

Atomic Absorption (AAS)



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Used for analyzing trace amounts of metals, atomic absorption spectroscopy continues to be a very important analytical technique. The procedures involved in AAS require precision components and reliable consumables, which CPI International offers in abundance. From graphite tubes to quartz windows, matrix modifiers to sampling probes, CPI International stocks all the products that may be required in your particular AAS applications.

Atomic Absorption



Thanks to your support, CPI has become a leading source for high quality Graphite Furnace Tubes...

In addition to offering your lab excellent value in Graphite Tubes for PerkinElmer®, Varian®, TJA®, and Hitachi® AA's, we are pleased to expand our line to include tubes for GBC®, and ATI/Unicam® furnaces.



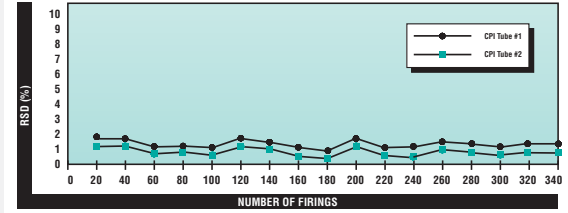
CPI Forked Tubes and Platforms, P/N 4090-09 (Shown here with the preinserted platform removed).

These tubes are shipped with pre-inserted platforms for your convenience. Since the platform contacts the tube wall only at each corner, atomization of the sample occurs over a shorter time, producing sharper, taller peaks. The solid pyrolytic graphite platform, and lack of exposed base graphite material in the tube, help contribute to longer tube life.

Graphite Furnace Tubes

Quality Raw Materials for Long Life and Performance

CPI graphite tubes are produced from one of the highest grades of spectrally pure graphite available today. Prior to use, the base material is tested for purity, constant density and electrical resistivity. This critical screening ensures that our tubes are free from trace metal contamination and provide maximum, consistent life and performance in your instrument.



PerkinElmer® Type Graphite Products

Description	CPI P/N	Replaces PE® P/N
Pre-inserted Platform Tubes, Pyro Coated, 50/pk	4090-0506	B010-9322 / B010-9324
Pre-inserted Platform Tubes, Pyro Coated, 20/pk	4090-10	B300-1254 / B300-1256
Pre-inserted Platform Tubes, Pyro Coated, 10/pk	4090-0304	B012-1092 / B012-1091
Pre-inserted Platform Tubes, Pyro Coated, 5/pk	4090-26	B013-7111 / B013-7112
<i>CPI recommends pre-inserted platform tubes for ease of use and reproducibility.</i>		
Platform Tubes, Pyro Coated, 50/pk	4090-05	B010-9322
Platform Tubes, Pyro Coated, 10/pk	4090-03	B012-1092
Platforms, Solid, Pyro, 50/pk	4090-06	B010-9324
Platforms, Solid, Pyro, 10/pk	4090-04	B012-1091
Forked Tubes and Platforms, Pyro Coated, 20/pk	4090-09	B050-5057
Standard Tubes, Pyro Coated, 50/pk	4090-08	B009-1504
Standard Tubes, Pyro Coated 20/pk	4090-010016	B300-0342
Standard Tubes, Pyro Coated, 10/pk	4090-07	B013-5653
Standard Tubes, Pyro Coated, 5/pk	4090-010017	B010-5197
Standard Tubes, Uncoated, 50/pk	4090-12	B007-0699
Standard Tubes, Uncoated, 10/pk	4090-14	n/a
Zeeman Contact Sets, 1 set	4090-15A	B011-6823
Zeeman Contact Sets, 5 sets	4090-15	B018-0361
Regular Contact Sets, 1 set	4090-16A	B012-8490
Regular Contact Sets, 5 sets	4090-16	B018-0363

Performance of CPI Graphite Tubes

The following results were achieved in a study comparing the performance of L'vov tubes.

