



Innovative Solutions  
in Analytical Science and  
Technology

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### Welcome to CPI International's 2005 Standards Line

CPI International has a proven reputation for manufacturing certified reference materials of the highest quality. As Laboratory Director, I am committed to upholding that reputation. To reflect our pride and confidence in our products, CPI International has added the new "Peak Performance" logo to all of our standards.

Peak Performance<sup>®</sup> means that all of our standards are prepared from high-purity starting materials, sub-boiling distilled acids and 18-megohm de-ionized water. We use only Class A calibrated glassware and balances calibrated with Class F NIST-traceable weights. All of our solutions are bottled in pre-cleaned, MSPE Passport 100 bottles and secured with heat-shrink seals. The accuracy of the single-element line is guaranteed to  $\pm 0.1\%$ , and we have a  $\pm 0.5\%$  guarantee of accuracy on all of our stock mixes and custom blends.

Our Peak Performance<sup>®</sup> commitment goes beyond product quality. It extends all the way into our customer service level that includes 1-day quoting, 7-day turn-around on custom blends and same day shipping on all stock solutions.

Along with the new Peak Performance<sup>®</sup> logo, this catalog also highlights the many new products CPI International has to offer. CPI International is the only standards manufacturer providing parts and supplies for AA, ICP, ICP-MS, GC and GC/MS. We are committed to being "full service" not only in our certified reference materials, but also in our ability to help you save time and money throughout the lab.

Please feel free to contact me if you ever have any questions or comments about our Peak Performance<sup>®</sup> products.

Sincerely,

Katie Ketyla  
Laboratory Director

## Inorganic Standards



Single-Element Standards	
1,000 µg/mL	76
10,000 µg/mL	77
US EPA 200.7	
Tuning and Plasma Solutions	78
Quality Control Standards	78
Laboratory Fortifying Solution	78
Calibration Standards	79
Interference Check Standards	79
US EPA Method 1310	79
US EPA 600/4-79-020	
Groundwater and Wastewater	80
Contract Lab Program (CLP)	
ICAL Standards	81
CLP Sample Spike Solutions	81
CLP Interference Check Standards	81
Instrument Check Standards	82
Wavelength Calibration Standards	82
Calibration Verification Standards	
ICV Standards	83
CCV Standards	83
ICP-MS US EPA 200.8	84
ICP-MS US EPA 6020	84
ICP-MS Calibration Standards	85
Graphite Furnace Atomic Absorption	
TCLP Standards	86
Calibration Standards	86
Matrix Modifiers	87
Ionization Buffers	87
Releasing Agents	88
AA Single-Element Standards	88
Ion Chromatography Standards	
Single-Element Standards	88
Multi-Element Solutions	89
Peak Performance™ Metals, Salts, & Oxides	90
Custom Standards	91

## Table of Contents

CPI International offers single- and multi-element standards with the accuracy you demand. Single-element standards are guaranteed accurate to +0.3%, and are available in 100mL, 250mL or 500mL polyethylene Passport IP2 bottles. We also welcome all requests for custom blends. All CPI International standards carry an 18-month guarantee for accuracy, quality and shelf life.



All standards are prepared from high-purity starting materials, sub-boiling distilled acids and 18-megaohm de-ionized water. We use only class A volumetric glassware calibrated by NIST guidelines. Starting materials are weighed to 0.1-mg on analytical balances calibrated by NIST traceable Class F weights. The acids and de-ionized water are regularly tested by ICP-MS to ensure purity.

Each standard is packaged in an HDPE Passport IP2 bottle pre-leached and secured with a heat-shrink seal.

Every standard is certified gravimetrically and instrumentally against NIST SRM 3100 Series spectrometric solutions. A Certificate of Analysis reporting ICP-MS analysis for trace impurities and a Material Safety Data Sheet are shipped with every standard. CPI guarantees the accuracy of single-elements to ± 0.3% for 18 months from date of shipping.

**Please call for pricing on custom single-element standards.**

### Single-Element Standards 1,000 µg/mL

Element	Source	Purity	Matrix	100 mL	250 mL
Aluminum	Al metal	99.999	2% HNO <sub>3</sub>	S4400-100011	4400-100011
Antimony	Sb metal	99.9999	4% HNO <sub>3</sub> + 0.1% HF	S4400-100023	4400-100023
Arsenic	As metal	99.999+	2% HNO <sub>3</sub>	S4400-100031	4400-100031
	As <sub>2</sub> O <sub>3</sub> as As <sup>+3</sup>	99.998	2% HCl	S4400-100036	4400-100036
	As <sub>2</sub> O <sub>3</sub> as As <sup>+5</sup>	99.998	2% NaOH	S4400-100037	4400-100037
Barium	Ba <sub>2</sub> CO <sub>3</sub>	99.999	2% HNO <sub>3</sub>	S4400-100041	4400-100041
Beryllium	Be <sub>4</sub> O(C <sub>2</sub> H <sub>3</sub> O <sub>2</sub> ) <sub>6</sub>	99.999	2% HNO <sub>3</sub>	S4400-100051	4400-100051
Bismuth	Bi metal	99.999	2% HNO <sub>3</sub>	S4400-100061	4400-100061
Boron	H <sub>3</sub> BO <sub>3</sub>	99.999	H <sub>2</sub> O	S4400-100074	4400-100074
Cadmium	Cd metal	99.999	2% HNO <sub>3</sub>	S4400-100081	4400-100081
Calcium	CaCO <sub>3</sub>	99.999	2% HNO <sub>3</sub>	S4400-100091	4400-100091
Carbon	C(oxalic acid)	99.99	H <sub>2</sub> O	S4400-100091714	4400-100091714
Cerium	CeO <sub>2</sub>	99.995	2% HNO <sub>3</sub>	S4400-1000101	4400-1000101
Cesium	Cs <sub>2</sub> CO <sub>3</sub>	99.994	2% HNO <sub>3</sub>	S4400-1000111	4400-1000111
Chromium	Cr metal	99.995	2% HNO <sub>3</sub>	S4400-1000121	4400-1000121
	Cr metal as Cr <sup>+3</sup>	99.995	2% HCl	S4400-1000126	4400-1000126
	K <sub>2</sub> Cr <sub>2</sub> O <sub>7</sub> as Cr <sup>+6</sup>	99.999	H <sub>2</sub> O	S4400-1000127	4400-1000127
Cobalt	Co metal	99.999	2% HNO <sub>3</sub>	S4400-1000131	4400-1000131
Copper	Cu metal	99.999	2% HNO <sub>3</sub>	S4400-1000141	4400-1000141
Dysprosium	Dy <sub>2</sub> O <sub>3</sub>	99.99	2% HNO <sub>3</sub>	S4400-1000151	4400-1000151
Erbium	Er <sub>2</sub> O <sub>3</sub>	99.99	2% HNO <sub>3</sub>	S4400-1000161	4400-1000161
Europium	Eu <sub>2</sub> O <sub>3</sub>	99.99	2% HNO <sub>3</sub>	S4400-1000171	4400-1000171
Gadolinium	Gd <sub>2</sub> O <sub>3</sub>	99.999	2% HNO <sub>3</sub>	S4400-1000181	4400-1000181
Gallium	Ga metal	99.999	2% HNO <sub>3</sub>	S4400-1000191	4400-1000191
Germanium	NH <sub>4</sub> GeF <sub>6</sub>	99.998	2% HNO <sub>3</sub>	S4400-1000201	4400-1000201
Gold	Au metal	99.99	2% HCl	S4400-1000212	4400-1000212
Hafnium	Hf metal	99.9	2% HNO <sub>3</sub> + 0.5% HF	S4400-1000223	4400-1000223
Holmium	Ho <sub>2</sub> O <sub>3</sub>	99.99	2% HNO <sub>3</sub>	S4400-1000231	4400-1000231
Indium	In metal	99.999	2% HNO <sub>3</sub>	S4400-1000241	4400-1000241
Iridium	(NH <sub>4</sub> ) <sub>3</sub> IrCl <sub>6</sub>	99.99	10% HCl	S4400-1000252	4400-1000252
Iron	Fe metal	99.999	2% HNO <sub>3</sub>	S4400-1000261	4400-1000261
Lanthanum	La <sub>2</sub> O <sub>3</sub>	99.999	2% HNO <sub>3</sub>	S4400-1000271	4400-1000271
Lead	Pb metal	99.999	2% HNO <sub>3</sub>	S4400-1000281	4400-1000281
Lithium	Li <sub>2</sub> CO <sub>3</sub>	99.999	1% HNO <sub>3</sub>	S4400-1000291	4400-1000291
Lutetium	Lu <sub>2</sub> O <sub>3</sub>	99.999	2% HNO <sub>3</sub>	S4400-1000301	4400-1000301
Magnesium	Mg metal	99.99	2% HNO <sub>3</sub>	S4400-1000311	4400-1000311
Manganese	Mn metal	99.99	2% HNO <sub>3</sub>	S4400-1000321	4400-1000321
Mercury	Hg metal	99.9999	2% HNO <sub>3</sub>	S4400-1000331	4400-1000331
Molybdenum	Mo metal	99.999	2% HNO <sub>3</sub> + 0.1% HF	S4400-1000343	4400-1000343
		99.999	2% HCl	S4400-1000342	4400-1000342
Neodymium	Nd <sub>2</sub> O <sub>3</sub>	99.99	2% HNO <sub>3</sub>	S4400-1000351	4400-1000351
Nickel	Ni metal	99.999	2% HNO <sub>3</sub>	S4400-1000361	4400-1000361
Niobium	Nb metal	99.99	2% HNO <sub>3</sub> + 0.5% HF	S4400-1000373	4400-1000373
Osmium	(NH <sub>4</sub> ) <sub>2</sub> OsCl <sub>6</sub>	99.99	2% HCl	S4400-1000702	4400-1000702
Palladium	Pd metal	99.999	4% HNO <sub>3</sub>	S4400-1000381	4400-1000381
Phosphorous	NH <sub>4</sub> H <sub>2</sub> PO <sub>4</sub>	99.999	0.05% HNO <sub>3</sub>	S4400-1000391	4400-1000391
Platinum	Pt metal	99.999	5% HCl	S4400-1000402	4400-1000402
Potassium	KNO <sub>3</sub>	99.999	1% HNO <sub>3</sub>	S4400-1000411	4400-1000411
Praseodymium	Pr <sub>6</sub> O <sub>11</sub>	99.99	2% HNO <sub>3</sub>	S4400-1000421	4400-1000421
Rhenium	Re metal	99.99	2% HNO <sub>3</sub>	S4400-1000431	4400-1000431
Rhodium	(NH <sub>4</sub> ) <sub>3</sub> RhCl <sub>6</sub>	99.99	10% HCl	S4400-1000442	4400-1000442
Rubidium	Rb <sub>2</sub> CO <sub>3</sub>	99.975	2% HNO <sub>3</sub>	S4400-1000451	4400-1000451
Ruthenium	(NH <sub>4</sub> ) <sub>2</sub> RuCl <sub>6</sub>	99.99	10% HCl	S4400-1000462	4400-1000462
Samarium	Sm <sub>2</sub> O <sub>3</sub>	99.99	2% HNO <sub>3</sub>	S4400-1000471	4400-1000471
Scandium	Sc <sub>2</sub> O <sub>3</sub>	99.99	2% HNO <sub>3</sub>	S4400-1000481	4400-1000481
Selenium	Se metal	99.999	2% HNO <sub>3</sub>	S4400-1000491	4400-1000491
Silicon	(NH <sub>4</sub> ) <sub>2</sub> SiF <sub>6</sub>	99.99	H <sub>2</sub> O	S4400-1000504F	4400-1000504F
Silver	Ag metal	99.99	2% HNO <sub>3</sub>	S4400-1000511	4400-1000511
Sodium	NaNO <sub>3</sub>	99.999	1% HNO <sub>3</sub>	S4400-1000521	4400-1000521
Strontium	SrCO <sub>3</sub>	99.999	2% HNO <sub>3</sub>	S4400-1000531	4400-1000531
Sulfur	H <sub>2</sub> SO <sub>4</sub>	99.999	H <sub>2</sub> O	S4400-1000544	4400-1000544
Tantalum	Ta metal	99.99+	2% HNO <sub>3</sub> + 0.5% HF	S4400-1000553	4400-1000553
Tellurium	Te metal	99.999	2% HNO <sub>3</sub> + 0.2% HF	S4400-1000563	4400-1000563
Terbium	Tb <sub>4</sub> O <sub>7</sub>	99.99	2% HNO <sub>3</sub>	S4400-1000571	4400-1000571
Thallium	Tl metal	99.999	2% HNO <sub>3</sub>	S4400-1000581	4400-1000581
Thorium	ThO <sub>2</sub>	99.99	2% HNO <sub>3</sub>	S4400-1000591	4400-1000591
Thulium	Tm <sub>2</sub> O <sub>3</sub>	99.995	2% HNO <sub>3</sub>	S4400-1000601	4400-1000601
Tin	Sn metal	99.999	2% HNO <sub>3</sub> + 0.5% HF	S4400-1000613	4400-1000613
		99.999	40% HCl	S4400-1000612	4400-1000612
Titanium	Ti metal	99.99	2% HNO <sub>3</sub> + 0.1% HF	S4400-1000623	4400-1000623
		99.99	20% HCl	S4400-1000622	4400-1000622
Tungsten	W metal	99.999	2% HNO <sub>3</sub> + 1% HF	S4400-1000633	4400-1000633
Uranium	U <sub>3</sub> O <sub>8</sub>	99.99	2% HNO <sub>3</sub>	S4400-1000641	4400-1000641
Vanadium	NH <sub>4</sub> VO <sub>3</sub>	99.995	2% HNO <sub>3</sub>	S4400-1000651	4400-1000651
Ytterbium	Yb <sub>2</sub> O <sub>3</sub>	99.99	2% HNO <sub>3</sub>	S4400-1000661	4400-1000661
Yttrium	Y <sub>2</sub> O <sub>3</sub>	99.999	2% HNO <sub>3</sub>	S4400-1000671	4400-1000671
Zinc	Zn metal	99.999	2% HNO <sub>3</sub>	S4400-1000681	4400-1000681
Zirconium	ZrONO <sub>3</sub>	99.99	2% HNO <sub>3</sub>	S4400-1000691	4400-1000691



