na)	10 ppt	<5
Europium (Eu)	1 ppt	<0.01	Strontium (Sr)	10 ppt	<1
Gadolinium (Gd)	1 ppt	<0.01	Tantalum (Ta)	Information Only	<10
Gallium (Ga)	10 ppt	<1	Tellurium (Te)	1 ppt	<1
Germanium (Ge)	10 ppt	<1	Terbium (Tb)	1 ppt	<0.01
Gold (Au)	20 ppt	<10	Thallium (Tl)	10 ppt	<0.1
Hafnium (Hf)	10 ppt	<0.05	Thorium (Th)	1 ppt	<0.05
Holmium (Ho)	1 ppt	<0.01	Thulium (Tm)	1 ppt	<0.01
Indium (In)	1 ppt	<1	Tin (Sn)	20 ppt	<10
Iron (Fe)	20 ppt	<10	Titanium (Ti)	10 ppt	<10
Lanthanum (La)	1 ppt	<0.05	Tungsten (W)	10 ppt	<5
Lead (Pb)	10 ppt	<1	Uranium (U)	1 ppt	<0.01
Lithium (Li)	10 ppt	<1	Vanadium (V)	10 ppt	<1
Lutetium (Lu)	1 ppt	<0.01	Ytterbium (Yb)	1 ppt	<0.01
Magnesium (Mg)	10 ppt	<5	Yttrium (Y)	1 ppt	<1
Manganese (Mn)	10 ppt	<2	Zinc (Zn)	20 ppt	<5
Mercury (Hg)	100 ppt	<100	Zirconium (Zr)	10 ppt	<1
Molybdenum (Mo)	10 pt	<1			

Certified by: _____
Alketa Mixha, Chemist

Certification Date: **January 27, 2005**

To maintain product integrity and reduce the risk of trace metal contamination: the inner pack of plastic bags and bottle should be opened under CLASS 100 particle conditions to maintain the integrity of the product. The use of safety apparel, as well as eye protection, plastic gloves, hair net and a clean room suit is also advised. The Material Safety Data Sheet and this Certificate of Analysis are available on our web site. (Ce certificat est également disponible en français)

Manufactured according to an ISO 9001:2000 Quality System and ISO 17025 (in-process)

SCP SCIENCE
21800 Clark Graham, Baie D'Urfé, QC, Canada H9X 4B6
Phone : (514) 457-0701 Fax : (514) 457-4499
Web Site: www.scpscience.com

Certificate of Analysis:
*Plasma*PURE Acid

Certificate of Analysis

*Plasma*PURE **HYDROCHLORIC ACID** (34-37% HCl)

Catalogue Number: **250-037-113**
Lot Number: **SC5HS02**
Assay (HCl w/w): **36%**
Expiry Date: **January 2008**

Opened Bottle Expiry Information
15 months after opening, up to unopened expiration date
_____
Date bottle opened

Analyte	Maximum Specification	Actual Value (in ppb)	Analyte	Maximum Specification	Actual Value (in ppb)
Aluminum (Al)	1 ppb	<0.5	Neodymium (Nd)	0.5 ppb	<0.1
Antimony (Sb)	1 ppb	<0.1	Nickel (Ni)	1 ppb	<0.1
Arsenic (As)	1 ppb	<0.1	Niobium (Nb)	0.5 ppb	<0.1
Barium (Ba)	1 ppb	<0.1	Palladium (Pd)	Information Only	<1
Beryllium (Be)	1 ppb	<0.1	Platinum (Pt)	Information Only	<1
Bismuth (Bi)	1 ppb	<0.1	Potassium (K)	1 ppb	<0.1
Boron (B)	1 ppb	<0.5	Praseodymium (pr)	0.5 ppb	<0.1
Cadmium (Cd)	1 ppb	<0.1	Rhenium (Re)	0.5 ppb	<0.1
Calcium (Ca)	1 ppb	<0.5	Rhodium (Rh)	0.5 ppb	<0.1
Cerium (Ce)	0.5 ppb	<0.1	Rubidium (Rb)	0.5 ppb	<0.1
Cesium (Cs)	0.5 ppb	<0.1	Ruthenium (Ru)	0.5 ppb	<0.1
Chromium (Cr)	1 ppb	<0.1	Samarium (Sm)	0.5 ppb	<0.1
Cobalt (Co)	1 ppb	<0.1	Scandium (Sc)	0.5 ppb	<0.1
Copper (Cu)	1 ppb	<0.1	Selenium (Se)	1 ppb	<0.1
Dysprosium (Dy)	0.5 ppb	<0.1	Silver (Ag)	1 ppb	<0.1
Erbium (Er)	0.5 ppb	<0.1	Sodium (Na)	1 ppb	<0.5
Europium (Eu)	0.5 ppb	<0.1	Strontium (Sr)	1 ppb	<0.1
Gadolinium (Gd)	0.5 ppb	<0.1	Tantalum (Ta)	Information Only	<1
Gallium (Ga)	0.5 ppb	<0.1	Tellurium (Te)	0.5 ppb	<0.1
Germanium (Ge)	0.5 ppb	<0.1	Terbium (Tb)	0.5 ppb	<0.1
Gold (Au)	0.5 ppb	<0.1	Thallium (Tl)	0.5 ppb	<0.1
Hafnium (Hf)	0.5 ppb	<0.1	Thorium (Th)	1 ppb	<0.1
Holmium (Ho)	0.5 ppb	<0.1	Thulium (Tm)	0.5 ppb	<0.1
Indium (In)	0.5 ppb	<0.1	Tin (Sn)	1 ppb	<0.1
Iron (Fe)	1 ppb	<0.5	Titanium (Ti)	1 ppb	<0.1
Lanthanum (La)	0.5 ppb	<0.1	Tungsten (W)	0.5 ppb	<0.1
Lead (Pb)	1 ppb	<0.1	Uranium (U)	1 ppb	<0.1
Lithium (Li)	1 ppb	<0.1	Vanadium (V)	1 ppb	<0.1
Lutetium (Lu)	0.5 ppb	<0.1	Ytterbium (Yb)	0.5 ppb	<0.1
Magnesium (Mg)	1 ppb	<0.5	Yttrium (Y)	0.5 ppb	<0.1
Manganese (Mn)	1 ppb	<0.1	Zinc (Zn)	1 ppb	<0.5
Mercury (Hg)	1 ppb	<0.2	Zirconium (Zr)	1 ppb	<0.1
Molybdenum (Mo)	1 ppb	<0.1			

Certified by: _____
Alketa Mixha, Chemist

Certification Date: **January 27, 2005**

To maintain product integrity and reduce the risk of trace metal contamination: the inner pack of plastic bags and bottle should be opened under CLASS 100 particle conditions to maintain the integrity of the product. The use of safety apparel, as well as eye protection, plastic gloves, hair net and a clean room suit is also advised. The Material Safety Data Sheet and this Certificate of Analysis are available on our web site. (Ce certificat est également disponible en français)

Manufactured according to an ISO 9001:2000 Quality System and ISO 17025 (in-process)

SCP SCIENCE
21800 Clark Graham, Baie D'Urfé, QC, Canada H9X 4B6
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Web Site: www.scpscience.com

*Enviro***MAT™** *and Agro***MAT™** Certified Reference Materials (CRMs) are designed to complement existing Performance Evaluation Programs in environmental and agricultural analysis. *Enviro***MAT™** CRMs allow frequent method verification, providing the assurance of quality analysis on a daily basis, at an affordable price.

Certified Reference Materials - Notes

NOTES

Certified Reference Materials
*Enviro*MAT™ & *Agro*MAT™

*Enviro***MAT™** & *Agro***MAT™** Certified Reference Materials (CRM) can be an invaluable component of any laboratory quality control program. Consensus certification removes any chance of analytical bias. A wide range of matrices are available.

- Each CRM is certified through a round-robin study employing specific methods of analysis
  - Independent verification from multiple laboratories
- Includes Certificate of Analysis listing Consensus Values, Confidence and Tolerance Intervals, and Instructions for Use
  - Complete documentation for audit purposes
- Each **SCP SCIENCE** CRM is economically priced
  - Affordable - better control charts through more frequent Quality Control Analysis

Coming Soon!
New Mat Standards for
TOC • Fertilizer • Moss
• Plastic • Electronic
Circuit Cards

EnviroMAT™ Standards	Symbol	Code	Quantity	Catalog Number
Soil, Contaminated	SS-1		100 g	140-025-001
Soil, Contaminated	SS-2		100 g	140-025-002
Sludge, Sewage	BE-1		50 g	140-025-011
Water, Drinking, Low Level, Concentrate	EP-L-1	✓ ⑧	250 ml	140-025-031
Water, Drinking, High Level, Concentrate	EP-H-1	✓ ⑧	250 ml	140-025-032
Water, Drinking, High & Low	SET	✓ ⑧	250 ml	140-025-030
Water, Ground, Low Level, Concentrate	ES-L-1	✓ ⑧	250 ml	140-025-034
Water, Ground, High Level, Concentrate	ES-H-1	✓ ⑧	250 ml	140-025-035
Water, Ground, High & Low	SET	✓ ⑧	250 ml	140-025-033
Water, Waste, Low Level, Concentrate	EU-L-1	✓ ⑧	250 ml	140-025-037
Water, Waste, High Level, Concentrate	EU-H-1	✓ ⑧	250 ml	140-025-038
Water, Waste, High & Low	SET	✓ ⑧	250 ml	140-025-036
Oil, Used	HU-1		125 ml	140-025-041

AgroMAT™ Standards	Symbol	Code	Quantity	Catalog Number
Soil, Clay	AG-1		175 g	140-025-101
Soil, Sandy	AG-2		175 g	140-025-102
Compost	CP-1		100 g	140-025-111

⊗ *Glass Container* ⑥ *Poison* ③ *Flammable*
✓ *Dangerous Goods** ⑧ *Corrosive* ⑤ *Oxidant*

* as defined by :
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Certified Reference Materials

*Enviro*MAT™

Contaminated Soil - SS-1

Parameter	EPA-3050A Digestion Values		Total Digestion Values	
	Consensus Value (ppm)	Confidence Interval (95%)	Consensus Value (ppm)	Confidence Interval (95%)
Ag	(1.9)	---	(3.4)	---
Al	9518	8417 - 10,619	40,106	36,686 - 43,526
As	18	17 - 19	17	13 - 21
B	(13)	---	---	---
Ba	102	96 - 108	401	356 - 446
Be	(0.5)	---	(1.2)	---
Ca	137,375	131,222 - 143,528	137,664	124,276 - 151,052
Cd	34	32 - 36	35	32 - 38
Ce	(32)	---	(36)	---
Co	28	26 - 30	32	30 - 34
Cr	64	55 - 73	110	97 - 123
Cu	690	657 - 723	720	691 - 749
Fe	20,406	19,037 - 21,775	29,161	27,360 - 30,962
Hg	(0.19)	---	(0.25)	---
K	1913	1553 - 2273	14,495	13,185 - 15,805
Li	11	9 - 13	(17)	---
Mg	6088	5710 - 6466	9710	8925 - 10,495
Mn	425	406 - 444	557	534 - 580
Mo	5	4.3 - 5.7	(8)	---
Na	217	177 - 257	9528	8363 - 10,693
Ni	231	218 - 244	239	215 - 263
P	1070	1021 - 1119	1188	1116 - 1260
Pb	233	219 - 247	253	227 - 279
S	(7843)	---	(7994)	---
Sb	(0.6)	---	(1.7)	---
Se	(1.6)	---	(1.8)	---
Sn	---	---	(4.3)	-----
Sr	202	195 - 209	332	308 - 356
Ti	248	186 - 310	1969	1782 - 2156
Tl	(0.5)	---	(0.9)	---
U	(21)	---	(21)	---
V	19	17 - 21	42	39 - 45
Y	(8)	---	(16)	---
Zn	6775	6467 - 7083	7290	6813 - 7767

Catalog Number	Code	Quantity
140-025-001		100 g

⊗ *Glass Container* ⑥ *Poison* ③ *Flammable*
✓ *Dangerous Goods** ⑧ *Corrosive* ⑤ *Oxidant*

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*Digi*PREP MS - For Soil Testing

An acid resistant digestion system for multiple digestion applications:
- Selection of programmable digital controllers available
- 48 sample tube capacity, ideal for EPA 3000 Series digestions
- Optional *Digi*PROBE for accurate sample temperature control

"Spring is when you feel like whistling even with a shoe full of slush." -Doug Larson-

Contaminated Soil - SS-2

Parameter	EPA-3050A Digestion Values		Total Digestion Values	
	Consensus Value (ppm)	Confidence Interval (95%)	Consensus Value (ppm)	Confidence Interval (95%)
Ag	(1.3)	---	(3)	---
Al	13,265	12,114 - 14,416	44,853	37,791 - 51,915
As	75	65 - 85	78	62 - 94
B	(12)	---	---	---
Ba	215	202 - 228	650	594 - 706
Be	(0.7)	---	(4)	---
Ca	112,861	107,989 - 117,733	118,738	106,798 - 130,678
Cd	(2)	---	(2)	---
Ce	(71)	---	(79)	---
Co	12	11 - 13	14	13 - 15
Cr	34	30 - 38	58	51 - 65
Cu	191	182 - 200	198	189 - 207
Fe	21,046	19,597 - 22,495	29,070	27,262 - 30,878
Hg	(0.28)	---	(0.34)	---
K	3418	3066 - 3770	18,119	16,349 - 19,889
Li	14	12 - 16	(20)	---
Mg	11,065	10,459 - 11,671	14,225	12,995 - 15,455
Mn	457	433 - 481	577	545 - 609
Mo	(4)	---	(4)	---
Na	558	456 - 660	12,539	11,362 - 13,716
Ni	54	50 - 58	59	55 - 63
P	752	734 - 770	814	744 - 884
Pb	126	116 - 136	148	130 - 166
S	(2193)	---	(2254)	---
Sb	(0.8)	---	(6)	---
Se	(0.8)	---	(1)	---
Sn	---	---	(6)	---
Sr	214	202 - 226	382	351 - 413
Ti	850	742 - 958	2893	2664 - 3122
Tl	(0.3)	---	(0.6)	---
U	(1.3)	---	(2)	---
V	34	31 - 37	59	54 - 64
Y	(12)	---	(21)	---
Zn	467	444 - 490	509	479 - 539

Catalog Number	Code	Quanity
140-025-002		100 g

Sewage Sludge - BE-1

Parameter	Consensus Value (µg/g)	Confidence Interval (95%)
Ag	21	20 – 22
Al	43917	42324 – 45510
As	4.6	4.1 – 5.1
B	(9.9)	---
Ba	446	413 – 479
Be	0.21	0.17 – 0.25
Ca	28636	27185 – 30087
Cd	1.9	1.6 – 2.2
Co	2.3	2.1 – 2.5
Cr	34	31 – 37
Cu	408	392 – 424
Fe	8925	8478 – 9372
Hg	1.3	1.1 – 1.5
K	2273	2034 – 2512
Li	3.6	3.0 – 4.2
Mg	3808	3600 – 4016
Mn	213	205 – 221
Mo	6.4	5.9 – 6.9
Na	1459	1260 – 1658
Ni	14	13 – 15
P	29826	27906 – 31746
Pb	57	53 – 61
S	(8048)	---
Sb	(0.9)	---
Se	2.9	2.4 – 3.4
Sn	(16)	---
Sr	349	331 – 367
Ti	(91)	---
U	(2.1)	---
V	12	11.5 – 12.5
Zn	381	367 – 395

Catalog Number	Code	Quantity
140-025-011		50 g

⊗ *Glass Container* ⑥ *Poison* ③ *Flammable*
✓ *Dangerous Goods** ⑧ *Corrosive* ⑤ *Oxidant*

* as defined by :
- Hazardous Materials Regulations of the U.S. Department of Transportation, Tariff No. BOE-6000-R
- Canadian Transportation of Dangerous Goods Act and Regulations, Revision December 2000
  International Air Transport Association - Dangerous Goods Regulation, 40th Edition

*pe*CHECK - Compliance Standards

- Compliance testing at reduced cost
- Large lot sizes ensure long term availability & repeatability
- Variable concentration levels to match your specific needs

Certified Reference Materials

*Enviro*MAT™

Waste Water EU-L-1 EU-H-1

Parameter	After 1:100 Dilution		After 1:50 Dilution	
	Consensus Value (ppm)	Confidence Interval (95%)	Consensus Value (ppm)	Confidence Interval (95%)
Al	0.15	0.12 – 0.18	0.45	0.43 – 0.47
As	0.21	0.20 – 0.22	0.86	0.81 –0.91
B	0.25	0.24 – 0.26	0.87	0.78 – 0.96
Ba	0.30	0.29 – 0.31	1.26	1.23 – 1.29
Be	0.03	0.029 – 0.031	0.52	0.50 – 0.54
Ca	4.03	3.91 – 4.15	40.6	39.8 – 41.4
Cd	0.06	0.058 – 0.062	0.31	0.30 – 0.32
Co	0.20	0.197 – 0.203	0.74	0.72 – 0.76
Cr	0.15	0.147 – 0.153	0.46	0.45 – 0.47
Cu	0.26	0.25 – 0.27	0.93	0.91 – 0.95
Fe	0.11	0.10 – 0.12	0.65	0.62 – 0.68
K	4.49	4.39 – 4.59	43.7	42.4 – 45.0
Mg	1.24	1.21 – 1.27	13.8	13.6 – 14.0
Mn	0.30	0.29 – 0.31	0.52	0.51 – 0.53
Mo	0.10	0.097 – 0.103	0.82	0.80 – 0.84
Na	10.4	10.2 – 10.6	43.0	42.2 – 43.8
Ni	0.20	0.196 – 0.204	0.88	0.86 – 0.90
P	2.67	2.58 – 2.76	12.7	12.1 – 13.3
Pb	0.10	0.098 – 0.102	0.73	0.72 – 0.74
Sb	0.06	0.05 – 0.07	0.63	0.60 – 0.66
Se	0.07	0.067 – 0.073	0.17	0.16 – 0.18
Sr	0.38	0.37 – 0.39	1.09	1.06 – 1.12
Tl	0.20	0.19 – 0.21	0.48	0.46 – 0.50
V	0.12	0.116 – 0.124	0.96	0.94 – 0.98
Zn	0.06	0.057 – 0.063	1.00	0.97 – 1.03

Catalog Number	Code	Quantity	Catalog Number	Code	Quantity
140-025-037	✓ ⑧	250 ml	140-025-038	✓ ⑧	250 ml

Ground Water ES-L-1 ES-H-1

Parameter	After 1:500 Dilution		After 1:50 Dilution	
	Consensus Value (ppm)	Confidence Interval (95%)	Consensus Value (ppm)	Confidence Interval (95%)
Al	0.094	0.085 – 0.103	0.55	0.52 – 0.58
As	0.011	0.010 – 0.012	1.03	0.99 – 1.07
B	(0.036)	---	4.07	3.90 – 4.24
Ba	0.050	0.048 – 0.052	8.26	8.11 – 8.41
Be	0.052	0.051 – 0.053	0.53	0.52 – 0.54
Ca	0.25	0.24 – 0.26	13.9	13.5 – 14.3
Cd	0.010	0.009 – 0.011	0.51	0.50 – 0.52
Co	0.051	0.050 – 0.052	0.30	0.29 – 0.31
Cr	0.020	0.0196 – 0.0204	0.98	0.96 – 1.00
Cu	0.020	0.018 – 0.022	1.99	1.93 – 2.05
Fe	0.021	0.019 – 0.023	3.02	2.94 – 3.10
K	0.18	0.16 – 0.20	6.45	6.12 – 6.78
Li	0.050	0.049 – 0.051	0.25	0.24 – 0.26
Mg	0.110	0.105 – 0.115	9.11	8.99 – 9.23
Mn	0.096	0.093 – 0.099	0.79	0.77 – 0.81
Mo	0.011	0.010 – 0.012	1.03	1.02 – 1.04
Na	1.27	1.13 – 1.41	43.3	42.6 – 44.0
Ni	0.010	0.0096 – 0.0104	2.01	1.96 – 2.06
P	(0.005)	---	1.12	1.02 – 1.22
Pb	(0.002)	---	0.33	0.32 – 0.34
Sb	0.006	0.005 – 0.007	0.11	0.106 – 0.114
Se	(0.001)	---	0.077	0.074 – 0.080
Sr	0.121	0.116 – 0.126	2.53	2.50 – 2.56
Tl	0.071	0.068 – 0.074	0.104	0.102 – 0.106
U	0.050	0.049 – 0.051	0.49	0.47 – 0.51
V	0.010	0.009 – 0.011	2.02	1.98 – 2.06
Zn	0.021	0.020 – 0.022	2.00	1.95 – 2.05

Catalog Number	Code	Quantity	Catalog Number	Code	Quantity
140-025-034	✓ ⑧	250 ml	140-025-035	✓ ⑧	250 ml

Drinking Water EP-L-1 EP-H-1

Parameter	After 1:1000 Dilution		After 1:100 Dilution	
	Consensus Value (ppm)	Confidence Interval (95%)	Consensus Value (ppm)	Confidence Interval (95%)
Al	0.26	0.24 – 0.28	0.92	0.88 – 0.96
As	0.027	0.025 – 0.029	0.40	0.38 – 0.42
B	0.20	0.18 – 0.22	9.88	9.51 – 10.25
Ba	0.021	0.020 – 0.022	2.01	1.97 – 2.05
Be	0.005	0.0049 – 0.0051	0.16	0.15 – 0.17
Ca	0.94	0.92 – 0.96	22.1	21.6 – 22.6
Cd	0.005	0.0048 – 0.0052	0.20	0.19 – 0.21
Co	0.026	0.025 – 0.027	0.095	0.092 – 0.098
Cr	0.035	0.034 – 0.036	0.68	0.66 – 0.70
Cu	0.040	0.038 – 0.042	0.50	0.49 – 0.51
Fe	0.068	0.063 – 0.073	1.48	1.43 – 1.53
K	0.84	0.79 – 0.89	12.8	12.3 – 13.3
Li	0.030	0.029 – 0.031	0.71	0.68 – 0.74
Mg	0.054	0.050 – 0.058	4.83	4.75 – 4.91
Mn	0.015	0.014 – 0.016	0.34	0.33 – 0.35
Mo	0.063	0.062 – 0.064	0.52	0.51 – 0.53
Na	0.68	0.58 – 0.78	21.6	21.2 – 22.0
Ni	0.051	0.050 – 0.052	0.83	0.80 – 0.86
P	(0.039)	---	0.42	0.40 – 0.44
Pb	0.009	0.008 – 0.010	0.63	0.61 – 0.65
Sb	0.031	0.029 – 0.033	0.21	0.20 – 0.22
Se	0.15	0.14 – 0.16	0.32	0.30 – 0.34
Sr	0.35	0.34 – 0.36	0.95	0.93 – 0.97
Tl	0.015	0.014 – 0.016	0.26	0.25 – 0.27
U	0.009	0.008 – 0.010	0.097	0.092 – 0.102
V	0.036	0.035 – 0.037	0.99	0.96 – 1.02
Zn	0.103	0.100 – 0.106	5.01	4.82 – 5.20

Catalog Number	Code	Quantity	Catalog Number	Code	Quantity
140-025-031	✓ ⑧	250 ml	140-025-032	✓ ⑧	250 ml

⊗ Glass Container *⑥ Poison* *③ Flammable*
*✓ Dangerous Goods** *⑧ Corrosive* *⑤ Oxidant*

* as defined by :
- Hazardous Materials Regulations of the U.S. Department of Transportation, Tariff No. BOE-6000-R
- Canadian Transportation of Dangerous Goods Act and Regulations, Revision December 2000
- International Air Transport Association - Dangerous Goods Regulation, 40th Edition

Used Oil - HU-1

Parameter	Consensus Value (µg/g)	Confidence Interval (95%)
Ag	13	10 – 16
Al	14	11 – 17
Ba	9	8.5 – 9.5
Ca	72	67 – 77
Cd	15	14 – 16
Cr	15	13 – 17
Cu	3132	2906 – 3358
Fe	59	53 – 65
K	(11)	---
Mg	11	10 – 12
Mn	18	17 – 19
Mo	11	10 – 12
Na	(20)	---
Ni	45	42 – 48
P	(40)	---
Pb	20	19 – 21
Si	(10)	---
Sn	(305)	---
Ti	9	7 – 11
V	7	6.5 – 7.5
Zn	16	14 – 18

Catalog Number	Code	Quantity
140-025-041		125 ml

Save more with MATPak
Purchase any three MAT CRMs and save over 15%!