	Less Expensive Aftermarket Brand	CPI Tubes
Lifetime (till out of spec)	115	415
Lifetime (test)	269	431
Lifetime (till failure)	269	550
Absorption Signal (ave)	0.281	0.337
Absorption Signal Failure	0.250@115	0.250@415

Summary:

Each tube was tested using Cr, and a combination of lifetime and absorption signal was observed. The element Cr was chosen because of its demanding temperature profile (2,650 degrees C). A lab fortified blank was used to eliminate bias. Actual number of firings may be lower given a "real world" sample matrix.

The less expensive aftermarket tubes did not meet CPI specifications for life, sensitivity or absorption signal. These parts, manufactured in China, exhibit greater variances in performance and life. CPI tubes demonstrated excellent performance of 550 firings.

Graphite Furnace Tubes

Varian® Type Graphite Products

Description	CPI P/N	Replaces Varian® P/N
Pre-Inserted Forked Tubes & Platforms, Pyro Coated, 10/pk	4090-2324D	n/a
Plateau Tubes, Pyro Coated, 10/pk	4090-20	63-100011-00
Platforms, Solid Pyro, 10/pk	4090-21	63-100013-00
Partitioned Tubes, Pyro Coated, 10/pk <i>Good sensitivity & accuracy, with longer life due to a harder pyrolytic coating</i>	4090-25D	63-100012-00
Standard Contacts, 1 set	4090-30	63-100016-00
Zeeman Contacts, 1 set	4090-31	63-100017-00
Standard Shroud, 1/pk	4090-33	63-100018-00
Zeeman Shroud, 1/pk	4090-32	63-100019-00

GBC® Type Graphite Products

Description	CPI P/N	Replaces GBC® P/N
Cuvette, Pyro Coated, 10/pk	4090-73	99-0059-00
Cuvette, Uncoated, 10/pk	4090-71	99-0059-01
Pre-inserted Platform Cuvette, Pyro Coated, 10/pk <i>With pre-inserted pyro platforms</i>	4090-75	n/a
Contact Set, 1 set	4090-010008	45-0006-00
Shroud, 1/pk	4090-010009	45-0004-00

ATI/Unicam® Type Graphite Products

Description	CPI P/N	Replaces ATI/Unicam® P/N
ELC™ Type Cuvette, Coated, 10/pk	4090-90	9423-393-95041
ELC™ Type Cuvette, Ridged, Coated, 20/pk	4090-010018	9423-393-90191
Pre-Inserted Platform Cuvette, Coated, 10/pk <i>Platform Tubes offer maximum sensitivity and are recommended for As, Pb, Se and Tl determinations.</i>	4090-96	9423-393-95191
Ridged, Coated Cuvette, 10/pk	4090-92	9423-393-95071
Ridged, Uncoated Cuvette, 10/pk	4090-94	9423-393-95031
Cuvettes, Uncoated, 10/pk	4090-010013	9423-393-90031
Cuvettes, Not Ridged, Coated, 10/pk	4090-010014	9423-393-95091
Cuvettes, Coated, 20/pk	4090-010020	9423-393-90091

Hitachi® Type Graphite Products

Description	CPI P/N	Replaces Hitachi® P/N
Platform Tubes, Pyro Coated, 10/pk	4090-55	ANO-0028
Platform Tubes, Pyro Coated, 50/pk	4090-56	ANO-0027
Cuvettes, Pyro Coated, 10/pk	4090-53	180-7444
Cuvettes, Pyro Coated, Type A 100µl, 10/pk	4090-58	190-6003
Cuvettes, Uncoated, 10/pk	4090-51	180-7400
Contact Rings, 1 set	4090-57	190-7115

Atomic Absorption



New CPI Pre-Inserted Forked Tubes and Platforms, P/N 4090-2324D (Shown here with the pre-inserted platform removed).

These tubes are shipped with pre-inserted platforms for your convenience.



Pyro coated tube with pre-inserted platform, for TJA®. CPI P/N 4090-40.



Hitachi and TJA Type Contacts and Tubes.