**All Single-Element Standards ship with a Certificate of Analysis and Material Safety Data Sheet.**

**Single-Element Standards 10,000 µg/mL**

Element	Source	Purity	Matrix	100 mL	250 mL
Aluminum	Al metal	99.999	4% HNO <sub>3</sub>	S4400-10M11	4400-10M11
Antimony	Sb metal	99.9999	4% HNO <sub>3</sub> + 2% HF 50% HCl	S4400-10M23 S4400-10M22	4400-10M23 4400-10M22
Arsenic	As metal	99.999+	4% HNO <sub>3</sub>	S4400-10M31	4400-10M31
Barium	Ba <sub>2</sub> CO <sub>3</sub>	99.999	4% HNO <sub>3</sub>	S4400-10M41	4400-10M41
Beryllium	Be <sub>4</sub> O(C <sub>2</sub> H <sub>3</sub> O <sub>2</sub> ) <sub>6</sub>	99.999	4% HNO <sub>3</sub>	S4400-10M51	4400-10M51
Bismuth	Bi metal	99.999	4% HNO <sub>3</sub>	S4400-10M61	4400-10M61
Boron	H <sub>3</sub> BO <sub>3</sub>	99.999	H <sub>2</sub> O	*S4400-5M74	*4400-5M74
Cadmium	Cd metal	99.999	4% HNO <sub>3</sub>	S4400-10M81	4400-10M81
Calcium	CaCO <sub>3</sub>	99.999	4% HNO <sub>3</sub>	S4400-10M91	4400-10M91
Carbon	C(oxalic acid)	99.99	H <sub>2</sub> O	S4400-100091714	4400-100091714
Cerium	Ce <sub>2</sub> O <sub>3</sub>	99.995	4% HNO <sub>3</sub>	S4400-10M101	4400-10M101
Cesium	Cs <sub>2</sub> CO <sub>3</sub>	99.994	1% HNO <sub>3</sub>	S4400-10M111	4400-10M111
Chromium	Cr metal	99.995	4% HNO <sub>3</sub>	S4400-10M121	4400-10M121
Cobalt	Co metal	99.999	4% HNO <sub>3</sub>	S4400-10M131	4400-10M131
Copper	Cu metal	99.999	4% HNO <sub>3</sub>	S4400-10M141	4400-10M141
Dysprosium	Dy <sub>2</sub> O <sub>3</sub>	99.99	4% HNO <sub>3</sub>	S4400-10M151	4400-10M151
Erbium	Er <sub>2</sub> O <sub>3</sub>	99.99	4% HNO <sub>3</sub>	S4400-10M161	4400-10M161
Europium	Eu <sub>2</sub> O <sub>3</sub>	99.99	4% HNO <sub>3</sub>	S4400-10M171	4400-10M171
Gadolinium	Gd <sub>2</sub> O <sub>3</sub>	99.999	4% HNO <sub>3</sub>	S4400-10M181	4400-10M181
Gallium	Ga metal	99.999	4% HNO <sub>3</sub>	S4400-10M191	4400-10M191
Germanium	NH <sub>4</sub> Gef <sub>6</sub>	99.998	4% HNO <sub>3</sub>	S4400-10M201	4400-10M201
Gold	Au metal	99.99	10% HCl	S4400-10M212	4400-10M212
Hafnium	Hf metal	99.9	4% HNO <sub>3</sub> + 2% HF	S4400-10M223	4400-10M223
Holmium	Ho <sub>2</sub> O <sub>3</sub>	99.99	4% HNO <sub>3</sub>	S4400-10M231	4400-10M231
Indium	In metal	99.999	4% HNO <sub>3</sub>	S4400-10M241	4400-10M241
Iron	Fe metal	99.999	4% HNO <sub>3</sub>	S4400-10M261	4400-10M261
Lanthanum	La <sub>2</sub> O <sub>3</sub>	99.999	4% HNO <sub>3</sub>	S4400-10M271	4400-10M271
Lead	Pb metal	99.999	4% HNO <sub>3</sub>	S4400-10M281	4400-10M281
Lithium	Li <sub>2</sub> CO <sub>3</sub>	99.999	1% HNO <sub>3</sub>	S4400-10M291	4400-10M291
Lutetium	Lu <sub>2</sub> O <sub>3</sub>	99.999	4% HNO <sub>3</sub>	S4400-10M301	4400-10M301
Magnesium	Mg metal	99.99	4% HNO <sub>3</sub>	S4400-10M311	4400-10M311
Manganese	Mn metal	99.99	4% HNO <sub>3</sub>	S4400-10M321	4400-10M321
Mercury	Hg metal	99.9999	4% HNO <sub>3</sub>	S4400-10M331	4400-10M331
Molybdenum	Mo metal	99.999	4% HNO <sub>3</sub> + 2% HF 10% HCl	S4400-10M343 S4400-10M342	4400-10M343 4400-10M342
Neodymium	Nd <sub>2</sub> O <sub>3</sub>	99.99	4% HNO <sub>3</sub>	S4400-10M351	4400-10M351
Nickel	Ni metal	99.999	4% HNO <sub>3</sub>	S4400-10M361	4400-10M361
Niobium	Nb metal	99.99	4% HNO <sub>3</sub> + 1% HF	S4400-10M373	4400-10M373
Palladium	Pd metal	99.999	10% HNO <sub>3</sub>	S4400-10M381	4400-10M381
Phosphorous	NH <sub>4</sub> H <sub>2</sub> PO <sub>4</sub>	99.999	0.05% HNO <sub>3</sub>	S4400-10M391	4400-10M391
Platinum	Pt metal	99.999	10% HCl	S4400-10M402	4400-10M402
Potassium	KNO <sub>3</sub>	99.999	1% HNO <sub>3</sub>	S4400-10M411	4400-10M411
Praseodymium	Pr <sub>6</sub> O <sub>11</sub>	99.99	4% HNO <sub>3</sub>	S4400-10M421	4400-10M421
Rhenium	Re metal	99.99	4% HNO <sub>3</sub>	S4400-10M431	4400-10M431
Rubidium	Rb <sub>2</sub> CO <sub>3</sub>	99.975	2% HNO <sub>3</sub>	S4400-10M451	4400-10M451
Samarium	Sm <sub>2</sub> O <sub>3</sub>	99.99	4% HNO <sub>3</sub>	S4400-10M471	4400-10M471
Scandium	Sc <sub>2</sub> O <sub>3</sub>	99.99	4% HNO <sub>3</sub>	S4400-10M481	4400-10M481
Selenium	Se metal	99.999	4% HNO <sub>3</sub>	S4400-10M491	4400-10M491
Silicon	(NH <sub>4</sub> ) <sub>2</sub> SiF <sub>6</sub>	99.99	H <sub>2</sub> O	S4400-10M504F	4400-10M504F
Silver	Ag metal	99.99	4% HNO <sub>3</sub>	S4400-10M511	4400-10M511
Sodium	NaNO <sub>3</sub>	99.999	1% HNO <sub>3</sub>	S4400-10M521	4400-10M521
Strontium	SrCO <sub>3</sub>	99.999	4% HNO <sub>3</sub>	S4400-10M531	4400-10M531
Sulfur	H <sub>2</sub> SO <sub>4</sub>	99.999	H <sub>2</sub> O	S4400-10M544	4400-10M544
Tantalum	Ta metal	99.99+	4% HNO <sub>3</sub> + 2% HF	S4400-10M553	4400-10M553
Tellurium	Te metal	99.999	4% HNO <sub>3</sub> + 2% HF	S4400-10M563	4400-10M563
Terbium	Tb <sub>4</sub> O <sub>7</sub>	99.99	4% HNO <sub>3</sub>	S4400-10M571	4400-10M571
Thallium	Tl metal	99.999	4% HNO <sub>3</sub>	S4400-10M581	4400-10M581
Thorium	ThO <sub>2</sub>	99.99	4% HNO <sub>3</sub>	S4400-10M591	4400-10M591
Thulium	Tm <sub>2</sub> O <sub>3</sub>	99.995	4% HNO <sub>3</sub>	S4400-10M601	4400-10M601
Tin	Sn metal	99.999	4% HNO <sub>3</sub> + 2% HF 60% HCl	S4400-10M613 S4400-10M612	4400-10M613 4400-10M612
Titanium	Ti metal	99.99	4% HNO <sub>3</sub> + 2% HF 40% HCl	S4400-10M623 S4400-10M622	4400-10M623 4400-10M622
Tungsten	W metal	99.999	4% HNO <sub>3</sub> + 2% HF	S4400-10M633	4400-10M633
Uranium	U <sub>3</sub> O <sub>8</sub>	99.99	4% HNO <sub>3</sub>	S4400-10M641	4400-10M641
Vanadium	NH <sub>4</sub> VO <sub>3</sub>	99.995	4% HNO <sub>3</sub>	S4400-10M651	4400-10M651
				*S4400-5M651	*4400-5M651
Ytterbium	Yb <sub>2</sub> O <sub>3</sub>	99.99	4% HNO <sub>3</sub>	S4400-10M661	4400-10M661
Yttrium	Y <sub>2</sub> O <sub>3</sub>	99.999	4% HNO <sub>3</sub>	S4400-10M671	4400-10M671
Zinc	Zn metal	99.999	4% HNO <sub>3</sub>	S4400-10M681	4400-10M681
Zirconium	ZrONO <sub>3</sub>	99.99	4% HNO <sub>3</sub>	S4400-10M691	4400-10M691