Compost - CP-1

Parameter	Unit	Consensus Value	Confidence Interval (95%)
Al - Total	mg/kg	7544	6838 - 8250
As - Total	mg/kg	5.5	3.6 - 7.4
C/N Ratio	---	(20.6)	---
Ca - Total	mg/kg	54393	51699 - 57087
Cd - Total	mg/kg	(1.6)	---
Co - Total	mg/kg	5.5	4.6 - 6.4
Cr - Total	mg/kg	41	35 - 47
Cu - Total	mg/kg	227	215 - 239
Fe - Total	mg/kg	17550	16923 - 18177
H_20	%	2.7	2.3 - 3.1
Hg - Total	mg/kg	0.6	0.52 - 0.68
K - Total	mg/kg	1334	1136 - 1532
Mg - Total	mg/kg	4493	4283 - 4703
Mn - Total	mg/kg	658	637 - 679
Mo - Total	mg/kg	(2.3)	---
N - Total	%	0.82	0.77 - 0.87
Na - Total	mg/kg	462	392 - 532
Ni - Total	mg/kg	30	27 - 33
NO_3 - N	mg/kg	797	702 - 892
Organic Matter	%	28	25 - 31
P - Total	mg/kg	6874	6615 - 7133
Pb - Total	mg/kg	33	31 - 35
pH	---	7.2	7.1 - 7.3
S - Total	mg/kg	2042	1783 - 2301
Se - Total	mg/kg	(0.8)	---
Zn - Total	mg/kg	240	232 - 248

Catalog Number	Code	Quantity
140-025-111		100 g

⊗ *Glass Container* ⑥ *Poison* ③ *Flammable*
✓ *Dangerous Goods** ⑧ *Corrosive* ⑤ *Oxidant*

* as defined by :
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- Canadian Transportation of Dangerous Goods Act and Regulations, Revision December 2000
International Air Transport Association - Dangerous Goods Regulation, 40th Edition

Instrument Control Kit - *Plasma*TEST ICP-MS

- Perfect for instrument compliance auditing
- A single product providing instrument testing QC for ICP-MS
- Monitor and document 14 different instrument parameters
- Detect operational & mechanical problems before analytical errors occur

Certified Reference Materials

*Agro*MAT™

Parameter	Method	Unit	Clay Soil AG-1 Consensus Value	Clay Soil AG-1 Confidence Interval (95%)	Sandy Soil AG-2 Consensus Value	Sandy Soil AG-2 Confidence Interval (95%)
Phosphorus	Bray 1	ppm	34	27 – 41	22	17 – 27
	Mehlich III	ppm	52	49 – 55	21	19 – 23
	Olsen	ppm	38	34 – 42	15	12 – 18
Potassium	Ammonium Acetate	ppm	108	104 – 112	79	71 – 87
	Mehlich III	ppm	121	113 – 129	88	82 – 94
Calcium	Ammonium Acetate	ppm	2184	2075 – 2293	371	345 – 397
	Mehlich III	ppm	2580	2488 – 2672	468	433 – 503
Magnesium	Ammonium Acetate	ppm	249	237 – 261	27	20 – 34
	Mehlich III	ppm	298	286 – 310	39	34 – 44
Zinc	DTPA	ppm	0.9	0.8 – 1.0	1.6	1.5 – 1.7
	Mehlich III	ppm	2.1	2.0 – 2.2	3.8	3.6 – 4.0
Manganese	DTPA	ppm	14	12 – 16	33	27 – 39
	Mehlich III	ppm	140	132 – 148	214	199 – 229
Copper	DTPA	ppm	0.9	0.8 – 1.0	0.8	0.7 – 0.9
	Mehlich III	ppm	0.7	0.6 – 0.8	1.1	1.0 – 1.2
Iron	DTPA	ppm	57	48 – 66	96	74 – 118
	Mehlich III	ppm	546	511 – 581	481	456 – 506
Boron	Hot Water	ppm	0.4	0.3 – 0.5	0.3	0.2 – 0.4
	Mehlich III	ppm	0.7	0.5 – 0.9	0.4	0.2 – 0.6
Sodium	Ammonium Acetate	ppm	25	19 – 31	20	16 – 24
	Mehlich III	ppm	(31)	---	(25)	---
Sulfur	Mehlich III	ppm	(11)	---	(25)	---
Aluminum	Mehlich III	ppm	(913)	---	(1370)	---
pH	1 :1 Soil :Water	---	7.1	7.0 – 7.2	5.7	5.6 – 5.8
	1 :2 Soil :Water	---	7.1	6.9 – 7.3	5.7	5.5 – 5.9
	Saturated Paste	---	(7.1)	-----	(5.8)	---
	Buffer SMP	---	7.2	7.1 – 7.3	6.4	6.3 – 6.5
Organic Matter	LOI	%	2.7	2.4 – 3.0	3.2	2.9 – 3.5
	Walkley Black	%	2.3	2.1 – 2.5	2.5	2.3 – 2.7
Nitrogen as Nitrate	Cadmium Reduction	ppm	14	13 – 15	5	4 – 6
Soluble Salts	1 :1 Soil :Water	uS/cm	(256)	---	(78)	---
	1 :2 Soil :Water	uS/cm	171	151 – 191	72	58 – 86
	Saturated Paste	uS/cm	(562)	---	(228)	---

Catalog Number	Code	Quantity	Catalog Number	Code	Quantity
140-025-101		175 g	**140-025-102**		175 g

⊗ *Glass Container* ✓ *Dangerous Goods** ⑥ *Poison* ⑧ *Corrosive* ③ *Flammable* ⑤ *Oxidant*

* as defined by :
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- Canadian Transportation of Dangerous Goods Act and Regulations, Revision December 2000
- International Air Transport Association - Dangerous Goods Regulation, 40th Edition

Instrument Control Kit - *Plasma*TEST ICP-AES

- Perfect for instrument compliance auditing
- A single product providing instrument testing QC for ICP-AES
- Monitor and document 7 different instrument parameters
- Detect operational & mechanical problems before analytical errors occur

"One should not be assigned one's identity in society by the job slot one happens to fill." -Judith Martin-

Certificate of Analysis

General Information

Sewage Sludge
Certified Reference Material BE-1

Sample

Organization responsible for the certification:

SCP SCIENCE
Manufacturing Division
21800 Clark Graham
Baie d'Urfé, QC, Canada
H9X 4B6

Ph: (514) 457-0701 Fax: (514) 457-4499

Date of receipt : _____

Date of initial Certification: September 29, 1999
Date of last Verification: February 8, 2005

Description:

The Reference Standard BE-1 is a natural sewage sludge (not spiked or fortified) with a particle size of -200 mesh. It is designed to be used for quality control verification, internal standards validation or methods development for the analysis of the listed parameters using the indicated methods.

This certification is valid for 12 months from the shipping date or 24 months after the verification date, whichever comes first, provided the material is kept tightly capped and stored under normal laboratory conditions. **SCP SCIENCE** will monitor the stability of representative samples annually and, if any changes occur that invalidate this certification, **SCP SCIENCE** will notify purchasers.

Certificate of Analysis:
*Enviro*MAT™ Example

Directions:

Before weighing, mix the material by shaking the container to avoid segregation in the bottle. In order to have a representative sample, the minimum use quantity must be 250 mg to conform with previous homogeneity testing. The procedure used for digestion is based on the EPA 3050 Method ie. strong acid digest. Do not use a total digestion procedure. The results are on a dry weight basis so you need to dry the material at 105 ^{0}C to constant weight before weighing.

Preparation method:

The initial sample has been dried and crushed. The “fines” portion has been further crushed and sieved with 80% of the material passing through a 200 mesh screen. The final material has then been packaged in 50 g containers and tested for homogeneity.

The homogeneity of the material has undergone third party verification by Particle Size Analysis and by Total Digestion using ICP-AES for analysis. 15 bottles were taken at random from the lot. 12 of these bottles were analysed once and the 3 remaining bottles were analysed 12 times each. The resulting data was analysed statistically and the elemental standard deviations were consistent with a homogenous material.

The method used for the determination of the homogeneity of the material is based on ISO Guide 35.

Certification and Calculation Methods:

The Certification Method is based on a round-robin analysis involving 18 laboratories. Each laboratory was asked to supply analysis data in duplicate for a specific list of parameters. Not all the laboratories supplied data for the different parameters. Certified Values are based on an average of 19 values per parameter (27 values being the highest and 10 values being the lowest). Values in brackets are not certified as less than 10 values were received. They are provided for information only.

The outliers were removed using the Dixon Test after confirmation that there was neither a connection between outliers and the methods used for analysis nor between the outliers and the nature of the sample.

The Confidence Interval has been calculated using the 95% Confidence Level (equivalent to 2σ) using the following formula:

$$x \pm \frac{ts}{\sqrt{n}}$$

where
- n: number of data
- s: Standard Deviation of the Average
- t: factor for Student Test
- x: Reference Value

The Confidence Interval should be used for routine quality control.

The Tolerance Interval has been calculated using a 95% probability with a 95% inclusion of the population. The following formula was used:

$$x \pm ks$$

where
- k: factor for two-sided Tolerance Limits
- s: Standard Deviation of the Average
- x: Reference Value

The Tolerance Interval is an indication of the lowest possible value and the highest possible value based on the complete set of data, exclusive of outliers, used to calculate the Certified Value.

The following table is a guideline on how to interpret the results:

Results within Confidence Interval	Method working properly
Results consistently outside Confidence Interval but within Tolerance Interval	Method needs improvement
Results outside Tolerance Interval	Method not working properly

References:

ISO Guide 30 (1992): Terms and definitions used in connection with reference materials
ISO Guide 31 (1981): Contents of certificates of reference materials
ISO Guide 35 (1989): Certification of reference materials--General and statistical principles
Standard Reference Materials-Handbook for SRM Users - John K. Taylor
Quality Assurance of Chemical Measurements - John K. Taylor

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Certificate of Analysis:
*Enviro*MAT™ Example

Catalog number : **140-025-011**

Consensus Values for ***Enviro***MAT – Sewage Sludge BE-1

Parameter	Unit	Consensus Value	Confidence Interval	Tolerance Interval
Ag	mg/kg	21	20 – 22	15 – 27
Al	mg/kg	43917	42324 – 45510	34552 – 53282
As	mg/kg	4.6	4.1 – 5.1	1.8 – 7.4
B	mg/kg	(9.9)	-----	-----
Ba	mg/kg	446	413 – 479	251 – 641
Be	mg/kg	0.21	0.17 – 0.25	0.01 – 0.41
Ca	mg/kg	28636	27185 – 30087	20253 – 37019
Cd	mg/kg	1.9	1.6 – 2.2	0 – 3.8
Co	mg/kg	2.3	2.1 – 2.5	0.9 – 3.7
Cr	mg/kg	34	31 – 37	18 – 50
Cu	mg/kg	408	392 – 424	305 – 511
Fe	mg/kg	8925	8478 – 9372	6254 – 11596
Hg	mg/kg	1.3	1.1 – 1.5	0.2 – 2.4
K	mg/kg	2273	2034 – 2512	970 – 3576
Li	mg/kg	3.6	3.0 – 4.2	0.7 – 6.5
Mg	mg/kg	3808	3600 – 4016	2605 – 5011
Mn	mg/kg	213	205 – 221	164 – 262
Mo	mg/kg	6.4	5.9 – 6.9	3.4 – 9.4
Na	mg/kg	1459	1260 – 1658	469 – 2449
Ni	mg/kg	14	13 – 15	6 – 22
P	mg/kg	29826	27906 – 31746	20757 – 38895
Pb	mg/kg	57	53 – 61	28 – 86
S	mg/kg	(8048)	-----	-----
Sb	mg/kg	(0.9)	-----	-----
Se	mg/kg	2.9	2.4 – 3.4	0 – 5.8
Sn	mg/kg	(16)	-----	-----
Sr	mg/kg	349	331 – 367	252 – 446
Ti	mg/kg	(91)	-----	-----
U	mg/kg	(2.1)	-----	-----
V	mg/kg	12	11.5 – 12.5	9 – 15
Zn	mg/kg	381	367 – 395	296 – 466

Note : Values in bracket are not certified. They are listed for information only.

Manufactured according to an ISO 9001:2000 Quality System and ISO 17025 (in-process)

SCP SCIENCE
21800 Clark Graham, Baie D'Urfé, QC, Canada H9X 4B6
Phone : (514) 457-0701 Fax : (514) 457-4499
Web Site: www.scpscience.com

*pe***CHECK** Performance Evaluation Standards are used for routine compliance testing analysis. With 3 levels of concentration, select the concentration level that meets your needs.

Performance Evaluation Standards - Notes

NOTES

*pe*CHECK Performance Evaluation Standards - Solids

***pe*CHECK** standards are cost effective performance evaluation standards for routine analysis compliance testing. These standards are available for minerals, nutrients, and solids in water/wastewater matrices and are certified through a comprehensive round-robin study providing independent verification from multiple laboratories.

- 20 ml vials. No pipetting necessary. Just dilute to volume. Each standard dilutes to 1 L
  - Eliminate a source of potential error, save time with single step preparation
- Certificate of Analysis listing consensus values as well as confidence and tolerance intervals.
  - Monitor lab performance in a cost effective, simple manner
- Prepared in large batches
  - Same lot number available time after time allows the possibility of control charting

	Level 1 Solids		
Parameter	**Unit**	**Consensus Value**	**Confidence Interval**
Suspended Solids	mg/l	238	235 - 242
Dissolved Solids	mg/l	33.0	18.7 - 47.3
Total Solids	mg/l	254	242 - 267

Catalog Number	Code	Volume
140-702-101		20 ml

	Level 2 Solids		
Parameter	**Unit**	**Consensus Value**	**Confidence Interval**
Suspended Solids	mg/l	380	374 - 385
Dissolved Solids	mg/l	44.8	21.3 - 68.3
Total Solids	mg/l	400	380 - 419

Catalog Number	Code	Volume
140-702-102		20 ml

	Level 3 Solids		
Parameter	**Unit**	**Consensus Value**	**Confidence Interval**
Suspended Solids	mg/l	1928	1895 - 1961
Dissolved Solids	mg/l	46.0	25.3 - 66.8
Total Solids	mg/l	1970	1942 - 1999

Catalog Number	Code	Volume
140-702-103		20 ml

⊗ *Glass Container* ⑥ *Poison* ③ *Flammable*
✓ *Dangerous Goods** ⑧ *Corrosive* ⑤ *Oxidant*

* as defined by :
- Hazardous Materials Regulations of the U.S. Department of Transportation, Tariff No. BOE-6000-R
- Canadian Transportation of Dangerous Goods Act and Regulations, Revision December 2000
- International Air Transport Association - Dangerous Goods Regulation, 40th Edition

*pe*CHECK Performance Evaluation Standards - Nutrients

Parameter	Unit	Level 1 Nutrients Consensus Value	Confidence Interval
Ammonia (as N)	mg/l	0.97	0.91 - 1.03
Nitrate (as N)	mg/l	1.40	1.34 - 1.45
O-Phosphate (as P)	mg/l	0.74	0.69 - 0.80
Total Kjeldahl Nitrogen	mg/l	1.04	0.93 - 1.16
Total Phosphorus (as P)	mg/l	0.79	0.74 - 0.84

Catalog Number	Code	Volume
140-701-101		20 ml

Parameter	Unit	Level 2 Nutrients Consensus Value	Confidence Interval
Ammonia (as N)	mg/l	8.59	7.98 - 9.21
Nitrate (as N)	mg/l	13.3	12.9 - 13.7
O-Phosphate (as P)	mg/l	4.42	4.17 - 4.66
Total Kjeldahl Nitrogen	mg/l	20.2	19.2 - 21.2
Total Phosphorus (as P)	mg/l	4.64	4.31 - 4.98

Catalog Number	Code	Volume
140-701-102		20 ml

Parameter	Unit	Level 3 Nutrients Consensus Value	Confidence Interval
Ammonia (as N)	mg/l	14.7	14.2 - 15.2
Nitrate (as N)	mg/l	26.5	25.6 - 27.3
O-Phosphate (as P)	mg/l	9.33	9.11 - 9.55
Total Kjeldahl Nitrogen	mg/l	45.3	42.8 - 47.8
Total Phosphorus (as P)	mg/l	9.76	8.75 - 10.77

Catalog Number	Code	Volume
140-701-103		20 ml

⊗ *Glass Container* ⑥ *Poison* ③ *Flammable*
✓ *Dangerous Goods** ⑧ *Corrosive* ⑤ *Oxidant*

* as defined by :
- Hazardous Materials Regulations of the U.S. Department of Transportation, Tariff No. BOE-6000-R
- Canadian Transportation of Dangerous Goods Act and Regulations, Revision December 2000
- International Air Transport Association - Dangerous Goods Regulation, 40th Edition

*Accu*SPEC Solutions for APHA Methods

- Prepared as per guidelines from “Standard Methods for the Examination of Water & Wastewater”, 20th Edition
- Supplied with comprehensive Certificate of Analysis
- Manufactured and tested under an ISO Certified Quality Program

peCHECK Performance Evaluation Standards - Minerals

Parameter	Level 1 Minerals Unit	Consensus Value	Confidence Interval
Conductivity	µS	188	183 - 193
Total Hardness ($CaCO_3$)	mg/l	11.6	11.3 - 12.0
Total Dissolved Solids	mg/l	102	91 - 112
Calcium (Ca)	mg/l	2.62	2.50 - 2.75
Potassium (K)	mg/l	8.77	8.46 - 9.08
Magnesium (Mg)	mg/l	1.22	1.16 - 1.27
Sodium (Na)	mg/l	18.1	17.4 - 18.7
Chloride (Cl)	mg/l	19.7	19.1 - 20.2
Fluoride (F)	mg/l	0.50	0.48 - 0.53
Sulfate (SO_4)	mg/l	8.41	7.90 - 8.92

Catalog Number	Code	Volume
140-704-101	✓ ⑧	20 ml

Parameter	Level 2 Minerals Unit	Consensus Value	Confidence Interval
Conductivity	µS	1980	1915-2044
Total Hardness ($CaCO_3$)	mg/l	221	215-227
Total Dissolved Solids	mg/l	998	949-1048
Calcium (Ca)	mg/l	62.0	59.3-64.6
Potassium (K)	mg/l	164	155-172
Magnesium (Mg)	mg/l	15.3	14.8-15.8
Sodium (Na)	mg/l	90.9	88.2-93.6
Chloride (Cl)	mg/l	95.7	92.2-99.1
Fluoride (F)	mg/l	4.20	4.03-4.37
Sulfate (SO_4)	mg/l	150	144-156

Catalog Number	Code	Volume
140-704-102	✓ ⑧	20 ml

Parameter	Level 3 Minerals Unit	Consensus Value	Confidence Interval
Conductivity	µS	5803	5603-6002
Total Hardness ($CaCO_3$)	mg/l	531	520-542
Total Dissolved Solids	mg/l	3051	2990-3111
Calcium (Ca)	mg/l	136	132-140
Potassium (K)	mg/l	466	434-497
Magnesium (Mg)	mg/l	45.4	44.9-46.0
Sodium (Na)	mg/l	342	331-353
Chloride (Cl)	mg/l	430	420-441
Fluoride (F)	mg/l	12.3	11.8-12.9
Sulfate (SO_4)	mg/l	397	384-411

Catalog Number	Code	Volume
140-704-103	✓ ⑧	20 ml

⊗ *Glass Container* ⑥ *Poison* ③ *Flammable*
✓ *Dangerous Goods** ⑧ *Corrosive* ⑤ *Oxidant*

* as defined by :
- Hazardous Materials Regulations of the U.S. Department of Transportation, Tariff No. BOE-6000-R
- Canadian Transportation of Dangerous Goods Act and Regulations, Revision December 2000
- International Air Transport Association - Dangerous Goods Regulation, 40th Edition

Certificate of Analysis

Sample

***pe*CHECK MINERALS**, level 1
Certified Performance Evaluation Standard
140-704-101

Organization responsible for the certification:

SCP SCIENCE
Manufacturing Division
21800 Clark Graham
Baie d'Urfé, QC, Canada
H9X 4B6

Phone: (514) 457-0701
Fax: (514) 457-4499

Date of initial Certification: January 16, 2001
Date of last Verification: February 8, 2005

Description:

***pe*CHECK MINERALS** level 1 is a concentrated performance evaluation standard in two bottles (Alpha and Beta) for drinking and waste water analysis. This standard was designed specifically for periodic quality control verification, and methods development for water analyses of the listed parameters.

Stability:

This certification is valid for 12 months from the shipping date or 24 months after the verification date, whichever comes first, provided the material is kept sealed and stored under normal laboratory conditions. **SCP SCIENCE** will monitor the stability of representative samples annually and if any changes occur that invalidate this certification, **SCP SCIENCE** will notify purchasers.

Certification and Calculation Methods:

The Certification Method is based on a round-robin analysis involving 28 North American laboratories. Each laboratory was asked to supply analysis data in duplicate for a specific list of parameters. Not all the laboratories supplied data for the different parameters. Certified Values are based on an average of 22 values per parameter (25 values being the highest and 17 values being the lowest).

The outliers were removed using the Dixon Test after confirmation that there was neither a connection between outliers and the methods used for analysis, nor between the outliers and the nature of the sample.

The Confidence Interval has been calculated using the 95% Confidence Level (equivalent to 2σ) using the following formula:

$$x \pm \frac{ts}{\sqrt{n}}$$

where
- n: Number of data
- s: Standard Deviation of the Average
- t: Factor for Student Test
- x: Consensus value

The Tolerance Interval has been calculated using a 95% probability with a 95% inclusion of the population. The following formula was used:

$$x \pm ks$$

where
- k: Factor for two-sided Tolerance Limits
- s: Standard Deviation of the Average
- x: Consensus value

The Tolerance Interval is an indication of the lowest possible value and the highest possible value based on the complete set of data, exclusive of outliers, used to calculate the Certified Value.

The following table is a guideline on how to interpret the results:

Results within Confidence Interval	Method working properly
Results consistently outside Confidence Interval but within Tolerance Interval	Method needs improvement
Results outside Tolerance Interval	Method not working properly

References:

ISO Guide 30 (1992): Terms and definitions used in connection with reference materials
ISO Guide 35 (1989): Certification of reference materials--General and statistical principles
Quality Assurance of Chemical Measurements - John K. Taylor

USA
Tel.: (800) 361-6820
Fax: (800) 253-5549

Canada / International
Tel.: (800) 361-6820 / (514) 457-0701
Fax: (800) 253-5549 / (514) 457-4499

Europe
Tel.: +33 (0)1 69 18 71 17
Fax: +33 (0)1 60 92 05 67

Certificate of Analysis: *pe*CHECK Minerals

Instructions:

1. Shake each bottle well before use;
2. Put 600ml of deionized water into a 1-liter volumetric flask;
3. Open both bottles (Alpha and Beta) carefully and transfer all contents of each bottle into the volumetric flask;
4. Ensure that all the standard is added to the flask by carefully rinsing each bottle AND each cap three times with deionized make-up water;
5. Dilute to the mark with deionized water, and mix;
6. Test as soon as possible for the listed parameters.

Consensus Values:

*pe***CHECK MINERALS,** level 1

Parameter	Unit	Consensus Value	Confidence Interval	Tolerance Interval
Conductivity	µS	**188**	183 – 193	158 – 218
Total Hardness (as $CaCO_3$)	mg/l	**11.6**	11.3 – 12.0	9.8 – 13.5
Total Disolved Solids	mg/l	**102**	91 – 112	37 – 166
Calcium (Ca)	mg/l	**2.62**	2.50 – 2.75	1.88 – 3.36
Potassium (K)	mg/l	**8.77**	8.46 – 9.08	6.89 – 10.65
Magnesium (Mg)	mg/l	**1.22**	1.16 – 1.27	0.89 – 1.55
Sodium (Na)	mg/l	**18.1**	17.4 – 18.7	14.1 – 22.0
Chloride	mg/l	**19.7**	19.1 – 20.2	16.2 – 23.1
Fluoride	mg/l	**0.50**	0.48 – 0.53	0.35 – 0.65
Sulfate	mg/l	**8.41**	7.90 – 8.92	5.32 – 11.50
Lot number : SC1018915			**Catalogue number : 140-704-101**	

Manufactured according to an ISO 9001:2000 Quality System and ISO 17025 (in-process)
SCP SCIENCE
21800 Clark Graham, Baie D'Urfé, QC, Canada H9X 4B6
Phone : (514) 457-0701 Fax : (514) 457-4499
Web Site: www.scpscience.com

SCP SCIENCE manufactures and distributes products for Ion Chromatography. A large selection of single and multi-element anion and cation calibration standards are available and are directly traceable to the National Institute of Standards and Technology (NIST) standards. Save time and labour by purchasing prepared calibration standards.

Ion Chromatography Standards - Notes

NOTES

*Accu*SPEC
Ion Chromatography Standards

Ion Chromatography is a vital component of inorganic analysis. Traditional single ion calibration standards, multi ion standards and eluents as well as custom solutions are available.