Value Pricing and Risk-Free Discount Programs

CPI tubes are priced lower than the OEM and other suppliers and offer the same or better performance. When compared with less expensive, lesser quality tubes, CPI tubes offer more value when inconsistent tube life, lower sensitivity, technician labor, and instrumentation downtime are considered. Because CPI tubes are designed to perform in accordance with OEM specifications, it is not necessary to reset your temperature programs, eliminating the need for time consuming optimization procedures.

Buy your next pack of Graphite Tubes from CPI and we'll Guarantee:

- Competitive Pricing
- Wide Choice of Tubes
- Fast Delivery
- Tube Performance
- Savings on Other CPI Products for Inorganics

Atomic Absorption

**Get A Free
1,000 ppm,
500ml AA
Standard With
Each Lamp
Ordered!**

**CPI's 2/year
5,000mA-hr
Warranty:**



We stand behind our lamps. All CPI Hollow Cathode Lamps are warranted to light and produce the rated intensity and spectral absorption for 2 years or 5,000mA-hrs* from the date of shipment, whichever comes first.

*Warranty period for lamps used with pulsed current or Smith-Hieftje background correction is lower. Consult data sheet accompanying lamp or contact your CPI Representative.

**Call for pricing on
Elements not listed.
Call for information on
quantity discounts or how
to include CPI Hollow
Cathode Lamps in an
Annual Savings Contract.**

Hollow Cathode Lamps



CPI offers a comprehensive selection of high quality, price-competitive hollow cathode lamps for popular spectrometer models. Our 1.5" (37mm) diameter element lamps are designed for direct use in Varian®, TJA®, GBC®, ATI®, Unicam®, Hitachi® Buck® and Shimadzu® spectrometers. We also offer specially designed lamps compatible with Smith-Hieftje® background correction, found on certain TJA® instrumentation, replacing Visimax® type II lamps. Coded lamps for Varian® and Unicam® are also available as well as a selection of multielement lamps.

1.5" (37mm) Diameter Type AA Lamps

Element	Lamps for Zeeman® and D2 Background Replaces Varian®, TJA Visimax I, GBC®, Hitachi®, Shimadzu, ATI®, Unicam® (non-coded) CPI P/N	Lamps for Smith-Hieftje® Background Correction Only Replaces TJA Visimax II CPI P/N	Varian® Type Coded Lamps CPI P/N	Varian® Type "Super Lamps" CPI P/N	Unicam® Type Coded Lamps CPI P/N
Aluminum (Al)	4081-101	4081-401	4081-301	-	4081-901
Antimony (Sb)	4081-102	4081-402	4081-302	4081-602	4081-902
Arsenic (As)	4081-103	4081-403	4081-303	4081-603	4081-903
Barium (Ba)	4081-104	4081-404	4081-304	-	4081-904
Beryllium (Be)	4081-105	4081-105	4081-305	-	4081-905
Bismuth (Bi)	4081-106	4081-406	4081-306	-	4081-906
Boron (B)	4081-107	4081-107	4081-307	-	4081-907
Cadmium (Cd)	4081-108	4081-408	4081-308	-	4081-908
Calcium (Ca)	4081-109	4081-409	4081-309	-	4081-909
Chromium (Cr)	4081-111	4081-411	4081-311	-	4081-911
Cobalt (Co)	4081-112	4081-412	4081-312	-	4081-912
Copper (Cu)	4081-113	4081-413	4081-313	-	4081-913
Gold (Au)	4081-120	4081-420	4081-320	-	4081-920
Iron (Fe)	4081-125	4081-425	4081-325	4081-625	4081-925
Lead (Pb)	4081-127	4081-427	4081-327	4081-627	4081-927
Lithium (Li)	4081-128	4081-128	4081-328	-	4081-928
Magnesium (Mg)	4081-130	4081-430	4081-330	-	4081-930
Manganese (Mn)	4081-131	4081-431	4081-331	4081-631	4081-931
Mercury (Hg)	4081-132	4081-132	4081-332	-	4081-932
Molybdenum (Mo)	4081-133	4081-133	4081-333	-	4081-933
Nickel (Ni)	4081-135	4081-435	4081-335	4081-635	4081-935
Platinum (Pt)	4081-139	4081-139	4081-339	-	4081-939
Potassium (K)	4081-140	4081-140	4081-340	-	4081-940
Selenium (Se)	4081-148	4081-448	4081-348	4081-648	4081-948
Silicon (Si)	4081-149	4081-449	4081-349	-	4081-949
Silver (Ag)	4081-150	4081-450	4081-350	-	4081-950
Sodium (Na)	4081-151	4081-151	4081-351	-	4081-951
Strontium (Sr)	4081-152	4081-452	4081-352	-	4081-952
Thallium (Tl)	4081-156	4081-156	4081-356	4081-656	4081-956
Tin (Sn)	4081-158	4081-458	4081-358	-	4081-958
Titanium (Ti)	4081-159	4081-459	4081-359	-	4081-959
Tungsten (W)	4081-160	4081-160	4081-360	-	4081-960
Vanadium (V)	4081-161	4081-461	4081-361	-	4081-961
Zinc (Zn)	4081-164	4081-464	4081-364	-	4081-964