10,000 µg/mL concentration



**NOW AVAILABLE!**

*26 Element QC Standards*

*Combined QC7 plus QC19  
100mL 4400-012  
500mL 4400-013*

These standards are used for the determination of metals by ICP as described in US EPA Method 200.7

## ICP Multi-Element Standards

### US EPA Method 200.7

#### Tuning and Plasma Solutions

Tuning Solution				Plasma Solution			
CPI P/N	Volume		CPI P/N	Volume			
4400-010114	100mL		4400-010116	100mL			
4400-010115	500mL		4400-010117	500mL			
µg/mL in 5% HNO <sub>3</sub>				µg/mL in 5% HNO <sub>3</sub>			
Cu	10	Pb	10	As	10	Se	10
				Pb	10	Tl	10

#### Quality Control Standards

7 Elements				7 Elements – Modified				19 Elements			
CPI P/N	Volume		CPI P/N	Volume		CPI P/N	Volume		CPI P/N	Volume	
4400-002	100mL		4400-010105	100mL		4400-005	100mL		4400-005	100mL	
4400-001	500mL		4400-010106	500mL		4400-004	500mL		4400-004	500mL	
µg/mL in 5% HNO <sub>3</sub>				µg/mL in 5% HNO <sub>3</sub>				µg/mL in 5% HNO <sub>3</sub> + tr HF			
Al	100	Si	50	Al	100	Si	100	Sb	100	Mg	100
Ba	100	Ag	100	Ba	100	Ag	50	As	100	Mn	100
B	100	Na	100	B	100	Na	100	Be	100	Mo	100
K	1000			K	1000			Cd	100	Ni	100
								Ca	100	Se	100
								Cr	100	Tl	100
								Co	100	Ti	100
								Cu	100	V	100
								Fe	100	Zn	100
								Pb	100		

21 Elements							
CPI P/N	Volume		CPI P/N	Volume			
4400-010	100mL		4400-011	500mL			
µg/mL in 5% HNO <sub>3</sub> + tr HF							
Sb	100	Cr	100	Pb	100	Se	100
As	100	Co	100	Mg	100	Sr	100
Be	100	Cu	100	Mn	100	Tl	100
Cd	100	Fe	100	Mo	100	Ti	100
Ca	100	Li	100	Ni	100	V	100
						Zn	100

QC Standard Set	
CPI P/N	Volume
4400-009	2 bottles
4400-005	4400-002

#### Laboratory Fortifying Solution

Laboratory Fortifying Solution							
CPI P/N	Volume		CPI P/N	Volume			
4400-010118	100mL		4400-010119	500mL			
µg/mL in 5% HNO <sub>3</sub> + tr HF							
Ag	2.5	Co	10	Mn	25	Sn	10
Al	25	Cr	25	Ni	25	Sr	25
As	25	Cu	25	P	50	Tl	25
B	25	Fe	25	Pb	25	V	10
Ba	25	Hg*	5	Sb	25	Zn	25
Be	5	Li	25	Se	25	*Shipped Separately	
Cd	10	Mo	10	Si	25		

## ICP Multi-Element Standards

### US EPA Method 200.7

#### Calibration Standards

Standard I			Standard II			Standard III					
CPI P/N	Volume		CPI P/N	Volume		CPI P/N	Volume				
4400-MXSTD1-100	100mL		4400-MXSTD2-100	100mL		4400-MXSTD3-100	100mL				
4400-MXSTD1-500	500mL		4400-MXSTD2-500	500mL		4400-MXSTD3-500	500mL				
µg/mL in 2% HNO <sub>3</sub>			µg/mL in 2% HNO <sub>3</sub>			µg/mL in 2% HNO <sub>3</sub> + tr HF					
Be	50	Se	200	Ba	100	V	100	As	500	Mo	100
Mn	100	Pb	500	Fe	10,000	Cu	100	Si	100		
Cd	150	Zn	150	Co	100						

Standard IV				Standard V				Calibration Standards Set	
CPI P/N	Volume			CPI P/N	Volume			CPI P/N	Volume
4400-MXSTD4-100	100mL			4400-MXSTD5-100	100mL			4400-MXSTD-SET	5 Bottles
4400-MXSTD4-500	500mL			4400-MXSTD5-500	500mL			4400-MXSTD1-100	100mL
µg/mL in 2% HNO <sub>3</sub>				µg/mL in 2% HNO <sub>3</sub> + tr HF				4400-MXSTD2-100	100mL
Al	200	K	400	Sb	200	Tl	200	4400-MXSTD3-100	100mL
Ni	20	Cr	20	Ag	50	Mg	1000	4400-MXSTD4-100	100mL
Ca	1000	Na	200	B	100			4400-MXSTD5-100	100mL

#### Interference Check Standards

Standard 1			Standard 3			Standard 5				
CPI P/N	Volume		CPI P/N	Volume		CPI P/N	Volume			
4400-INTR1-100	100mL		4400-INTR3-100	100mL		4400-INTR5-100	100mL			
4400-INTR1-500	500mL		4400-INTR3-500	500mL		4400-INTR5-500	500mL			
µg/mL in 2% HNO <sub>3</sub> + 0.1% HF			µg/mL in 2% HNO <sub>3</sub> + 0.5% HF			µg/mL in 5% HNO <sub>3</sub>				
Sb	1000		B	500	Mo	300	Al	1200	Na	1000
			Si	230	Ti	1000	Mg	3000	Fe	5000
							Ca	6000		

Standard 18						Calibration Standards Set	
CPI P/N	Volume					CPI P/N	Volume
4400-INTR18-100	100mL					4400-INTR18-500	500mL
µg/mL in 2% HNO <sub>3</sub>							
As	1000	K	20,000	Co	300	Zn	300
Hg	50	Cd	300	Tl	1000	Mn	200
Ba	300	Se	500	Cu	300	*Shipped Separately	
Ni	300	Cr	300	V	300		
Be	100	Ag*	300	Pb	1000		

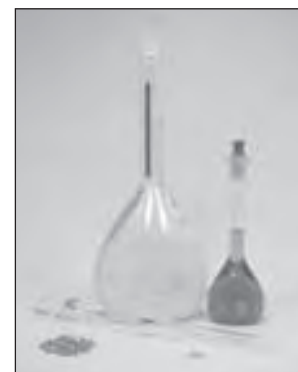
CPI P/N	Volume
4400-INTR-SET	4 Bottles
4400-INTR18-100	
4400-INTR3-100	
4400-INTR1-100	
4400-INTR5-100	

### US EPA Method 1310

#### Drinking Water Pollutant Standards

Primary Drinking Water Metals			Secondary Drinking Water Metals			Drinking Water Set	
CPI P/N	Volume		CPI P/N	Volume		CPI P/N	Volume
4400-EP8-100	100mL		4400-EP4-100	100mL		4400-DW-SET	2 Bottles
4400-EP8-500	500mL		4400-EP4-500	500mL		4400-EP8-100	
µg/mL in 2% HNO <sub>3</sub>			µg/mL in 2% HNO <sub>3</sub>			4400-EP4-100	
As	10	Pb	10	Cu	100	Mn	5
Ba	100	Se	5	Fe	30	Zn	500
Cd	5	Ag	10				
Cr	10	Hg	10				

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#### Drinking Water Standards

These mixes are for the determination of drinking water contamination levels as described in US EPA SW-846, Method 1310 and US National Primary Drinking Water Regulations 40 CFR Part 141.



### Groundwater & Wastewater

These check standards are prepared for the determination of metals in water as detailed in US EPA methods manual 600/4-79-020, "Methods for Chemical Analysis of Water and Wastes"; Trace metals 21I, 21II and 21III methods.