- Complete Certificate of Analysis is included with NIST traceability
  - Complete documentation for audit purposes
- Multi-Element Standards available
  - Custom standards designed to your specifications
  - Popular "Off the Shelf" multi element standards for quick delivery and cost saving
- Eluents available as concentrates or working solutions
  - Eluents prepared following rigid specifications

Single Ion Chromatography Standards

Anion Standard	Symbol	Matrix	Code	Catalog Number 125 ml 1000 µg/ml	Catalog Number 500 ml 1000 µg/ml	Catalog Number 125 ml 10 000 µg/ml	Catalog Number 500 ml 10 000 µg/ml
Acetate	CH_3COO^-	H_2O		250-220-100	250-220-101	---	---
Ammonia-Nitrogen	NH_3^- as N	H_2O		250-220-115	250-220-116	---	---
Bromate	BrO_3^-	H_2O		250-220-220	250-220-221	---	---
Bromide	Br^-	H_2O		250-220-235	250-220-236	250-221-235	250-221-236
Chlorate	ClO_3^-	H_2O		250-220-355	250-220-356	---	---
Chloride	Cl^-	H_2O		250-220-370	250-220-371	250-180-231	250-180-235
Fluoride	F^-	H_2O		250-220-400	250-220-401	250-221-400	250-221-401
Formate	$HCOO^-$	H_2O		250-220-415	250-220-416	---	---
Nitrate	NO_3^-	H_2O		250-220-505	250-220-506	250-221-505	250-221-506
Nitrate-Nitrogen	NO_3^- as N	H_2O		250-220-520	250-220-521	---	---
Nitrite	NO_2^-	H_2O		250-220-535	250-220-536	250-221-535	250-221-536
Nitrite-Nitrogen	NO_2^- as N	H_2O		250-220-550	250-220-551	---	---
Oxalate	$C_2O_4^{2-}$	H_2O		250-220-565	250-220-566	---	---
Perchlorate	ClO^{4-}	H_2O		250-220-580	250-220-581	---	---
Phosphate	PO_4^{3-}	H_2O		250-220-595	250-220-596	250-221-595	250-221-596
Phosphate-Phosphorus	PO_4^{3-} as P	H_2O		250-220-610	250-220-611	---	---
Sulfate	SO_4^{2-}	H_2O		250-220-700	250-220-701	250-221-700	250-221-701
Sulfate-Sulfur	SO_4^{2-} as S	H_2O		250-220-715	250-220-716	---	---

Cation Standard	Symbol	Matrix	Code	Catalog Number 125 ml 1000 µg/ml	Catalog Number 500 ml 1000 µg/ml	Catalog Number 125 ml 10 000 µg/ml	Catalog Number 500 ml 10 000 µg/ml
Ammonium	NH_4^+	H_2O		250-220-130	250-220-131	---	---
Barium	Ba^{2+}	H_2O		250-220-175	250-220-176	---	---
Calcium	Ca^{2+}	H_2O		250-220-250	250-220-251	250-221-250	250-221-251
Lithium	Li^+	H_2O		250-220-445	250-220-446	---	---
Magnesium	Mg^{2+}	H_2O		250-220-460	250-220-461	250-221-460	250-221-461
Potassium	K^+	H_2O		250-220-625	250-220-626	250-221-625	250-221-626
Sodium	Na^+	H_2O		250-220-640	250-220-641	250-221-640	250-221-641
Strontium	Sr^{2+}	H_2O		250-220-685	250-220-686	---	---

⊗ *Glass Container* ⑥ *Poison* ③ *Flammable*
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Multi-Ion Standards

Multi-Ion Standard 1

Ion	Concentration
Cl^-	30 µg/ml
F^-	20 µg/ml
NO_3^-	100 µg/ml
PO_4^{3-}	150 µg/ml
SO_4^{2-}	150 µg/ml

Matrix: H_2O

Catalog Number	Code	Volume
140-315-001		125 ml
140-315-005		500 ml

Multi-Ion Standard 2

Solution A

Ion	Concentration
Cl^-	10 µg/ml
F^-	10 µg/ml
NO_3^-	10 µg/ml
PO_4^{3-}	10 µg/ml
SO_4^{2-}	10 µg/ml

Matrix: H_2O

Catalog Number	Code	Volume
141-315-011		125 ml
141-315-015		500 ml

Solution B

Ion	Concentration
NO_2^-	10 µg/ml

Matrix: H_2O

Catalog Number	Code	Volume
141-315-021		125 ml
141-315-025		500 ml

Solution A & B Set

Catalog Number	Code	Volume
140-315-011		125 ml
140-315-015		500 ml

Multi-Ion Standard 3

Solution A

Ion	Concentration
Br^-	100 µg/ml
Cl^-	100 µg/ml
F^-	100 µg/ml
NO_3^-	100 µg/ml
PO_4^{3-}	100 µg/ml
SO_4^{2-}	100 µg/ml

Matrix: H_2O

Catalog Number	Code	Volume
251-225-011		125 ml
251-225-015		500 ml

Solution B

Ion	Concentration
NO_2^-	100 µg/ml

Matrix: H_2O

Catalog Number	Code	Volume
251-225-021		125 ml
251-225-025		500 ml

Solution A & B Set

Catalog Number	Code	Volume
250-225-001		125 ml
250-225-005		500 ml

Multi-Ion Standard 4

Solution A

Ion	Concentration
Br^-	1000 µg/ml
Cl^-	1000 µg/ml
F^-	1000 µg/ml
NO_3^-	1000 µg/ml
PO_4^{3-}	1000 µg/ml
SO_4^{2-}	1000 µg/ml

Matrix: H_2O

Catalog Number	Code	Volume
251-225-101		125 ml
251-225-105		500 ml

Solution B

Ion	Concentration
NO_2^-	1000 µg/ml

Matrix: H_2O

Catalog Number	Code	Volume
251-225-111		125 ml
251-225-115		500 ml

Solution A & B Set

Catalog Number	Code	Volume
250-225-101		125 ml
250-225-105		500 ml

⊗ *Glass Container* ⑥ *Poison* ③ *Flammable*
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Eluent and Chelaton Solutions for Ion Chromatography

Eluent Solutions	Symbol	Concentration	Code	Catalog Number 100 ml	500 ml	1 L
Bicarbonate/Sodium Hydroxide*		0.003/0.002 M	✓ ⑧	---	---	---
Bicarbonate/Sodium Hydroxide concentrate		0.3/0.2 M	✓ ⑧	250-220-205	---	---
Carbonate/Bicarbonate*		0.0018/0.0017 M		---	---	---
Carbonate/Bicarbonate*		0.0022/0.0028 M		---	---	---
Carbonate/Bicarbonate*		0.003/0.0024 M		---	---	---
Carbonate/Bicarbonate concentrate		0.18/0.17 M		250-220-310	---	---
Carbonate/Bicarbonate concentrate		0.22/0.28 M		250-220-325	---	---
Carbonate/Bicarbonate concentrate		0.30/0.24 M		250-220-340	---	---
Hydrochloric Acid Eluent concentrate	HCl	1 M	✓ ⑧ ⊗	250-220-430	250-220-431	250-220-432
Methanesulfonic Acid concentrate	CH_3SO_3H	1 M	✓ ⑧ ⊗	---	---	250-220-490
Methanesulfonic Acid	CH_3SO_3H	20 mM	✓ ⑧	---	---	250-220-475
Sodium Bicarbonate Eluent concentrate	$NaHCO_3$	0.5 M		250-220-655	250-220-656	250-220-657
Sodium Carbonate Eluent concentrate	Na_2CO_3	0.5 M		250-220-670	250-220-671	250-220-672

*** Available in 10 and 20 L volumes**

Chelation Solutions	Symbol	Concentration	Code	Catalog Number 500 ml	1L	5 L
Ammonium Acetate	CH_3COONH_4	2 M		250-220-145	250-220-146	250-220-147
Ammonium Nitrate	NH_4NO_3	0.1 M		250-220-160	250-220-161	250-220-162
Nitric Acid*	HNO_3	2 M	✓ ⑧	250-035-100	250-035-101	250-035-102

*** Also available in 10 and 20L volumes**

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International Air Transport Association - Dangerous Goods Regulation, 40th Edition

*Accu*SPEC ISE Standards and Reagents

Standards, reagents, and filling solutions for most ion selective and pH electrodes.
- Manufactured and tested under ISO Quality Programs
- Direct equivalent to original manufacturers' products

Certificate of Analysis: Ion Chromatography Standard

Certificate of Analysis

Catalogue numbers : **250-220-370/250-220-371**
Description : ***Accu*SPEC – IC Standard Chloride 1000 µg/ml**

Lot Number : **SC4328999**
Expiry Date : **September 2006**
(*unopened bottle*)

Opened Bottle Expiry Information
15 months after opening, up to unopened expiration date

_____
Date bottle opened

Cl-

This standard analyzed by Ion chromatography (IC) is traceable to NIST Standard Reference Material: 3182

Actual Value : **993 µg/ml**

Certified by : _____ **Date of certification : December 7, 2004**
Alketa Mixha, Chemist

This IC Standard is guaranteed to be stable and accurate to within ± 1% of the actual concentration up to the unopened expiry date, if sealed, or 12 months after opening of the bottle, up to the unopened expiry date provided the solution is kept tightly capped and stored, at 4°C, under normal laboratory conditions. For these solutions, 18 megohm/cm double deionized water, and Class A glassware are used. The Material Safety Data Sheet and this Certificate of Analysis are available on our web site. (Ce certificat est également disponible en français)

Manufactured according to an ISO 9001:2000 Quality System and ISO 17025 (in-process)

SCP SCIENCE
21800 Clark Graham, Baie D'Urfé, QC, Canada H9X 4B6
Phone : (514) 457-0701 Fax : (514) 457-4499
Web Site: www.scpscience.com

Ion Chromatography Standards Request Form

Complete this form to receive a quotation for your specific Custom Multi-Ion Standard or to enter your purchase order. Photocopy for use with multiple requests.

Contact Information:

Name: _____

Title: _____

Company: _____

Mailing Address: _____

City: _____ Province/State: _____ PC/Zip: _____ Country: _____

Telephone: _____ Fax: _____

E-mail: _____ Account No: _____

Please indicate the concentration required for each element:

Anion Custom Multi-Ion Standard	Cation Custom Multi-Ion Standard
Acetate	Ammonium
Bromate	Ammonia-Nitrogen
Bromide	Barium
Chlorate	Calcium
Chloride	Lithium
Fluoride	Magnesium
Formate	Potassium
Nitrate	Sodium
Nitrate-Nitrogen	Strontium
Nitrite	**Matrix Required:** _____
Nitrite-Nitrogen	_____
Oxlate	
Perchlorate	**Rate of Use (L/yr):** _____
Phosphate	_____
Phosphate-Phosphorus	
Sulfate	**Special Requirements:** _____
Sulfate-Sulfur	_____

☐ Please Send me a Quotation

☐ Please Enter my Purchase Order # _____

Fax form back to:

USA	**(800) 253-5549**
Canada / International	**(800) 253-5549 / (514) 457-4499**
Europe	**+33 (0)1 60 92 05 67**

Atomic Absorption Standards - Notes

NOTES

SCP SCIENCE manufactures and distributes supplies, calibration standards and reagents for use in Atomic Absorption Spectroscopy. We stock all popular Calibration Standards, Matrix Modifiers, Ionization Buffers, and other common consumables.

Single Element Calibration Standards

Popular standards are available for Flame and Graphite Furnace Atomic Absorption. Each standard includes a detailed Certificate of Analysis and direct traceability to NIST.

- Certificate of Analysis with actual matrix, actual concentration, and traceability to NIST 3100 Series Standards
  - Complete documentation for audit purposes
- 2 expiry dates (up to 21 months unopened & 15 months opened)
  - Longer shelf life for unopened bottles
- Immediate availability for most common elements

Element	Symbol	Matrix	Code	Catalog Number 1000 µg/ml 500 ml
Aluminum	Al	HCl	✓ ⑧	140-002-135
Antimony	Sb	HNO_3 / tr. Tartaric Acid	✓ ⑧	140-001-515
Arsenic	As	HNO_3	✓ ⑧	140-001-335
Barium	Ba	HNO_3	✓ ⑧	140-001-565
Beryllium	Be	HNO_3	✓ ⑧	140-001-045
Bismuth	Bi	HNO_3	✓ ⑧	140-001-835
Boron	B	H_2O		140-000-055
Cadmium	Cd	HNO_3	✓ ⑧	140-001-485
Calcium	Ca	HNO_3	✓ ⑧	140-001-205
Chromium	Cr	HCl	✓ ⑧	140-002-245
Cobalt	Co	HNO_3	✓ ⑧	140-001-275
Copper	Cu	HNO_3	✓ ⑧	140-001-295
Gold	Au	HCl	✓ ⑧	140-002-795
Iron	Fe	HNO_3	✓ ⑧	140-001-265
Lead	Pb	HNO_3	✓ ⑧	140-001-825
Lithium	Li	HNO_3	✓ ⑧	140-001-035
Magnesium	Mg	HNO_3	✓ ⑧	140-001-125
Manganese	Mn	HNO_3	✓ ⑧	140-001-255
Mercury	Hg	HNO_3	✓ ⑧	140-001-805
Molybdenum	Mo	H_2O		140-000-425
Nickel	Ni	HNO_3	✓ ⑧	140-001-285
Potassium	K	HNO_3	✓ ⑧	140-001-195
Selenium	Se	HNO_3	✓ ⑧	140-001-345
Silicon	Si	H_2O / tr. HF		140-000-145
Silver	Ag	HNO_3	✓ ⑧	140-001-475
Sodium	Na	HNO_3	✓ ⑧	140-001-115
Strontium	Sr	HNO_3	✓ ⑧	140-001-385
Tin	Sn	HCl	✓ ⑧	140-002-505
Titanium	Ti	H_2O / tr. HF		140-000-225
Vanadium	V	HNO_3	✓ ⑧	140-001-235
Zinc	Zn	HNO_3	✓ ⑧	140-001-305

⊗ *Glass Container* ⑥ *Poison* ③ *Flammable*
✓ *Dangerous Goods** ⑧ *Corrosive* ⑤ *Oxidant*

* as defined by :
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- Canadian Transportation of Dangerous Goods Act and Regulations, Revision December 2000
- International Air Transport Association - Dangerous Goods Regulation, 40th Edition

Modifiers for Graphite Furnace (GFAA)

Matrix Modifiers allow the optimization of analytical conditions to provide better GFAA instrument response and better detection limits. All commonly used products are available in addition to custom formulations.

- Prepared from 99.999% pure starting materials
  - Extremely low level of metallic impurities in the final solution
- Custom formulations available
  - Designed for your specific application
- Complete Certificate of Analysis listing the actual concentration and the level of metallic impurities
  - Complete documentation for audit purposes

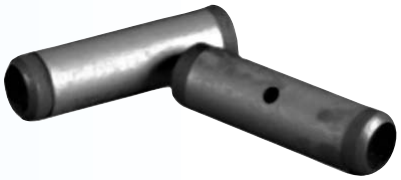
Matrix Modifier	Formulation	Code	Catalog Number 100 ml	250 ml	500 ml
Magnesium Nitrate	2% Mg in 5% HNO_3	✓ ⑧	140-003-031	140-003-032	140-003-035
Palladium Nitrate	0.2% Pd in 5% HNO_3	✓ ⑧	140-003-061	140-003-062	140-003-065
Palladium Nitrate	2% Pd in 5% HNO_3	✓ ⑧	140-003-091	140-003-092	140-003-095
Calcium Nitrate	2% Ca in 5% HNO_3	✓ ⑧	140-003-121	140-003-122	140-003-125
Ammonium Phosphate	40% w/v in 2% HNO_3	✓ ⑧	140-003-151	140-003-152	140-003-155
Ammonium Nitrate	5% w/v in 2% HNO_3	✓ ⑧	140-003-181	140-003-182	140-003-185
Palladium/Magnesium Nitrate	0.3% Pd + 0.5% Mg in 1% HNO_3	✓ ⑧	140-003-191	140-003-192	140-003-195
Nickel Nitrate	5% Ni in 5% HNO_3	✓ ⑧	140-003-211	140-003-212	140-003-215
Ionization Buffers					
Cesium Chloride	1% Cs in 2% HCl	✓ ⑧	140-003-241	140-003-242	140-003-245
Cesium Nitrate	1% Cs in 2% HNO_3	✓ ⑧	140-003-271	140-003-272	140-003-275
Lithium Chloride	2% Li in 2% HCl	✓ ⑧	140-003-301	140-003-302	140-003-305
Lithium Nitrate	2% Li in 2% HNO_3	✓ ⑧	140-003-331	140-003-332	140-003-335
Potassium Chloride	1% K in 2% HCl	✓ ⑧	140-003-361	140-003-362	140-003-365
Potassium Nitrate	1% K in 2% HNO_3	✓ ⑧	140-003-391	140-003-392	140-003-395
Releasing Agents					
Lanthanum Chloride	5% La in 5% HCl	✓ ⑧	140-003-421	140-003-422	140-003-425
Lanthanum Nitrate	5% La in 5% HNO_3	✓ ⑧	140-003-451	140-003-452	140-003-455

⊗ *Glass Container* ⑥ *Poison* *Flammable*
✓ *Dangerous Goods** ⑧ *Corrosive* *Oxidant*

* as defined by :
- Hazardous Materials Regulations of the U.S. Department of Transportation, Tariff No. BOE-6000-R
- Canadian Transportation of Dangerous Goods Act and Regulations, Revision December 2000
  International Air Transport Association - Dangerous Goods Regulation, 40th Edition

Graphite Furnace Tubes

- Made from high purity, pyrolytically coated graphite
- Cross references available for OEM products
- Unconditional performance guarantee
- **FREE** Atomic Absorption standard with each package purchased



Certificate of Analysis: Atomic Absorption Standard

Certificate of Analysis

Catalog number	**140-001-285**
Description	**Nickel – AA Standard**
Nominal Concentration	**1000 µg/ml**
Lot number	**SC5004999**
Expiration Date	**October 2006** (*unopened bottle*)
Starting Material	Ni metal

Opened Bottle Expiry Information
15 months after opening, up to unopened expiration date

_____
Date bottle opened

Analysis of Solution Standard by Inductively Coupled Plasma Spectroscopy (ICP-AES) traceable to NIST Standard Reference Material 3136.

Actual Concentration :	**1000 µg/ml**
Matrix :	**4% HNO_3**

Certified by : _____ **Date of certification : January 28, 2005**
Alketa Mixha, Chemist

This AA Standard is guaranteed to be stable and accurate to within ± 0.5% of the actual concentration up to the unopened expiry date, if sealed, or 12 months after opening of the bottle, up to the unopened expiry date provided the solution is kept tightly capped and stored under normal laboratory conditions. For these solutions, 18 megohm/cm double deionized water, ACS-grade acids and Class A glassware are used. The Material Safety Data Sheet and this Certificate of Analysis are available on our web site. (Ce certificat est également disponible en français)

Manufactured according to an ISO 9001:2000 Quality System and ISO 17025 (in-process)

SCP SCIENCE
21800 Clark Graham, Baie D'Urfé, QC, Canada H9X 4B6
Phone : (514) 457-0701 Fax : (514) 457-4499
Web Site: www.scpscience.com

*Accu***SPEC** standards and reagents are manufactured to meet laboratory needs. Choose from a wide selection of product lines which include: APHA Method Products to Inorganic compounds. Custom blends are available for selected products.

Buffers, Volumetric Reagents & Titrants - Notes

NOTES

Products for APHA Methods

Maximize productivity and reduce analysis costs using *Accu***SPEC** prepared standards and reagents for American Public Health Association (APHA) Methods. Prepared solutions are available for most common Inorganic Standard Methods.

- Prepared as per guidelines from "Standard Methods for the Examination of Water and Wastewater", 20th Edition
  - Compliance with APHA, AWWA & WEF
- Links between reagents and specific methods
  - Easy retrieval of specific reagents
- Manufactured and tested under our ISO Certified Quality Programs
  - Consistency between product lots

APHA: American Public Health Association
AWWA: American Water Works Association
WEF: Water Environment Federation

Solution	Description	Concentration	Code	Catalog Number 500 ml	1 L	5 L
Acetate Buffer	For As (pH 5.5)			250-200-100	250-200-101	250-200-102
Acetate Buffer	For Br (pH 4.6-4.7)			250-200-130	250-200-131	250-200-132
Acetate Buffer	For Cl (pH 4)		✓ ⑧	250-200-160	250-200-161	250-200-162
Acetate Buffer	For CN (pH 4.5)		✓ ⑧	250-200-190	250-200-191	250-200-192
Acetate Buffer	For F		✓ ⑧	250-200-220	250-200-221	250-200-222
Alum solution	$AlK(SO_4)_2$	10% w/v		250-260-100	250-260-101	250-260-102
Ammonium Acetate	Acetic Acid Buffer		✓ ⑧	250-200-280	250-200-281	250-200-282
Ammonium Chloride	EDTA			250-260-175	250-260-176	250-260-177
Ammonium Chloride	NH_4Cl	0.05 M		250-260-125	250-260-126	250-260-127
Ammonium Chloride	NH_4Cl	1.15 g/l		250-260-150	250-260-151	250-260-152
Ammonium Hydroxide*	(as NH_3), NH_4OH	0.5 N		250-100-150	250-100-151	250-100-152
Ammonium Hydroxide	(as NH_3), NH_4OH	5 N	✓ ⑧	250-100-300	250-100-301	250-100-302
Ammonium Hydroxide*	(as NH_3), NH_4OH	5% v/v		250-100-350	250-100-351	250-100-352
Ammonium Hydroxide*	(as NH_3), NH_4OH	10% v/v		250-100-400	250-100-401	250-100-402
Ammonium Molybdate I			✓ ⑧	250-260-250	250-260-251	---
Ammonium Molybdate II			✓ ⑧	250-260-275	250-260-276	---
Ammonium Molybdate	$(NH_4)_6Mo_7O_{24}$	4% w/v		250-260-200	250-260-201	250-260-202
Ammonium Molybdate	$(NH_4)_6Mo_7O_{24}$	10% w/v		250-260-225	250-260-226	250-260-227
Ammonium Oxalate	$(NH_4)_2C_2O_4$	4% w/v		250-260-300	250-260-301	250-260-302
Ammonium Oxalate	$(NH_4)_2C_2O_4$	5% w/v		250-260-325	250-260-326	250-260-327
Ammonium Phosphate	$(NH_4)_2HPO_4$	30% w/v		250-260-350	250-260-351	---
Ammonium Phosphate	$(NH_4)_2HPO_4$	40% w/v		250-260-375	250-260-376	---
Ammonium Phosphate	$(NH_4)_2HPO_4$	50% w/v		250-260-400	250-260-401	---
Ammonium Sulphate	$(NH_4)_2SO_4$	10% w/v		250-260-425	250-260-426	---
Arsenous Acid Solution			✓ ⑥	250-005-000	250-005-001	---
Borate Buffer				250-200-310	250-200-311	250-200-312
Borax*	$Na_2B_4O_7$	1% w/v		250-260-450	250-260-451	250-260-452

* Available in 10 and 20 L bottles

⊗ *Glass Container* ⑥ *Poison* ③ *Flammable*
✓ *Dangerous Goods** ⑧ *Corrosive* ⑤ *Oxidant*

* as defined by :
- Hazardous Materials Regulations of the U.S. Department of Transportation, Tariff No. BOE-6000-R
- Canadian Transportation of Dangerous Goods Act and Regulations, Revision December 2000
- International Air Transport Association - Dangerous Goods Regulation, 40th Edition

Products for APHA Methods

Solution	Description	Concentration	Code	Catalog Number 60 ml	125 ml	500 ml	1 L	5 L
Bromcresol Green-Methyl Red	Aqueous		⊗	250-120-140	250-120-141	250-120-142	250-120-143	---
Bromcresol Green-Methyl Red	Isopropanol		③ ⊗	250-120-150	250-120-151	250-120-152	250-120-153	---
Calcium Carbonate Std	$CaCO_3$	1 mg/L $CaCO_3$				250-260-475	250-260-476	250-260-477
Color Standard 500 Units	Pt-Co Solution		✓ ⊗ ⑧			250-260-500	250-260-501	---
Copper Sulfate-Sulfamic Acid	Inibitor		✓ ⊗ ⑧			250-260-550	250-260-551	---
Copper Sulfate	$CuSO_4$	2% w/v	⊗			250-260-525	250-260-526	250-260-527*
EDTA Disodium Salt(for NH_3-N)**	$C_{10}H_{14}N_2O_8Na_2$	0.25 M				---	250-260-575	250-260-576
EDTA Disodium Salt(for NH_3-N)**		50% w/v				---	250-260-600	250-260-601
Eriochrome Black T	in 2-Methoxyethanol	0.5% w/v	✓ ⊗ ③	250-120-350	250-120-351	250-120-352	250-120-353	---
Eriochrome Black T	in Triethanolamine	1% w/v	⊗	250-120-360	250-120-361	250-120-362	250-120-363	---
Ferric Nitrate	$Fe(NO_3)_3$	40.4% w/v	✓ ⊗			250-260-625	250-260-626	250-260-627*
Lead Acetate	$(CH_3COO)_2Pb$	10%	✓ ⑥			250-260-650	250-260-651	---
Manganous Sulfate	$MnSO_4$	364 g/L				250-260-675	250-260-676	250-260-677
MBTH Indicator		0.05%	⊗	250-120-390	250-120-391	250-120-392	250-120-393	---
Mercuric Nitrate	$Hg(NO_3)_2$	0.0141 N	⊗			250-260-700	250-260-701	250-260-702*
Mercuric Sulfate Special Reagent			✓ ⊗ ⑧			250-260-725	250-260-726	---
Methyl Red - Methylene Blue			⊗	250-120-470	250-120-471	250-120-472	250-120-473	---
Oxalic Acid	$C_2H_2O_4$	7.5% w/v	✓ ⊗ ⑥			250-040-200	250-040-201	250-040-202*
Potassium Chromate	K_2CrO_4	0.065% w/v	⊗			250-120-620	250-120-621	250-120-622*
Potassium Oxalate	$(COOK)_2$	2% w/v				250-260-750	250-260-751	---
Potassium Permanganate***	$KMnO_4$	0.01 N	⊗			250-260-775	250-260-776	250-260-777*
Potassium Persulfate	$K_2S_2O_8$	5% w/v	⊗			250-260-800	250-260-801	250-260-802*
Sodium Acetate	CH_3COONa	2 M				250-260-825	250-260-826	250-260-827
Sodium Acetate	CH_3COONa	0.2 N				250-260-850	250-260-851	250-260-852
Sodium Arsenite	$NaAsO_2$	0.1 N				250-310-380	250-310-381	---
Sodium Bicarbonate Solution**	$NaHCO_3$	5.5% w/v				250-260-875	250-260-876	250-260-877
Sodium Chloride**	NaCl	0.0141 M				250-260-900	250-260-901	250-260-902
Sodium Hydroxide Dilution Solution**	NaOH	0.16% w/v	✓ ⑧			250-108-640	250-108-641	250-108-642
Stannous Chloride I			⊗			250-260-625	---	---
Stannous Chloride II			⊗			250-260-950	---	---
Sulfuric Acid	H_2SO_4	16.7% v/v	✓ ⑧			250-060-490	250-060-491	250-060-492
Vanadate-Molybdate Solution			✓ ⑧			250-260-970	250-260-971	250-260-972
Zinc Acetate	$(CH_3COO)_2Zn$	10% w/v				250-260-980	250-260-981	250-260-982
Zinc Sulfate	$ZnSO_4$	10% w/v				250-260-990	250-260-991	250-260-992

* Indicates 4L Glass Bottle
** Available in 10 and 20 L bottles
*** Class A precursor requires special document. Contact customer service.