1.5" Multielement AA Lamps

Elements	Non-Coded CPI P/N	Replaces Varian® P/N	Coded CPI P/N	Replaces Varian® P/N
Ca/Mg	4081-010016	56-101291-00		
Cu/Zn	4081-010034	56-101293-00	4081-010036	n/a
Na/K	4081-010015	56-101290-00	4081-010037	56-101070-00
Co/Cr/Cu/Fe/Mn/Ni	4081-010002	56-101292-00	4081-010017	56-101076-00

Hollow Cathode Lamps



CPI offers a comprehensive selection of high quality, price-competitive hollow cathode lamps for popular spectrometer models. Our 2" (50mm) diameter element lamps are designed for direct use in PerkinElmer® spectrometers. We also offer coded lamps for 5100, 4100, 2100, 1100 and other models as well as non-coded lamps with special plugs compatible for use in newer PerkinElmer® AAnalyst instrumentation. Adapters are not needed to run CPI lamps, but are offered to improve compatibility of lamps across a range of instrument models.

2" (50mm) Diameter Type AA Lamps

Element	PerkinElmer® Type Non Coded Lamps CPI P/N	PerkinElmer® Type Coded Lamps CPI P/N	PerkinElmer® Type Non Coded Lamps for AAnalyst® Systems CPI P/N
Aluminum (Al)	4081-201	4081-501	4081-801
Antimony (Sb)	4081-202	4081-502	4081-802
Arsenic (As)	4081-203	4081-503	4081-803
Barium (Ba)	4081-204	4081-504	4081-804
Beryllium (Be)	4081-205	4081-505	4081-805
Bismuth (Bi)	4081-206	4081-506	4081-806
Boron (B)	4081-207	4081-507	4081-807
Cadmium (Cd)	4081-208	4081-508	4081-808
Calcium (Ca)	4081-209	4081-509	4081-809
Chromium (Cr)	4081-211	4081-511	4081-811
Cobalt (Co)	4081-212	4081-512	4081-812
Copper (Cu)	4081-213	4081-513	4081-813
Gold (Au)	4081-220	4081-520	4081-820
Iron (Fe)	4081-225	4081-525	4081-825
Lead (Pb)	4081-227	4081-527	4081-827
Lithium (Li)	4081-228	4081-528	4081-828
Magnesium (Mg)	4081-230	4081-530	4081-830
Manganese (Mn)	4081-231	4081-531	4081-831
Mercury (Hg)	4081-232	4081-532	4081-832
Molybdenum (Mo)	4081-233	4081-533	4081-833
Nickel (Ni)	4081-235	4081-535	4081-835
Platinum (Pt)	4081-239	4081-539	4081-839
Potassium (K)	4081-240	4081-540	4081-840
Selenium (Se)	4081-248	4081-548	4081-848
Silicon (Si)	4081-249	4081-549	4081-849
Silver (Ag)	4081-250	4081-550	4081-850
Sodium (Na)	4081-251	4081-551	4081-851
Strontium (Sr)	4081-252	4081-552	4081-852
Thallium (Tl)	4081-256	4081-556	4081-856
Tin (Sn)	4081-258	4081-558	4081-858
Titanium (Ti)	4081-259	4081-559	4081-859
Tungsten (W)	4081-260	4081-560	4081-860
Vanadium (V)	4081-261	4081-561	4081-861
Zinc (Zn)	4081-264	4081-564	4081-864