## ICP Multi-Element Standards

### US EPA Methods 600/4-79-020

#### Groundwater and Wastewater Control Check Standards

Trace Metals I				Trace Metals II				Trace Metals III			
CPI P/N		Volume		CPI P/N		Volume		CPI P/N		Volume	
4400-WP15-100		100mL		4400-WP3-100		100mL		4400-MN6-100		100mL	
4400-WP15-500		500mL		4400-WP3-500		500mL		4400-MN6-500		500mL	
$\mu\text{g/mL in } 5\% \text{ HNO}_3$				$\mu\text{g/mL in } 2\% \text{ HNO}_3 + \text{tr HF}$				$\mu\text{g/mL in } 2\% \text{ HNO}_3 + \text{tr HF}$			
Al	500	Pb	100	Sb	20	Tl	20	Ba	500	Mo	500
As	100	Mn	100	Ag	10			Ca	500	K	100
Be	100	Hg	5	<b>Trace Metals Set</b> <b>CPI P/N 4400-TM-SET 3 bottles</b> 4400-WP15-100 4400-WP3-100 4400-MN6-100				Mg	100	Na	500
Cd	25	Ni	100								
Cr	100	Se	25								
Co	100	V	250								
Cu	100	Zn	100								
Fe	100										

#### Alternate Metals Standard II

CPI P/N		Volume	
4400-010122		100mL	
$\mu\text{g/mL in } 2\% \text{ HNO}_3$			
Ca	500	Mg	100
K	100	Na	500

## Contract Laboratory Program (CLP)

### Contract Lab Program

These standards are prepared to conform to US EPA SOW.ILM04.0 inorganic target analyte list (TAL), analytical methods and QC/QA requirements.

Standard I				Standard II				Standard III			
CPI P/N		Volume		CPI P/N		Volume		CPI P/N		Volume	
4400-ICAL1-100		100mL		4400-ICAL2-100		100mL		4400-ICAL3-100		100mL	
$\mu\text{g/mL in } 5\% \text{ HNO}_3$				$\mu\text{g/mL in } 5\% \text{ HNO}_3$				$\mu\text{g/mL in } 5\% \text{ HNO}_3$			
Ca	5000	K	5000	Ag	100	Ni	400	Al	2000	Cu	250
Mg	5000	Na	5000	Cr	100	Zn	200	Ba	2000	Fe	1000
				Mn	150			Be	50	V	500
								Co	500		

Standard IV				Standard VI			
CPI P/N		Volume		CPI P/N		Volume	
4400-ICAL4-100		100mL		4400-ICAL6-100		100mL	
$\mu\text{g/mL in } 5\% \text{ HNO}_3$				$\mu\text{g/mL in } 2\% \text{ HNO}_3$			
As	100	Se	50	Hg	100		
Cd	50	Tl	100				
Pb	50						

## ICP Multi-Element Standards

### CLP Sample Spike Solutions

Sample Spike				Verification Standard				Soil Spike			
CPI P/N		Volume		CPI P/N		Volume		CPI P/N		Volume	
4400-SPIKE1-100		100mL		4400-ICV1		500mL		4400-010088		100mL	
4400-SPIKE1-250		250mL		<b>µg/mL in 5% HNO<sub>3</sub> + tr HF</b>				<b>µg/mL in 2% HNO<sub>3</sub> + tr HF</b>			
<b>µg/mL in 5% HNO<sub>3</sub> + tr HF</b>				Al	200	Pb	5	Sb	100	Mn	100
Al	200	Fe	100	Sb	60	Mg	5,000	As	400	Ni	100
Sb	50	Pb	50	As	10	Mn	15	Ba	400	Pb	100
As	200	Mn	50	Ba	200	Ni	40	Be	10	Se	400
Ba	200	Ni	50	Be	5	K	5,000	Cd	10	Ag	10
Be	5	Se	200	Cd	5	Se	5	Cr	40	Tl	400
Cd	5	Ag	5	Ca	5,000	Ag	10	Co	100	V	100
Cr	20	Tl	200	Cr	10	Na	5,000	Cu	50	Zn	100
Co	50	V	50	Co	50	Tl	10				
Cu	25	Zn	50	Cu	25	V	50				
				Fe	100	Zn	20				

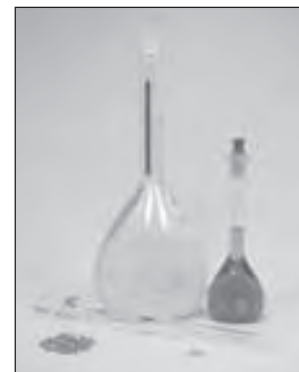
### Interference Check Standards

Interferents A				Analytes B				CRDL Standard			
CPI P/N		Volume		CPI P/N		Volume		CPI P/N		Volume	
4400-INTA1-500		500mL		4400-INTB1-100		100mL		4400-CRDL1-100		100mL	
<b>µg/mL in 5% HNO<sub>3</sub></b>				<b>µg/mL in 5% HNO<sub>3</sub></b>				<b>µg/mL in 5% HNO<sub>3</sub> + tr HF</b>			
Al	5000	Fe	2000	Ag	100	Cu	50	Sb	120	Mn	30
Ca	5000	Mg	5000	Ba	50	Mn	50	As	20	Ni	80
<b>Alternate Interferents A</b>				Be	50	Ni	100	Be	10	Se	10
CPI P/N		Volume		Cd	100	Pb	100	Cd	10	Ag	20
4400-INTA2-500		500mL		Co	50	V	50	Cr	20	Tl	20
<b>µg/mL in 5% HNO<sub>3</sub> + tr HF</b>				Cr	50	Zn	100	Co	100	V	100
Cr	1000	Ni	1000	<b>Alternate Analytes B</b>				Cu	50	Zn	40
Cu	1000	Ti	1000	CPI P/N		Volume		Pb	6		
Mn	1000	V	1000	4400-INTB2-100		100mL					
<b>µg/mL in 5% HNO<sub>3</sub> + tr HF</b>				<b>µg/mL in 5% HNO<sub>3</sub> + tr HF</b>							
Al	100	Mg	10	Al	100	Mg	10				
Sb	100	Mo	100	Sb	100	Mo	100				
As	100	Se	100	As	100	Se	100				
B	100	Si	10	B	100	Si	10				
Ca	10	Na	100	Ca	10	Na	100				
Fe	10	Tl	100	Fe	10	Tl	100				

### CLP 13 Standard Set

CLP Set	
CPI P/N	13 Bottles
4400-ICAL1-100	4400-SPIKE1-100
4400-ICAL2-100	4400-CRDL1-100
4400-ICAL3-100	4400-INTA1-500
4400-ICAL4-100	4400-INTB1-100
4400-ICAL5-100	4400-INTA2-500
4400-ICAL6-100	4400-INTB2-100
4400-ICV1	

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CERTIFIED REFERENCE MATERIALS



**CLP Interference Check Standards**  
Used to determine the interferences due to inter-element and background correction factors before and after the analysis.

**Convenience, Corrosion Resistance, Complete Control!**



**Get it all in the ModBlock!**

*See page 18 for more information.*





**Convenience, Corrosion  
Resistance, Complete Control!**



**Get it all in the ModBlock!**

*See page 18 for more  
information.*

**Wavecal**

**These standards are used  
to center the analyte peak  
in the instrument window  
prior to analysis.**

**NEW!**

**Specialized mixes  
for PerkinElmer®  
Optima® 3000 ICPs.**

**ICP Multi-Element Standards**

**Instrument Check Standards**

Standard I				Standard II				Standard III			
CPI P/N		Volume		CPI P/N		Volume		CPI P/N		Volume	
4400-CALMX1-100		100mL		4400-CALMX2-100		100mL		4400-CALMX3-100		100mL	
µg/mL in 2% HNO <sub>3</sub>				µg/mL in 2% HNO <sub>3</sub>				µg/mL in 2% HNO <sub>3</sub> + tr HF			
Al	10	Ni	10	Ba	50	Ni	20	As	20	P	100
Ba	1	P	100	Be	20	Sc	20	La	20	K	100
Be	1	Sc	1	La	20	Zn	20	Li	20	Sc	20
B	10	Zn	10	Mn	20			Mn	20	Na	20
Ca	1							Mo	20	S	100
								Ni	20		

Standard IV				Standard VII			
CPI P/N		Volume		CPI P/N		Volume	
4400-CALMX4-100		100mL		4400-CALMX7-100		100mL	
µg/mL in 2% HNO <sub>3</sub>				µg/mL in 2% HNO <sub>3</sub>			
Al	10	Ni	10	Al	100	Mg	100
As	10	P	10	As	100	Mn	100
Ba	1	K	50	Cd	100	Ni	100
Cu	10	Sc	10	Cr	100	K	100
Pb	10	Na	10	Co	100	Na	100
Mn	10	Zn	10	Cu	100	Zn	100
				Fe	100	Y	600
				Pb	100		

Standard VIII			
CPI P/N		Volume	
4400-CALMX8-100		100mL	
µg/mL in 2% HNO <sub>3</sub>			
Al	50	Pb	50
As	50	P	50
Cr	50	K	50
Co	50	Na	50
Cu	50		

**Wavelength Calibration Standard**

Wavecal 1 for PE® 40, 400, 1000, 2000				Wavecal 2 for PE® 6000, 6500 (XR)							
CPI P/N		Volume		CPI P/N		Volume					
4400-010130		100mL		4400-010128		100mL					
µg/mL in 2% HCl				µg/mL in 2% HCl							
As	20	Mn	20	P	100	Ba	50	Mn	20	Sc	20
K	100	Mo	20	S	100	Be	20	Ni	20	Zn	20
La	20	Na	20	Sc	20	La	20				
Li	20	Ni	20								

Wavecal 3 for Optima 3000® VIS				Wavecal 4 for Optima 3000® UV							
CPI P/N		Volume		CPI P/N		Volume					
4400-010124		100mL		4400-010126		100mL					
µg/mL in 2% HNO <sub>3</sub>				µg/mL in 2% HCl							
Ba	1	La	10	Mn	10	As	20	Mn	20	P	100
Ca	1	Li	10	Na	10	K	100	Mo	20	S	100
K	50			Sr	10	La	20	Na	20	Sc	20
						Li	20	Ni	20		

Optima 3000® Multi-element Standard				Optima 3000® Low UV Standard							
CPI P/N		Volume		CPI P/N		Volume					
4400-010200		100mL		4400-010202		100mL					
µg/mL in 2% HNO <sub>3</sub>				µg/mL in 2% HNO <sub>3</sub>							
As	50	Mg	1	K	50	Al	10	P	10	S	10
Ba	1	Mn	10	Zn	10						
La	10	Ni	10	Sr	10						



**Initial Calibration Verification (ICV)**  
 These standards are used prior to the actual analysis to test the instrumental calibration curves at each wavelength to be used in the following analysis.

**Continuing Calibration Verification (CCV)**  
 These standards are used to monitor drifting of the calibration curve during the analysis; usually administered between samples and at the end of the analysis.

**ICP Kits**  
 These kits are prepared to provide the analyst with a supply of single element spectrometric solutions. All standards are bottled in Passport IP2 bottles and ship with a comprehensive Certificate of Analysis and Material Safety Data Sheet.