⊗ *Glass Container* ⑥ *Poison* ③ *Flammable*
✓ *Dangerous Goods** ⑧ *Corrosive* ⑤ *Oxidant*

* as defined by :
- Hazardous Materials Regulations of the U.S. Department of Transportation, Tariff No. BOE-6000-R
- Canadian Transportation of Dangerous Goods Act and Regulations, Revision December 2000
- International Air Transport Association - Dangerous Goods Regulation, 40th Edition

High Temperature Digestion System - *Digi*PREP HT

The *Digi***PREP HT** is available in two models - a 40 tube (100 ml) or a 20 tube (250 ml) system. Ideal for digestion applications such as:

- Soil
- Kjeldahl / TKN
- Plant
- Compost
- Plastics
- Oils

"Success is simply a matter of luck. Ask any failure." -Earl Wilson-

*Accu***SPEC** acids and bases are manufactured for routine lab analysis. Several volumes and concentrations are available, in-stock, ready to ship. Contact your Sales Representative for custom blends.

- Available in many sizes
  - Use only what is required. Save money on larger volumes
- Custom blends, concentrations, and volumes available
- Includes Certificate of Analysis listing actual concentration, lot number, expiry date, traceability where appropriate
  - Complete documentation for audit purposes
- Manufactured and tested under ISO Certified Quality Programs
  - Consistency between product lots

Acids	Description	Concentration	Code	Catalog Number 500 ml	1 L	5 L
Acetic Acid	CH_3COOH	0.1 N		250-000-100	250-000-101	250-000-102
Acetic Acid	CH_3COOH	0.5 N		250-000-150	250-000-151	250-000-152
Acetic Acid	CH_3COOH	1 N		250-000-200	250-000-201	250-000-202
Acetic Acid	CH_3COOH	3 N	✓ ⑧	250-000-250	250-000-251	250-000-252
Acetic Acid	CH_3COOH	1% v/v		250-000-300	250-000-301	250-000-302
Acetic Acid	CH_3COOH	10% v/v	✓ ⑧	250-000-500	250-000-501	250-000-502
Acetic Acid	CH_3COOH	20& v/v	✓ ⑧	250-000-550	250-000-551	250-000-552
Acetic Acid	CH_3COOH	25%v/v	✓ ⑧	250-000-600	250-000-601	250-000-602
Boric Acid	H_3BO_3	2% w/v		250-015-100	250-015-101	250-015-102
Boric Acid	H_3BO_3	4% w/v		250-015-200	250-015-201	250-015-202
Citric Acid	$H_3C_6H_5O_7$	1.0 M		250-025-100	250-025-101	250-025-102
Citric Acid	$H_3C_6H_5O_7$	10% w/v		250-025-200	250-025-201	250-025-202
Hydrochloric Acid	HCl	0.01 N	✓ ⑧	250-030-100	250-030-101	250-030-102
Hydrochloric Acid	HCl	0.1N	✓ ⑧	250-030-190	250-030-191	250-030-192
Hydrochloric Acid	HCl	0.5 N	✓ ⑧	250-030-280	250-030-281	250-030-282
Hydrochloric Acid	HCl	1 N	✓ ⑧	250-030-400	250-030-401	250-030-402
Hydrochloric Acid	HCl	2 N	✓ ⑧	250-030-430	250-030-431	250-030-432
Hydrochloric Acid	HCl	5 N	✓ ⑧	250-030-520	250-030-521	---
Hydrochloric Acid	HCl	10% v/v	✓ ⑧	250-030-760	250-030-761	250-030-762
Hydrochloric Acid	HCl	20% v/v	✓ ⑧	250-030-790	250-030-791	250-030-792
Nitric Acid	HNO_3	0.1 N	✓ ⑧	250-035-150	250-035-151	250-035-152
Nitric Acid	HNO_3	1 N	✓ ⑧	250-035-200	250-035-201	250-035-202
Nitric Acid	HNO_3	2 N	✓ ⑧	250-035-250	250-035-251	250-035-252
Oxalic Acid	$C_2H_2O_4$	0.1 N	✓ ⑥ ⊗	250-040-100	250-040-101	250-040-102*
Perchloric Acid	$HClO_4$	0.1 N	✓ ⑧	250-045-100	250-045-101	250-045-102
Phosphoric Acid	H_3PO_4	10% v/v	✓ ⑧	250-050-100	250-050-101	250-050-102

* Indicates 4L Glass Bottle

⊗ *Glass Container* ⑥ *Poison* ③ *Flammable*
✓ *Dangerous Goods** ⑧ *Corrosive* ⑤ *Oxidant*

* as defined by :
- Hazardous Materials Regulations of the U.S. Department of Transportation, Tariff No. BOE-6000-R
- Canadian Transportation of Dangerous Goods Act and Regulations, Revision December 2000
- International Air Transport Association - Dangerous Goods Regulation, 40th Edition

Acids & Base Titrants

Acids	Description	Concentration	Code	Catalog Number 500 ml	1 L	5 L
Sulfuric Acid	H_2SO_4	0.02 N	✓ ⑧	250-060-100	250-060-101	250-060-102
Sulfuric Acid	H_2SO_4	0.1 N	✓ ⑧	250-060-160	250-060-161	250-060-162
Sulfuric Acid	H_2SO_4	0.5 N	✓ ⑧	250-060-250	250-060-251	250-060-252
Sulfuric Acid	H_2SO_4	1 N	✓ ⑧	250-060-280	250-060-281	250-060-282
Sulfuric Acid	H_2SO_4	2 N	✓ ⑧	250-060-310	250-060-311	250-060-312
Sulfuric Acid	H_2SO_4	5 N	✓ ⑧	250-060-400	250-060-401	250-060-402
Tartaric Acid	$HOOC(CHOH)_2COOH$	2% w/v		---	250-065-102	---
Tartaric Acid	$HOOC(CHOH)_2COOH$	10% w/v		250-065-200	---	---

Bases	Description	Concentration	Code	Catalog Number 500 ml	1 L	5 L
Ammonium Hydroxide(as NH_3)	NH_4OH	0.1 N		250-100-100	250-100-101	250-100-102
Ammonium Hydroxide(as NH_3)	NH_4OH	1 N		250-100-200	250-100-201	250-100-202
Ammonium Hydroxide(as NH_3)	NH_4OH	10% v/v		250-100-400	250-100-401	250-100-402
Potassium Hydroxide	KOH	0.1 N	✓ ⑧	250-104-100	250-104-101	250-104-102
Potassium Hydroxide	KOH	0.5 N	✓ ⑧	250-104-150	250-104-151	250-104-152
Potassium Hydroxide	KOH	1 N	✓ ⑧	250-104-200	250-104-201	250-104-202
Potassium Hydroxide	KOH (in Methanol)	0.02 N	✓ ③	---	---	250-104-501
Potassium Hydroxide	KOH (in Methanol)	0.5N	✓ ③	---	250-104-600	---
Potassium Hydroxide	KOH (in Methanol)	1 N	✓ ③	---	250-104-650	250-104-651
Sodium Hydroxide	NaOH	0.01 N	✓ ⑧	250-108-100	250-108-101	250-108-102
Sodium Hydroxide	NaOH	0.1 N	✓ ⑧	250-108-220	250-108-221	250-108-222
Sodium Hydroxide	NaOH	0.5 N	✓ ⑧	250-108-370	250-108-371	250-108-372
Sodium Hydroxide	NaOH	1 N	✓ ⑧	250-108-400	250-108-401	250-108-402
Sodium Hydroxide	NaOH	2 N	✓ ⑧	250-108-430	250-108-431	250-108-432
Sodium Hydroxide	NaOH	5 N	✓ ⑧	250-108-520	250-108-521	250-108-522
Sodium Hydroxide	NaOH	10 N	✓ ⑧	250-108-580	250-108-581	250-108-582

⊗ *Glass Container* ⑥ *Poison* ③ *Flammable*
✓ *Dangerous Goods** ⑧ *Corrosive* ⑤ *Oxidant*

* as defined by :
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*Accu*SPEC Standards & Reagents for BOD, COD and TOC

*Accu***SPEC** standards and reagents for BOD, COD, and TOC reduce analysis costs and maximize productivity. All common standards and reagents are available as well as custom blends.

- Prepared following guidelines from "Standards Methods for the Examination of Water and Wastewater", 20th Edition.
  - Time saving. Compliance with APHA, AWWA & WEF
- Manufactured and tested under ISO Certified Quality Programs
  - Consistency between product lots
- Kits available
  - Save with comprehensive product groupings
- Larger volumes available or special order for additional savings

APHA: American Public Health Association
AWWA: American Water Works Association
WEF: Water Environment Federation

Solution	Test	Concentration	Code	Catalog Number 125 ml	500 ml	1 L	5 L
BOD Kit	BOD		⊗	---	250-110-150	250-110-151	250-110-152
Buffer pH 7.2 (phosphate)	BOD			---	250-110-100	250-110-101	250-110-102
Calcium Chloride, CaC_{l2}	BOD	2.75% w/v		---	250-110-200	250-110-201	250-110-202
Ferric Chloride, $FeCl_3$	BOD	0.025% w/v	✓ ⊗ ⑧	---	250-110-300	250-110-301	250-110-302
Magnesium Sulfate, $MgSO_4$	BOD	2.25% w/v	⊗	---	250-110-400	250-110-401	250-110-402
1,10-Phenanthroline, $C_{12}H_8N_2$	COD	0.1%	⊗	250-120-521	250-120-522	250-120-523	---
COD Control Solution	COD	100 mg/l O_2		250-130-512	250-130-550	250-130-551	---
COD Control Solution	COD	1000 mg/l O_2		250-130-602	250-130-600	250-130-601	---
COD Control Solution	COD	10 000 mg/l O_2		250-130-652	250-130-650	250-130-651	---
COD Digestion Tubes (25 + 1 QC)	COD	0-150 ppm	✓ ⊗ ⑧	250-130-006**	---	---	---
COD Digestion Tubes (25 + 1 QC)	COD	0-1500 ppm	✓ ⊗ ⑧	250-130-016**	---	---	---
COD Digestion Tubes (25 + 1 QC)	COD	0-15000 ppm	✓ ⊗ ⑧	250-130-026**	---	---	---
Ferrous Ammonium Sulfate, $Fe(NH_4)_2(SO_4)_2$	COD	0.00282 N	✓ ⊗	---	250-130-150	250-130-151	250-130-152*
Ferrous Ammonium Sulfate, $Fe(NH_4)_2(SO_4)_2$	COD	0.05 N	✓ ⊗	---	250-130-200	250-130-201	250-130-202*
Ferrous Ammonium Sulfate, $Fe(NH_4)_2(SO_4)_2$	COD	0.1 N	✓ ⊗	---	250-130-250	250-130-251	250-130-252*
Ferrous Ammonium Sulfate, $Fe(NH_4)_2(SO_4)_2$	COD	0.25 N	✓ ⊗	---	250-130-300	250-130-301	250-130-302*
Ferrous Ammonium Sulfate, $Fe(NH_4)_2(SO_4)_2$	COD	0.4 N	✓ ⊗	---	250-130-350	250-130-351	250-130-352*
Ferrous Ammonium Sulfate, $Fe(NH_4)_2(SO_4)_2$	COD	1 N	✓ ⊗	---	250-130-400	250-130-401	250-130-402*
Ferrous Ammonium Sulfate, $Fe(NH_4)_2(SO_4)_2$	COD	20% w/v	✓ ⊗	---	250-130-450	250-130-451	250-130-452*
Total Inorganic Carbon Standard	TIC	100 µg/ml		---	250-250-003	---	---
Total Inorganic Carbon Standard	TIC	1000 µg/ml		250-250-000	250-250-001	---	---
Total Inorganic Carbon Standard	TIC	10 000 µg/ml		---	250-250-002	---	---
Total Organic Carbon Standard	TOC	100 µg/ml		---	250-250-053	---	---
Total Organic Carbon Standard	TOC	1000 µg/ml		250-250-050	250-250-051	---	---
Total Organic Carbon Standard	TOC	10 000 µg/ml		---	250-250-052	---	---

* Indicates 4L Glass Bottle
** Indicates 25 x 16 mm Diameter Tubes

⊗ *Glass Container* ⑥ *Poison* ③ *Flammable*
✓ *Dangerous Goods** ⑧ *Corrosive* ⑤ *Oxidant*

* as defined by :
- Hazardous Materials Regulations of the U.S. Department of Transportation, Tariff No. BOE-6000-R
- Canadian Transportation of Dangerous Goods Act and Regulations, Revision December 2000
- International Air Transport Association - Dangerous Goods Regulation, 40th Edition

*Accu*SPEC Buffers

A full range of buffers for most laboratory applications. Buffers are traceable to NIST and each includes a comprehensive Certificate of Analysis. All buffers are certified at 25°C.

- Certificate of Analysis with actual concentration, lot number, expiry date, and traceability to NIST, where applicable
  - Complete documentation for audit purposes
- Available in many sizes
  - Use only what is required. Save money on larger volumes
  - Larger volumes available on special order
- Color coded Buffers with flip-top cap for pH 4, 7, & 10.
  - Easy recognition, easy dispensing

Buffer Solution (*p*H certified at 25˚C)	Code	Catalog Number 500 ml	1 L	5 L
Acetate Buffer for As (pH 5.5)		250-200-100	250-200-101	250-200-102
Acetate Buffer for Br (pH 4.6-4.7)		250-200-130	250-200-131	250-200-132
Acetate Buffer for Cl (pH 4)	✓ ⑧	250-200-160	250-200-161	250-200-162
Acetate Buffer for CN (pH 4.5)	✓ ⑧	250-200-190	250-200-191	250-200-192
Acetate Buffer for F	✓ ⑧	250-200-220	250-200-221	250-200-222
Acid Buffer with Chloride	✓ ⑧	250-200-250	---	---
Adams-Evans Buffer Solution		---	---	250-240-130*
Ammonium Acetate - Acetic Acid Buffer	✓ ⑧	250-200-280	250-200-281	250-200-282
Barium Borate-Hydroxide Buffer	✓ ⑧	250-170-150	250-170-151	---
Borate Buffer		250-200-310	250-200-311	250-200-312
Borax Buffer, 0.00996 M		250-200-340	250-200-341	250-200-342*
Boric Acid Buffer		---	250-200-370	250-200-371*
Buffer Masking Reagent	✓ ⑧	250-240-220	250-240-221	250-240-222
Buffer pH 1	✓ ⑧	250-201-001	250-201-002	250-201-003
Buffer pH 2		250-202-001	250-202-002	250-202-003*
Buffer pH 3		250-203-001	250-203-002	250-203-003*
Buffer pH 4		250-204-001	250-204-002	250-204-003*
Buffer pH 4 red		250-204-501	---	250-204-502*
Buffer ph 4 concentrate		250-204-701	250-204-702	---
Buffer pH 5		250-205-001	250-205-002	250-205-003*
Buffer pH 6		250-206-001	250-206-002	250-206-003*

* Available in 10 and 20 L bottles

⊗ *Glass Container* ⑥ *Poison* ③ *Flammable*
✓ *Dangerous Goods** ⑧ *Corrosive* ⑤ *Oxidant*

* as defined by :
- Hazardous Materials Regulations of the U.S. Department of Transportation, Tariff No. BOE-6000-R
- Canadian Transportation of Dangerous Goods Act and Regulations, Revision December 2000
- International Air Transport Association - Dangerous Goods Regulation, 40th Edition

Inorganic Compounds

- All products meet ACS specifications, where applicable
- Compliance with recognized norms & standards
- Packaged in wide-mouth bottles for easy dispensing

Coming Soon! Phosphorus Reaction Tubes

Buffer Solution (*p*H certified at 25˚C)	Code	Catalog Number 500 ml	1 L	5 L
Buffer pH 7		250-207-001	250-207-002	250-207-003*
Bufferp pH 7 yellow		250-207-501	---	250-207-502*
Buffer pH 7 concentrate		250-207-701	250-207-702	---
Buffer pH 7.2 (phosphate)		250-110-100	250-110-101	250-110-102
Buffer pH 7.40		250-200-580	250-200-581	250-200-582
Buffer pH 8		250-208-001	250-208-002	250-208-003*
Buffer pH 9		250-209-001	250-209-002	250-209-003*
Buffer pH 10		250-210-001	250-210-002	250-210-003*
Buffer pH 10 Blue		250-210-501	---	250-210-502*
Buffer pH 10 concentrate		250-210-701	250-210-702	---
Buffer Set (pH 4 Red, pH 7 Yellow, pH 10 Blue)		250-200-000	---	---
Buffer TISAB with CDTA		---	---	250-200-430*
Buffer TISAB II with CDTA		---	---	250-200-460*
Carbonate Buffer		---	250-200-490	250-200-491*
Color Developer Buffer		250-170-250	250-170-251	250-170-252
Color Dilution Buffer		250-170-275	250-170-276	250-170-277
Mehlich Buffer Solution		250-240-510	250-240-511	250-240-512
Phosphate Buffer, 0.05 M		250-200-520	250-200-521	250-200-522*
Phthalate Buffer		250-200-550	250-200-551	250-200-552
SMP Buffer Solution		250-240-740	250-240-741	250-240-742*

* Available in 10 and 20 L bottles

⊗ *Glass Container*
✓ *Dangerous Goods**
⑥ *Poison*
⑧ *Corrosive*
Flammable
Oxidant

* as defined by :
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International Air Transport Association - Dangerous Goods Regulation, 40th Edition

*Digi*PREP CUBE - For COD Analysis

- Digest up to 25 COD samples in 16 mm diameter tubes
- Provides temperature stability of +/- 0.1°C
- Offers 3-predefined programs and 2 variable programs
  - COD DIN @ 148°C in 120 minutes - Fast COD @ 150°C in 15 minutes
  - COD EPA @ 150°C in 120 minutes

*Accu*SPEC Conductivity Standards

*Accu***SPEC** Conductivity standards respond to the need for the accurate measurement of conductivity in laboratory, process, & environmental water samples. All standards are certified at 25°C.

- Numerous concentrations available
  - Reduce errors by selecting closest concentration
- Direct traceability to NIST
  - Product confidence
- Certificate of Analysis with actual conductivity, lot number, expiry date, and traceability to NIST, where applicable
  - Complete documentation for audit purposes

Standard (All standards certified at 25˚C)	Description (µS)	Code	Catalog Number 500 ml	1 L
Conductivity Standards (KCl)	12.9		250-160-700	250-160-701
Conductivity Standards (KCl)	84		250-160-720	250-160-721
Conductivity Standards (KCl)	100		250-160-740	250-160-741
Conductivity Standards (KCl)	146.9		250-160-760	250-160-761
Conductivity Standards (KCl)	1000		250-160-780	250-160-781
Conductivity Standards (KCl)	1413		250-160-820	250-160-821
Conductivity Standards (KCl)	2767		250-160-840	250-160-841
Conductivity Standards (KCl)	10 000		250-160-860	250-160-861
Conductivity Standards (KCl)	12 856		250-160-880	250-160-881
Conductivity Standards (KCl)	111 342		250-160-900	250-160-901
Conductivity Standards with TDS	5		250-160-050	250-160-051
Conductivity Standards with TDS	10		250-160-070	250-160-071
Conductivity Standards with TDS	23.8		250-160-090	250-160-091
Conductivity Standards with TDS	46.7		250-160-110	250-160-111
Conductivity Standards with TDS	50		250-160-130	250-160-131
Conductivity Standards with TDS	70		250-160-150	250-160-151
Conductivity Standards with TDS	100		250-160-170	250-160-171
Conductivity Standards with TDS	200		250-160-190	250-160-191
Conductivity Standards with TDS	445		250-160-210	250-160-211
Conductivity Standards with TDS	500		250-160-230	250-160-231
Conductivity Standards with TDS	700		250-160-250	250-160-251
Conductivity Standards with TDS	1000		250-160-270	250-160-271
Conductivity Standards with TDS	2000		250-160-290	250-160-291
Conductivity Standards with TDS	2060		250-160-310	250-160-311
Conductivity Standards with TDS	3900		250-160-330	250-160-331
Conductivity Standards with TDS	5000		250-160-350	250-160-351
Conductivity Standards with TDS	7000		250-160-370	250-160-371
Conductivity Standards with TDS	10 000		250-160-390	250-160-391
Conductivity Standards with TDS	16 630		250-160-410	250-160-411
Conductivity Standards with TDS	20 000		250-160-430	250-160-431
Conductivity Standards with TDS	30 100		250-160-450	250-160-451
Conductivity Standards with TDS	50 000		250-160-470	250-160-471
Conductivity Standards with TDS	70 000		250-160-490	250-160-491
Conductivity Standards with TDS	100 000		250-160-510	250-160-511

⊗ *Glass Container* ⑥ *Poison* ③ *Flammable*
✓ *Dangerous Goods** ⑧ *Corrosive* ⑤ *Oxidant*

* as defined by :
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*Accu*SPEC Standards & Reagents for Ion Selective Electrode Analysis

Ion Selective Electrode provide a quick and convenient method of analysis for many ionic species. Save on Standards and Reagents manufactured under our ISO Quality Programs.

- Manufactured and tested under ISO Certified Quality Programs
  - Consistency between product lots
- Direct equivalent to original manufacturers
  - Product confidence while saving money
- Complete list of products for most Ion Selective Electrodes
  - One source for all your solution needs, save time and money

Reagents	Description	Concentration	Code	Catalog Number 125 ml	500 ml	1 L	5 L
Ammonium Chloride	NH_4Cl	0.1 M		250-180-150	250-180-151	---	---
Ammonium Sulfate	$(NH_4)_2SO_4$	0.02 M		250-180-175	250-180-176	250-180-177	---
Buffer TISAB with CDTA				---	---	---	250-200-430*
Buffer TISAB II with CDTA				---	---	---	250-200-460*
Calcium Chloride	$CaCl_2$	0.1 M		---	250-180-200	250-180-201	250-180-202
Electrode Cleaning solution			✓ ⑧	250-180-300	250-180-301	250-180-302	250-180-303
Electrode Storage Solution				250-180-325	250-180-326	250-180-327	250-180-328
Electrode Storage Solution (buffered)				250-180-350	250-180-351	250-180-352	250-180-353
Ionic Strength Adjustor (ISA) for Solid State ISE				250-180-400	250-180-401	---	---
Nitrate Interference Suppressor Solution				250-180-425	250-180-426	---	---
Sodium Chloride	NaCl	5 M		---	250-180-550	250-180-551	250-180-552*
Sodium Ionic Strength Adjustor			✓ ⑧	250-180-575	250-180-576	---	---
Sodium Nitrate	$NaNO_3$	5 M		---	250-180-600	250-180-601	---

* Available in 10 and 20 L bottles

Maintenance Solutions	Code	Catalog Number 125 ml	500 ml
Ag/AgCl Reference Electrode Fill Solution		250-180-100	250-180-101
Ammonia Electrode Filling Solution		250-180-125	250-180-126
Combination Chloride Reference Internal Filling Solution		250-180-250	250-180-251
Double Junction Reference Electrode Inner Fill Solution		250-180-275	250-180-276
Double Junction Reference Electrode Outer Fill Solution		250-180-285	250-180-286
Potassium Chloride, KCl (Saturated)		---	250-180-450
Ross Reference Electrode Filling Solution		250-180-500	250-180-501
Single Junction Reference Internal Filling Solution		250-180-525	250-180-526

⊗ *Glass Container* ⑥ *Poison* ③ *Flammable*
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*Accu*SPEC Standards & Reagents for Ion Selective Electrode Analysis

Standards	Description	Concentration	Code	Catalog Number 125 ml	500 ml
Acetate	CH_3COO^-	1000 µg/ml		250-220-100	250-200-101
Ammonia-Nitrogen	NH_3- as N	1000 µg/ml		250-220-115	250-220-116
Ammonium	NH_4+	1000 µg/ml		250-220-130	250-220-131
Barium	Ba^{2+}	1000 µg/ml		250-220-175	250-220-176
Bromate	BrO_3^-	1000 µg/ml		250-220-220	250-220-221
Bromide	Br-	1000 µg/ml		250-220-235	250-220-236
Calcium	Ca^{2+}	1000 µg/ml		250-220-250	250-220-251
Chlorate	ClO_3^-	1000 µg/ml		250-220-355	250-220-356
Chloride	Cl-	100 µg/ml		---	250-180-225
Chloride	Cl-	1000 µg/ml		250-220-370	250-220-371
Chloride	Cl-	10 000 µg/ml		---	250-180-235
Fluoride	F-	100 µg/ml		---	250-180-375
Fluoride	F-	1000 µg/ml		250-220-400	250-220-401
Formate	HCOO-	1000 µg/ml		250-220-415	250-220-416
Lithium	Li^+	1000 µg/ml		250-220-445	250-220-446
Magnesium	Mg^{2+}	1000 µg/ml		250-220-460	250-220-461
Nitrate	NO_3^-	1000 µg/ml		250-220-505	250-220-506
Nitrate-Nitrogen	NO_3^- as N	1000 µg/ml		250-220-520	250-220-521
Nitrite	NO_2^-	1000 µg/ml		250-220-535	250-220-536
Nitrite-Nitrogen	NO_2^- as N	1000 µg/ml		250-220-550	250-220-551
Oxalate	$C_2O_4^{2-}$	1000 µg/ml		250-220-565	250-220-566
Perchlorate	ClO^{4-}	1000 µg/ml		250-220-580	250-220-581
Phosphate	PO_4^{3-}	1000 µg/ml		250-220-595	250-220-596
Phosphate-Phosphorus	PO_4^{3-} as P	1000 µg/ml		250-220-610	250-220-611
Potassium	K^+	1000 µg/ml		250-220-625	250-220-626
Sodium	Na^+	1000 µg/ml		250-220-640	250-220-641
Strontium	Sr^{2+}	1000 µg/ml		250-220-685	250-220-686
Sulfate	SO_4^{3-}	1000 µg/ml		250-220-700	250-220-701
Sulfate-Sulfur	SO_4^3- as S	1000 µg/ml		250-200-715	250-220-716

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✓ *Dangerous Goods** ⑧ *Corrosive* ⑤ *Oxidant*

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- Canadian Transportation of Dangerous Goods Act and Regulations, Revision December 2000
- International Air Transport Association - Dangerous Goods Regulation, 40th Edition

*Accu*SPEC pH Buffers

- Color coded Buffers with flip-top cap for pH 4, 7, & 10
- Available in many sizes
- Certificate of Analysis with actual concentration, lot number, expiry date, and traceability to NIST, where applicable

"Man's nature are alike; it is their habits that carry them far apart." -Confucius-

*Accu*SPEC Standards & Reagents for Dairy Testing

Maximize productivity and reduce process costs using *Accu***SPEC** prepared volumetric solutions for Dairy Products Testing. Prepared solutions are available for most common inorganic dairy product tests.

- Prepared following AOAC Methods, 15th Edition
  - Compliance with AOAC requirements
- Available in many sizes
  - Use only what is required. Less waste
  - Larger volumes available on special order
- Certificate of Analysis with actual concentration, lot number, expiry date, and traceability to NIST, where applicable

Solution	Description	Concentration	Code	Catalog Number 500 ml	1 L	5 L
Acetonitrile	CH_3CN	50% v/v	✓ ③ ⊗	250-170-100	250-170-101	250-170-102***
Acid-Mercric Nitrate			✓ ⑧ ⊗	250-170-125	250-170-126	250-170-127***
Barium Borate-Hydroxide Buffer			✓ ⑧	250-170-150	250-170-151	---
Barium Hydroxide	$Ba(OH)_2$	0.1 N		250-170-175	250-170-176	250-170-177
Borax Buffer		0.00996 M		250-200-340	250-200-341	250-200-342****
Boric Acid with Methyl Red-Methylene Blue		2% w/v		---	250-210-745	250-210-746****
Carbonate Buffer				---	250-200-490	250-200-491****
Chloride Standard		10 000 µg/ml		250-180-235**	---	---
Chloride Standard		20 000 µg/ml		250-180-245**	---	---
Color Developer Buffer				250-170-250	250-170-251	250-170-252
Color Dilution Buffer				250-170-275	250-170-276	250-170-277
Copper Sulfate Solution A		440.9 mg Cu/25ml	⊗	250-170-350	250-170-351	250-170-352***
Copper Sulfate Solution B		72.5 g/L	⊗	250-170-375	250-170-376	250-170-377***
Copper Sulfate	$CuSO_4$	1%		250-170-325	250-170-326	250-170-327***
Ferric Chloride Solution	$FeCl_3$		✓ ⑧ ⊗	250-170-400	250-170-401	250-170-402
Ferrous Sulfate Solution	$FeSO_4$		⊗	250-170-425	250-170-426	250-170-427***
Hydrochloric Acid	HCl	25% v/v	✓ ⑧ ⊗	250-030-820	250-030-821	250-030-822
Hydrochloric Acid	HCl	33% v/v	✓ ⑧	250-030-850	250-030-851	250-030-852
Iodine	I_2	0.100 M		250-170-450	250-170-451	250-170-452***
Lead Acetate Solution	$(CH_3COO)_2Pb$		✓ ⑥ ⊗	250-170-475	250-170-476	250-170-477
Magnesium Acetate	$(CH_3COO)_2Mg$	0.01g Mg/ml		250-170-500	250-170-501	250-170-502
Magnesium Acetate	$(CH_3COO)_2Mg$	40.1g Mg/ml		250-170-525	250-170-526	250-170-527
Mercuric Iodide	HgI_2		✓ ⑥ ⊗	250-170-550	250-170-551	250-170-552***
n-Butanol	$CH_3(CH_2)_2CH_2OH$	7.5% v/v	✓ ③ ⊗	250-170-200	250-170-201	250-170-202***
Phenolphthalein (Ethanol)		0.5%	✓ ③ ⊗	250-120-572*	250-120-573**	---
Phenolphthalein Stock Solution			✓ ③ ⊗	250-120-591*	---	---

* Available in 60 ml Bottles
** Available in 125ml Bottles
***Indicates 4L Glass Bottle
**** Available in 10 and 20 L bottles

⊗ *Glass Container* ⑥ *Poison* ③ *Flammable*
✓ *Dangerous Goods** ⑧ *Corrosive* ⑤ *Oxidant*

* as defined by :
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*Accu*SPEC Standards & Reagents for Dairy Testing

Solution	Description	Concentration	Code	Catalog Number 500 ml	1 L	5 L
Phenolphthalein-Tartrazine Solution			✓ ⑧ ⊗	250-120-601*	---	---
Phosphatase Catalyst Solution			⊗	250-170-576*	---	---
Phosphate Buffer**		0.05 M		250-200-520	250-200-521	250-200-522
Phosphotungstic Acid		5% w/v	✓ ⑧	250-055-100	250-055-101	250-055-102
Phosphotungstic Acid		20% w/v	✓ ⑧	250-055-200	250-055-201	250-055-202
Phthalate Buffer**			⊗	250-200-550	250-200-551	250-200-552***
Potassium Nitrate	KNO_3	10% w/v		250-170-600	250-170-601	---
Potassium Permanganate**	$KMnO_4$	5% w/v	⊗	250-170-625	250-170-626	250-170-627***
Reagent Alcohol		20% v/v	✓ ③	250-170-650	250-170-651	250-170-652
Sodium Hydroxide	NaOH	2% w/v	✓ ⑧	250-108-610	250-108-611	250-108-612
Sodium Hydroxide	NaOH	2.5 N	✓ ⑧	250-108-460	250-108-461	250-108-462
Tetrasodium-EDTA Tetracetate Solution	$C_{10}H_{12}N_2O_8Na_4$			250-170-700	250-170-701	250-170-702
Tin Chloride Solution	$SnCl_2$	40% w/v		250-170-725	---	---
Trichloroacetic Acid	CCl_3COOH	10% w/v	✓ ⑧ ⊗	250-070-100	250-070-101	250-070-102***
Trichloroacetic Acid	CCl_3COOH	15% w/v	✓ ⑧ ⊗	250-070-200	250-070-201	250-070-202***
Zinc Sulfate	$ZnSO_4$	6% w/v		250-170-750	250-170-751	250-170-752

* Available in 60 ml Bottles
** Available in 10 and 20 L bottles
*** Indicates 4L Glass Bottle
**** Class A precursor requires special document. Contact customer service.

⊗ *Glass Container* ⑥ *Poison* ③ *Flammable*
✓ *Dangerous Goods** ⑧ *Corrosive* ⑤ *Oxidant*

* as defined by :
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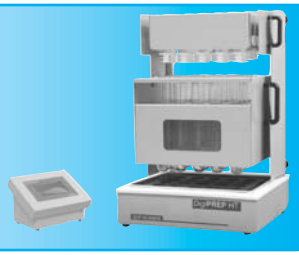
High Temperature Digestion System - *Digi*PREP HT

The *Digi***PREP HT** is available in two models - a 40 tube (100 ml) or a 20 tube (250 ml) system. Ideal for digestion applications such as:

- Soil
- Kjeldahl / TKN
- Plant
- Compost
- Plastics
- Oils



"Slang is language which takes off its coat, spits on its hands and goes to work." -Carl Sandburg-

*Accu*SPEC Pulp & Paper Testing Solutions

Maximize productivity and reduce process costs using *Accu***SPEC** prepared volumetric solutions for Pulp & Paper Process Testing. Prepared solutions are available for most common process tests. Custom solutions are also available.

- Prepared volumetric solutions for routine tests
  - Save valuable preparation time
- Certificate of Analysis with actual concentration, lot number, expiry date, stability and traceability to NIST, where applicable.
  - Traceability to a well recognized independent source (NIST) for audit purposes
- Larger volumes available on special order
- Manufactured and prepared under ISO Certified Programs
  - Consistency between product lots

Standards	Description	Concentration	Code	Catalog Number 5 L
Acetic Acid	CH_3COOH	20% v/v	✓ ⑧	250-000-552
Barium Chloride* **	$BaCl_2$	10% w/v		250-230-102
Barium Chloride* **	$BaCl_2$	12% w/v		250-230-127
Barium Chloride* **	$BaCl_2$	20% w/v		250-230-152
Hydrochloric Acid	HCl	0.5167 N	✓ ⑧	250-030-310
Hydrochloric Acid	HCl	0.773 N	✓ ⑧	250-030-370
Hydrochloric Acid	HCl	25% v/v	✓ ⑧	250-030-822
Hydrochloric Acid	HCl	6 N	✓ ⑧	250-030-552
Potassium Iodide* **	KI	10% w/v	⊗	250-230-202*
Potassium Permanganate(***)**	$KMnO_4$	0.1 N	⊗	250-230-227*
Silver Nitrate* **	$AgNO_3$	0.0171 N	⊗	250-230-275*
Silver Nitrate* **	$AgNO_3$	0.171 N	⊗	250-230-300*
Silver Nitrate* **	$AgNO_3$	0.25 N	⊗	250-230-327*
Sodium Hydroxide	NaOH	0.01 N	✓ ⑧	250-108-102
Sodium Hyrdroxide	NaOH	0.313 N	✓ ⑧	250-108-310
Sodium Thiosulfate* **	$Na_2S_2O_3$	0.1 N	⊗	250-230-352*
Sodium Thiosulfate* **	$Na_2S_2O_3$	0.2 N	⊗	250-230-377*
Sodium Thiosulfate* **	$Na_2S_2O_3$	1 N	⊗	250-230-402*
Sulfuric Acid	H_2SO_4	0.255 N	✓ ⑧	250-060-220
Sulfuric Acid	H_2SO_4	4 N	✓ ⑧	250-060-372

* Indicates 4L Glass Bottle
** Class A precursor requires special document. Contact customer service.
*** Available in 10 and 20 L bottles

⊗ *Glass Container* ⑥ *Poison* ③ *Flammable*
✓ *Dangerous Goods** ⑧ *Corrosive* ⑤ *Oxidant*

* as defined by :
- Hazardous Materials Regulations of the U.S. Department of Transportation, Tariff No. BOE-6000-R
- Canadian Transportation of Dangerous Goods Act and Regulations, Revision December 2000
- International Air Transport Association - Dangerous Goods Regulation, 40th Edition

*Accu*SPEC solutions for APHA Methods

- Prepared as per guidelines from “Standard Methods for the Examination of Water & Wastewater”, 20th Edition
- Supplied with comprehensive Certificates of Analysis
- Manufactured and tested under ISO Certified Quality Programs

*Accu*SPEC Standards & Reagents for Soil Analysis

Soil Analysis requires a large set of prepared solutions for both analyte extraction and analysis. All solutions are prepared to comply with the recommendations of the Soil & Plant Analysis Council.

- Prepared as per guidelines from the "Handbook on Reference Methods for Soil Analysis", 1992 Edition
  - Compliance with the recommendations of the Soil & Plant Analysis Council
- Certificate of Analysis with actual concentration, lot number, expiry date, stability and traceability to NIST, where applicable
  - Complete documentation for audit purposes
- Available in many sizes
  - Flexibility - Buy only what is required. Save money with large volumes
  - Larger volumes available on special order

Solution	Description	Concentration	Code	Catalog Number 500 ml	1 L	5 L
AB-DTPA Extracting Reagent				---	---	250-240-100
AB-DTPA Mixed Reagent for Phosphorus			✓ ⑧ ⊗	250-240-110	250-240-111	250-240-112*
Acid Seed Reagent			✓ ⑧	250-240-120	250-240-121	250-240-122*
Adams-Evans Buffer Solution				---	---	250-240-130**
Ammonium Acetate Extraction Reagent Concentrate				---	---	250-240-140**
Ammonium Fluoride	NH_4F	1 N		250-240-150	250-240-151	250-240-152
Ammonium Fluoride-EDTA Stock Reagent				250-240-160	250-240-161	250-240-162
Ammonium Hydroxide (as NH3)	NH_4OH	3 N	✓ ⑧	250-100-250	250-100-251	250-100-252
Ammonium Molybdate Reagent			✓ ⑧ ⊗	250-240-170	250-240-171	250-240-172*
Antimony Sulfate Solution			✓ ⑧	250-240-180	250-240-181	250-240-182
APDC Butyl Acetate - Ethanol Reagent			✓ ③ ⊗	250-240-190	250-240-191	250-240-192*
Boron Standard in Extraction Reagent	B	100 µg/ml		250-240-200	250-240-201	250-240-202
Bray P1 Extracting Reagent Concentrate			✓ ⑧	250-240-210	250-240-211	250-240-212**
Buffer Masking Reagent			✓ ⑧	250-240-220	250-240-221	250-240-222
Buffer pH 4				250-204-001	250-204-002	250-204-003**
Buffer pH 4 Red				250-204-501	---	250-204-502
Buffer pH 7				250-207-001	250-207-002	250-207-003**
Buffer pH 7 Yellow				250-207-501	---	250-207-502
Cadmium Standard in Extraction Reagent	Cd	1000 µg/ml		250-170-225	250-170-226	250-170-227
Calcium Chloride	$CaCl_2$	2.00 M		250-240-250	250-240-251	250-240-252
Calcium Chloride	$CaCl_2$	0.01 M		250-240-230	250-240-231	250-240-232
Calcium Chloride	$CaCl_2$	1 M		250-240-240	250-240-241	250-240-242
Calcium Chloride in Extraction Reagent (Mehlich#1)	Ca	1000 µg/ml	✓ ⑧	250-240-260	250-240-261	250-240-262
Calcium Chloride in Extraction Reagent (Morgan)	Ca	1000 µg/ml	✓ ⑧	250-240-270	250-240-271	250-240-272
Calcium Chloride in Extraction Reagent (Neutral)	Ca	1000 µg/ml	✓ ⑧	250-240-280	250-240-281	250-240-282
Calicum Chloride in Extraction Reagent (Water)	Ca	1000 µg/ml	✓ ⑧	250-240-290	250-240-291	250-240-292
Calcium-Magnesium Standard in Extraction Reagent	Ca-Mg		✓ ⑧	250-240-300	250-240-301	250-240-302
Chloride Standard (from Potassium Chloride)	Cl^-	1000 µg/ml		250-240-310	250-240-311	250-240-312
Chromotopic Acid Soluton (CTA)			✓ ⑧	250-020-000	250-020-001	250-020-002

* Indicates 4 L glass bottle
** Available in 10 and 20 L bottles

⊗ *Glass Container* ⑥ *Poison* ③ *Flammable*
✓ *Dangerous Goods** ⑧ *Corrosive* ⑤ *Oxidant*

* as defined by :
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- Canadian Transportation of Dangerous Goods Act and Regulations, Revision December 2000
- International Air Transport Association - Dangerous Goods Regulation, 40th Edition

*Accu*SPEC Standards & Reagents for Soil Analysis

Solution	Description	Concentration	Code	Catalog Number 500 ml	1 L	5 L
Copper Standard in Extracting Reagent (DPTA)	Cu	1000 µg/ml		250-240-330	250-240-331	250-240-332
Copper Standard in Extracting Reagent (Mehlich-Bowling)	Cu	10 µg/ml	✓ ⑧	250-240-320	250-240-321	250-240-322
Copper-Zinc Standard in Extraction Reagent (Mehlich#3)	Cu-Zn	4 µg/ml each	✓ ⑧	250-240-340	250-240-341	250-240-342
Decontamination Solution (Aluminum Chloride)	Al_2Cl_6	0.2% w/v	✓ ⑧	250-240-350	250-240-351	250-240-352
DTAP Extraction Reagent Concentrate				250-240-360	250-240-361	250-240-362**
DTPA Solution		0.005 M		250-240-370	250-240-371	250-240-372
Humic Matter Extracting Solution			✓ ③	---	250-240-380	250-240-381
Hydrochloric Acid	HCl	6 N	✓ ⑧	250-030-550	250-030-551	250-030-552
Hydrochloric Acid, Zinc-Tested	HCl	0.1 N	✓ ⑧	250-030-910	250-030-911	250-030-912
Iron Standard in Extraction Reagent (DPTA)	Fe	1000 µg/ml		250-240-390	250-240-391	250-240-392
Lanthanum Compensating Solution	La		✓ ⑧	250-240-400	250-240-401	---
Lithium Working Solution	Li	130 µg/ml		250-240-410	250-240-411	250-240-412
Magnesium Chloride Stock Solution	$MgCl_2$	1.00 M		250-240-420	250-240-421	250-240-422
Magnesium Standard in Extracting Reagent (Mehlich#1)	Mg	1000 µg/ml	✓ ⑧	250-240-430	250-240-431	250-240-432
Magnesium Standard in Extracting Reagent (Morgan)	Mg	1000 µg/ml	✓ ⑧	250-240-440	250-240-441	250-240-442
Magnesium Standard in Extracting Reagent (Neutral)	Mg	1000 µg/ml	✓ ⑧	250-240-450	250-240-451	250-240-452
Magnesium Standard in Extracting Reagent(Water)	Mg	1000 µg/ml	✓ ⑧	250-240-460	250-240-461	250-240-462
Manganese Standard in Extracting Reagent (DPTA)	Mn	1000 µg/ml		250-240-480	250-240-481	250-240-482
Manganese Standard in Extracting Reagent (Mehlich#3)	Mn	20 µg/ml	✓ ⑧	250-240-470	250-240-471	250-240-472
Mehlich #1 Extracting Regent Concentrate			✓ ⑧	250-240-490	250-240-491	250-240-492
Mehlich #3 Final Extraction Reagent			✓ ⑧	250-240-500	250-240-501	250-240-502
Mehlich Buffer Solution				250-240-510	250-240-511	250-240-512
Mehlich-Bowling Extracting Reagent			✓ ⑧ ⊗	250-240-520	250-240-521	250-240-522*
Morgan Extraction Reagent			✓ ⑧	250-240-530	250-240-531	250-240-532
Nickel Standard in Extraction Reagent(DPTA)	Ni	1000 µg/ml		250-240-540	250-240-541	250-240-542
Nitrate-Nitrogen Extracting Reagent			⊗	250-240-560	250-240-561	250-240-562*
Nitrate-Nitrogen Standard (from Potassium Nitrate)	No_3^- as N	1000 µg/ml		250-240-550	250-240-551	250-240-552*
Nitrogen Standard in Extracting Reagent (Nitrate-N)		1000 µg/ml	⊗	250-240-570	250-240-571	250-240-572*
n-Phenylanthranilic Acid in Sodium Carbonate Solution			⊗	250-120-612	250-120-613	---
Olsen's Extraction Reagent Concentrate				250-240-580	250-240-581	250-240-582**
Olsen's Mixed Reagent			✓ ⑧ ⊗	250-240-590	250-240-591	250-240-592*
Phosphorus Standard in Extracting Reagent (Bray)	P	100 µg/ml	✓ ⑧	250-240-600	250-240-601	250-240-602
Phosphorus Standard in Extracting Reagent (Mehlich#1)	P	1000 µg/ml	✓ ⑧	250-240-620	250-240-621	250-240-622
Phosphorus Standard in Extracting Reagent (Mehlich#3)	P	200 µg/ml	✓ ⑧	250-240-610	250-240-611	250-240-612
Phosphorus Standard in Extracting Reagent (Morgan)	P	1000 µg/ml	✓ ⑧	250-240-630	250-240-631	250-240-632
Phosphorus Standard in Toluene	P	100 µg/ml		250-240-640	250-240-641	250-240-642
Potassium Chloride Stock Solution	KCl	0.25 M		250-240-660	250-240-661	250-240-662
Potassium Chloride	KCl	0.0100 M		250-240-650	250-240-651	250-240-652**
Potassium Dichromate Reagent	$K_2Cr_2O_7$	0.267 N	⊗	250-240-670	250-240-671	250-240-672*

* Indicates 4 L glass bottle
** Available in 10 and 20 L bottles

⊗ *Glass Container* ⑥ *Poison* ③ *Flammable*
✓ *Dangerous Goods** ⑧ *Corrosive* ⑤ *Oxidant*

* as defined by :
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- Canadian Transportation of Dangerous Goods Act and Regulations, Revision December 2000
- International Air Transport Association - Dangerous Goods Regulation, 40th Edition

*Accu*SPEC Standards & Reagents for Soil Analysis

Solution	Description	Concentration	Code	Catalog Number 500 ml	1 L	5 L
Potassium Phosphate (Monobasic) Solution	KH_2PO_4	0.01 M		250-240-680	250-240-681	250-240-682
Potassium Standard in Extracting Reagent (Mehlich#1)	K	1000 µg/ml	✓ ⑧	250-240-700	250-240-701	250-240-702
Potassium Standard in Extracting Reagent (Morgan)	K	1000 µg/ml	✓ ⑧	250-240-710	250-240-711	250-240-712
Potassium Standard in Extracting Reagent (Neutral)	K	1000 µg/ml		250-240-720	250-240-721	250-240-722
Potassium Standard in Extracting Reagent (Water)	K	1000 µg/ml		250-240-730	250-240-731	250-240-732
Potassium-Sodium Standard in Extracting Reagent	K-Na		✓ ⑧	250-240-690	250-240-691	250-240-692
SMP Buffer Solution				250-240-740	250-240-741	250-240-742**
Sodium Chloride Stock Solution		0.10 M		250-240-750	250-240-751	250-240-752**
Sodium Standard in Extraction Reagent (Mehlich#1)	Na	1000 µg/ml	✓ ⑧	250-240-760	250-240-761	250-240-762
Sodium Standard in Extraction Reagent (Neutral)	Na	1000 µg/ml		250-240-770	250-240-771	250-240-772
Sodium Standard in Extraction Reagent (Water)	Na	1000 µg/ml		250-240-780	250-240-781	250-240-782
Strontium Chloride Dilution Solution				250-240-790	250-240-791	250-240-792
Sulfur Standard (from Potassium Sulfate)	S	1000 µg/ml		250-240-800	250-240-801	250-240-802
Sulfuric-Molybdate Soltuion (Bray)			✓ ⑧ ⊗	250-240-810	250-240-811	250-240-812*
Sulfuric-Molybdate Solution (Mehlich#1)			✓ ⑧ ⊗	250-240-820	250-240-821	250-240-822*
Superfloc Solution		1% w/v		250-240-830	250-240-831	250-240-832
Triethanolamine (TEA) Solution		0.0275 M		250-240-840	250-240-841	250-240-842
Zinc Standard in Extraction Reagent (DTPA)	Zn	1000 µg/ml		250-240-850	250-240-851	250-240-852
Zinc Standard in Extraction Reagent (Mehlich#1)	Zn	1000 µg/ml	✓ ⑧	250-240-860	250-240-861	250-240-862

* Indicates 4 L glass bottle
** Available in 10 and 20 L bottles

⊗ *Glass Container*
✓ *Dangerous Goods**
⑥ *Poison*
⑧ *Corrosive*
③ *Flammable*
⑤ *Oxidant*

* as defined by :
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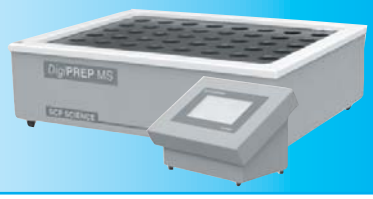
International Air Transport Association - Dangerous Goods Regulation, 40th Edition

*Digi*PREP MS - Soil Testing Solutions

An acid resistant digestion system for multiple digestion applications:
- Complete with programmable digital controller
- 48 sample tube capacity, ideal for EPA 3000 Series digestions
- Optional sample probe for accurate temperature control



*Accu*SPEC Volumetric Solutions

A full range of *Accu***SPEC** titrants and indicators are available for Acid-Base, Oxidation-Reduction and Ionic Titrations.

- Titrants available in multiple concentrations
  - Flexibility in selecting the best concentration that fits your analytical requirement
- Available in sizes from 500 ml to 20 liters
  - Flexibility of volume and better economy with large volumes
- Certificate of Analysis with actual concentration, lot number, expiry date, stability and traceability to NIST, where applicable
  - Complete documentation for audit purposes

Titrants	Description	Concentration	Code	Catalog Number 500 ml	1 L	5 L
Ammonium Oxalate	$(NH_4)_2C_2O_4$	4% v/v		250-260-300	250-260-301	250-260-302
Barium Chloride	$BaCl_2$	0.1 N		250-300-300	250-300-301	250-300-302
Barium Chloride	$BaCl_2$	0.5 N		250-300-320	250-300-321	250-300-322
Barium Chloride	$BaCl_2$	10%		250-230-100	250-230-101	---
Barium Chloride	$BaCl_2$	11.8% w/v		250-300-340	250-300-341	250-300-342
Barium Chloride	$BaCl_2$	12% w/v		250-230-125	250-230-126	250-230-127**
Barium Chloride	$BaCl_2$	20% w/v		250-230-150	250-230-151	---
Ceric Ammonium Sulfate in H_2SO_4	$(NH_4)_4Ce(SO_4)_4$	0.1 N	✓ ⑧	250-300-420	250-300-421	250-300-422
EDTA Disodium Salt	$C_{10}H_{14}N_2O_8Na_2$	0.01 M		---	250-300-480	250-300-481**
EDTA Disodium Salt	$C_{10}H_{14}N_2O_8Na_2$	0.05 M		---	250-300-500	250-300-501
EDTA Disodium Salt	$C_{10}H_{14}N_2O_8Na_2$	0.1 M		---	250-300-520	250-300-521
EDTA Disodium Salt	$C_{10}H_{14}N_2O_8Na_2$	5% w/v	⊗	---	250-300-540	250-300-541
Ferric Chloride	$FeCl_3$	10% w/v	✓ ⑧ ⊗	250-300-600	250-300-601	250-300-602
Ferric Nitrate	$Fe(NO_3)_3$	10% w/v	✓ ⑤	250-300-620	250-300-621	250-300-622*
Ferrous Ammonium Sulfate	$Fe(NH_4)_2(SO_4)_2$	0.1 N	✓ ⊗	250-130-250	250-130-251	250-130-252*
Ferrous Ammonium Suflate	$Fe(NH_4)_2(SO_4)_2$	1 N	✓ ⊗	250-130-400	250-130-401	250-130-402*
Iodine	I_2	0.01 N	⊗	250-300-780	250-300-781	250-300-782*
Iodine	I_2	0.02 N	⊗	250-300-800	250-300-801	250-300-802*
Iodine	I_2	0.025 N	⊗	250-300-820	250-300-821	250-300-822*
Iodine	I_2	0.0282 N	⊗	250-300-840	250-300-841	250-300-842*
Iodine	I_2	0.1 N	⊗	250-300-860	250-300-861	250-300-862*
Iodine	I_2	1 N	⊗	250-300-880	250-300-881	250-300-882*
Molybdovanadate Solution with Perchloric Acid			✓ ⑧	250-305-220	250-305-221	250-305-222
Potassium Bromate	$KBrO_3$	0.1 N	⊗	250-305-240	250-305-241	250-305-242*
Potassium Bromate-Bromide		0.1 N	⊗	250-305-260	250-305-261	250-305-262*
Potassium Bromate-Bromide		0.5 N	⊗	250-305-280	250-305-281	250-305-282*
Potassium Carbonate	K_2CO_3	0.1 N		---	250-305-300	250-305-301*
Potassium Chloride	KCl	0.1 N		250-305-320	250-305-321	250-305-322*
Potassium Chromate	K_2CrO_4	5% w/v	⊗	---	---	250-120-632*
Potassium Dichromate	$K_2Cr_2O_7$	0.025 N	⊗	250-305-340	250-305-341	250-305-342*
Potassium Dichromate	$K_2Cr_2O_7$	0.0417 N	⊗	250-305-360	250-305-361	250-305-362*
Potassium Dichromate	$K_2Cr_2O_7$	0.1 N	⊗	250-305-380	250-305-381	250-305-382*
Potassium Dichromate	$K_2Cr_2O_7$	0.2 N	⊗	250-305-400	250-305-401	250-305-402*
Potassium Dichromate	$K_2Cr_2O_7$	0.25 N	⊗	250-305-420	250-305-421	250-305-422*
Potassium Hydrogen Phthalate	$HOCOC_6H_6COOK$	0.005 N	⊗	250-305-440	250-305-441	250-305-442*
Potasium Hydroxide (Methanol)	KOH	0.1 N	✓ ③	---	250-104-550	250-104-551

* Indicates 4 L glass bottle
** Available in 10 and 20 L bottles

⊗ *Glass Container* ⑥ *Poison* ③ *Flammable*
✓ *Dangerous Goods** ⑧ *Corrosive* ⑤ *Oxidant*

* as defined by :
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International Air Transport Association - Dangerous Goods Regulation, 40th Edition

*Accu*SPEC Volumetric Solutions

Titrants	Description	Concentration	Code	Catalog Number 500 ml	1 L	5 L
Potassium Iodate	KIO_3	0.00564 N	⊗	250-305-460	250-305-461	250-305-462*
Potassium Iodate	KIO_3	0.025 N	⊗	250-305-480	250-305-481	250-305-482*
Potassium Iodate	KIO_3	0.05 N	⊗	250-305-500	250-305-501	250-305-502*
Potassium Iodate	KIO_3	0.1 N	⊗	250-305-520	250-305-521	250-305-522*
Potassium Iodate	KIO_3	0.125 N	⊗	250-305-540	250-305-541	250-305-542*
Potassium Iodate	KIO_3	0.0125 N	⊗	250-305-560	250-305-561	250-305-562*
Potassium Iodide	KI	0.5% w/v	⊗	250-305-580	250-305-581	250-305-582*
Potassium Iodide	KI	2% w/v	⊗	250-305-600	250-305-601	250-305-602*
Potassium Iodide	KI	5% w/v	⊗	250-305-620	250-305-621	250-305-622*
Potassium Iodide	KI	15% w/v	⊗	250-305-640	250-305-641	250-305-642*
Potassium Iodide* **	KI	10% w/v	⊗	250-230-200	250-230-201	250-230-202*
Potassium Iodide	KI	20% w/v	⊗	250-305-660	250-305-661	250-305-662*
Potassium Permanganate**	$KMnO_4$	0.02 N	⊗	250-305-680	250-305-681	250-305-682*
Potassium Permanganate**	$KMnO_4$	0.05 N	⊗	250-305-700	250-305-701	250-305-702*
Potassium Permanganate**	$KMnO_4$	0.2 N	⊗	250-305-720	250-305-721	250-305-722*
Potassium Permanganate**	$KMnO_4$	0.5 N	⊗	250-305-740	250-305-741	250-305-742*
Potassium Permanganate**	$KMnO_4$	0.0891% w/v	⊗	250-305-760	250-305-761	250-305-762*
Potassium Permanganate**	$KMnO_4$	0.63% w/v	⊗	250-305-780	250-305-781	250-305-782*
Potassium Permanganate**	$KMnO_4$	4% w/v	⊗	250-305-800	250-305-801	250-305-802*
Potassium Permanganate**	$KMnO_4$	0.1 N	⊗	250-230-225	250-230-226	250-230-227*
Potassium Sodium Tartrate	$KNaC_4H_4O_6$	10% w/v		250-305-840	250-305-841	250-305-842
Potassium Sodium Tartrate	$KNaC_4H_4O_6$	20% w/v		250-305-860	250-305-861	250-305-862
Potassium Sodium Tartrate (Rochelle Salt Soln.)	$KNaC_4H_4O_6$	50% w/v		250-305-880	250-305-881	250-305-882
Silver Nitrate* **	$AgNO_3$	0.0141 N	⊗	250-310-100	250-310-101	250-310-102*
Silver Nitrate* **	$AgNO_3$	0.0192 N	⊗	250-310-120	250-310-121	250-310-122*
Silver Nitrate* **	$AgNO_3$	0.025 N	⊗	250-310-140	250-310-141	250-310-142*
Silver Nitrate* **	$AgNO_3$	0.0282	⊗	250-310-160	250-310-161	250-310-162*
Silver Nitrate* **	$AgNO_3$	0.05 N	⊗	250-310-180	250-310-181	250-310-182*
Silver Nitrate* **	$AgNO_3$	0.1 N	⊗	250-310-200	250-310-201	250-310-202*
Silver Nitrate* **	$AgNO_3$	0.141 N	⊗	250-310-220	250-310-221	250-310-222*
Silver Nitrate* **	$AgNO_3$	0.192 N	⊗	250-310-240	250-310-241	250-310-242*
Silver Nitrate* **	$AgNO_3$	0.280	⊗	250-310-260	250-310-261	250-310-262*
Silver Nitrate* **	$AgNO_3$	0.282	⊗	250-310-280	250-310-281	250-310-282*
Silver Nitrate* **	$AgNO_3$	0.5 N	⊗	250-310-300	250-310-301	250-310-302*
Silver Nitrate* **	$AgNO_3$	1 N	⊗	250-310-320	250-310-321	250-310-322*
Sodium Acetate	CH_3COONa	1 M		250-310-340	250-310-341	250-310-342
Sodium Acetate	CH_3COONa	20% w/v		250-310-360	250-310-361	250-310-362
Sodium Arsenite	$NaAsO_2$	0.5% w/v		250-310-400	250-310-401	---
Sodium Carbonate* **	Na_2CO_3	0.02 N		250-310-420	250-310-421	250-310-422
Sodium Carbonate* **	Na_2CO_3	0.025 N		250-310-440	250-310-441	250-310-442
Sodium Carbonate* **	Na_2CO_3	0.0455 N		250-310-460	250-310-461	250-310-462
Sodium Carbonate* **	Na_2CO_3	0.05 N		250-310-480	250-310-481	250-310-482
Sodium Carbonate* **	Na_2CO_3	0.1 N		250-310-500	250-310-501	250-310-502
Sodium Carbonate* **	Na_2CO_3	0.2 N		250-310-520	250-310-521	250-310-522
Sodium Carbonate* **	Na_2CO_3	1 N		250-310-540	250-310-541	250-310-542
Sodium Carbonate* **	Na_2CO_3	5% w/v		250-310-560	250-310-561	250-310-562
Sodium Carbonate* **	Na_2CO_3	10% w/v		250-310-580	250-310-581	250-310-582
Sodium Chloride (Isotonic Saline)* **	NaCl	0.9% w/v		---	---	250-310-600
Sodium Chloride* **	NaCl	20% w/v		250-310-620	250-310-621	250-310-622
Sodium Chloride* **	NaCl	24% w/v		250-310-640	250-310-641	250-310-642
Sodium Chloride* **	NaCl	25% w/v		250-310-660	250-310-661	250-310-662
Sodium Chloride* **	NaCl	30% w/v		250-310-680	250-310-681	250-310-682

* Indicates 4L Glass Bottle

** Class A precursor requires special document. Contact customer service.

*** Available in 10 and 20 L bottles

⊗ *Glass Container* ⑥ *Poison* ③ *Flammable*
✓ *Dangerous Goods** ⑧ *Corrosive* ⑤ *Oxidant*

* as defined by :
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*Accu*SPEC Volumetric Solutions & Concentrates

Titrants	Description	Concentration	Code	Catalog Number 500 ml	1 L	5 L
Sodium Thiosulfate	$Na_2S_2O_3$	0.01 N	⊗	250-310-700	250-310-701	250-310-702*
Sodium Thiosulfate	$Na_2S_2O_3$	0.025 N	⊗	250-310-720	250-310-721	250-310-722*
Sodium Thiosulfate	$Na_2S_2O_3$	0.0375 N	⊗	250-310-740	250-310-741	250-310-742*
Sodium Thiosulfate	$Na_2S_2O_3$	0.0394 N	⊗	250-310-760	250-310-761	250-310-762*
Sodium Thiosulfate	$Na_2S_2O_3$	0.1 N	⊗	250-230-350	250-230-351	250-230-352*
Sodium Thiosulfate	$Na_2S_2O_3$	0.5 N	⊗	250-310-780	250-310-781	250-310-782*
Sodium Thiosulfate	$Na_2S_2O_3$	2 N	⊗	250-310-800	250-310-801	250-310-802*
Water, Deionized, ASTM Type I	H_2O	18 Megohm/cm		---	---	250-310-820**
Water, HPLC Grade	H_2O		⊗	---	---	250-310-822*

* Indicates 4 L glass bottle
** Available in 10 and 20 L bottles

Volumetric Solutions - Concentrates	Description	Initial Volume	Final Concentration	Final Volume	Code	Catalog Number
Acetic Acid	CH_3COOH	100 ml	0.1 N	1 L		250-140-100
Acetic Acid	CH_3COOH	100 ml	0.5 N	1 L	✓ ⑧	250-140-120
Aceitic Acid	CH_3COOH	100 ml	1 N	1 L	✓ ⑧	250-140-140
Ammonium Hydroxide (as NH_3)	NH_4OH	100 ml	0.1 N	1 L		250-140-160
Ammonium Hydroxide (as NH_3)	NH_4OH	125 ml	1 N	500 ml	✓ ⑧	250-140-180
Barium Chloride	$BaCl_2$	100 ml	0.1 N	1 L		250-140-200
Barium Chloride	$BaCl_2$	250 ml	0.5 N	1 L		250-140-220
EDTA Disodium Salt	$C_{10}H_{14}N_2O_8Na_2$	100 ml	0.01 M	1 L		250-140-240
EDTA Disodium Salt	$C_{10}H_{14}N_2O_8Na_2$	100 ml	0.05 M	500 ml		250-140-260
Hydrochloric Acid	HCl	100 ml	0.01 N	1 L	✓ ⑧	250-140-280
Hydrochloric Acid	HCl	100 ml	0.1 N	1 L	✓ ⑧	250-140-300
Hydrochloric Acid	HCl	100 ml	0.25 N	1 L	✓ ⑧	250-140-320
Hydrochloric Acid	HCl	100 ml	0.5 N	1 L	✓ ⑧	250-140-340
Hydrochloric Acid	HCl	100 ml	1 N	1 L	✓ ⑧	250-140-360
Nitric Acid	HNO_3	100 ml	0.1 N	1 L	✓ ⑧	250-140-380
Nitric Acid	HNO_3	100 ml	1 N	1 L	✓ ⑧	250-140-400
Potassium Bromate	$KBrO_3$	100 ml	0.1 N	1 L	⊗	250-140-420
Potassium Bromate-Bromide		100 ml	0.1 N	1 L	⊗	250-140-440
Potassium Carbonate	K_2CO_3	100 ml	0.1 N	1 L		250-140-460
Potassium Dichromate	$K_2CR_2O_7$	100 ml	0.1 N	1 L	⊗	250-140-480
Potassium Hydroxide	KOH	100 ml	0.1 N	1 L	✓ ⑧	250-140-500
Potassium Hydroxide	KOH	100 ml	0.5 N	1 L	✓ ⑧	250-140-520
Potassium Hydroxide	KOH	100 ml	1 N	1 L	✓ ⑧	250-140-540
Potassium Iodate	KIO_3	100 ml	0.1 N	1 L	⊗	250-140-560
Potassium Iodate	KIO_3	100 ml	0.125 N	1 L	⊗	250-140-580
Potassium Permanganate*	$KMnO_4$	100 ml	0.02 N	1 L	⊗	250-140-600
Potassium Permanganate*	$KMnO_4$	100 ml	0.1 N	1 L	⊗	250-140-620
Potassium Permanganate*	$KMnO_4$	100 ml	0.2 N	1 L	⊗	250-140-640

* Class A precursor requires special document. Contact customer service.

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* as defined by :
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*Accu*SPEC Volumetric Concentrates

Concentrates	Description	Initial Volume	Final Concentration	Final Volume	Code	Catalog Number
Sodium Carbonate	Na_2CO_3	100 ml	0.1 N	1 L		250-140-660
Sodium Chloride	NaCl	100 ml	0.1 N	1 L		250-140-680
Sodium Hydroxide	NaOH	100 ml	0.01 N	1 L	✓ ⑧	250-140-700
Sodium Hydroxide	NaOH	100 ml	0.02 N	1 L	✓ ⑧	250-140-720
Sodium Hydroxide	NaOH	100 ml	0.1 N	1 L	✓ ⑧	250-140-740
Sodium Hydroxide	NaOH	100 ml	0.2 N	1 L	✓ ⑧	250-140-760
Sodium Hydroxide	NaOH	100 ml	0.25 N	1 L	✓ ⑧	250-140-780
Sodium Hydroxide	NaOH	100 ml	0.5 N	1 L	✓ ⑧	250-140-800
Sodium Hydroxide	NaOH	100 ml	1 N	1 L	✓ ⑧	250-140-820
Sodium Thiosulfate	$Na_2S_2O_3$	100 ml	0.01 N	1 L	⊗	250-140-840
Sodium Thiosulfate	$Na_2S_2O_3$	100 ml	0.02308 N	1 L	⊗	250-140-860
Sodium Thiosulfate	$Na_2S_2O_3$	100 ml	0.1 N	1 L	⊗	250-140-880
Sulfuric Acid	H_2SO_4	100 ml	0.02 N	1 L	✓ ⑧	250-140-900
Sulfuric Acid	H_2SO_4	100 ml	0.1 N	1 L	✓ ⑧	250-140-920
Sulfuric Acid	H_2SO_4	100 ml	0.5 N	1 L	✓ ⑧	250-140-940
Sulfuric Acid	H_2SO_4	100 ml	1 N	1 L	✓ ⊗	250-140-960
Sulfuric Acid	H_2SO_4	100 ml	2 N	1 L	✓ ⊗	250-140-980

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*Accu*SPEC ISE Standards and Reagents

Standards, reagents, and filling solutions for most ion selective and *p***H** electrodes.

- Manufactured and tested under an ISO Quality Program
- Direct equivalent to original manufacturers' products

AccuSPEC Indicators

Indicators	Description	Concentration	Code	Catalog Number 60 ml	125 ml	500 ml	1 L
1,10-Phenanthroline	$C_{12}H_8N_2$	0.1%	⊗	250-120-520	250-120-521	250-120-522	250-120-523
Alizarin Red S		1%	⊗	250-120-100	250-120-101	250-120-102	250-120-103
Brilliant Green (Aqueous)		1%	⊗	250-120-110	250-120-111	250-120-112	250-120-113
Bromcresol Green		0.04%	⊗	250-120-120	250-120-121	250-120-122	250-120-123
Bromcresol Green		0.1%	⊗	250-120-130	250-120-131	250-120-132	250-120-133
Bromcresol Green - Methyl Red (Aqueous)			⊗	250-120-140	250-120-141	250-120-142	250-120-143
Bromcresol Green - Methyl Red (Isopropanol)			✓ ③ ⊗	250-120-150	250-120-151	250-120-152	250-120-153
Bromcresol Purple		0.04%	⊗	250-120-160	250-120-161	250-120-162	250-120-163
Bromophenol Blue		0.04%	⊗	250-120-170	250-120-171	250-120-172	250-120-173
Bromophenol Blue		0.1%	⊗	250-120-180	250-120-181	250-120-182	250-120-183
Bromophenol Blue		0.4%	⊗	250-120-190	250-120-191	250-120-192	250-120-193
Bromothymol Blue		0.04%	⊗	250-120-200	250-120-201	250-120-202	250-120-203
Calmagite Indicator (Aqueous)		0.10%	⊗	250-120-210	250-120-211	250-120-212	250-120-213
Chlorophenol Red (Aqueous)		0.04%	⊗	250-120-220	250-120-221	250-120-222	250-120-223
Congo Red		0.10%	⊗	250-120-230	250-120-231	250-120-232	250-120-233
m-Cresol Purple (Aqueous)		0.04%	⊗	250-120-250	250-120-251	250-120-252	250-120-253
m-Cresol Purple (Aqueous)		0.1%	⊗	250-120-260	250-120-261	250-120-262	250-120-263
Cresol Red		0.04%	⊗	250-120-240	250-120-241	250-120-242	250-120-243
Crystal Violet (or Gentian Violet) in Acetic Acid		0.1%	✓ ⑧ ⊗	250-120-270	250-120-271	250-120-272	250-120-273
Crystal Violet (or Gentian Violet) in Acetic Acid		1%	✓ ⑧ ⊗	250-120-280	250-120-281	250-120-282	250-120-283
Crystal Violet (or Gentian Violet) in Ethanol/Methanol		1%	✓ ③ ⊗	250-120-290	250-120-291	250-120-292	250-120-293
Crystal Violet (or Gentian Violet) in Ethanol/Methanol		2%	✓ ③ ⊗	250-120-310	250-120-311	250-120-312	250-120-313
Crystal Violet (or Gentian Violet) in Water		1%	⊗	250-120-300	250-120-301	250-120-302	250-120-303
Crystal Violet (or Gentian Violet) in Water		2%	⊗	250-120-320	250-120-321	250-120-322	250-120-323
Eosin Y Concentrate in Alcohol	$NH_4Fe(SO_4)_2$	1% w/v	✓ ③ ⊗	250-120-340	250-120-341	250-120-342	250-120-343
Eosin Y in Alcohol		0.25% w/v	✓ ③ ⊗	250-120-330	250-120-331	250-120-332	250-120-333
Eriochrome Black T in 2-Methoxyethanol		0.5% w/v	✓ ③ ⊗	250-120-350	250-120-351	250-120-352	250-120-353
Eriochrome Black T in Triethanolamine		1% w/v	⊗	250-120-360	250-120-361	250-120-362	250-120-363
Ferric Ammonium Sulfate		8% w/v		---	---	250-120-370	250-120-371
Ferroin Indicator		0.025 M	⊗	250-120-380	250-120-381	250-120-382	250-120-383
MBTH Indicator		0.05%	⊗	250-120-390	250-120-391	250-120-392	250-120-393
Methyl Orange		0.05%	⊗	250-120-400	250-120-401	250-120-402	250-120-403
Methyl Orange		0.1%	⊗	250-120-410	250-120-411	250-120-412	250-120-413
Methyl Orange		0.2%	⊗	250-120-420	250-120-421	250-120-422	250-120-423
Methyl Purple			⊗	250-120-430	250-120-431	250-120-432	250-120-433
Methyl Red		0.02%	⊗	250-120-440	250-120-441	250-120-442	250-120-443
Methyl Red		0.1%	⊗	250-120-450	250-120-451	250-12-452	250-120-453
Methyl Red		1%	⊗	250-120-460	250-120-461	250-120-462	250-120-463
Methyl Red-Methylene Blue			⊗	250-120-470	250-120-471	250-120-472	250-120-473
Methyl Violet		0.02%	⊗	250-120-480	250-120-481	250-120-482	250-120-483
Methylene Blue		0.05%	⊗	250-120-490	250-120-491	250-120-492	250-120-493
Methylene Blue		0.1%	⊗	250-120-500	250-120-501	250-120-502	250-120-503
Methylene Blue		1%	⊗	250-120-510	250-120-511	250-120-512	250-120-513
n-Phenylanthranilic Acid in Sodium Carbonate Solution			⊗	250-120-610	250-120-611	250-120-612	250-120-613
Phenol Red		0.02%	⊗	250-120-530	250-120-531	250-120-532	250-120-533
Phenol Red		0.04%	⊗	250-120-540	250-120-541	250-120-542	250-120-543

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*Accu*SPEC Indicators

Indicators	Description	Concentration	Code	Catalog Number 60 ml	125 ml	500 ml	1 L
Phenolphthalein (Aqueous)		0.5%	⊗	250-120-550	250-120-551	250-120-552	250-120-553
Phenolphthalein (Ethanol 1+1)		0.5%	✓ ③ ⊗	250-120-560	250-120-561	250-120-562	250-120-563
Phenolphthalein (Ethanol)		0.5%	✓ ③ ⊗	250-120-570	250-120-571	250-120-572	250-120-573
Phenolphthalein (Isopropanol)		1%	✓ ③ ⊗	250-120-580	250-120-581	250-120-582	250-120-583
Phenolphthalein Stock Solution			✓ ③ ⊗	250-120-590	---	250-120-591	---
Phenolphthalein-Tartrazine Solution			✓ ⑧ ⊗	250-120-600	---	250-120-601	---
Potassium Chromate	K_2CrO_4	0.065% w/v	⊗	---	---	250-120-620	250-120-621
Potassium Chromate	K_2CrO_4	5% w/v	⊗	---	---	250-120-630	250-120-631
Starch Indicator (perserved with Salicylic Acid)		0.5%	⊗	250-120-640	250-120-641	250-120-642	250-120-643
Starch Indicator (perserved with Salicylic Acid)		1%	⊗	250-120-650	250-120-651	250-120-652	250-120-653
Starch Indicator (perserved with Salicylic Acid)		2%	⊗	250-120-660	250-120-661	250-120-662	250-120-663
Sulfo Orange Indicator		0.04%	⊗	250-120-670	250-120-671	250-120-672	250-120-673
Thymol Blue (Aqueous)		0.04%	⊗	250-120-680	250-120-681	250-120-682	250-120-683
Thymol Blue (Aqueous)		0.4%	⊗	250-120-700	250-120-701	2050-120-702	250-120-703
Thymol Blue (Methanol)		0.08%	✓ ③ ⊗	250-120-690	250-120-691	250-120-692	250-120-693
Thymolphthalein		0.05%	⊗	250-120-710	250-120-711	250-120-712	250-120-713
Xylenol Orange (Alcoholic - 1 month shelf life)		0.1%	✓ ③ ⊗	250-120-730	250-120-731	250-120-732	---
Xylenol Orange (Aqueous - 1 month shelf life)		0.1%		250-120-720	250-120-721	250-120-722	---

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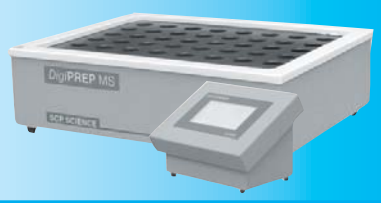
Metals Digestions - *Digi*PREP MS

- Delivers uniform heating across the block
  - Provides even sample evaporation results
- Resists aggressive, corrosive attack
  - Teflon® Coated Graphite Block



*Accu*SPEC High Purity Compounds

High-purity compounds for scientists who prepare their own standards or require high purity materials for matrix matching. Products are tested for impurities and are supplied with comprehensive Certificates of Analysis.

- 99.99% - 99.9999% Pure
  - Tight control on the level of metallic impurities present in the material
- Certificate of Analysis included with each compound listing the individual impurities
  - Individual concentration of each impurity present.
- Available on a per gram basis (5 gram minimum)
  - Maximum flexibility

Compound	Code	Catalog Number
Aluminum Nitrate		140-140-001
Aluminum Shot		140-140-002
Ammonium Nitrate		140-140-067
Antimony Oxide		140-140-003
Arsenic Oxide		140-140-004
Barium Carbonate		140-140-005
Beryllium Acetate Basic		140-140-006
Bismuth Shot		140-140-007
Ammonium Tetraborate		140-140-008
Cadmium Shot		140-140-009
Calcium Carbonate		140-140-010
Calcium Nitrate		140-140-069
Cerium Nitrate		140-140-044
Cesium Chloride		140-140-070
Cesium Nitrate		140-140-045
Chromium Nitrate		140-140-011
Chromium Shot		140-140-012
Cobalt Carbonate		140-140-013
Copper Powder		140-140-014
Dysprosium Oxide		140-140-046
Erbium Oxide		140-140-047
Europium Oxide		140-140-048
Gadolinium Oxide		140-140-049
Gallium Splatter		140-140-015
Ammonium Hexafluorogermanate		140-140-050
Gold Splatter		140-140-016
Hafnium Oxychloride		140-140-051
Homium Oxide		140-140-052
Indium Metal		140-140-053
Iron Powder		140-140-017
Lanthanum Chloride		140-140-071
Lanthanum Nitrate		140-140-072
Lanthanum Oxide		140-140-054
Lead Nitrate		140-140-018
Lithium Carbonate		140-140-019
Lithium Chloride		140-140-073
Lithium Nitrate		140-140-074
Magesium Granules		140-140-020
Magnesium Nitrate		140-140-075

Compound	Code	Catalog Number
Manganese Acetate		140-140-021
Mercury		140-140-022
Ammonium Molybdate		140-140-023
Neodymium Oxide		140-140-056
Nickel Powder		140-140-024
Nickel Nitrate		140-140-076
Ammonium Hexafluoroniobate		140-140-055
Ammonium Dihydrogen Orthophosphate		140-140-025
Ammonium Phosphate Dibasic		140-140-068
Palladium Powder		140-140-026
Ammonium Hexachloroplatinate		140-140-027
Potassium Chloride		140-140-077
Potassium Nitrate		140-140-028
Praseodymium Oxide		140-140-057
Rubidium Nitrate		140-140-058
Ruthenium Chloride		140-140-059
Samarium Oxide		140-140-060
Scandium Oxide		140-140-029
Selenium Pellets		140-140-030
Ammonium Hexafluorosilicate		140-140-031
Silver Nitrate		140-140-032
Sodium Carbonate		140-140-033
Strontium Carbonate		140-140-034
Ammonium Sulfate		140-140-035
Ammonium Hexafluorotantalate		140-140-061
Tellurium Metal		140-140-063
Terbium Oxide		140-140-062
Thallium Nitrate		140-140-036
Thorium Nitrate		140-140-064
Tin Shot		140-140-037
Ammonium Hexafluorotitantate		140-140-038
Ammonium Tungstate		140-140-039
Uranium Oxide		140-140-065
Ammonium Metavanadate		140-140-040
Ytterbium Oxide		140-140-066
Yttrium Oxide		140-140-041
Zinc Shot		140-140-042
Zirconyl Nitrate		140-140-043

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- International Air Transport Association - Dangerous Goods Regulation, 40th Edition

Inorganic Compounds

Compounds are available in either 10 g or 500 g quantities depending on the product. Larger sizes are available on special request. Should you have a specific need, please verify with your representative.

- All products meet American Chemical Society (ACS) specifications where applicable.
  - Compliant with recognized norms
- Certificate of Analysis accompanies each product with complete test results.
  - Documentation available for audit purposes.
- Packaged in wide mouth bottles
  - Easy dispensing

Inorganic Compounds	Description	Grade	Code	Catalog Number 10 g	Catalog Number 500 g
Acid Orange 12				250-150-100	---
Alizarin Red S				250-150-105	---
Aluminum Chloride	$AlCl_3$	ACS		---	250-150-110
Aluminum Potassium Sulfate	$AlK(SO_4)_2 \cdot 12\ H_2O$	ACS		---	250-150-115
Aluminum Sulfate	$Al_2(SO_4)_3 \cdot 18\ H_2O$	ACS		---	250-150-120
Ammonium Acetate	CH_3COONH_4	ACS		---	250-150-125
Ammonium Bicarbonate	NH_4HCO_3	Reagent		---	250-150-130
Ammonium Chloride	NH_4Cl	ACS		---	250-150-135
Ammonium Fluoride	NH_4F	ACS		---	250-150-140
Ammonium Molybdate Tetrahydrate	$(NH_4)_6Mo_7O_{24} \cdot 4\ H_2O$	ACS		---	250-150-145
Ammonium Nitrate	NH_4NO_3	ACS	✓ ⑤	---	250-150-150
Ammonium Oxalate Monohydrate	$(NH_4)_2C_2O_4 \cdot H_2O$	ACS		---	250-150-155
Ammonium Phosphate Dibasic	$(NH_4)_2HPO_4$	ACS		---	250-150-160
Ammonium Sulfate	$(NH_4)_2SO_4$	ACS		---	250-150-165
Antimony Potassium Tartrate	$K(SbO)C_4H_4O_6 \cdot 1/2\ H_2O$	Lab	✓ ⑥	---	250-150-170
Ascorbic Acid (L)	$C_6H_6O_6$	ACS		---	250-150-175
Barium Chloride Dihydrate	$BaCl_2 \cdot 2\ H_2O$	ACS		---	250-150-180
Barium Hydroxide Octahydrate	$Ba(OH)_2 \cdot 8\ H_2O$	ACS		---	250-150-185
Basic Fuchsin (Basic Red 9), Biological Stain				250-150-190	---
Borax (Sodium Borate Decahydrate)	$Na_2B_4O_7 \cdot 10\ H_2O$	ACS		---	250-150-195
Boric Acid	H_3BO_3	ACS		---	250-150-200
Brilliant Green				250-150-205	---
Bromcresol Green, Na Salt				250-150-210	---
Bromcresol Purple, Na Salt				250-150-215	---
Bromphenol Blue, Na Salt				250-150-220	---
Bromthymol Blue, Na Salt				250-150-225	---
Calcium Acetate Monohydrate	$Ca(CH_3COO)_2 \cdot H_2O$	ACS		---	250-150-230
Calcium Carbonate Primary Standard	$CaCO_3$	Lab		---	250-150-240
Calcium Carbonate	$CaCO_3$	ACS		---	250-150-235
Calcium Chloride Dihydrate	$CaCl_2 \cdot H_2O$	ACS		---	250-150-245
Calcium Sulfate Dihydrate	$CaSO_4 \cdot 2\ H_2O$	ACS		---	250-150-250
Calmagie, 1-(-hydroxy-4-methyl-2-phenylazo)-2-naphtol-4-sulfonic acid				250-150-255	---
CDTA Monohydrate		Lab		---	250-150-260
Certic Ammonium Sulfate	$(NH_4)_4Ce(SO_4)_4$	Lab		---	250-150-265
Chlorophenol Red				250-150-270	---

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"It is good to have an end to journey towards; but it is the journey that matters in the end." **-Ursula K. LeGuin-**

Inorganic Compounds

Inorganic Compounds	Description	Grade	Code	Catalog Number 10 g	Catalog Number 500 g
Citric Acid Anhydrous	$H_3C_6H_5O_7$	ACS		---	250-150-275
Cobalt Chloride Hexahydrate	$CoCl_2 . 6 H_2O$	ACS		---	250-150-280
Congo Red				250-150-285	---
m-Cresol Purple, Water Soluble				250-150-300	---
Cresol Red, Water Soluble				250-150-295	---
Crystal Violet (or Gentian Violet)				250-150-305	---
Cupric Sulfate Pentahydrate	$CuSO_4 . 5 H_2O$	ACS		---	250-150-290
Diethylenetriaminepentaacetic Acid (DTPA)	$C_{14}H_{23}N_3O_{10}$	Lab		---	250-150-310
EDTA Disodium Salt Dihydrate	$C_{10}H_{14}N_2O_8Na_2 . 2 H_2O$	ACS		---	250-150-315
EDTA Tetrasodium Salt Dihydrate	$C_{10}H_{12}N_20_8Na_4 . 2 H_2O$	Lab		---	250-150-320
Eosin Y Disodium Salt	$C_{20}H_6Br_4Na_2O_5$			250-150-325	---
Eriochrome Black T	$C_{20}H_{12}N_3NaO_7S$			250-150-330	---
Ferric Ammonium Sulfate Dodecahydrate	$NH_4Fe(SO_4)_2 . 12 H_2O$	ACS		---	250-150-335
Ferric Chloride Hexahydrate	$FeCl_3 . 6 H_20$	ACS		---	250-150-340
Ferric Nitrate Nonahydrate	$Fe(NO_3)_3 . 9 H_2O$	ACS	✓ ⑤	---	250-150-345
Ferrous Ammonium Sulfate Hexahydrate	$Fe(NH_4)_2(SO_4)_2 . 6 H_2O$	ACS		---	250-150-350
Ferrous Sulfate Heptahydrate	$FeSO_4 . 7 H_20$	ACS		---	250-150-355
Hydroxylamine Hydrochloride	$NH_2OH . HCl$	ACS	✓ ⑧	---	250-150-360
Iodine	I_2	ACS		---	250-150-365
Lead Acetate Trihydrate	$(CH_3COO)_2Pb . 3 H_2O$	ACS	✓ ⑥	---	250-150-370
Magnesium Acetate Tetrahydrate	$(CH_3COO)_2Mg . 4 H_2O$	ACS		---	250-150-385
Magnesium Carbonate Hydrate	$(MgCO_3)_4 . Mg(OH)_2 . 5 H_2O$	Reagent		---	250-150-390
Magnesium Chloride Hexahydrate	$MgCl_2 . 6 H_20$	ACS		---	250-150-395
Magnesium Sulfate Heptahydrate	$MgSO_4 . 7 H_2O$	ACS		---	250-150-400
Manganese Dioxide	MnO_2	Lab		250-150-405	---
Manganese Sulfate Monoydrate	$MnSO_4 . H_2O$	ACS		---	250-150-410
Mercuric Chloride	$HgCl_2$	ACS	✓ ⑥	---	250-150-415
Mercuric Niktrate Monohydrate	$Hg(NO_3)_2 . H_2O$	ACS	✓ ⑥	---	250-150-420
Mercuric Sulfate	$HgSO_4$	ACS	✓ ⑥	---	250-150-425
Methyl Orange				250-150-430	---
Methyl Red, Na Salt				250-150-435	---
Methyl Violet				250-150-440	---
Methylene Blue				250-150-445	---
Naphthol Green B (Acid Green 1)		ACS		250-150-450	---
Nitrilotriacetic Acid, Disodium Salt		Lab		---	250-150-455
Oxalic Acid Dihydrate	$C_2H_2O_4 . 2 H_2O$	ACS		---	250-150-460
Phenol Red, Na Salt		ACS		250-150-465	---
Phenolphthalein Powder				250-150-470	---
Phenylmercuric Acetate	$C_8H_8HgO_2$	Lab		---	250-150-475
Polysorbate-20 (or Tween-20)		Lab		250-150-480	---
Polyvinyl Alcohol Hydrolized	$(C_2H_4O)n$	Lab		---	250-150-485
Potassium Bromate	$KBrO_3$	ACS		---	250-150-495
Potassium Bromide	KBr	ACS		---	250-150-500
Potassium Carbonate Anhydrous	K_2CO_3	ACS		---	250-150-505
Potassium Chloride	KCl	ACS		---	250-150-510
Potassium Chloroplatinate Powder	K_2PtCl_6	Lab		250-150-515	---
Potassium Chromate	K_2CrO_4	ACS		---	250-150-520
Potassium Dichromate Primary Standard	$K_2Cr_2O_7$	Lab		---	250-150-525
Potassium Hydrogen Phthalate Primary Standard	$HOCOC_6H_4COOK$	Lab		--	250-150-535
Potassium Hydrogen Phthalate	$HOCOC_6H_4COOK$	ACS		---	250-150-530

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Inorganic Compounds

Inorganic Compounds	Description	Grade	Code	Catalog Number 10 g	Catalog Number 500 g
Potassium Hydroxide	KOH	ACS	✓ ⑧	---	250-150-540
Potassium Iodate	KIO_3	ACS		---	250-150-545
Potassium Iodide	KI	ACS		---	250-150-550
Potassium Nitrate	KNO_3	ACS	✓ ⑤	---	250-150-555
Potassium Oxalate Monohydrate	$(COOK)_2 . H_2O$	ACS		---	250-150-560
Potassium Permanganate*	$KMnO_4$	ACS	✓ ⑤	---	250-150-565
Potassium Persulfate (Potassium Peroxydisulfate)	$K_2S_2O_8$	ACS	✓ ⑤	---	250-150-570
Potassium Phosphate Dibasic Solution	K_2HPO_4	ACS		---	250-150-575
Potassium Phosphate Monobasic Solution	KH_2PO_4	ACS		---	250-150-580
Potassium Sodium Tartarate Tertahydrate	$KNaC_4H_4O_8 . 4H_2O$	ACS		---	250-150-585
Potassium Sulfate	K_2SO_4	ACS		---	250-150-590
Potassium Tetraborate		Lab		---	250-150-490
Salicylic Acid	$C_7H_6O_3$	ACS		---	250-150-600
Silver Chloride	AgCl	Reagent		---	250-150-605
Silver Nitrate	$AgNO_3$	ACS		---	250-150-610
Silver Sulfate	Ag_2SO_4	ACS	✓ ⑤	---	250-150-615
Sodium Acetate Anhydrous	CH_3COONa	ACS		---	250-150-620
Sodium Acetate Trihydrate	$CH_3COONa . 3 H_2O$	ACS		---	250-150-625
Sodium Arsenite Powder	$NaAsO_2$	Reagent		---	250-150-630
Sodium Bicarbonate	$NaHCO_3$	ACS	✓ ⑥	---	250-150-635
Sodium Borate Decahydrate (Tetraborate)	$Na_2B_4O_7 . 10 H_2O$	ACS		---	250-150-640
Sodium Bromide	NaBr	ACS		---	250-150-645
Sodium Carbonate Anhydrous	Na_2CO_3	ACS		---	250-150-650
Sodium Chloride	NaCl	ACS		---	250-150-790
Sodium Citrate Dihydrate	$Na_3C_6H_5O_7 . 2 H_2O$	ACS		---	250-150-655
Sodium Fluoride	NaF	ACS		---	250-150-660
Sodium Glycerophosphate	$Na_2C_3H_5(OH)_2PO_4 . 5\text{-}1/2H_2O$	NF	✓ ⑥	---	250-150-665
Sodium Hydroxide (Pellet)	NaOH	ACS		---	250-150-670
Sodium Metabisulfite Anhydrous	$Na_2S_2O_5$	ACS	✓ ⑧	---	250-150-675
Sodium Metaborate	$NaBO_2$	Lab		---	250-150-680
Sodium Nitrate	$NaNO_3$	ACS		---	250-150-685
Sodium Phosphate Dibasic Anhydrous	Na_2HPO_4	ACS	✓ ⑤	---	250-150-690
Sodium Phophate Monobasic Monohydrate	$NaH_2PO_4 . H_2O$	ACS		---	250-150-695
Sodium Sulfite Anhydrous	Na_2SO_3	ACS		---	250-150-700
Sodium Thiosulfate Pentahydrate	$Na_2S_2O_3 . 5 H_2O$	ACS		---	250-150-705
Sodium Tungstate Dihydrate	$Na_2WO_4 . 2 H_20$	ACS		---	250-150-710
Stannous Chloride Dihydrate	$SnCl_2 . 2 H_2O$	ACS		---	250-150-715

* Class A precursor requires special document. Contact customer service.

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Inorganic Compounds	Description	Grade	Code	Catalog Number 10 g	Catalog Number 500 g
Starch, Soluble		ACS		250-150-720	---
Strontium Chloride Hexahydrate	$SrCl_2 . 6 H_2O$	ACS		---	250-150-725
Sulfamic Acid	NH_2SO_3H	ACS	✓ ⑧	---	250-150-730
Tartaric Acid	$HOOC(CHOH)_2COOH$	ACS		---	250-150-785
Thymol Blue, Na Salt				250-150-735	---
Thymolphthalein				250-150-740	---
Trichloroacetic Acid	CCl_3COOH	ACS	✓ ⑧	---	250-150-745
Triton-X				---	250-150-750
Xylene Cyanole FF				250-150-755	---
Xylenol Orange, Na Salt				250-150-760	---
Zinc Acetate Dihydrate	$(CH_3COO)_2 Zn . 2 H_2O$	ACS		---	250-150-765
Zinc Chloride	$ZnCl_2$	ACS	✓ ⑧	---	250-150-770
Zinc Sulfate Heptahydrate	$ZnSO_4 . 7 H_2O$	ACS		---	250-150-775

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Certificate of Analysis: Hydrochloric Acid

Certificate of Analysis

HCl 1 N

Catalogue numbers	**250-030-400/250-030-401/250-030-402/ 250-030-403/250-030-404**
Description	***Accu*SPEC – Hydrochloric Acid**
Nominal Concentration	**1 N**
Lot Number	**SC5027513**
Expiry Date	**January 2007**

This volumetric standard solution analyzed by titration is traceable to a KHP primary standard.

Actual Concentration : **1.001 N**

Certified by : _____
Alketa Mixha, Chemist

Date of certification : February 3, 2005

This solution is guaranteed to be stable and accurate to within ± 0.5% of the actual concentration up to the expiry date provided the solution is kept tightly capped and stored under normal laboratory conditions. For these solutions, 18 megohm/cm double deionized water, ACS-grade starting materials (where applicable) and Class A glassware are used. The equipment used (balances, pH-meters, Conductivity meters, etc…) are calibrated daily (internally) and bi-annually (externally) and traceable to NIST. The Material Safety Data Sheet and this Certificate of Analysis are available on our web site. (Ce certificat est également disponible en français)

Manufactured according to an ISO 9001:2000 Quality System and ISO 17025 (in-process)
SCP SCIENCE
21800 Clark Graham, Baie D'Urfé, QC, Canada H9X 4B6
Phone : (514) 457-0701 Fax : (514) 457-4499
Web Site: www.scpscience.com

Certificate of Analysis

Catalogue numbers : **250-160-720/250-160-721**
Description : ***Accu*SPEC – Conductivity Standard**
Nominal Value : 84 **µS**
Lot Number : **SC4309694**
Expiry Date : **August 2006**
(*unopened bottle*)

12 months after opening, up to unopened expiry date

Date bottle opened

84 µS

This conductivity standard is traceable to NIST Standard Reference Material : 3193

Measured Conductivity : **84.4 µS at 25ºC**

Certified by : _____ **Date of certification : November 16, 2004**
Alketa Mixha, Chemist

This Conductivity Standard is guaranteed to be stable and accurate to within ± 1% of the measured conductivity up to the unopened expiry date, if sealed, or 12 months after opening of the bottle, up to the unopened expiry date provided the solution is kept tightly capped and stored under normal laboratory conditions. For these solutions, 18 megohm/cm double deionized water, and Class A glassware are used. The Material Safety Data Sheet and this Certificate of Analysis are available on our web site. (Ce certificat est également disponible en français)

Manufactured according to an ISO 9001:2000 Quality System and ISO 17025 (in-process)

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X-Ray Fluorescence Spectroscopy - Notes

NOTES

SCP SCIENCE manufactures and distributes products for X-Ray Fluorescence Spectroscopy. In addition to popular binders and fusion fluxes, a complete list of sulfur and oil standards are available in this chapter.

Binder & Blending Agents

Often, a binder or blending material must be added to a sample prior to formation of a pressed pellet. This material helps keep the pressed pellet from flaking or disintegrating. **SCP SCIENCE** offers the most popular formulations of binder & blending agents in use today.

- Available in 454 g package size
- For a complete list, please review the Instrument & Supplies Catalog or contact your Customer Service Representative

XRF Fusion Fluxes

SCP SCIENCE fluxes are supplied dust free, in homogeneous spherical vitreous particles with less then 0.05% moisture. Choose from single fluxes or a variety of mixed fluxes, ranging from 90% LiT/10% LiM to 20% LiT/80% LiM, or request a custom blend for your application. Depending on your analytical requirements, two flux grades; Pure and Ultra Pure, are available. Used in cements, ceramics and glassmakers, Mining Industries, Metal Producers, and R & D Laboratories - Petrochemical plants.

- Eliminate risks associated with crucibles overflowing
  - High bulk density of 1.4 g/cm^3
- Offer higher analytical accuracy
  - Spherical (<500 um) and vitreous particles are easy to handle
- Two purity levels for Lithium borate fluxes are available
  - High Purity 99.999% best choice for ICP-AES/MS Analysis
  - Pure 99.99% most popular in XRF analysis
- Complete with a detailed Certificate of Analysis
  - (99.99% and 99.999% pure), lot number and the concentration of analytes determined by ICP-AES

Custom Blends Available!

Fusion Flux	Grade	Quantity	Code	Catalog Number
Lithium Tetraborate (LiT)	PURE	1 kg		040-060-200
Lithium Tetraborate (LiT)	ULTRA PURE	1 kg		040-060-205
Lithium Metaborate (LiM)	PURE	1 kg		040-060-100
Lithium Metaborate (LiM)	ULTRA PURE	1 kg		040-060-102
LiT/LiM 50/50	PURE	1 kg		040-060-250
LiT/LiM/LiBr 49.75/49.75/0.50	PURE	1 kg		040-060-249
LiT/LiM 67/33	PURE	1 kg		040-060-267
LiT/LiM/LiBr 66.67/32.83/0.50	PURE	1 kg		040-060-266
LiT/LiM/LiI 66.67/32.83/0.50	PURE	1 kg		040-060-268
Lithium Bromide	Non-Wetting Agent	15 ml		040-060-330

Other products and combinations are available. Contact your Customer Service Representative.

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Sulfur in Oil Calibration Standards

XRF analysis for sulfur in oil requires matrix matching in order to guarantee accurate results. Sulfur in Oil Standards are available in #2 Diesel Fuel, White Mineral Oil, Kerosene, and NEW Iso-Octane. Expanded product lines offer more selection to meet your sulfur analysis requirements.

- Available as individual standards or complete sets
- Concentrations range from 0.0000% to 6%
- Complete with a Certificate of Analysis

Sulfur in #2 Diesel Fuel (125 ml bottle)

Concentration (wt%)	Code	Catalog Number
0.0000	✓ ③ ⊗	140-081-002
0.0005	✓ ③ ⊗	140-081-018
0.0010	✓ ③ ⊗	140-081-001
0.0025	✓ ③ ⊗	140-081-005
0.0050	✓ ③ ⊗	140-081-003
0.0075	✓ ③ ⊗	140-081-020
0.0100	✓ ③ ⊗	140-081-004
0.0200	✓ ③ ⊗	140-081-006
0.0300	✓ ③ ⊗	140-081-008
0.0400	✓ ③ ⊗	140-081-010
0.0500	✓ ③ ⊗	140-081-012
0.0750	✓ ③ ⊗	140-081-014
0.1000	✓ ③ ⊗	140-081-016
0.1500	✓ ③ ⊗	140-082-002
0.3000	✓ ③ ⊗	140-082-004
0.5000	✓ ③ ⊗	140-082-006
0.7500	✓ ③ ⊗	140-082-009
1.0000	✓ ③ ⊗	140-082-010
1.5000	✓ ③ ⊗	140-082-012
2.0000	✓ ③ ⊗	140-082-014
3.0000	✓ ③ ⊗	140-082-016
4.0000	✓ ③ ⊗	140-082-018
5.0000	✓ ③ ⊗	140-082-020
6.0000	✓ ③ ⊗	140-082-022

Complete Set

Range	Code	Catalog Number
Low Range (0.00-0.10)	✓ ③ ⊗	140-081-000
High Range (0.15-6.0)	✓ ③ ⊗	140-082-000

Sulfur in Mineral Oil (125 ml bottle)

Concentration (wt%)	Code	Catalog Number
0.0000	⊗	140-083-002
0.0005	⊗	140-083-009
0.0010	⊗	140-083-001
0.0025	⊗	140-083-003
0.0050	⊗	140-083-005
0.0075	⊗	140-083-011
0.0100	⊗	140-083-004
0.0200	⊗	140-083-006
0.0300	⊗	140-083-008
0.0400	⊗	140-083-010
0.0500	⊗	140-083-012
0.0750	⊗	140-083-014
0.1000	⊗	140-083-016
0.1500	⊗	140-084-002
0.3000	⊗	140-084-004
0.5000	⊗	140-084-006
0.7500	⊗	140-084-008
1.0000	⊗	140-084-010
2.0000	⊗	140-084-014
3.0000	⊗	140-084-016
4.0000	⊗	140-084-018
5.0000	⊗	140-084-020

Complete Set

Range	Code	Catalog Number
Low Range (0.00-0.10)	⊗	140-083-000
High Range (0.15-5.0)	⊗	140-084-000

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Sulfur in Oil Calibration Standards

Sulfur in Residual Oil (125 ml bottle)

Concentration (wt%)	Code	Catalog Number
0.35	⊗	140-074-101
0.70	⊗	140-074-103
1.00	⊗	140-074-105
1.50	⊗	140-074-107
2.00	⊗	140-074-109
3.00	⊗	140-074-111
4.00	⊗	140-074-113

Complete Set

Range	Code	Catalog Number
Low Range (0.15-4.0)	⊗	110-103-180
High Range (6.0-20.0)	⊗	110-103-220

Sulfur in Kerosene (125 ml bottle)

Concentration (wt%)	Code	Catalog Number
0.0010	✓ ③ ⊗	140-085-001
0.0050	✓ ③ ⊗	140-085-005
0.0100	✓ ③ ⊗	140-085-004
0.0300	✓ ③ ⊗	140-085-006
0.0500	✓ ③ ⊗	140-085-008
0.0750	✓ ③ ⊗	140-085-010
0.1000	✓ ③ ⊗	140-085-012

Complete Set

Range	Code	Catalog Number
Low Range (0.00-0.10)	✓ ③ ⊗	140-085-000

Sulfur in Iso-Octane (125 ml bottle)

Concentration (wt%)	Code	Catalog Number
0.0000	✓ ③ ⊗	140-077-001
0.0005	✓ ③ ⊗	140-077-002
0.0010	✓ ③ ⊗	140-077-004
0.0025	✓ ③ ⊗	140-077-006
0.0050	✓ ③ ⊗	140-077-008
0.0075	✓ ③ ⊗	140-077-010
0.0100	✓ ③ ⊗	140-077-012
0.0200	✓ ③ ⊗	140-077-014
0.0300	✓ ③ ⊗	140-077-016
0.0400	✓ ③ ⊗	140-077-018
0.0500	✓ ③ ⊗	140-077-020
0.0750	✓ ③ ⊗	140-077-022
0.100	✓ ③ ⊗	140-077-024
0.300	✓ ③ ⊗	140-077-028

Complete Set

Range	Code	Catalog Number
Low Range (0.000 - 0.300)	✓ ③ ⊗	140-077-000

⊗ *Glass Container* ⑥ *Poison* ③ *Flammable*
✓ *Dangerous Goods** ⑧ *Corrosive* ⑤ *Oxidant*

* as defined by :
- Hazardous Materials Regulations of the U.S. Department of Transportation, Tariff No. BOE-6000-R
- Canadian Transportation of Dangerous Goods Act and Regulations, Revision December 2000
- International Air Transport Association - Dangerous Goods Regulation, 40th Edition

X-Ray Fluorescence Analysis

A variety of sample preparation and supply items are available.
- A range of thin film materials
- Plastic sample cups for major XRF instrument manufacturers
- Volume discounts on cups and film available

Oil-Based Standards

Oil-based metal standards are available for emission and XRF analysis.
- Common multi-element blends and single element standards are shipped from stock
- Custom formulations are available on special order

"Prejudice is never easy unless it can pass itself off as reason." -William Hazlitt-

Certificate of Analysis

$Li_2B_4O_7$

Catalogue numbers	**040-060-205**
Description	***Accu*SPEC – Lithium Tetraborate, Anhydrous, Fused; Ultra Pure 99.999%**
Lot Number	**SC4254064**

Assay ($Li_2B_4O_7$) :	**100%**
Apparent Density :	**1.4**
Loss on Ignition :	**< 0.01%** (2hrs @ 300°C)
Loss on Fusion :	**< 0.01%** (@ 1000°C)
Granulometry :	**100%** (< 500µm)

Trace Metallic Impurities

Elements	Concentration	Elements	Concentration
Ag	< 1 ppm	Mn	< 1 ppm
Al	< 1 ppm	Mo	< 1 ppm
Ba	< 1 ppm	Na	< 2 ppm
Be	< 1 ppm	Ni	< 1 ppm
Bi	< 1 ppm	P	< 3 ppm
Ca	2 ppm	Pb	< 2 ppm
Cd	< 1 ppm	S	< 3 ppm
Ce	< 1 ppm	Sc	< 1 ppm
Co	< 1 ppm	Si	< 3 ppm
Cr	< 1 ppm	Sr	< 1 ppm
Cu	< 1 ppm	Th	< 1 ppm
Eu	< 1 ppm	Ti	< 1 ppm
Fe	2 ppm	V	< 1 ppm
K	< 3 ppm	Y	< 1 ppm
La	< 1 ppm	Zn	< 1 ppm
Mg	< 1 ppm	Zr	< 1 ppm

Certified by : _____ Date of certification : September 10, 2004
Alketa Mixha, Chemist

This material has been tested by Acidimetry (assay) and ICP-OES (impurities). The Material Safety Data Sheet and this Certificate of Analysis are available on our web site. (Ce certificat est également disponible en français)

Manufactured according to an ISO 9001:2000 Quality System and ISO 17025 (in-process)

SCP SCIENCE
21800 Clark Graham, Baie D'Urfé, QC, Canada H9X 4B6
Phone : (514) 457-0701 Fax : (514) 457-4499
Web Site: www.scpscience.com

Certificate of Analysis: Sulfur in Oil Standard

Certificate of Analysis

Catalog number	**140-081-001**
Description	**Sulfur in #2 Diesel Fuel Standard S @ 0.0010 % w/w**
Lot number	**SC5032547**
Expiration Date	**July 2006**

Concentrations :

S : 10 µg/g

Matrix : **#2 Diesel Fuel**

Certified by : _____
Alketa Mixha, Chemist

Date : February 2, 2005

This solution is intended for use in the determination of total sulfur in #2 Diesel Fuel. The certified value is based upon gravimetric procedures used to prepare the final standard, which are traceable to NIST according to ME Report #2793ME and NIST Test #39760. In order to verify this certified value, the final solution was analyzed by x-ray fluorescence spectroscopy (XRF) against NIST SRM 2724b.

This standard is guaranteed to be accurate to within plus or minus 1% of the concentration shown above, up to the expiry date, provided the solution is kept tightly capped and stored under normal laboratory conditions. We recommend that the solution be thoroughly mixed, by shaking the bottle, immediately prior to use. The Material Safety Data Sheet and this Certificate of Analysis are available on our web site. (Ce certificat est également disponible en français)

Manufactured according to an ISO 9001:2000 Quality System and ISO 17025 (in-process)

SCP SCIENCE
21800 Clark Graham, Baie D'Urfé, QC, Canada H9X 4B6
Phone : (514) 457-0701 Fax : (514) 457-4499
Web Site: www.scpscience.com

SCP SCIENCE has manufactured calibration and quality control standards for inorganic analysis since 1990. In addition to the products listed in the following pages, custom multi-element blends are available on request.

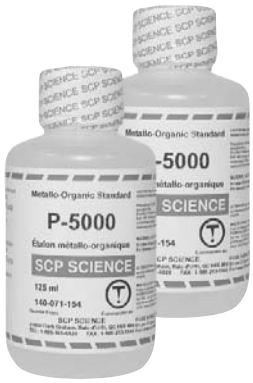
Metallo-Organic Standards - Notes

NOTES

Metallo-Organic Single Element Standards

Metallo-Organic calibration standards are required for metal analysis in organic matrices. “Off the shelf” single element standards as well as multi-element standards are available.

- Single-element standards available
  - For spiking or matrix-matching, if necessary
- 21 element, multi-element standard (SCP-21) available in 7 different concentrations and in 2 sizes
  - Complete choice to reduce dilution errors
- Certificate of Analysis with each standard listing the lot number, the expiry date and the concentration or each element
  - Complete documentation for audit purposes



Single Element	Symbol	Matrix	Code	Catalog Number 1000 µg/g 62.5 ml*	1000 µg/g 250 ml*	5000 µg/g 62.5 ml**
Aluminum	Al	Oil		140-074-132	140-076-138	140-071-132
Arsenic	As	Oil	⊗	140-072-332	---	---
Antimony	Sb	Oil		140-074-512	140-076-518	140-071-512
Barium	Ba	Oil		140-074-552	140-076-001	140-071-562
Beryllium	Be	Oil		140-071-042	140-076-048	---
Boron	B	Oil		140-074-055	---	140-071-055
Calcium	Ca	Oil		140-074-202	140-076-208	140-071-202
Cadmium	Cd	Oil		140-074-482	140-076-002	---
Chromium	Cr	Oil	⊗	140-074-242	140-076-248	140-071-242
Cobalt	Co	Oil		140-074-272	140-076-003	140-071-272
Copper	Cu	Oil	⊗	140-074-292	140-076-004	140-071-292
Iron	Fe	Oil	⊗	140-074-262**	140-076-005**	140-071-262
Lead	Pb	Oil		140-074-822	140-076-828	140-071-822
Lithium	Li	Oil		140-074-032	140-076-038	140-071-032
Magnesium	Mg	Oil		140-074-122	140-076-128	140-071-122
Manganese	Mn	Oil	⊗	140-074-252	140-076-258	140-071-252
Molybdenum	Mo	Oil		140-074-422	---	140-071-422
Nickel	Ni	Oil	⊗	140-074-282	140-076-006	140-071-282
Phosphorus	P	Oil		140-074-152	140-076-158	140-071-152
Potassium	K	Oil		140-074-192	140-076-198	140-071-192
Silicon	Si	Oil		140-074-142	140-076-148	140-071-142
Silver	Ag	Oil		140-074-472	---	140-071-472
Sodium	Na	Oil		140-074-112	140-076-118	140-071-112
Sulfur	S	Oil	⊗	140-074-162	---	140-071-162
Tin	Sn	Oil		140-074-502	140-076-508	140-071-502
Titanium	Ti	Oil	⊗	140-074-222	140-076-228	140-071-222
Vanadium	V	Oil		140-074-232**	140-076-007**	140-071-232
Yttrium	Y	Oil		140-071-390	140-076-398	140-071-392
Zinc	Zn	Oil		140-074-302	140-076-008	140-071-302

* In 20 cSt oil
** In 75 cSt oil

NOTE: *Other elements and concentrations are available on request*

⊗ *Glass Container*
✓ *Dangerous Goods**
Poison
Corrosive
③ *Flammable*
⑤ *Oxidant*

*Hazardous Materials Regulations of the U.S. Department of Transportation, Tariff No. BOE-6000-R
*Canadian Transportation of Dangerous Goods Act and Regulations, Revision December 2000
*International Air Transport Association - Dangerous Goods Regulation, 40th Edition

Metallo-Organic Multi-Element Standards

SCP-12 Multi-Element Standard

Concentration (µg/g)	Code	Catalog Number 125 ml	250 ml
10		140-073-011	140-073-012
30		140-073-031	140-073-032
50		140-073-051	140-073-052
100		140-073-101	140-073-102
300		140-073-301	140-073-302
500		140-073-501	140-073-502
900		140-073-901	140-073-902

12 Element Blend Containing: Ag, Al, Cr, Cu, Fe, Mg, Na, Ni, Pb, Si, Sn, Ti

SCP-21 Multi-Element Standard

Concentration (µg/g)	Code	Catalog Number 125 ml	250 ml
10		140-072-011	140-072-012
30		140-072-031	140-072-032
50		140-072-051	140-072-052
100		140-072-101	140-072-102
300		140-072-301	140-072-302
500		140-072-501	140-072-502
900		140-072-901	140-072-902

21 Element Blend Containing: Ag, Al, B, Ba, Ca, Cd,Cr,Cu, Fe, Mg, Mn, Mo, Na, Ni, P, Pb, Si, Sn, Ti, V, Zn

SCP-21+K Multi-Element Standard

Concentration (µg/g)	Code	Catalog Number 125 ml	250 ml
10		140-072-211	140-072-212
30		140-072-231	140-072-232
50		140-072-251	140-072-252
100		140-072-111	140-072-112
300		140-072-311	140-072-312
500		140-072-511	140-072-512
900		140-072-911	140-072-912

22 Element Blend Containing: Ag, Al, B, Ba, Ca, Cd,Cr,Cu, Fe, K, Mg, Mn, Mo, Na, Ni, P, Pb, Si, Sn, Ti, V, Zn

SCP-23 Multi-Element Standard

Concentration (µg/g)	Code	Catalog Number 125 ml	250 ml
10		140-078-001	140-078-002
30		140-078-003	140-078-004
50		140-078-005	140-078-006
100		140-078-007	---
300		140-078-009	140-078-010
500		140-078-011	140-078-012
900		140-078-013	140-078-014

23 Element Blend Containing: Ag, Al, B, Ba, Ca, Cd,Cr,Cu, Fe, K, Mg, Mn, Mo, Na, Ni, P, Pb, Sb, Si, Sn, Ti, V, Zn

Metal Additive Standard

Concentration (µg/g)	Code	Catalog Number 125 ml	250 ml
900		140-074-901	140-074-902
1000		140-074-903	140-074-904
3000		140-074-905	140-074-906
5000		140-074-907	140-074-908

5 Element Blend Containing: Ba, Ca, Mg, P, Zn

Stabilizer* in Mineral Oil

Viscosity	Code	Catalog Number 62.5 ml
75 cSt	⊗	140-070-950

*** Add 0.6% by weight**

Matrix Oil

Viscosity	Code	Catalog Number 500 ml	1 gallon
75 cSt		140-075-001	140-075-002
20 cSt		140-075-003	140-075-004

⊗ *Glass Container* ⑥ *Poison* ③ *Flammable*
✓ *Dangerous Goods** ⑧ *Corrosive* ⑤ *Oxidant*

* as defined by :
- Hazardous Materials Regulations of the U.S. Department of Transportation, Tariff No. BOE-6000-R
- Canadian Transportation of Dangerous Goods Act and Regulations, Revision December 2000
- International Air Transport Association - Dangerous Goods Regulation, 40th Edition

Certificate of Analysis

Catalog number	**140-071-272**
Description	**Metallo-Organic Standard Co @ 5000 µg/g**
Lot number	**SC4322893**
Expiration Date	**November 2005**

Concentrations :

Co : 4997 µg/g

Matrix : **75 cSt Hydrocarbon Oil**

Certified by : _____
Alketa Mixha, Chemist

Date : November 18, 2004

This solution is intended for use as a calibration standard for plasma emission spectroscopy (ICP or DCP), rotating disk (rotrode) or atomic absorption spectroscopy (AAS). The certified values are based upon assayed concentrations of the raw materials and the gravimetric procedures used to prepare the final standard, which are traceable to NIST according to ME Report #2793ME and NIST test #39760. In order to verify these certified values, the final solution was analyzed by plasma emission spectroscopy (ICP or DCP).

This standard is guaranteed to be accurate to within plus or minus 1% of the concentration shown above, up to the expiry date, provided the solution is kept tightly capped and stored under normal laboratory conditions. We recommend that the solution be thoroughly mixed, by shaking the bottle, immediately prior to use. The Material Safety Data Sheet and this Certificate of Analysis are available on our web site. (Ce certificat est également disponible en français)

Manufactured according to an ISO 9001:2000 Quality System and ISO 17025 (in-process)

SCP SCIENCE
21800 Clark Graham, Baie D'Urfé, QC, Canada H9X 4B6
Phone : (514) 457-0701 Fax : (514) 457-4499
Web Site: www.scpscience.com

Certificate of Analysis

Catalog number	**140-072-032**
Description	**Metallo-Organic Standard SCP-21 @ 30 µg/g**
Lot number	**SC4345116**
Expiration Date	**December 2005**

Concentrations :

Ag :	**29.9 µg/g**	**Fe :**	**30.0 µg/g**	**Si :**	**30.1 µg/g**
Al :	**29.9 µg/g**	**Mg:**	**29.9 µg/g**	**Sn :**	**29.9 µg/g**
B :	**29.9 µg/g**	**Mn**	**29.9 µg/g**	**Ti :**	**29.9 µg/g**
Ba :	**29.9 µg/g**	**Mo**	**29.9 µg/g**	**V :**	**30.0 µg/g**
Ca :	**31.1 µg/g**	**Na :**	**30.0 µg/g**	**Zn :**	**29.9 µg/g**
Cd :	**29.9 µg/g**	**Ni :**	**29.9 µg/g**		
Cr :	**29.9 µg/g**	**P :**	**29.9 µg/g**		
Cu :	**29.9 µg/g**	**Pb :**	**29.9 µg/g**		

Matrix : **75 cSt Hydrocarbon Oil**

Certified by : _____
Alketa Mixha, Chemist

Date : December 10, 2004

This solution is intended for use as a calibration standard for plasma emission spectroscopy (ICP or DCP), rotating disk (rotrode) or atomic absorption spectroscopy (AAS). The certified values are based upon assayed concentrations of the raw materials and the gravimetric procedures used to prepare the final standard, which is traceable to NIST according to ME Report #2793ME and NIST Test #39760. In order to verify these certified values, the final solution was analyzed by plasma emission spectroscopy (ICP or DCP), and is traceable to NIST SRM 1085b.

This standard is guaranteed to be accurate to within plus or minus 1% of the concentration shown above, up to the expiry date, provided the solution is kept tightly capped and stored under normal laboratory conditions. We recommend that the solution be thoroughly mixed, by shaking the bottle, immediately prior to use. The Material Safety Data Sheet and this Certificate of Analysis are available on our web site. (Ce certificat est également disponible en français)

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Oil Based Standards Request Form

Complete this form to receive a quotation for your specific oil based standard or to enter your purchase order number. Photocopy for use with multiple requests.

Contact Information:

Name: _____

Title: _____

Company: _____

Mailing Address: _____

City: _____ Province/State: _____ PC/Zip: _____ Country: _____

Telephone: _____ Fax: _____

E-mail: _____ Account No: _____

Analyte(s)	Concentration(s) (µg/g)	Matrix	Quantity (Volume)

Application: _____

Fax form back to:

USA	**(800) 253-5549**
Canada / International	**(800) 253-5549 / (514) 457-4499**
Europe	**+33 (0)1 60 92 05 67**

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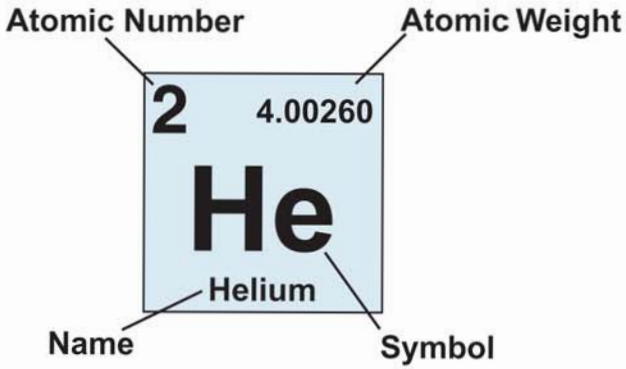
Periodic Table of the Elements



1 1.00794 H Hydrogen																	2 4.00260 He Helium
3 6.941 Li Lithium	4 9.01218 Be Beryllium											5 10.811 B Boron	6 12.011 C Carbon	7 14.0067 N Nitrogen	8 15.9994 O Oxygen	9 18.99840 F Fluorine	10 20.1797 Ne Neon
11 22.98977 Na Sodium	12 24.305 Mg Magnesium											13 26.98154 Al Aluminum	14 28.0855 Si Silicon	15 30.97376 P Phosphorus	16 32.066 S Sulfur	17 35.4527 Cl Chlorine	18 39.948 Ar Argon
19 39.0983 K Potassium	20 40.078 Ca Calcium	21 44.9559 Sc Scandium	22 47.88 Ti Titanium	23 50.9415 V Vanadium	24 51.996 Cr Chromium	25 54.9380 Mn Manganese	26 55.847 Fe Iron	27 58.9332 Co Cobalt	28 58.6934 Ni Nickel	29 63.546 Cu Copper	30 65.39 Zn Zinc	31 69.723 Ga Gallium	32 72.61 Ge Germanium	33 74.9216 As Arsenic	34 78.96 Se Selenium	35 79.904 Br Bromine	36 83.80 Kr Krypton
37 85.4678 Rb Rubidium	38 87.62 Sr Strontium	39 88.9059 Y Yttrium	40 91.224 Zr Zirconium	41 92.9064 Nb Niobium	42 95.94 Mo Molybdenum	43 (98) Tc Technetium	44 101.07 Ru Ruthenium	45 102.9055 Rh Rhodium	46 106.42 Pd Palladium	47 107.868 Ag Silver	48 112.41 Cd Cadmium	49 114.82 In Indium	50 118.710 Sn Tin	51 121.757 Sb Antimony	52 127.60 Te Tellurium	53 126.9045 I Iodine	54 131.29 Xe Xenon
55 132.9054 Cs Cesium	56 137.33 Ba Barium		72 178.49 Hf Hafnium	73 180.9479 Ta Tantalum	74 183.85 W Tungsten	75 186.207 Re Rhenium	76 190.2 Os Osmium	77 192.22 Ir Iridium	78 195.08 Pt Platinum	79 196.9665 Au Gold	80 200.59 Hg Mercury	81 204.383 Tl Thallium	82 207.2 Pb Lead	83 208.9804 Bi Bismuth	84 (209) Po Polonium	85 (210) At Astatine	86 (222) Rn Radon
87 (223) Fr Francium	88 226.025 Ra Radium		104 (261) Rf Rutherfordium	105 (262) Ha Hahnium													
			57 138.905 La Lanthanum	58 140.12 Ce Cerium	59 140.907 Pr Praseodymium	60 144.24 Nd Neodymium	61 (145) Pm Promethium	62 150.36 Sm Samarium	63 151.965 Eu Europium	64 157.25 Gd Gadolinium	65 158.925 Tb Terbium	66 162.50 Dy Dysprosium	67 164.930 Ho Holmium	68 167.26 Er Erbium	69 168.934 Tm Thulium	70 173.04 Yb Ytterbium	71 174.967 Lu Lutetium
			89 (227) Ac Actinium	90 232.0381 Th Thorium	91 231.035 Pa Protactinium	92 238.029 U Uranium	93 237.048 Np Neptunium	94 (244) Pu Plutonium	95 (243) Am Americium	96 (247) Cm Curium	97 (247) Bk Berkelium	98 (251) Cf Californium	99 (252) Es Einsteinium	100 (257) Fm Fermium	10 (258) Md Mendelevium	102 (259) No Nobelium	10 (260) Lr Lawrencium

ICP-AES/MS & ICP-MS Calibration Standards

Ion Chromatography Standards

Single Metallo-Organic Calibration Standards

Head Office: Baie D'Urfé, Montreal, Canada

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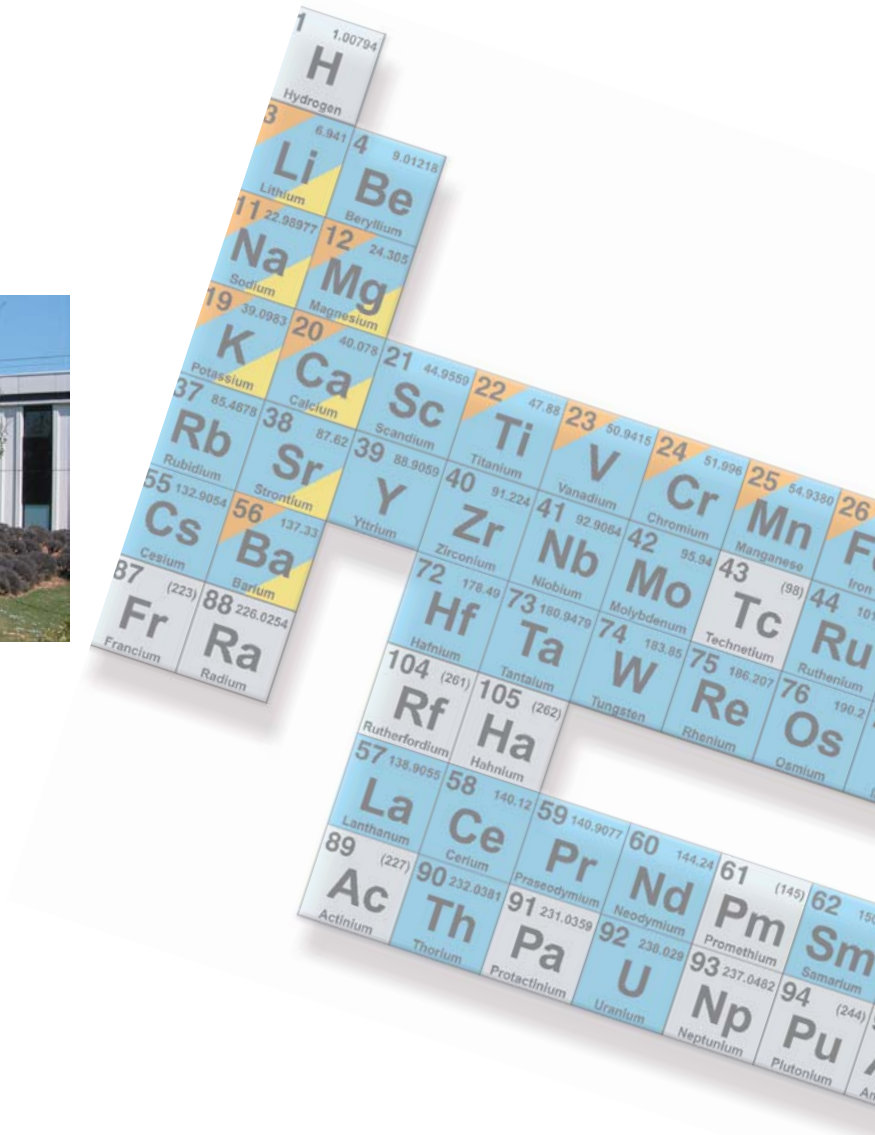
Courtaboeuf, Paris, France



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