2" PE®-Type Multielement AA Lamps

Elements	Non-Coded CPI P/N	Replaces PE® P/N	Coded CPI P/N	Replaces PE® P/N
Ca/Mg	4081-010024	0303-6092	4081-010022	N066-1285
Na/K	4081-010026	0303-6095	4081-010029	N066-1276
Al/Ca/Mg	4081-010028	0303-6099	4081-010030	N066-1228
Cu/Fe/Ni	4081-010027	0303-6101	4081-010031	N066-1266
Cu/Fe/Mn/Zn	4081-010025	0303-6105	4081-010032	N066-1219
Co/Cr/Cu/Fe/Mn/Ni	4081-010014	0303-6103	4081-010033	N066-1223

Lamp Plug Adapters

Noncoded Lamp Plug Adapter
Permits noncoded HCL's to run on PE® 5100 and 3300 instruments.

CPI P/N Replaces PE®
4081-010021 N066-0122

Coded Lamp Plug Adapter
Permits coded HCL's to run on PE® instruments that do not support Coding.

CPI P/N Replaces PE®
4081-010041 N066-0123

Noncoded Lamp Plug Adapter
Permits noncoded HCL's to run on PE® 4110 ZL, 4100ZL, 2100 and 1100B instruments.

CPI P/N Replaces PE®
4081-010042 B015-6094

Noncoded Lamp Plug Adapter
Permits noncoded HCL's to run on PE AAnalyst® instruments.

CPI P/N Replaces PE®
4081-010019 N305-0197

Universal Coded Lamp Plug Adapter
Permits Coded (non-Lumina) HCL's to run on PE AAnalyst instruments. Note: Adapter is for fit only; coding will not be read by AAnalyst® instrument.

CPI P/N Replaces PE®
4081-010040 N305-0196

Atomic Absorption



New!
Count on CPI for
our non-coded HCL
Lamps for your Newer
AAnalyst® Systems



Atomic Absorption



Try our Pre-Mixed Pd & Mg(NO₃)₂ Modifier (CPI P/N 4095-29) and our Mg(NO₃)₂ Modifier specially prepared for use in PE® 4100 transverse furnaces (THGA) (CPI P/N 4095-31).

Matrix Modifiers
are available in
other volumes
– Call for sizes.

We guarantee
our AA Sample
Cups to be free of
metals background
contamination.

Matrix Modifiers & Sample Cups

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

Matrix Modifiers

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 ₄ H ₂ PO ₄	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 & 2000µg/mL Mg(NO ₃) ₂	250mL	4095-38	n/a
Modifiers, Pre-mixed (Per 20µL aliquots, for HGA® Furnaces)			
0.03mg Pd & 0.02mg Mg(NO ₃) ₂	250mL	4095-29	n/a
0.015mg Pd & 0.01mg Mg(NO ₃) ₂	250mL	4095-20	n/a
0.05mg Mg(NO ₃) ₂	250mL	4095-21	n/a
0.006mg Mg(NO ₃) ₂	250mL	4095-25	n/a
0.02mg Ni	250mL	4095-26	n/a
0.2mg NH ₄ H ₂ PO ₄ & 0.01mg Mg(NO ₃) ₂	250mL	4095-28	n/a
Modifiers, Pre-mixed (Per 5µL aliquots)			
0.015mg Pd & 0.02mg Mg(NO ₃) ₂	100mL	4095-40	n/a
0.2mg NH ₄ H ₂ PO ₄ & 0.01mg Mg(NO ₃) ₂	100mL	4095-41	n/a
Modifiers, Pre-mixed (Per 5µL aliquots, for THGA® Furnaces)			
0.005mg Pd & 0.003mg Mg(NO ₃) ₂	250mL	4095-30	n/a
0.015mg Mg(NO ₃) ₂	250mL	4095-31	n/a
0.05mg NH ₄ H ₂ PO ₄ & 0.003mg Mg(NO ₃) ₂	250mL	4095-32	n/a

AA Sample Cups

Description	CPI P/N	Replaces OEM P/N
1.5 - 2 ml Polystyrene Conical, 1000/pk	4092-300	PE® / B011-9079
1.5 - 2 ml Polystyrene Conical, 10,000/pk	4092-301	n/a
1.1 ml Cup for PE AS-71/72, 2,000/pk	4092-304	PE® / B051-0397
1.5 - 2 ml Polyethylene Conical, 1000/pk	4092-302	B008-7056 / 99-100282-00
1.5 - 2 ml Polyethylene Conical, 10,000/pk <i>Recommended for organic or acidic samples.</i>	4092-303	n/a
3 - 4 ml Polystyrene Conical Bottom, 1000/pk	4092-315	PE® / B012-9303
Sample Vessel, Polystyrene, for DS-2000, 1000/pk	4092-325	TJA® / 134703-00



1.1mL sample cup for PE® AS-71/72, CPI P/N 4092-304.



Polystyrene cup for TJA® DS-2000, CPI P/N 4092-325



1.5 - 2mL polystyrene sample cup for PE® and Varian®, CPI P/N 4092-300. Also available in polyethylene, CPI P/N 4092-302

FF

Phone USA: (800) 878-7654

Europe: +31 20 638 05 97

or www.cpiinternational.com

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

AA Ionization Buffers & Releasing Agents

Ionization Buffers

Description	Source	Matrix	Volume	CPI P/N
1% Potassium	KCl	1% HCl	500 mL	4400-010132
5% Potassium	KCl	1% HCl	500 mL	4400-010133
1% Potassium	KNO ₃	1% HNO ₃	500 mL	4400-010134
5% Potassium	KNO ₃	1% HNO ₃	500 mL	4400-010135
1% Cesium	CsCl	1% HCl	500 mL	4400-010136
5% Cesium	CsCl	1% HCl	500 mL	4400-010137
1% Cesium	Cs ₂ CO ₃	1% HNO ₃	500 mL	4400-010138
5% Cesium	Cs ₂ CO ₃	1% HNO ₃	500 mL	4400-010139
1% Sodium	NaCl	1% HCl	500 mL	4400-010140
5% Sodium	NaCl	1% HCl	500 mL	4400-010141
1% Sodium	NaNO ₃	1% HNO ₃	500 mL	4400-010142
5% Sodium	NaNO ₃	1% HNO ₃	500 mL	4400-010143
1% Lithium	LiCl	1% HCl	500 mL	4400-010144
5% Lithium	LiCl	1% HCl	500 mL	4400-010145
1% Lithium	Li ₂ CO ₃	1% HNO ₃	500 mL	4400-010146
5% Lithium	Li ₂ CO ₃	1% HNO ₃	500 mL	4400-010147

Releasing Agents

Description	Source	Matrix	Volume	CPI P/N
1% Lanthanum	La ₂ O ₃	1% HCl	500 mL	4400-010152
1% Lanthanum	La ₂ O ₃	1% HNO ₃	500 mL	4400-010153
1% Strontium	SrCO ₃	2% HCl	500 mL	4400-010154
1% Strontium	SrCO ₃	2% HNO ₃	500 mL	4400-010155

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