## ICP Multi-Element Standards

### Initial Calibration Verification Standards

Standard 1				Standard 2			
CPI P/N	Volume			CPI P/N	Volume		
4400-010094	500mL			4400-010095	100mL		
				4400-010096	500mL		
<b>µg/mL in 2% HNO<sub>3</sub> + tr HF</b>				<b>µg/mL in 15% HCl</b>			
Al 100	Cu 100	Se 200		Sb 100	Sn 100	Ti 100	
As 100	Fe 100	Si* 100					
Ba 50	Pb 100	Na* 162					
Be 50	Li 100	S* 200					
Bi 100	Mg 100	Sr 100					
B 100	Mn 50	Tl 100					
Cd 50	Mo 100	V 50					
Ca 100	Ni 100	Zn 50					
Cr 50	P 200						
Co 50	K 200		*Shipped Separately				

### Continuing Calibration Verification Standards

Standard 1				Standard 2			
CPI P/N	Volume			CPI P/N	Volume		
4400-010099	100mL			4400-010101	100mL		
4400-010100	500mL			4400-010102	500mL		
<b>µg/mL in 2% HNO<sub>3</sub> + tr HF</b>				<b>µg/mL in 15% HCl</b>			
Al 200	Cu 200	Se 200		Sb 200	Sn 200	Ti 200	
As 200	Fe 200	Si* 500					
Ba 100	Pb 200	Na* 810					
Be 100	Li 200	S* 500					
Bi 200	Mg 200	Sr 200					
B 200	Mn 100	Tl 200					
Cd 100	Mo 200	V 100					
Ca 200	Ni 200	Zn 100					
Cr 50	P 500						
Co 100	K 500		*Shipped Separately				

ICP Kit A				Kit B				Kit D			
CPI P/N	Volume			CPI P/N	Volume			CPI P/N	Volume		
4400-010082	100mL ea.			4400-010083	100mL ea.			4400-010085	100mL ea.		
<b>µg/mL in HNO<sub>3</sub> / HNO<sub>3</sub> + tr HF</b>				<b>µg/mL in HNO<sub>3</sub> / HNO<sub>3</sub> + tr HF</b>				<b>µg/mL in HNO<sub>3</sub></b>			
Al 1000	Mn 1000			Sb 1000	Sn 1000			Ce 1000	Nd 1000		
As 1000	Hg 1000			Hf 1000	Te 1000			Dy 1000	Pr 1000		
Ba 1000	Ni 1000			Mo 1000	W 1000			Er 1000	Sm 1000		
Be 1000	P 1000			Nb 1000	Zr 1000			Eu 1000	Sc 1000		
Bi 1000	K 1000			Ta 1000				Gd 1000	Tb 1000		
B 1000	Re 1000							Ho 1000	Tm 1000		
Cd 1000	Rb 1000							La 1000	Yb 1000		
Ca 1000	Se 1000							Lu 1000	Y 1000		
Cs 1000	Si 1000										
Cr 1000	Ag 1000										
Co 1000	Na 1000										
Cu 1000	Sr 1000										
Ga 1000	S 1000										
Ge 1000	Tl 1000										
In 1000	Th 1000										
Fe 1000	Ti 1000										
Pb 1000	U 1000										
Li 1000	V 1000										
Mg 1000	Zn 1000										

Kit C			
CPI P/N	Volume		
4400-010084	100mL		
<b>µg/mL in HCl</b>			
Au 1000	Pt 1000		
Ir 1000	Rh 1000		
Os 1000	Ru 1000		
Pd 1000			

Kit A-E			
CPI P/N	Volume		
4400-010087	100mL ea.		



### 200.8

These standards are used for the determination of metals in US EPA Method 200.8, "Methods for the Determination of Metals in Environmental Samples Supplement 1." All standards are bottled in Passport IP2 bottles and ship with a comprehensive Certificate of Analysis and Material Safety Data Sheet.

*CPI also offers a complete selection of ICP-MS torches, nebulizers and corrosion (HF) resistant sample introduction components*

## ICP-MS Multi-Element Standards

### US EPA Method 200.8

Standard A - rev. 5.4				Standard A - rev. 4.4				Standard B			
CPI P/N		Volume		CPI P/N		Volume		CPI P/N		Volume	
4400-010036		100mL		4400-010037		100mL		4400-010038		100mL	
µg/mL in 1% HNO <sub>3</sub> + tr HF				µg/mL in 1% HNO <sub>3</sub> + tr HF				µg/mL in 1% HNO <sub>3</sub>			
Al	10	Ni	10	Al	10	Ni	10	Ag	10	Ba	10
As	10	Pb	10	As	10	Pb	10				
Be	10	Sb	10	Be	10	Sb	10				
Cd	10	Se	50	Cd	10	Se	10				
Co	10	Th	10	Co	10	Th	10				
Cr	10	Tl	10	Cr	10	Tl	10				
Cu	10	U	10	Cu	10	U	10				
Mn	10	V	10	Mn	10	V	10				
Mo	10	Zn	10	Mo	10	Zn	10				

Internal Standard				Tuning Solution			
CPI P/N		Volume		CPI P/N		Volume	
4400-010039		100mL		4400-010040		100mL	
µg/mL in 1% HNO <sub>3</sub>				µg/mL in 1% HNO <sub>3</sub>			
<sup>45</sup> Sc	10	<sup>159</sup> Tb	10	Be	10	Mg	10
<sup>89</sup> Y	10			Co	10	Pb	10
<sup>209</sup> Bi	10			In	10		
<sup>115</sup> In	10						

### US EPA Method 6020

Soil Spike				QC/ICV Solution				Water Spike			
CPI P/N		Volume		CPI P/N		Volume		CPI P/N		Volume	
4400-010044		100mL		4400-010045		100mL		4400-010043		100mL	
µg/mL in 2% HNO <sub>3</sub> + tr HF				µg/mL in 2% HNO <sub>3</sub> + tr HF				µg/mL in 2% HNO <sub>3</sub> + tr HF			
Ag	10	Ni	25	Ag	10	Cu	10	Ag	5	Mn	20
Ba	50	Pb	20	Al	10	Mn	10	As	10	Ni	20
Be	5	Sb	20	As	10	Ni	10	Ba	50	Pb	10
Cd	10	Se	5	Ba	10	Pb	10	Be	5	Sb	20
Co	20	Tl	5	Be	10	Sb	10	Cd	5	Se	5
Cr	50	V	30	Cd	10	Tl	10	Co	20	Tl	5
Cu	50	Zn	50	Co	10	Zn	10	Cr	20	V	20
As	10			Cr	10			Cu	20	Zn	50
								Fe	100		

Internal Standard				Tuning Solution			
CPI P/N		Volume		CPI P/N		Volume	
4400-010041		100mL		4400-010042		100mL	
µg/mL in 2% HNO <sub>3</sub>				µg/mL in 2% HNO <sub>3</sub>			
<sup>6</sup> Li	10	<sup>159</sup> Tb	10	Co	10	In	10
<sup>45</sup> Sc	10	<sup>165</sup> Ho	10	Li	10	Tl	10
<sup>209</sup> Bi	10	<sup>89</sup> Y	10				
<sup>115</sup> In	10						

## ICP-MS Multi-Element Standards

ICP-MS Calibration Standard			
CPI P/N		Volume	
4400-ICP-MSCS		250mL	
µg/mL in 5% HNO <sub>3</sub> + tr HF			
Al	10	Mn	10
As	10	Mo	10
Ag	10	Na	10
Ba	10	Ni	10
Be	10	Pb	10
B	10	Sb	10
Ca	10	Sc	10
Co	10	Se	10
Cd	10	Sr	10
Cr	10	Th	10
Cu	10	Tl	10
Eu	10	U	10
Ho	10	V	10
La	10	Yb	10
Li	10	Zn	10
Mg	10		

ICP-MS Interference Check Solutions					
CPI P/N		Volume			
4400-ICP-MS-ICS		100mL			
µg/mL in 2% HNO <sub>3</sub> + tr HF					
Solution A			Solution B		
Al	500.0	Ag	0.10	Mg	500.00
C	1000.0	Al	500.00	Mo	10.00
Ca	500.0	As	0.10	Mn	0.10
Cl	3600.0	C	1000.00	Na	500.00
Fe	500.0	Ca	500.00	Ni	0.20
K	500.0	Cd	0.05	P	500.00
Mg	500.0	Cl	3600.00	Se	0.10
Mo	10.0	Co	0.20	S	500.00
Na	500.0	Cr	0.10	Ti	10.00
P	500.0	Cu	0.10	V	0.20
S	500.0	Fe	500.00	Zn	0.10
Ti	10.0	K	500.00		

Calibration Standard			
CPI P/N		Volume	
4400-ICPMS-250		250mL	
µg/mL in 2% HNO <sub>3</sub> + tr HF			
Be	10	Pb	10
Bi	10	Mg	10
Ce	10	Ni	10
Co	10	U	10
In	10		

Standard I			
CPI P/N		Volume	
4400-ICPMS1		250mL	
µg/mL in 5% HNO <sub>3</sub>			
Ce	10	Pr	10
Dy	10	Sm	10
Er	10	Sc	10
Eu	10	Tb	10
Gd	10	Th	10
Ho	10	Tm	10
La	10	Yb	10
Lu	10	Y	10
Nd	10		

Standard III			
CPI P/N		Volume	
4400-ICPMS3		250mL	
µg/mL in 10% HCl			
Au	10	Rh	10
Hf	10	Ru	10
Ir	10	Sb	10
Pd	10	Sn	10
Pt	10	Te	10

Standard IV			
CPI P/N		Volume	
4400-010027		250mL	
µg/mL in 5% HNO <sub>3</sub> + tr HF			
B	10	S	10
Ge	10	Si	10
Mo	10	Ta	10
Nb	10	Ti	10
P	10	W	10
Re	10	Zr	10

Internal Standard			
CPI P/N		Volume	
4400-010034		100mL	
µg/mL in 1% HNO <sub>3</sub>			
<sup>6</sup> Li	100	<sup>89</sup> Y	100
<sup>45</sup> Sc	100	<sup>115</sup> In	100
<sup>159</sup> Tb	100	<sup>209</sup> Bi	100

Tuning Solution for HP 4500®			
CPI P/N		Volume	
4400-010035		100mL	
µg/mL in 5% HNO <sub>3</sub>			
Ce	10	Tl	10
Li	10	Y	10



Convenience, Corrosion Resistance, Complete Control!



Get it all in the ModBlock!

See page 18 for more information.



### ICP-MS Kits

These kits are prepared to provide the analyst with a supply of single element spectrometric solutions. All standards are bottled in Passport IP2 bottles and ship with a comprehensive Certificate of Analysis and Material Safety Data Sheet.

## ICP-MS Single-Element Kits

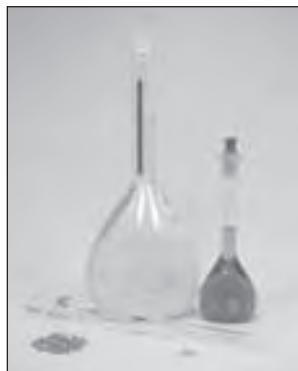
ICP-MS Kits					
Kit A		Kit B		Kit C	
CPI P/N	Volume	CPI P/N	Volume	CPI P/N	Volume
4400-010028	100mL ea.	4400-010029	100mL ea.	4400-010030	100mL ea.
µg/mL in HNO <sub>3</sub> / HNO <sub>3</sub> + HF		µg/mL in HNO <sub>3</sub> / HNO <sub>3</sub> + HF		µg/mL in HCl	
Al 10	Mn 10	Sb 10	Sn 10	Au 10	Pt 10
As 10	Hg 10	Hf 10	Te 10	Ir 10	Rh 10
Ba 10	Ni 10	Mo 10	W 10	Os 10	Ru 10
Be 10	P 10	Nb 10	Zr 10	Pd 10	
Bi 10	K 10	Ta 10			
B 10	Re 10	Kit D		Kit E	
Cd 10	Rb 10	CPI P/N	Volume	CPI P/N	Volume
Ca 10	Se 10	4400-010031	100mL ea.	4400-010032	100mL ea.
Cs 10	Si 10	µg/mL in HNO <sub>3</sub>		µg/mL in H <sub>2</sub> O	
Cr 10	Ag 10	Ce 10	Nd 10	Bromide 10	Fluoride 10
Co 10	Na 10	Dy 10	Pr 10	Chloride- 10	Iodide 10
Cu 10	Sr 10	Er 10	Sm 10		
Ga 10	S 10	Eu 10	Sc 10	Kit A-E	
Ge 10	Tl 10	Gd 10	Tb 10	CPI P/N	Volume
In 10	Th 10	Ho 10	Tm 10	4400-010033	100mL ea.
Fe 10	Ti 10	La 10	Yb 10		
Pb 10	U 10	Lu 10	Y 10		
Li 10	V 10				
Mg 10	Zn 10				

## Graphite Furnace Atomic Absorption (GFAA)

TCLP Standard				TCLP - 3 Analytes				TCLP - 4 Analytes			
CPI P/N	Volume			CPI P/N	Volume			CPI P/N	Volume		
4400-TCLP-100	100mL			4400-010091	100mL			4400-010089	100mL		
4400-TCLP-500	500mL							4400-010090	500mL		
µg/mL in 2% HNO <sub>3</sub>				µg/mL in 2% HNO <sub>3</sub>				µg/mL in 2% HNO <sub>3</sub>			
As	25	Pb	25	As	25	Se	5	Ba	500	Cr	25
Ba	500	Se	5	Pb	25			Cd	5	Ag	25
Cd	5	Ag	25								
Cr	25	Hg*	20								

\*Shipped Separately

Calibration Standard				Initial Calibration Verification			
CPI P/N	Volume			CPI P/N	Volume		
4400-010107	100mL			4400-010109	100mL		
µg/mL in 2% HNO <sub>3</sub> + tr HF				µg/mL in 2% HNO <sub>3</sub> + tr HF			
As	20	Pb	10	Se	15	As	10
Cd	15	Sb	50	Tl	20	Pb	5
						Sb	25
						Tl	10
Spike Standard				Mercury Standard			
CPI P/N	Volume			CPI P/N	Volume		
4400-010111	100mL			4400-010113	100mL		
µg/mL in 2% HNO <sub>3</sub> + tr HF				µg/mL in 2% HNO <sub>3</sub>			
As	40	Pb	20	Se	10	Hg	100
Cd	5	Sb	100	Tl	50		





Try our Pre-Mixed Pd & Mg(NO<sub>3</sub>)<sub>2</sub> Modifier (CPI P/N 4095-29) and our Mg(NO<sub>3</sub>)<sub>2</sub> Modifier specially prepared for use in PE® 4100 transverse furnaces (THGA) (CPI P/N 4095-31).

**Ionization Buffers**  
CPI is proud to introduce its new line of Ionization Buffers. These solutions are used to suppress ionization interference in flame emission and flame absorption analysis. Call for a quote on custom Ionization Buffers.

**GFAA**

IVC Standard						IVC Spike					
CPI P/N		Volume				CPI P/N		Volume			
4400-010046		250mL				4400-GFAA-SPIKE		250mL			
µg/mL in 2% HNO <sub>3</sub>						µg/mL in 2% HNO <sub>3</sub>					
As	2.0	Cr	0.4	Se	2.0	As	4.0	Cr	2.0	Se	5.0
Cd	0.4	Pb	2.0	Ag	0.4	Cd	1.0	Pb	4.0	Ag	1.0
Tl	2.0					Tl	4.0				

**Matrix Modifiers**

To prevent analyte loss in the ashing process, use a matrix modifier to convert the analyte to a less volatile form. Save time and improve analytical performance with CPI modifiers. Our pre-mixed matrix modifiers offer both convenience and consistency from analysis to analysis.

Modifiers, Concentrated	Volume	CPI P/N	Replaces PE®/P/N
1% Palladium	100mL	4095-10	B019-0635
1% Magnesium Nitrate	100mL	4095-12	B019-0634
1% Nickel	100mL	4095-14	n/a
1% NH <sub>4</sub> H <sub>2</sub> PO <sub>4</sub>	100mL	4095-16	N930-3445
5% Nickel Nitrate	100mL	4095-34	n/a
2% Calcium Nitrate	100mL	4095-35	n/a
5% Lanthanum Nitrate	100mL	4095-36	n/a
2% Ammonium Nitrate	100mL	4095-37	n/a
3000µg/mL Pd & 2000 µg/mL Mg(NO <sub>3</sub> ) <sub>2</sub>	250mL	4095-38	n/a
Modifiers, Pre-mixed (Per 20µL aliquots, for HGA® Furnaces)			
0.03mg Pd & 0.02mg Mg(NO <sub>3</sub> ) <sub>2</sub>	250mL	4095-29	n/a
0.015mg Pd & 0.01mg Mg(NO <sub>3</sub> ) <sub>2</sub>	250mL	4095-20	n/a
0.05mg Mg(NO <sub>3</sub> ) <sub>2</sub>	250mL	4095-21	n/a
0.006mg Mg(NO <sub>3</sub> ) <sub>2</sub>	250mL	4095-25	n/a
0.02mg Ni,	250mL	4095-26	n/a
0.2mg NH <sub>4</sub> H <sub>2</sub> PO <sub>4</sub> & 0.01mg Mg(NO <sub>3</sub> ) <sub>2</sub>	250mL	4095-28	n/a
Modifiers, Pre-mixed (Per 5µL aliquots)			
0.015mg Pd & 0.02mg Mg(NO <sub>3</sub> ) <sub>2</sub>	100mL	4095-40	n/a
0.2mg NH <sub>4</sub> H <sub>2</sub> PO <sub>4</sub> & 0.01mg Mg(NO <sub>3</sub> ) <sub>2</sub>	250mL	4095-41	n/a
Modifiers, Pre-mixed (Per 5µL aliquots, for THGA® Furnaces)			
0.005mg Pd & 0.003mg Mg(NO <sub>3</sub> ) <sub>2</sub>	250mL	4095-30	n/a
0.015mg Mg(NO <sub>3</sub> ) <sub>2</sub>	250mL	4095-31	n/a
0.05mg NH <sub>4</sub> H <sub>2</sub> PO <sub>4</sub> & 0.003mg Mg(NO <sub>3</sub> ) <sub>2</sub>	250mL	4095-32	n/a

**Ionization Buffers**

Description	Source	Matrix	Volume	CPI P/N
1% Potassium	KCl	1% HCl	500mL	4400-010132
5% Potassium	KCl	1% HCl	500mL	4400-010133
1% Potassium	KNO3	1% HNO3	500mL	4400-010134
5% Potassium	KNO3	1% HNO3	500mL	4400-010135
1% Cesium	CsCl	1% HCl	500mL	4400-010136
5% Cesium	CsCl	1% HCl	500mL	4400-010137
1% Cesium	Cs2CO3	1% HNO3	500mL	4400-010138
5% Cesium	Cs2CO3	1% HNO3	500mL	4400-010139
1% Sodium	NaCl	1% HCl	500mL	4400-010140
5% Sodium	NaCl	1% HCl	500mL	4400-010141
1% Sodium	NaNO3	1% HNO3	500mL	4400-010142
5% Sodium	NaNO3	1% HNO3	500mL	4400-010143
1% Lithium	LiCl	1% HCl	500mL	4400-010144
5% Lithium	LiCl	1% HCl	500mL	4400-010145
1% Lithium	Li2CO3	1% HNO3	500mL	4400-010146
5% Lithium	Li2CO3	1% HNO3	500mL	4400-010147

**Releasing Agents**

Description	Source	Matrix	Volume	CPI P/N
1% Lanthanum	La2O3	1% HCl	500mL	4400-010152
1% Lanthanum	La2O3	1% HNO3	500mL	4400-010153
1% Strontium	SrCO3	2% HCl	500mL	4400-010154
1% Strontium	SrCO3	2% HNO3	500mL	4400-010155



## Atomic Absorption Single-Element Standards

CPI International AA Standards are provided in 1,000 µg/mL concentrations in 500 mL volumes. All our AA standards are produced in a controlled environment using high quality starting materials and the utmost care in handling. Each standard is verified instrumentally and gravimetrically and comes with a Certificate of Analysis and MSDS. All are guaranteed for 18-months from the date of shipping.

### AA Single-Element Standards - 1,000µg/mL, 500mL

Element	Source/Matrix	CPI P/N	Element	Source/Matrix	CPI P/N
Al	Al Metal/HCl	4095-100012	Mn	Mn Metal/HNO <sub>3</sub>	4095-1000321
Sb	SbCl <sub>3</sub> /HCl	4095-100022	Hg	Hg Metal/ HNO <sub>3</sub>	4095-1000331
As	As <sub>2</sub> O <sub>3</sub> /HCl	4095-100032	Mo	Mo Metal/HCl	4095-1000342
Ba	BaCl <sub>2</sub> ·2H <sub>2</sub> O/HCl	4095-100042	Ni	Ni(NO <sub>3</sub> ) <sub>2</sub> ·6H <sub>2</sub> O/ HNO <sub>3</sub>	4095-1000361
Bi	Bi Metal/HNO <sub>3</sub>	4095-100061	K	KCl/HCl	4095-1000412
B	H <sub>3</sub> BO <sub>3</sub> /H <sub>2</sub> O	4095-100074	Se	Se Metal/HNO <sub>3</sub>	4095-1000491
Cd	Cd Metal/HNO <sub>3</sub>	4095-100081	Si	(NH <sub>4</sub> ) <sub>2</sub> SiF <sub>6</sub> /H <sub>2</sub> O	4095-1000504F
Ca	Ca <sub>2</sub> CO <sub>3</sub> /HNO <sub>3</sub>	4095-100091	Ag	AgNO <sub>3</sub> /HNO <sub>3</sub>	4095-1000511
Cs	Cs <sub>2</sub> CO <sub>3</sub> /HNO <sub>3</sub>	4095-1000111	Na	NaCl/HCl	4095-1000522
Cr	Cr Metal/HNO <sub>3</sub>	4095-1000121	Sr	SrCO <sub>3</sub> /HNO <sub>3</sub>	4095-1000531
Co	Co Metal/HNO <sub>3</sub>	4095-1000131	Tl	TlNO <sub>3</sub> /HNO <sub>3</sub>	4095-1000581
Cu	Cu Metal/HNO <sub>3</sub>	4095-1000141	Sn	Sn Metal/HCl	4095-1000612
Fe	FeCl <sub>3</sub> /HCl	4095-1000262	Ti	Ti Metal/HCl	4095-1000622
La	La <sub>2</sub> O <sub>3</sub> / HNO <sub>3</sub>	4095-1000271	W	Na <sub>2</sub> WO <sub>4</sub> ·2H <sub>2</sub> O/H <sub>2</sub> O	4095-1000634
Pb	Pb(NO <sub>3</sub> ) <sub>2</sub> /HNO <sub>3</sub>	4095-1000281	V	V <sub>2</sub> O <sub>5</sub> /HCl	4095-1000652
Li	Li <sub>2</sub> CO <sub>3</sub> /HNO <sub>3</sub>	4095-1000291	Zn	Zn Metal/ HNO <sub>3</sub>	4095-1000681
Mg	Mg Metal/HNO <sub>3</sub>	4095-1000311	Zr	ZrO(NO <sub>3</sub> ) <sub>2</sub> ·2H <sub>2</sub> O/HNO <sub>3</sub>	4095-1000691

## Ion Chromatography Standards

CPI also offers high quality, price competitive standards for Ion Chromatography. These products are prepared from only the highest quality raw materials and 18-megaohm de-ionized water. They are available in both 100µg/mL (250mL) and 1000µg/mL (100mL) concentrations. All IC standards are packaged in high density polyethylene Passport IP2 bottles to minimize transpiration.

Ion	Source	100 µg/mL - Volume: 250 mL		1,000 µg/mL - Volume: 100 mL	Replaces
		CPI P/N	CPI P/N	CPI P/N	Dionex® P/N
Acetate	NaOOCCH <sub>3</sub>	4400010008	4400-IC7M		
Ammonium	NH <sub>4</sub> Cl	4400-IC1	4400-010010		
Bromate	NaBrO <sub>3</sub>		4400-010169		
Bromide	NaBr	4400-010009	4400-IC8M		
Calcium	CaCl <sub>2</sub>	4400-010018	4400-010019		
Chlorate	NaClO <sub>3</sub>		4400-010168		
Chlorite	NaClO <sub>2</sub>		4400-010170		
Chloride	NaCl	4400-IC2	4400-IC2M		37159
Cyanide	NaCN	4400-010011	4400-IC9M		
Fluoride	NaF	4400-010012	4400-IC10M		37158
Iodide	NaI	4400-010013	4400-IC11M		
Magnesium	MgCl <sub>2</sub>	4400-010020	4400-010021		
Nitrate	NaNO <sub>3</sub>	4400-IC3	4400-IC3M		
Nitrite	NaNO <sub>2</sub>	4400-IC4	4400-IC4M		
Nitrogen	NaNO <sub>2</sub>	4400-010014	4400-IC12M		
Nitrogen	NaNO <sub>3</sub>	4400-010015	4400-IC13M		
Phosphate	NH <sub>4</sub> H <sub>2</sub> PO <sub>4</sub>	4400-IC5	4400-IC5M		
Potassium	KCl	4400-010022	4400-010023		
Phosphorus	NH <sub>4</sub> H <sub>2</sub> PO <sub>4</sub>	4400-010016	4400-IC14M		
Sulfate	Na <sub>2</sub> SO <sub>4</sub>	4400-IC6	4400-IC6M		37160
Sulfur	Na <sub>2</sub> SO <sub>4</sub>	4400-010017	4400-IC15M		
Oxalate	Na <sub>2</sub> C <sub>2</sub> O <sub>4</sub>	4400-010156	4400-010157		
Formate	NaHCO <sub>2</sub>	4400-010158	4400-010159		

### Ion Chromatography

Peak Performance™ Ion Chromatography Standards are prepared from high-purity starting materials and 18- mega-ohm de-ionized water. Only pre-cleaned Passport IP2 bottles are used. Call for pricing on custom single-element IC and multi-element IC standards!



## Ion Chromatography Standards

### Multi-Element IC Standards

Solution 1		Solution 2		Solution 3	
CPI P/N	Volume	CPI P/N	Volume	CPI P/N	Volume
4400-010024	250mL	4400-010025	250mL	4400-010026	250mL
µg/mL in H <sub>2</sub> O		µg/mL in H <sub>2</sub> O		µg/mL in H <sub>2</sub> O	
Nitrate	100	Nitrate	1000	Fluoride	100
Nitrite*	100	Nitrite*	1000	Chloride	100
Phosphate	100	Phosphate	1000	Bromide	50
Fluoride	100	Fluoride	1000	Phosphate	100
Bromide	100	Bromide	1000	Sulfate	300
Chloride	100	Chloride	1000		
Sulfate	100	Sulfate	1000		
*Shipped Separately		*Shipped Separately			

Solution 4		Solution 5a		Solution 5b	
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This Standard includes five anions for general anion determinations. Replaces Dionex® P/N 37157.

This Standard includes six cations for general cation determinations to be used with the IonPac® CS3, CS10 or CS11. Replaces Dionex® P/N 40187.

This Standard includes six cations for general cation determinations to be used with the IonPac® CS12, CS12A or CS15. Replaces Dionex® P/N 46070.

CPI P/N	Volume	CPI P/N	Volume	CPI P/N	Volume
4400-010160	100mL	4400-010161	50mL	4400-010162	50mL
µg/mL in H <sub>2</sub> O		µg/mL in H <sub>2</sub> O		µg/mL in H <sub>2</sub> O	
Fluoride	20	Lithium	50	Lithium	50
Chloride	30	Sodium	200	Sodium	200
Nitrate	100	Ammonium	400	Ammonium	250
Phosphate	150	Potassium	200	Potassium	500
Sulfate	150	Magnesium	200	Magnesium	250
		Calcium	1000	Calcium	500

### IC Eluent Concentrates

Concentrate 1		Concentrate 2		Concentrate 3	
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This Concentrate is for the IonPac® AS4A, AS4A-SC or AS9-SC Column. Replaces Dionex® P/N 39513.

This Concentrate is for the IonPac® AS3 or AS4 Column. Replaces Dionex® P/N 37161.

For Methods Development. Use with Concentrate #4 to prepare Eluents with DI water (CPI P/N 4400-010081). Replaces Dionex® P/N 37162.

CPI P/N	Volume	CPI P/N	Volume	CPI P/N	Volume
4400-010163	100mL	4400-010164	500mL	4400-010165	500mL
Molarity		Molarity		Molarity	
<b>Sodium Carbonate/Bicarbonate Concentrate (100X Concentrate)</b>		<b>Sodium Carbonate/Bicarbonate Concentrate (100X Concentrate)</b>		Carbonate Anion Eluent 0.5M	
Na <sub>2</sub> CO <sub>3</sub>	0.18M	Na <sub>2</sub> CO <sub>3</sub>	0.22M		
NaHCO <sub>3</sub>	0.17M	NaHCO <sub>3</sub>	0.28M		

### Concentrate 4

For Methods Development. Use with Concentrate #3 to prepare Eluents with DI water (CPI P/N 4400-010081). Replaces Dionex® P/N 37163.

CPI P/N	Volume
4400-010166	500mL
Molarity	
Bicarbonate Anion Eluent	0.5M

### Method 300.1 Stock Solutions

Description	Source	Concentration	Volume	CPI P/N
Preservation Solution	Ethylenediamine	100mg/mL	100mL	4400-010173
Surrogate Solution	Cl <sub>2</sub> CHCO <sub>2</sub> K	0.5mg/mL	100mL	4400-010172
Eluent Solution	Na <sub>2</sub> CO <sub>3</sub>	5M	500mL	4400-010171





CPI is now offering the same high-purity materials used in making Peak Performance™ standards. Listed here are just a few of the materials available. A Certificate of Analysis reporting major element assay and metallic impurities and Material Safety Data Sheets accompany every order. Any quantity available – Call for pricing!

## Peak Performance™ Metals, Salts and Oxides

Raw Material	Formula	Purity (%)	CPI P/N
Aluminum Shot	Al	99.999+	4400-090019
Ammonium Chloride	NH <sub>4</sub> Cl	99.999	4400-090020
Ammonium Dihydrogen Phosphate	NH <sub>4</sub> H <sub>2</sub> PO <sub>4</sub>	99.999	4400-090021
Ammonium Hexachloroiridate	(NH <sub>4</sub> ) <sub>3</sub> IrCl <sub>6</sub>	99.99	4400-090125
Ammonium Hexachloroosmate	(NH <sub>4</sub> ) <sub>2</sub> OsCl <sub>6</sub>	99.99	4400-090127
Ammonium Hexachlororhodate	(NH <sub>4</sub> ) <sub>3</sub> RhCl <sub>6</sub>	99.99	4400-090128
Ammonium Hexachlororuthenate	(NH <sub>4</sub> ) <sub>2</sub> RuCl <sub>6</sub>	99.99	4400-090126
Ammonium Hexafluorogermanate	NH <sub>4</sub> GeF <sub>6</sub>	99.998	4400-090100
Ammonium Hexafluorosilicate	NH <sub>4</sub> SiF <sub>6</sub>	99.999	4400-090094
Ammonium Metavanadate	NH <sub>4</sub> VO <sub>3</sub>	99.995	4400-090086
Ammonium Tetrafluoroborate	NH <sub>4</sub> BF <sub>4</sub>	99.5	4400-090135
Ammonium Nitrate	NH <sub>4</sub> NO <sub>3</sub>	99.999	4400-090029*
Antimony Shot	Sb	99.9999	4400-090059
Arsenic Lump	As	99.999+	4400-090060*
Arsenic Oxide	As <sub>2</sub> O <sub>3</sub>	99.998	4400-090022*
Barium Carbonate	BaCO <sub>3</sub>	99.999	4400-090023*
Beryllium Acetate	Be <sub>4</sub> O(C <sub>2</sub> H <sub>3</sub> O <sub>2</sub> ) <sub>6</sub>	99.999	4400-090130*
Beryllium Lump	Be	99.9	4400-090085*
Bismuth Shot	Bi	99.999	4400-090024
Orthoboric Acid	H <sub>3</sub> BO <sub>3</sub>	99.999	4400-090039
Cadmium Shot	Cd	99.999	4400-090025
Calcium Carbonate	CaCO <sub>3</sub>	99.999	4400-090026
Calcium Chloride	CaCl <sub>2</sub>	99.999	4400-090030
Cerium Oxide	CeO <sub>2</sub>	99.995	4400-090102
Cesium Carbonate	Cs <sub>2</sub> CO <sub>3</sub>	99.994	4400-090061
Chromium Pieces	Cr	99.995	4400-090027
Cobalt Powder	Co	99.999	4400-090028*
Copper Shot	Cu	99.999	4400-090031
Dysprosium Oxide	Dy <sub>2</sub> O <sub>3</sub>	99.99	4400-090103
Erbium Oxide	Er <sub>2</sub> O <sub>3</sub>	99.99	4400-090104
Europium Oxide	Eu <sub>2</sub> O <sub>3</sub>	99.99	4400-090105
Gadolinium Oxide	Gd <sub>2</sub> O <sub>3</sub>	99.999	4400-090106
Gallium Metal	Ga	99.999	4400-090124
Germanium Powder	Ge	99.999	4400-090062
Hafnium Metal	Hf	99.9	4400-090063*
Holmium Oxide	Ho <sub>2</sub> O <sub>3</sub>	99.99	4400-090107
Indium Metal	In	99.999	4400-090099
Iron Granules	Fe	99.999	4400-090032
Lanthanum Oxide	La <sub>2</sub> O <sub>3</sub>	99.999	4400-090108
Lead Shot	Pb	99.999	4400-090033
Lithium Carbonate	Li <sub>2</sub> CO <sub>3</sub>	99.999	4400-090034
Lutetium Oxide	Lu <sub>2</sub> O <sub>3</sub>	99.999	4400-090109
Magnesium Chloride	MgCl <sub>2</sub> •6H <sub>2</sub> O	99.999	4400-090118
Magnesium Granules	Mg	99.99	4400-090035*
Magnesium Nitrate	MgNO <sub>3</sub> •4H <sub>2</sub> O	99.999	4400-090036*
Manganese Flakes	Mn	99.99	4400-090037
Mercury Liquid	Hg	99.999	4400-090064*
Molybdenum Powder	Mo	99.999	4400-090065*
Neodymium Oxide	Nd <sub>2</sub> O <sub>3</sub>	99.99	4400-090110
Nickel Powder	Ni	99.999	4400-090038
Niobium Powder	Nb	99.99	4400-090066*
Palladium Powder	Pd	99.999	4400-090040
Platinum Powder	Pt	99.999	4400-090129
Potassium Chloride	KCl	99.999	4400-090041
Potassium Nitrate	KNO <sub>3</sub>	99.999	4400-090043*
Praseodymium Oxide	Pr <sub>6</sub> O <sub>11</sub>	99.99	4400-090111
Rubidium Carbonate	Rb <sub>2</sub> CO <sub>3</sub>	99.975	4400-090068*
Samarium Oxide	Sm <sub>2</sub> O <sub>3</sub>	99.99	4400-090112
Scandium Oxide	Sc <sub>2</sub> O <sub>3</sub>	99.99	4400-090044
Selenium Shot	Se	99.999	4400-090045
Silver Shot	Ag	99.99	4400-090069
Sodium Acetate	NaOOCCH <sub>3</sub>	99.999	4400-090046
Sodium Bromide	NaBr	99.999	4400-090047
Sodium Chloride	NaCl	99.999	4400-090048
Sodium Fluoride	NaF	99.995	4400-090049
Sodium Iodide	NaI	99.999	4400-090050
Sodium Nitrate	NaNO <sub>3</sub>	99.999	4400-090051*
Sodium Nitrite	NaNO <sub>2</sub>	99.99	4400-090052*
Sodium Sulfate	Na <sub>2</sub> SO <sub>4</sub>	99.996	4400-090071
Strontium Carbonate	SrCO <sub>3</sub>	99.99+	4400-090053
Tantalum Powder	Ta	99.99+	4400-090054*
Tellurium Pieces	Te	99.999	4400-090055
Terbium Oxide	Tb <sub>4</sub> O <sub>7</sub>	99.995	4400-090113
Thallium Pieces	Tl	99.999	4400-090072
Thulium Oxide	Tm <sub>2</sub> O <sub>3</sub>	99.995	4400-090114
Tin Shot	Sn	99.999	4400-090056
Titanium Pieces	Ti	99.99	4400-090073
Titanium Powder	Ti	99.99	4400-090096
Tungsten Powder	W	99.999	4400-090057
Ytterbium Oxide	Yb <sub>2</sub> O <sub>3</sub>	99.99	4400-090115
Yttrium Oxide	Y <sub>2</sub> O <sub>3</sub>	99.999	4400-090116
Zinc Shot	Zn	99.999	4400-090058
Zirconyl Nitrate	ZrONO <sub>3</sub>	99.99	4400-090093

\*Hazardous Shipping Charge

# Custom Inorganic Standard Request Form



Element	µg/mL	Element	µg/mL	Element	µg/mL	Element	µg/mL	Element	µg/mL	Element	µg/mL
Al	_____	Cu	_____	Pb	_____	K	_____	Ta	_____	Others not listed	
Sb	_____	Dy	_____	Li	_____	Pr	_____	Te	_____	_____	_____
As	_____	Er	_____	Lu	_____	Re	_____	Tb	_____	_____	_____
Ba	_____	Eu	_____	Mg	_____	Rh	_____	Tl	_____	_____	_____
Be	_____	Gd	_____	Mn	_____	Rb	_____	Th	_____	_____	_____
Bi	_____	Ga	_____	Hg	_____	Ru	_____	Tm	_____	_____	_____
B	_____	Ge	_____	Mo	_____	Sm	_____	Sn	_____	_____	_____
Cd	_____	Au	_____	Nd	_____	Sc	_____	Ti	_____	_____	_____
Ca	_____	Hf	_____	Ni	_____	Se	_____	W	_____	_____	_____
C	_____	Ho	_____	Nb	_____	Si	_____	U	_____	_____	_____
Ce	_____	In	_____	Os	_____	Ag	_____	V	_____	_____	_____
Cs	_____	Ir	_____	Pd	_____	Na	_____	Yb	_____	_____	_____
Cr	_____	Fe	_____	P	_____	Sr	_____	Y	_____	_____	_____
Co	_____	La	_____	Pt	_____	S	_____	Zn	_____	_____	_____
								Zr	_____	_____	_____

Ion	Source	µg/mL	Ion	Source	µg/mL	Ion	Source	µg/mL
NH <sub>4</sub>	NH <sub>4</sub> Cl	_____	NO <sub>2</sub>	NaNO <sub>2</sub>	_____	Others not listed		
Br	NaBr	_____	N	NaNO <sub>3</sub>	_____	_____	_____	_____
Ca	CaCl <sub>2</sub>	_____	N	NaNO <sub>2</sub>	_____	_____	_____	_____
Cl	NaCl	_____	PO <sub>4</sub>	NH <sub>4</sub> H <sub>2</sub> PO <sub>4</sub>	_____	_____	_____	_____
CN	KCN	_____	K	KCl	_____	_____	_____	_____
F	NaF	_____	P	NH <sub>4</sub> H <sub>2</sub> PO <sub>4</sub>	_____	_____	_____	_____
I	NaI	_____	SO <sub>4</sub>	Na <sub>2</sub> SO <sub>4</sub>	_____	_____	_____	_____
Mg	MgCl <sub>2</sub>	_____	S	Na <sub>2</sub> SO <sub>4</sub>	_____	_____	_____	_____
NO <sub>3</sub>	NaNO <sub>3</sub>	_____				_____	_____	_____

Custom Blend Name \_\_\_\_\_  
 Matrix \_\_\_\_\_ Vol \_\_\_\_\_ Bottling Instructions \_\_\_\_\_  
 Special Considerations \_\_\_\_\_  
 My standards purchases are:  Monthly  Quarterly  Semi-Annually  Annually

**Photocopy, complete and fax back to CPI for a 1-day quotation!**  
  
**Fax U.S.A. (707) 545-7901**  
**Europe +31 20 420 28 36**

Please send information on other CPI Analytical Instrument Consumables. We use the following analytical techniques:

- AA**
  - Manufacturer:  PerkinElmer®  Varian®  TJA®  Hitachi®
  - GBC®  ATI/Unicam®  IL®  Other
  - Configuration:  Graphite Furnace  Flame  Other
- ICP**
  - Manufacturer:  Perkin/Elmer®  TJA®  Leeman®  ARL®  Varian®
- TOX/AOX**
- TCLP**
- Gas Determination**
  - Manufacturer:  Tekmar/Dohrmann®  Mitsubishi® (COSA)
  - Manufacturer:  Millipore®  ADM  Other:
  - Manufacturer:  LECO®  PerkinElmer®  Other:
  - Analysis:  Nitrogen/Oxygen  Carbon/Sulfur  Other:
- GC**
  - Manufacturer:  HP®  Varian®  PerkinElmer®  Other
  - Detector Types:  PID  ELCD (Hall®)  FID  ECD  TCD  NPD
- GC/MS**
- Solid Phase Extraction (SPE)**
  - Manufacturer:  HP®  Finnigan®  Perkin-Elmer®  Varian®
  - SPE Medium: Type:  Disk  Cartridge
  - Mfg.:  J.T. Baker®  Varian®  Other:
  - Manifold Type:  J.T. Baker®  Varian®  Zymark®  Other:
  - Manufacturer:  Tekmar®  OI®  Dynatech®  Other:
- Purge/Trap**

Name \_\_\_\_\_ Title \_\_\_\_\_ Company \_\_\_\_\_  
 Address \_\_\_\_\_  
 Phone \_\_\_\_\_ Fax \_\_\_\_\_ e-mail \_\_\_\_\_

Please send information to the following supervisors: