HUMAN HEALTH

ENVIRONMENTAL HEALTH

QUALITY HAS NEVER BEEN SO STANDARD

PerkinElmer Atomic Spectroscopy Standards Guide

PerkinElmer®
For the Better

THE STANDARDS YOU NEED TO SUCCEED

PerkinElmer is a leading provider of atomic spectroscopy solutions. We've used our expertise to bring you a portfolio of the highest quality standards to enhance your instrument performance. From our Pure and Pure Plus Inorganic Aqueous Standards to our Metallo-Organic Standards, inside this guide you will find a range of standards that are certified and tested to provide you the quality and reliability you expect, for all your application needs.

At PerkinElmer, we're committed to helping you achieve success for your laboratory- starting with the standards you use everyday.

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Aqueous Standards

Metallo-Organic Standards

THE QUALITY AND RELIABILITY YOU EXPECT

We understand how important standards are to your laboratory.

That's why we offer a complete selection of PerkinElmer Pure and Pure Plus Standards supplied with a comprehensive Certificate of Analysis. Each solution is certified to provide you with the quality and reliability you expect, every time.

We offer 1 mg/L, 1,000 mg/L and 10,000 mg/L single element standards in a variety of volumes and purity levels.

Single-Element Standards – 1,000 mg/L

Element	Symbol	Matrix	Pure Grade 125 mL Part No.	Pure Grade 500 mL Part No.	Pure Plus Grade 125 mL Part No.
Aluminum	Al	% HNO_3	N9300184	N9300100	N9303726
Antimony	Sb	2% HNO_3	N9300207	N9300101	N9303750
Arsenic	As	2% HNO_3	N9300180	N9300102	N9303727
Barium	Ba	2% HNO_3	N9300181	N9300103	N9303729
Beryllium	Be	2% HNO_3	N9300172	N9300104	N9303730
Bismuth	Bi	10% HNO_3	N9303761	N9300105	N9303731
Boron	B	H_2O		N9303760	N9300106
Cadmium	Cd	2% HNO_3	N9300176	N9300107	N9303734
Calcium	Ca	2% HNO_3	N9303763	N9300108	N9303733
Carbon	C	H_2O		N9303762	N9300109
Cerium	Ce	2% HNO_3	N9303765	N9300110	
Cesium	Cs	2% HNO_3	N9303767	N9300111	
Chromium	Cr	2% HNO_3	N9300173	N9300112	N9303736
Cobalt	Co	2% HNO_3	N9303766	N9300113	N9303735
Copper	Cu	2% HNO_3	N9300183	N9300114	N9303737
Dysprosium	Dy	2% HNO_3	N9303768	N9300115	
Erbium	Er	2% HNO_3	N9303769	N9300116	
Europium	Eu	2% HNO_3	N9303770	N9300117	
Gadolinium	Gd	2% HNO_3	N9303773	N9300118	
Gallium	Ga	2% HNO_3	N9303772	N9300119	
Germanium	Ge	H_2O/0.16% F-	N9303774	N9300120	N9303739
Gold	Au	10% HCl	N9303759	N9300121	N9303728
Hafnium	Hf	2% HCl		N9303775	N9300122
Holmium	Ho	2% HNO_3	N9303776	N9300123	
Indium	In	2% HNO_3	N9303777	N9300124	N9303741
Iridium	Ir	10% HCl	N9303778	N9300125	
Iron	Fe	2% HNO_3	N9303771	N9300126	N9303738
Lanthanum	La	2% HNO_3	N9303780	N9300127	
Lead	Pb	2% HNO_3	N9300175	N9300128	N9303748
Lithium	Li	2% HNO_3	N9303781	N9300129	
Lutetium	Lu	2% HNO_3	N9303782	N9300130	
Magnesium	Mg	2% HNO_3	N9300179	N9300131	N9303743
Manganese	Mn	2% HNO_3	N9303783	N9300132	N9303744
Mercury	Hg	10% HNO_3	N9300174	N9300133	N9303740
Molybdenum	Mo	H_2O	N9303784	N9300134	N9303745

Element	Symbol	Matrix	Pure Grade 125 mL Part No.	Pure Grade 500 mL Part No.	Pure Plus Grade 125 mL Part No.
Neodymium	Nd	2% HNO_3	N9303787	N9300135	
Nickel	Ni	2% HNO_3	N9300177	N9300136	N9303747
Niobium	Nb	H_2O/0.4% HF	N9303786	N9300137	
Palladium	Pd	10% HCl	N9303789	N9300138	
Phosphorus	P	H2O	N9303788	N9300139	
Platinum	Pt	10% HCl	N9303791	N9300140	
Potassium	K	2% HNO_3	N9303779	N9300141	N9303742
Praseodymium	Pr	2% HNO_3	N9303790	N9300142	
Rhenium	Re	H_2O	N9303793	N9300143	
Rhodium	Rh	10% HCl	N9303794	N9300144	N9303749
Rubidium	Rb	2% HNO_3	N9303792	N9300145	
Ruthenium	Ru	10% HCl	N9303795	N9300146	
Samarium	Sm	2% HNO_3	N9303800	N9300147	
Scandium	Sc	2% HNO_3	N9303798	N9300148	N9303751
Selenium	Se	2% HNO_3	N9300182	N9300149	N9303752
Silicon	Si	H_2O	N9303799	N9300150	
Silver	Ag	2% HNO_3	N9300171	N9300151	N9303725
Sodium	Na	2% HNO_3	N9303785	N9300152	N9303746
Strontium	Sr	2% HNO_3	N9303802	N9300153	
Sulfur	S	H_2O	N9303796	N9300154	
Tantalum	Ta	H_2O/0.8% HF	N9303803	N9300155	
Tellurium	Te	5% HNO_3	N9303805	N9300156	
Terbium	Tb	2% HNO_3	N9303804	N9300157	N9303753
Tin	Sn	20% HCl	N9303801	N9300161	N9303838
Thallium	Tl	2% HNO_3	N9300170	N9300158	N9303755
Thorium	Th	2% HNO_3	N9303842		
Thulium	Tm	2% HNO_3	N9303807	N9300160	
Titanium	Ti	H_2O/tr 0.24% F-	N9303806	N9300162	N9303754
Tungsten	W	H_2O	N9303809	N9300163	
Uranium	U	2% HNO_3	N9303844		
Vanadium	V	2% HNO_3	N9303808	N9300165	N9303756
Ytterbium	Yb	2% HNO_3	N9303811	N9300166	
Yttrium	Y	2% HNO_3	N9303810	N9300167	N9303757
Zinc	Zn	2% HNO_3	N9300178	N9300168	N9303758
Zirconium	Zr	2% HNO_3	N9303812	N9300169	

[1] *10 mg/L*
[2] *100 mg/L*

Single-Element Pure Plus Standards - 1 mg/L

Element	Symbol	Matrix	Pure Plus Grade 125 mL Part No.
Aluminum	Al	2% HCl	N9304200
Aluminum	Al	2% HNO_3	N9304201
Antimony	Sb	2% HCl	N9304202
Antimony	Sb	H_2O/Tr.HNO_3/Tr.Tart	N9304203
Arsenic	As	2% HCl	N9304204
Arsenic	As	2% HNO_3	N9304205
Barium	Ba	2% HCl	N9304206
Barium	Ba	2% HNO_3	N9304207
Beryllium	Be	2% HNO_3	N9304208
Bismuth	Bi	2% HNO_3	N9304209
Boron	B	H_2O	N9304210
Cadmium	Cd	2% HCl	N9304211
Cadmium	Cd	2% HNO_3	N9304212
Calcium	Ca	2% HCl	N9304213
Calcium	Ca	2% HNO_3	N9304214
Carbon	C	H_2O	N9304215
Cerium	Ce	2% HNO_3	N9304216
Cesium	Cs	2% HNO_3	N9304217
Chromium	Cr	2% HCl	N9304218
Chromium	Cr	2% HNO_3	N9304219
Chromium	Cr	H_2O	N9304220
Cobalt	Co	2% HCl	N9304221
Cobalt	Co	2% HNO_3	N9304222
Copper	Cu	2% HCl	N9304223
Copper	Cu	2% HNO_3	N9304224
Dysprosium	Dy	2% HNO_3	N9304225
Erbium	Er	2% HNO_3	N9304226
Europium	Eu	2% HNO_3	N9304227
Gadolinium	Gd	2% HNO_3	N9304228
Gallium	Ga	2% HNO_3	N9304229
Germanium	Ge	H_2O	N9304230
Gold	Au	2% HCl	N9304231
Hafnium	Hf	2% HCl	N9304232
Holmium	Ho	2% HNO_3	N9304233
Indium	In	2% HNO_3	N9304234
Iridium	Ir	2% HCl	N9304235
Iron	Fe	2% HCl	N9304236
Iron	Fe	2% HNO_3	N9304237
Lanthanum	La	2% HNO_3	N9304238
Lead	Pb	2% HNO_3	N9304239
Lithium	Li	2% HCl	N9304240
Lithium	Li	2% HNO_3	N9304241
Lutetium	Lu	2% HNO_3	N9304242
Magnesium	Mg	2% HCl	N9304243
Magnesium	Mg	2% HNO_3	N9304244
Manganese	Mn	2% HNO_3	N9304245
Mercury	Hg	2% HNO_3	N9304246
Potassium	K	2% HCl	N9304247
Potassium	K	2% HNO_3	N9304248
Molybdenum	Mo	H_2O	N9304249
Niobium	Nb	H_2O/tr HF	N9304250
Neodymium	Nd	2% HNO_3	N9304251
Nickel	Ni	2% HNO_3	N9304252
Palladium	Pd	2% HCl	N9304253
Phosphorus	P	H_2O	N9304254
Platinum	Pt	2% HCl	N9304255
Praseodymium	Pr	2% HNO_3	N9304256
Rubidium	Rb	2% HNO_3	N9304257
Rhenium	Re	H_2O	N9304258
Rhodium	Rh	2% HCl	N9304259
Ruthenium	Ru	2% HCl	N9304260
Samarium	Sm	2% HNO_3	N9304261
Scandium	Sc	2% HNO_3	N9304262
Selenium	Se	2% HNO_3	N9304263
Silicon	Si	H_2O/tr HF	N9304264
Silver	Ag	2% HNO_3	N9304265
Sodium	Na	2% HCl	N9304266
Sodium	Na	2% HNO_3	N9304267
Strontium	Sr	2% HCl	N9304268
Strontium	Sr	2% HNO_3	N9304269
Sulfur	S	H_2O	N9304270
Tantalum	Ta	H_2O/tr HF	N9304271
Tellurium	Te	5% HCl	N9304272
Tellurium	Te	2% HNO_3	N9304273
Terbium	Tb	2% HNO_3	N9304274
Thallium	Tl	2% HNO_3	N9304275
Thorium	Th	2% HNO_3	N9304276
Thulium	Tm	2% HNO_3	N9304277
Tin	Sn	5% HCl	N9304278
Tin	Sn	2% HNO_3/tr HF	N9304279
Titanium	Ti	H_2O/tr HF	N9304280
Tungsten	W	2% HNO_3/tr HF	N9304281
Tungsten	W	H_2O	N9304282
Uranium	U	2% HNO_3	N9304283
Vanadium	V	2% HCl	N9304284
Vanadium	V	2% HNO_3	N9304285
Ytterbium	Yb	2% HNO_3	N9304286
Yttrium	Y	2% HNO_3	N9304287
Zinc	Zn	2% HCl	N9304288
Zinc	Zn	2% HNO_3	N9304289
Zirconium	Zr	2% HCl	N9304290
Zirconium	Zr	2% HNO_3	N9304291

Single-Element Pure Plus Standards - 10 mg/L

Element	Symbol	Matrix	Pure Plus Grade 125 mL Part No.
Bismuth	Bi	2% HNO_3	N9303731
Germanium	Ge	H_2O tr HF	N9303739
Indium	In	2% HNO_3	N9303741
Rhodium	Rh	2% HCl	N9303749
Scandium	Sc	2% HNO_3	N9303751
Terbium	Tb	2% HNO_3	N9303753
Yttrium	Y	2% HNO_3	N9303757

Single-Element Pure Standards - 10,000 mg/L

Element	Symbol	Matrix	Pure Grade 125 mL Part No.	Pure Grade 500 mL Part No.
Aluminum	Al	5% HNO_3	N9304111	N9304110
Antimony	Sb	20% HCl		N9304292
Antimony	Sb	H_2O/Tartaric Acid/Tr HNO_3	N9304293	N9304294
Arsenic	As	5% HNO_3	N9304295	N9304296
Barium	Ba	5% HNO_3	N9304297	N9304298
Beryllium	Be	5% HNO_3	N9304299	N9304300
Boron	B	H_2O	N9304301	N9304302
Cadmium	Cd	5% HNO_3	N9304303	N9304304
Calcium	Ca	5% HNO_3	N0691581	N9303764
Cerium	Ce	5% HNO_3	N9304305	N9304306
Cesium	Cs	5% HNO_3	N9304307	N9304308
Chromium	Cr	2% HNO_3	N9304309	N9304311
Chromium	Cr	5% HCl		N9304310
Chromium	Cr	H_2O		N9304312
Cobalt	Co	5% HNO_3	N9304313	N9304314
Copper	Cu	5% HNO_3	N9304112	N9300283
Erbium	Er	5% HNO_3		N9304315
Gadolinium	Gd	5% HNO_3	N9304316	N9304317
Iron	Fe	5% HNO_3	N9304113	N9307117
Lanthanum	La	5% HNO_3	N9304318	N9304319
Lead	Pb	5% HNO_3	N9304321	N9304320
Lithium	Li	5% HCl		N9304322
Lithium	Li	5% HNO_3	N9304323	N9304324
Magnesium	Mg	5% HNO_3	N0691745	N9304114
Manganese	Mn	5% HNO_3	N9304115	
Mercury	Hg	10% HNO_3	N9304325	N9304326
Molybdenum	Mo	H_2O	N9304327	N9304328
Nickel	Ni	5% HNO_3	N9304117	N9304116
Niobium	Nb	H_2O		N9304329
Niobium	Nb	H_2O/tr HF	N9304330	
Phosphorus	P	H_2O	N9304119	N9304118
Potassium	K	5% HNO_3	N9304121	N9304120
Rubidium	Rb	2% HNO_3	N9304331	N9304332
Scandium	Sc	2% HNO_3	N9304333	

Pure Grade Standards for AA and ICP-OES

- Analyzed by ICP-OES
- Analyzed by Classical Wet Assay
- 32 trace impurities analyzed by ICP-MS of the final solution and reported on the certificate
- Impurities reported at ppm level
- All Standards are prepared and certified under ISO Guide 34 and ISO 17025

Pure Plus Grade Standards for ICP-MS

- Analyzed by ICP-OES
- Analyzed by Classical Wet Assay
- 67 trace impurities analyzed by ICP-MS of the final solution and reported on the certificate
- Impurities reported at ppb level
- All Standards are prepared and certified under ISO Guide 34 and ISO 17025

Element	Symbol	Matrix	Pure Grade 125 mL Part No.	Pure Grade 500 mL Part No.
Scandium	Sc	5% HNO_3	N9304334	
Selenium	Se	5% HNO_3	N9304335	N9304336
Silicon	Si	H_2O/4% F-	N9304122	
Silver	Ag	5% HNO_3	N9304337	N9304338
Sodium	Na	5% HNO_3	N9304124	N9304123
Strontium	Sr	5% HCl	N9304339	
Strontium	Sr	5% HNO_3	N9304340	N9304341
Sulfur	S	H_2O	N9304126	N9304125
Tantalum	Ta	H_2O		N9304342
Tantalum	Ta	H_2O/tr HF	N9304343	
Tin	Sn	HNO_3/2% HF		N9304344
Tin	Sn	20% HCl	N9304345	N9304346
Titanium	Ti	40% HCl		N9304347
Titanium	Ti	H_2O	N9304348	N9304349
Tungsten	W	2% HNO_3/5% HF		N9304350
Tungsten	W	H_2O	N9304351	N9304352
Uranium	U	5% HNO_3	N9304353	N9304354
Vanadium	V	15% HCl		N9304355
Vanadium	V	15% HNO_3	N9304356	N9304357
Yttrium	Y	5% HNO_3	N9304128	N9304127
Zinc	Zn	5% HNO_3	N9304129	
Zirconium	Zr	10% HCl		N9304358
Zirconium	Zr	5% HNO_3	N9304359	N9304360

STANDARDS FOR ALL YOUR LABORATORY NEEDS

Our go-to multi-element standards are suitable for your daily laboratory needs. Spanning across a wide range of applications and methods, you'll find the right solution to help you achieve laboratory success.

Multi-Element Standards

Matrix	Contents	Vol.	Part No.
Multi-Element Solution			
5% HNO_3	1,000 mg/L: Al, Ca, Fe, Mg	500 mL	**N9307113**
Multi-Element Solution			
5% HNO_3	1,000 mg/L: K, Na, P	500 mL	**N9307114**
Multi-Element Solution			
2-5% HNO_3	1,000 mg/L: Mo, Sb, Sn, W, Zr	500 mL	**N9307115**
Multi-Element Solution			
5% HNO_3	1,000 mg/L: As, Ba, Be, Cd, Cr, Co, Cu, La, Pb, Li, Mn, Ni, Sc, Sr, V, Y, Zn	500 mL	**N9307116**
5% HNO_3/ trace HF	100 mg/L: Ge, Mo, S, Si, Ti	125 mL	**N9308541**
20% HCl/ 1% HNO_3	100 mg/L: Au, Cr, Sb, Sn, Te	125 mL	**N9308542**
5% HNO_3	100 mg/L: Ag, As, B, Ba, Be, Bi, Ca, Cd, Co, Cu, Fe, K, Li, Mg, Mn, Na, Ni, P, Pb, Se, Sr, Tl, U, V, Zn	125 mL	**N9308543**
Multi-Element Solution 1			
2% HNO_3	10 mg/L: Be, Bi, Ce, Co, In, Mg, Ni, Pb, U	125 mL	**N9300231**
Multi-Element Solution 2			
5% HNO_3	10 mg/L: Ce, Dy, Er, Eu, Gd, Ho, La, Lu, Nd, Pr, Sc, Sm, Tb, Th, Tm, Y, Yb	125 mL	**N9300232**
Multi-Element Solution 3			
5% HNO_3	10 mg/L: Ag, Al, As, Ba, Be, Bi, Ca, Cd, Co, Cr, Cs, Cu, Fe, Ga, Hg*, In, K, Li, Mg, Mn, Na, Ni, Pb, Rb, Se, Sr, Tl, U, V, Zn	125 mL	**N9300233**
**Supplied in separate bottle.*			
Multi-Element Solution 3 without Mercury			**N9301720**
Multi-Element Solution 4			
10% HCl/1% HNO_3	10 mg/L: Au, Hf, Ir, Pd, Pt, Rh, Ru, Sb, Sn, Te	125 mL	**N9300234**
Multi-Element Solution 5			
H_2O/tr HF/ tr HNO_3	10 mg/L: B, Ge, Mo, Nb, P, Re, S, Si, Ta, Ti, W, Zr	125 mL	**N9300235**

Matrix	Contents	Vol.	Part No.
Set of Multi-Element Solutions			
Includes: (1 bottle of each)			**N9300236**
	Multi-Element Solution 2	125 mL	N9300232
	Multi-Element Solution 3	125 mL	N9300233
	Multi-Element Solution 4	125 mL	N9300234
	Multi-Element Solution 5	125 mL	N9300235
	Water Blank	125 mL	N9303814
	Hydrochloric Acid Blank	125 mL	N9300238
	2% Nitric Acid Blank	125 mL	N9300239
PerkinElmer Pure I			
5% HNO_3	400 mg/L: Tl 200 mg/L: Bi, In, Pb 150 mg/L: Ga 100 mg/L: Al 50 mg/L: Ag, Ni 25 mg/L: Cr 20 mg/L: Cd, Co, Cu, Zn 15 mg/L: B, Fe 5 mg/L: Ba, Mn 1 mg/L: Be, Sr	125 mL	**N9303940**
PerkinElmer Pure IV (Quality Control Standard 23)			
10% HNO_3	1,000 mg/L: Ag, Al, B, Ba, Bi, Ca, Cd, Co, Cr, Cu, Fe, Ga, In, K, Li, Mg, Mn, Na, Ni, Pb, Sr, Tl, Zn	125 mL	**N9303941**
PerkinElmer Pure VIII			
5% HNO_3	100 mg/L: Al, B, Ba, Be, Bi, Ca, Cd, Co, Cr, Cu, Fe, Ga, K, Li, Mg, Mn, Na, Ni, Pb, Se, Sr, Te, Tl, Zn	125 mL	**N9303942**
PerkinElmer Pure IX			
5% HNO_3	100 mg/L: As, Be, Pb, Cd,	125 mL	**N9303943**
PerkinElmer Pure X			
2% HNO_3	35,000 µg/L: Ca 15,000 µg/L: Mg 8,000 µg/L: Na 3,000 µg/L: K 100 µg/L: B, Fe, Mo, Sr 50 µg/L: As, Ba, Ni, V, Zn 30 µg/L: Mn 25 µg/L: Co, Pb 20 µg/L: Be, Cd, Cr, Cu 10 µg/L: Bi, Se, Tl	125 mL	**N9303944**
8 mg/L Mercury in 5% HNO_3			
5% HNO_3	8 mg/L: Hg	125 mL	**N9303954**
PerkinElmer Pure XI			
5% HNO_3	2,500 mg/L: Zn 900 mg/L: Cr, Pb 800 mg/L: Cu 200 mg/L: Ni 10 mg/L: Cd	125 mL	**N9303945**

Multi-Element Standards *continued*

Matrix	Contents	Vol.	Part No.
5 mg/L Mercury in 5% HNO_3			
5% HNO_3	5 mg/L: Hg in 5% HNO_3	125 mL	**N9303949**
PerkinElmer Pure XIII			
5% HNO_3	500 mg/L: Al 250 mg/L: V 100 mg/L: As, Be, Co, Cr, Cu, Fe, Mn, Ni, Pb, Zn 25 mg/L: Cd, Se	125 mL	**N9303946**
PerkinElmer Pure XVI (Quality Control Standard, 21 Elements)			
5% HNO_3/ tr Tartaric Acid/ tr HF	100 mg/L: As, Be, Ca, Cd, Co, Cr, Cu, Fe, Li, Mg, Mn, Mo, Ni, Pb, Sb, Se, Sr, Ti, Tl, V, Zn	125 mL	**N9300281**
PerkinElmer Pure XVII			
15% HCl/ trace HF	100 mg/L: Hf, Ir, Sb, Sn, Ta, Tl, Zr	125 mL	**N9303948**
PerkinElmer Pure VI			
1 mol/L HNO_3/ tr Tartaric Acid	10 mg/L: Ag, Al, Ba, Bi, Cd, Co, Cr, Cu, Ga, K, Li, Mg, Mn, Mo, Na, Ni, Pb, Rb, Sr, Te, Tl, U, V 100 mg/L: As, B, Be, Fe, Se, Zn 1000 mg/L: Ca	125 mL	**N9307741**

Mixed Calibration Standards

Matrix	Contents	Vol.	Part No.
Mixed Calibration Standard			
2% HNO_3	50 mg/L: As, K 10 mg/L: La, Li, Mn, Ni, Sr, Zn 1 mg/L: Ba, Mg	500 mL	**N0691579**
Mixed Calibration Standard 1			
2% HNO_3	500 mg/L: Pb 200 mg/L: Se 150 mg/L: Cd, Zn 100 mg/L: Mn 50 mg/L: Be	125 mL	**N9300200**
Mixed Calibration Standard 2			
5% HNO_3	10,000 mg/L: Fe 100 mg/L: Ba, Co, Cu, V	125 mL	**N9300201**
Mixed Calibration Standard 3			
2% HNO_3/tr HF	500 mg/L: As 100 mg/L: Mo, Si	125 mL	**N9300202**
Mixed Calibration Standard 4			
5% HNO_3	1,000 mg/L: Ca 400 mg/L: K 200 mg/L: Al, Na 20 mg/L: Cr, Ni	125 mL	**N9300203**
Mixed Calibration Standard 5			
5% HNO_3/ trTartaric Acid/ tr HF	1,000 mg/L: Mg 200 mg/L: Sb, Tl 100 mg/L: B 50 mg/L: Ag	125 mL	**N9300204**

Spike Standards

Matrix	Contents	Vol.	Part No.
Spike Sample Standard I			
5% HNO_3/ tr Tartaric Acid/ tr HF	200 mg/L: Al, As, Ba, Se, Tl 100 mg/L: Fe 50 mg/L: Co, Mn, Ni, Pb, Sb, V, Zn 25 mg/L: Cu 20 mg/L: Cr 5 mg/L: Ag, Be, Cd	125 mL	**N9300230**
Spike Sample Standard I (water)			
5% HNO_3/ tr Tartaric Acid/ tr HF	500 mg/L: Fe 250 mg/L: Ba, Zn 100 mg/L: Co, Cr, Cu, Mn, Ni, Sb, V 50 mg/L: As, Pb 25 mg/L: Ag, Be, Cd, Se, Tl	125 mL	**N9303839**
Spike Sample Standard 2 (soil)			
5% HNO_3/ tr Tartaric Acid/ tr HF	250 mg/L: Ba, Cr, Cu, Zn 150 mg/L: V 125 mg/L: Ni 100 mg/L: Co, Pb, Sb 50 mg/L: As, Cd 25 mg/L: Ag, Be, Se, Tl	125 mL	**N9303840**
Spike Sample Standard 3 (for ILM 05.2)			
5% HNO_3/ tr Tartaric Acid/ tr HF	200 mg/L: Al, Ba 50 mg/L: Co, Mn, Ni, V, Zn 25 mg/L: Cu 20 mg/L: Cr 10 mg/L: Sb 5 mg/L: Ag, Be, Cd, Tl 4 mg/L: As 2 mg/L: Pb 1 mg/L: Se	125 mL	**N9303841**

Quality Control Standards

Matrix	Contents	Vol.	Part No.
Quality Control Standard 1A			
5% HNO_3/ tr Tartaric Acid HF	1,000 mg/L: Sb, Ti	125 mL	**N9304130**
Quality Control Standard 1B			
10% HNO_3	1,000 mg/L: As, Be, Ca, Cd, Co, Cr, Cu, Fe, Li, Mg, Mn, Mo, Ni, Pb, Se, Sr, Ti, Tl, V, Zn	125 mL	**N9304131**
Quality Control Standard, 21 Elements Pure (Pure XVI)			
5% HNO_3/tr Tartaric Acid/tr HF	100 mg/L: As, Be, Ca, Cd, Co, Cr, Cu, Fe, Li, Mg, Mn, Mo, Ni, Pb, Sb, Se, Sr, Ti, Tl, V, Zn	125 mL	**N9300281**
Quality Control Standard, 21 Elements Pure Plus			
5% HNO_3/ tr Tartaric Acid/ tr HF	100 mg/L: As, Be, Ca, Cd, Co, Cr, Cu, Fe, Li, Mg, Mn, Mo, Ni, Pb, Sb, Se, Sr, Ti, Tl, V, Zn	125 mL	**N9303837**
Quality Control Standard, 7A Elements			
5% HNO_3/tr HF	1,000 mg/L: K 500 mg/L: Si 100 mg/L: Al, B, Ba, Na 50 mg/L: Ag	125 mL	**N9300280**

MATRIX MODIFIERS AND AA TEST MIXES

We offer standards specifically for your Atomic Absorption (AA) instrument. From mixed standards to reagents, we have what you need for your AA analysis.

GFAAS Mixed Standard

Matrix	Contents	Vol.	Part No.
5% HNO_3 w/trace HF	100 mg/L: Al, As, Pb, Sb, Se, Tl 50 mg/L: Ba, Co, Cu, Ni 20 mg/L: Cr, Fe, Mn 10 mg/L: Ag 5 mg/L: Be, Cd	125 mL	**N9300244**

Matrix Modifiers for Graphite Furnace AA

Matrix	Contents	Vol.	Part No.
$Mg(NO_3)_2$	1% Mg $(NO_3)_2$ (as nitrate)	100 mL	**B0190634**
Pd	1% Pd (as nitrate)	50 mL	**B0190635**
$NH_4H_2PO_4$	10% $NH_4H_2PO_4$	100 mL	**N9303445**

AA Test Mix

Matrix	Contents	Vol.	Part No.
2% HCl	50 mg/L: Ca, Cr, Cu, Fe, Ni 20 mg/L: K 10 mg/L: Na, Zn	125 mL	**02900540**

Reagents

Matrix	Vol.	Part No.
Triton® X-100 Wetting Agent	100 mL	**N9300260**
Antifoaming Silicone Emulsion	500 mL	**B0507226**
Glycerol	1 L	**B3141064**

PinAAcle 900 AA Application Packs

PerkinElmer now offers a series of Application Packs designed to provide you with all of the recommended Consumable items to perform an application. These convenience kits include items such as Hollow Cathode Lamps, Graphite Tubes, Autosampler Cups, and PerkinElmer Pure Standards. Purchase one part number with all of the items that you need…it's that easy! Application Refill Packs are also available for easy replenishment. The following Application Packs are available:

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- PinAAcle 900Z Application Pack for Blood Lead Determination
- PinAAcle 900 Application Pack for Toxic and Trace Elements in Food

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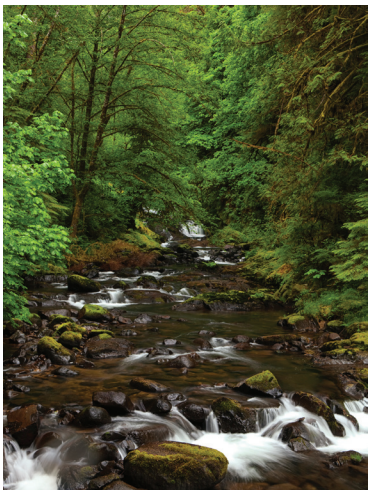


ENVIRONMENTAL ANALYSIS STANDARDS

We offer a variety of environmental analysis standards for all your environmental application needs.

Environmental Method Sets

Matrix	Contents	Vol.	Part No.
Environmental Standard Kit for NexION Standard Mode			**N9307118**
1 bottle each			
5% HNO_3	1,000 mg/L: Ca, K, Mg, Na	125 mL	N9307805
5% HNO_3	1,000 mg/L: Al, Fe	125 mL	N9307806
5% HNO_3/tr Tartaric Acid/ tr HF	100 mg/L: Ag, Al, As, Ba, Be, Ca, Cd, Co, Cr, Cu, Fe, K, Mg, Mn, Mo, Na, Ni, Pb, Sb, Se, Sn, Sr, Ti, Tl, V, Zn	125 mL	N9301721
2% HNO_3	100 mg/L: B, Th, U	125 mL	N9307807
5% HNO_3	10 mg/L: Hg	125 mL	N9300253
2% HNO_3	50 mg/L: Sc, Ge 10 mg/L: Rh, In, Tb	125 mL	N9308591
Environmental Standard Kit for NexION KED/DRC Mode			**N9307119**
1 bottle each			
5% HNO_3	1,000 mg/L: Ca, K, Mg, Na	125 mL	N9307805
5% HNO_3	1,000 mg/L: Al, Fe	125 mL	N9307806
5% HNO_3/tr Tartaric acid/tr HF	100 mg/L: Ag, Al, As, Ba, Be, Ca, Cd, Co, Cr, Cu, Fe, K, Mg, Mn, Mo, Na, Ni, Pb, Sb, Se, Sn, Sr, Ti, Tl, V, Zn	125 mL	N9301721
2% HNO_3	100 mg/L: B, Th, U	125 mL	N9307807
5% HNO_3	10 mg/L: Hg	125 mL	N9300253
2% HNO_3	100 mg/L: Sc 50 mg/L: Ge 1 mg/L: Rh, In, Tb	125 mL	N9308592
Environmental Standard Kit for ELAN non-DRC/ Standard ICP-MS Instruments			**N9307111**
1 bottle each			
5% HNO_3	1,000 mg/L: Ca, K, Mg, Na	125 mL	N9307805
5% HNO_3	1,000 mg/L: Al, Fe	125 mL	N9307806
	100 mg/L: Ag, Al, As, Ba, Be, Ca, Cd, Co, Cr, Cu, Fe, K, Mg, Mn, Mo, Na, Ni, Pb, Sb, Se, Sn, Sr, Ti, Tl, V, Zn	125 mL	N9301721
2% HNO_3	100 mg/L: B, Th, U	125 mL	N9307807
5% HNO_3	10 mg/L: Hg	125 mL	N9300253
Internal Standard Mix			
5% HNO_3/tr HCL	50 mg/L: Sc 20 mg/L: Ge 10 mg/L: In, Ir, Li6, Rh, Tb, Y	125 mL	**N9307808**

Matrix	Contents	Vol.	Part No.
Environmental Standard Kit for ELAN DRC Instruments			**N9307112**
1 bottle each			
5% HNO_3	1,000 mg/L: Ca, K, Mg, Na	125 mL	N9307805
5% HNO_3	1,000 mg/L: Al, Fe	125 mL	N9307806
5% HNO_3/tr Tartaric acid/tr HF	100 mg/L: Ag, Al, As, Ba, Be, Ca, Cd, Co, Cr, Cu, Fe, K, Mg, Mn, Mo, Na, Ni, Pb, Sb, Se, Sn, Sr, Ti, Tl, V, Zn	125 mL	N9301721
2% HNO_3	100 mg/L: B, Th, U	125 mL	N9307807
5% HNO_3	10 mg/L: Hg	125 mL	N9300253
5% HNO_3/tr HCl	Internal Standard Mix 200 mg/L: Sc 20 mg/L: Ga 10 mg/L: In, Ir, Rh, Tm	125 mL	N9307738
Contract Lab Program Modification Set			**N9307103**
1 bottle each			
2% HNO_3/ 5% HCl	10 mg/L: Ba, Be, Ce, Co, In, Li, Mg, Pb, Rh, Tl, U, Y	125 mL	N9303843
2% HNO_3/tr Tartaric Acid	20 mg/L: Ag, Al, As, Ba, Be, Cd, Co, Cr, Cu, Mn, Mo, Ni, Pb, Sb, Se, Th, Tl, U, V, Zn	125 mL	N9303816
5% HNO_3/tr Tartaric Acid/ tr HF	100 mg/L: Ag, Al, As, Ba, Be, Ca, Cd, Co, Cr, Cu, Fe, K, Mg, Mn, Mo, Na, Ni, Pb, Sb, Se, Sn, Sr, Ti, Tl, V, Zn	125 mL	N9301721
5% HNO_3/tr Tartaric Acid	500 mg/L: Ca, K, Mg, Na 20 mg/L: Al, Ba 10 mg/L: Fe 6 mg/L: Sb 5 mg/L: Co, V 4 mg/L: Ni 2.5 mg/L: Cu 2 mg/L: Zn 1.5 mg/L: Mn 1 mg/L: Ag, As, Cr, Tl 0.5 mg/L: Be, Cd, Se 0.3 mg/L: Pb	125 mL	N9303819
2% HNO_3/tr Tartaric Acid/ tr HF	10 mg/L: Ag, Al, As, Ba, Be, Cd, Co, Cr, Cu, Mn, Ni, Pb, Sb, Se, Tl, V, Zn	125 mL	N9303821
5% HNO_3	10 mg/L: Hg	125 mL	N9300253
2% HNO_3	200 mg/L: Ca, Fe, K, Mg, Na	125 mL	N9303822
2% HNO_3	10 mg/L: Mo, Th, U	125 mL	N9303823
2% HNO_3/tr HF	10 mg/L: Mo, Sn, Sr, Ti	125 mL	N9303824
5% HNO_3/tr HF	21,215 mg/L: Cl 3,000 mg/L: Ca 2,500 mg/L: Fe, Na 2,000 mg/L: C 1,000 mg/L: Al, K, Mg, P, S 20 mg/L: Mo, Ti	125 mL	N9303827

Environmental Method Sets *continued*

Matrix	Contents	Vol.	Part No.
2% HNO_3	20 mg/L: Co, Cr, Cu, Mn, Ni, V 10 mg/L: As, Cd, Se, Zn 5 mg/L: Ag	125 mL	N9303829
5% HNO_3/tr Tartaric Acid/ tr HF	500 mg/L: Fe 250 mg/L: Ba, Zn 100 mg/L: Co, Cr, Cu, Mn, Ni, Sb, V 50 mg/L: As, Pb 25 mg/L: Ag, Be, Cd, Se, Tl	125 mL	N9303839
5% HNO_3/tr Tartaric Acid/ tr HF	250 mg/L: Ba, Cr, Cu, Zn 150 mg/L: V 125 mg/L: Ni 100 mg/L: Co, Pb, Sb 50 mg/L: As, Cd 5 mg/L: Ag, Be, Se, Tl	125 mL	N9303840
5% HNO_3	1,000 mg/L: Al, Ca, Fe, K, Mg, Na 20 mg/L: Ag, As, Ba, Be, Cd, Co, Cr, Cu, Mn, Ni, Pb, Se, Tl, V, Zn	125 mL	N9303835
H_2O/tr HF	7,200 mg/L: Cl 2,000 mg/L: C 1,000 mg/L: P, S 20 mg/L: Mo, Sb, Ti	125 mL	N9303836
Calibration Standards Set for Method 6010			**N9307104**
1 bottle each			
5% HNO_3	5,000 mg/L: Ca, K, Mg, Na	125 mL	N9300218
5% HNO_3	400 mg/L: Ni 200 mg/L: Zn 150 mg/L: Mn 100 mg/L: Ag, Cr	125 mL	N9300219
5% HNO_3	2,000 mg/L: Al, Ba 1,000 mg/L: Fe 500 mg/L: Co, V 250 mg/L: Cu 50 mg/L: Be	125 mL	N9300220
5% HNO_3	100 mg/L: As, Tl 50 mg/L: Cd, Pb, Se	125 mL	N9300221
H_2O/tr HF	10 mg/L: B, Ge, Mo, Nb, P, Re, S, Si, Ta, Ti, W, Zr	125 mL	N9300235
2% HNO_3	1,000 mg/L: Li	500 mL	N9300129
2% HNO_3	1,000 mg/L: Sb	500 mL	N9300101
2% HNO_3	1,000 mg/L: Sr	500 mL	N9300153
20% HCl	1,000 mg/L: Sn	500 mL	N9300161
2% HNO_3	1,000 mg/L: Cr	500 mL	N9300112
2% HNO_3	1,000 mg/L: Cu	500 mL	N9300114
2% HNO_3	1,000 mg/L: Mn	500 mL	N9300132
2% HNO_3	1,000 mg/L: Ni	500 mL	N9300136
H_2O/tr HF	1,000 mg/L: Ti	500 mL	N9300162
2% HNO_3	1,000 mg/L: V	500 mL	N9300165
2% HNO_3	1,000 mg/L: Al	500 mL	N9300100
2% HNO_3	1,000 mg/L: Ca	500 mL	N9300108
2% HNO_3	1,000 mg/L: Fe	500 mL	N9300126
2% HNO_3	1,000 mg/L: Mg	500 mL	N9300131
Internal Standard Set for Method 6010 & 200.7			**N9307105**
1 bottle each			
2% HNO_3	1,000 mg/L: Y	500 mL	N9300167
2% HNO_3	1,000 mg/L: Sc	500 mL	N9300148

Matrix	Contents	Vol.	Part No.
Interference Solutions for Method 6010			**N9307106**
1 bottle each			
2% HNO_3	1,000 mg/L: Al	125 mL	N9300184
2% HNO_3	1,000 mg/L: Ca	500 mL	N9300108
2% HNO_3	1,000 mg/L: Mg	125 mL	N9300179
2% HNO_3	1,000 mg/L: Fe	500 mL	N9300126
2% HNO_3	1,000 mg/L: K	500 mL	N9300141
2% HNO_3	1,000 mg/L: Na	500 mL	N9300152
2% HNO_3	1,000 mg/L: Cr	500 mL	N9300112
2% HNO_3	1,000 mg/L: Cu	500 mL	N9300114
2% HNO_3	1,000 mg/L: Mn	500 mL	N9300132
2% HNO_3	1,000 mg/L: Ni	500 mL	N9300136
H_2O/tr HF	1,000 mg/L: Ti	500 mL	N9300162
2% HNO_3	1,000 mg/L: V	500 mL	N9300165
5% HNO_3	5,000 mg/L: Al, Ca, Mg 2,000 mg/L: Fe	500 mL	N9300226
5% HNO_3/ tr Tart-HF	100 mg/L: Cd, Ni, Zn 60 mg/L: Sb 50 mg/L: Ba, Be, Co, Cr, Cu, Mn, V 20 mg/L: Ag 10 mg/L: As, Tl 5 mg/L: Pb, Se	125 mL	N9300227
5% HNO_3	1,000 mg/L: Cr, Cu, Mn, Ni, Ti, V	500 mL	N9300228
5% HNO_3/tr Tartaric Acid/ tr HF	100 mg/L: Al, As, B, Mo, Na, Sb, Se, Tl 10 mg/L: Ca, Fe, Mg, Si	125 mL	N9300229
Calibration Standards for Method 200.7			**N9307107**
5% HNO_3	5,000 mg/L: Ca, K, Mg, Na	125 mL	N9300218
5% HNO_3	400 mg/L: Ni 200 mg/L: Zn 150 mg/L: Mn 100 mg/L: Ag, Cr	125 mL	N9300219
5% HNO_3	2,000 mg/L: Al, Ba 1,000 mg/L: Fe 500 mg/L: Co, V 250 mg/L: Cu 50 mg/L: Be	125 mL	N9300220
5% HNO_3	100 mg/L: As, Tl 50 mg/L: Cd, Pb, Se	125 mL	N9300221
H_2O/tr HF	10 mg/L: B, Ge, Mo, Nb, P, Re, S, Si, Ta, Ti, W, Zr	125 mL	N9300235
2% HNO_3	1,000 mg/L: Li	500 mL	N9300129
2% HNO_3	1,000 mg/L: Sb	500 mL	N9300101
2% HNO_3	1,000 mg/L: Sr	500 mL	N9300153
20% HCl	1,000 mg/L: Sn	500 mL	N9300161
Interference Solutions for Method 200.7			**N9307108**
2% HNO_3	1,000 mg/L: Al	125 mL	N9300184
2% HNO_3	1,000 mg/L: Ca	500 mL	N9300108
2% HNO_3	1,000 mg/L: Mg	125 mL	N9300179
2% HNO_3	1,000 mg/L: Fe	500 mL	N9300126
2% HNO_3	1,000 mg/L: K	500 mL	N9300141
2% HNO_3	1,000 mg/L: Na	500 mL	N9300152
5% HNO_3	5,000 mg/L: Al, Ca, Mg 2,000 mg/L: Fe	500 mL	N9300226
5% HNO_3/tr Tart-HF	100 mg/L: Cd, Ni, Zn 60 mg/L: Sb	125 mL	N9300227

Environmental Method Sets *continued*

Matrix	Contents	Vol.	Part No.
	50 mg/L: Ba, Be, Co, Cr, Cu, Mn, V 20 mg/L: Ag 10 mg/L: As, Tl 5 mg/L: Pb, Se		
Environmental EPA Set 1			**N9307110**
2% HNO_3	500 mg/L: Pb 200 mg/L: Se 150 mg/L: Cd, Zn 100 mg/L: Mn 50 mg/L: Be	125 mL	N9300200
5% HNO_3	10,000 mg/L: Fe 100 mg/L: Ba, Co, Cu, V	125 mL	N9300201
2% HNO_3/tr HF	500 mg/L: As 100 mg/mL: Mo, Si	125 mL	N9300202
5% HNO_3	1,000 mg/L: Ca 400 mg/L: K 200 mg/L: Al, Na 20 mg/L: Cr, Ni	125 mL	N9300203
5% HNO_3/ tr Tart-HF	1,000 mg/L: Mg 200 mg/L: Sb, Tl 100 mg/L: B 50 mg/L: Ag	125 mL	N9300204
5% HNO_3	20,000 mg/L: K 1,000 mg/L: As, Pb, Tl 500 mg/L: Se 300 mg/L: Ag, Ba, Cd, Co, Cr, Cu, Ni, V, Zn 200 mg/L: Mn 100 mg/L: Be	125 mL	N9300205
5% HNO_3	100 mg/L: Hg	125 mL	N9300223
5% HNO_3	6,000 mg/L: Ca 5,000 mg/L: Fe 3,000 mg/L: Mgs 1,200 mg/L: Al 1,000 mg/L: Na	125 mL	N9300208
H_2O/tr HNO_3/ 0.6% Tartaric Acid	1,000 mg/L: Sb	125 mL	N9300207
5% HNO_3	ASTM® Type I Water	500 mL	N9307809
5% HCl	ASTM® Type I Water	500 mL	N9307810
Environmental EPA Set 2			**N9307109**
2% HNO_3	500 mg/L: Pb 200 mg/L: Se 150 mg/L: Cd, Zn 100 mg/L: Mn 50 mg/L: Be	125 mL	N9300200
5% HNO_3	10,000 mg/L: Fe 100 mg/L: Ba, Co, Cu, V	125 mL	N9300201
2% HNO_3/tr HF	500 mg/L: As 100 mg/L: Mo, Si	125 mL	N9300202
5% HNO_3	1,000 mg/L: Ca 400 mg/L: K 200 mg/L: Al, Na 20 mg/L: Cr, Ni	125 mL	N9300203
5% HNO_3 /tr Tart-HF	1,000 mg/L Mg 200 mg/L: Sb, Tl 100 mg/L: B 50 mg/L: Ag	125 mL	N9300204
5% HNO_3	20,000 mg/L: K 1,000 mg/L: As, Pb, Tl 500 mg/L: Se	125 mL	N9300205
	300 mg/L: Ag, Ba, Cd, Co, Cr, Cu, Ni, V, Zn 200 mg/L: Mn 100 mg/L: Be		
5% HNO_3	6,000 mg/L: Ca 5,000 mg/L: Fe 3,000 mg/L: Mg 1,200 mg/L: Al 1,000 mg/L Na	125 mL	N9300208
H2O/tr HNO_3/ 0.6% Tartaric Acid	1,000 mg/L: Sb	125 mL	N9300207
5% HNO_3	ASTM® Type I Water	500 mL	N9307809
5% HCl	ASTM® Type I Water	500 mL	N9307810

Water Pollutant Standards

Matrix	Contents	Vol.	Part No.
Primary Drinking Water Metals			
2% HNO_3	100 mg/L: Ba 10 mg/L: Ag, As, Cr, Hg*, Pb 5 mg/L: Cd, Se	125 mL	**N9300216**
Secondary Drinking Water Metals			
2% HNO_3	500 mg/L: Zn 100 mg/L: Cu 30 mg/L: Fe 5 mg/L: Mn	125 mL	**N9300217**
Trace Metals I			
5% HNO_3	500 mg/L: Al 250 mg/L: V 100 mg/L: As, Be, Co, Cr, Cu, Fe Mn, Ni, Pb, Zn 25 mg/L: Cd, Se 10 mg/L: Hg*	125 mL	**N9300211**
Trace Metals II			
2% HNO_3	20 mg/L: Sb, Tl 10 mg/L: Ag	125 mL	**N9300212**
Trace Metals III			
2% HNO_3	500 mg/L: Ba, Ca, Mo, Na 100 mg/L: K, Mg	125 mL	**N9300213**
Alternate Metals I			
2% HNO_3	20 mg/L: Al, Fe, V 10 mg/L: Co, Cu, Mn, Ni, Zn 5 mg/L: Be, Sb, Tl	125 mL	**N9300214**
Alternate Metals II			
2% HNO_3	500 mg/L: Ca, Na 100 mg/L: K, Mg	125 mL	**N9300215**
2% HNO_3	500 mg/L: Ca, Na 100 mg/L: K, Mg	500 mL	**N9303952**

Toxicity Characteristic Leachate Procedure (TCLP) Standard

Matrix	Contents	Vol.	Part No.
TCLP Standard 1			
2% HNO_3	500 mg/L: Ba 25 mg/L: Ag, As, Cr, Pb 100 mg/L: Hg* 5 mg/L: Cd, Se	500 mL	**N9300241**

**Supplied in separate bottle.*

PHARMACEUTICAL ANALYSIS STANDARDS

USP Standards

As a part of our United States Pharmacopeia (USP) compliant offering, we provide calibration and check standards for the analysis of metals in drugs, pharmaceutical substances and raw materials to verify Oral Daily Dose PDE, Parenteral Component Limit and Parenteral Daily Dose PDE.

Our trace metal USP standards can be used to calibrate Arsenic, Cadmium, Lead and Mercury, the four toxic metals as part of the USP regulations. When you couple our accurate and reliable USP standards with your ICP-MS you will remain compliant with the new and changing regulations.

ICH Standards

In conjunction with our United States Pharmacopeia (USP) calibration standards, we offer six calibration standards for the analysis of metals in pharmaceutical materials and products following the International Conference on Harmonization (ICH) guidelines.

The ICH standards verify Elemental Impurities, Precious Metals Impurities and Parenteral Elemental Impurities. Couple our accurate and reliable ICH standards with your ICP-MS and you will remain compliant with the new and changing regulations.

USP and ICH Standards

Description	Matrix	Contents	Volume	Part No.
USP Oral Elemental Impurities A (Big 4)	5% HNO_3	25 mg/kg: Cd, 15 mg/kg Hg, 5 mg/kg Pb, 1.5 mg/kg As	125 mL	**N9304150**
USP Precious Metal Impurities B (with Os)	15% HCl	100 mg/kg: Ir, Pd, Pt, Rh, Ru, Os	125 mL	**N9304151**
USP Precious Metals Impurities B	15% HCl	100 mg/kg: Ir, Pd, Pt, Rh, Ru	125 mL	**N9304152**
USP Oral /Parenteral Elemental Impurities C	5% HNO_3	1000 mg/kg: Cu, 500 mg/kg Ni, 100 mg/kg Mo, V	125 mL	**N9304153**
USP Parenteral Elemental Impurities D (Big 4)	5% HNO_3	5 mg/kg: Pb, 2.5 mg/kg Cd, 1.5 mg/kg As, Hg	125 mL	**N9304154**
USP Dietary Supplement Metal Impurities	5% HNO_3	15 mg/kg: As, 5 mg/kg Pb, 2.5 mg/kg Cd, 1.5 mg/kg Hg	125 mL	**N8145322**
USP Inhalation Metal Impurities A	5% HNO_3	1.5 mg/kg: As, Cd, Hg, 5 mg/kg Pb,	125 mL	**N8145323**
USP Inhalation Metal Impurities B	5% HNO_3	250 mg/kg: Mo, 70 mg/kg Cu, 30 mg/kg V, 25 mg/kg Cr, 1.5 mg/kg Ni	125 mL	**N8145324**
ICH Oral Elemental Impurities A (Big 4)	5% HNO_3	25 mg/kg: Cd, 15 mg/kg Hg, 5 mg/kg Pb, 1.5 mg/kg As	125 mL	**N9304155**
ICH Precious Metal Impurities B (with Os)	15% HCl	100 mg/kg: Ir, Pd, Pt, Rh, Ru, Os	125 mL	**N9304156**
ICH Precious Metals Impurities B	15% HCl	100 mg/kg: Ir, Pd, Pt, Rh, Ru	125 mL	**N9304157**
ICH Parenteral Elemental Impurities D (Big 4)	5% HNO_3	5 mg/kg: Pb, 2.5 mg/kg Cd, 1.5 mg/kg As, Hg	125 mL	**N9304158**
Global/ICH Elemental Impurities E	5% HNO_3	2500 mg/kg: Mn, 1000 mg/kg Cu, 250 mg/kg Cr, Ni 100 mg/kg Co, Mo, V	125 mL	**N9304159**
Global/ICH Elemental Impurities F	5% HNO_3	13,000 mg/kg: Fe, Zn	125 mL	**N9304160**

INSTRUMENT SET-UP AND CALIBRATION STANDARDS

From instrument installation to instrument calibration, we provide quality set-up, check and calibration standards to ensure instrument performance.

Instrument Calibration Standards

Matrix	Contents	Vol.	Part No.
Instrument Calibration Standard 1			
5% HNO_3 /tr Tartaric Acid	20 mg/L: Ag, Al, As, Ba, Be, Cd, Co, Cr, Cu, Mn, Mo, Ni, Pb, Sb, Se, Th, Tl, U, V, Zn	125 mL	**N9303816**
Instrument Calibration Standard 2			
5% HNO_3/ tr Tartaric Acid/ tr HF	100 mg/L: Ag, Al, As, Ba, Be, Ca, Cd, Co, Cr, Cu, Fe, K, Mg, Mn, Mo, Na, Ni, Pb, Sb, Se, Sn, Sr, Ti, Tl, V, Zn	125 mL	**N9301721**
Instrument Calibration Standard 3			
5% HNO_3	1,000 mg/L: Ca, Fe, K, Mg, Na	125 mL	**N9303818**
Initial Calibration Verification Standard 1			
5% HNO_3/tr Tartaric Acid	1,000 mg/L: Ca, Fe, K, Mg, Na, Sr 10 mg/L: Ag, Al, As, Ba, Be, Cd, Co, Cr, Cu, Mn, Mo, Ni, Pb, Sb, Se, Tl, V, Zn, Th, U	125 mL	**N9303825**
Initial Calibration Verification Standard 2			
2% HNO_3/tr HF	10 mg/L: Sn, Ti	125 mL	**N9303826**
ELAN® 6100 DRC Setup/Stab/Masscal Solution			
0.5% HNO_3	10 µg/L: Ba 1 µg/L: Al, Cd, Ce, Cr, Cu, In, Pb, Mg, Mn, Rh, Th	1,000 mL	**N8125035**
ELAN DRC/DRCplus/DRC II Solution Kit			**N8120541**
Solution Kit (Includes items listed below)			
	2 x 1,000 mL: Setup/Stability/Masscal Solution		N8125035
	2 x 250 mL: Wash Solution		N8125033
	1 x 250 mL: Sensitivity/Detection Limit Solution		N8125034
	1 x 125 mL: Methanol Blank Solution		N8125037
	1 x 125 mL: Chromium in Methanol Solution		N8125038
ELAN 9000/6100 Solution Kit			**N8120522**
	2 x 1,000 mL: Setup/Stability/ Masscal Solution		N8125030
	1 x 125 mL: Dual-Detector		N8125010
	1 x 1,000 mL: Wash Solution		N8122038
	1 x 250 mL: Detection Limit Solution		N8125031

Matrix	Contents	Vol.	Part No.
ELAN 9000/6100 Setup/Stability/Masscal Solution			
1% HNO_3	10 µg/L: Ba, Cd, Ce, Cu, In, Pb, Mg, Rh, U	1,000 mL	**N8125030**
ELAN 9000/6x00 Dual-Detector Calibration Solution			
1% HNO_3	200 µg/L: Cd, Cu, Pb, Mg, Rh	125 mL	**N8125032**
ELAN 6000/5000 Plasma Setup Solution			
2% HNO_3	10 µg/L: Ba, Cd, Ce, Cu, Ge, Pb, Mg, Rh, Sc, Tb, Tl	1,000 mL	**N8122014**
ELAN 5000 Detection Limit Solution			
2% HNO_3	10 µg/L: Be, Co, Ge, In, Tl, U	125 mL	**N8122017**

SmartTune Standards

Matrix	Contents	Vol.	Part No.
SmartTune Solution for Standard ELANs/DRC-e			
1% HNO_3	10 µg/L: Ba, Be, Ce, Co, In, Pb, Mg, Rh, U	1,000 mL	**N8125040**
SmartTune Solution for DRC/DRCplus/DRC II			
0.5% HNO_3	10 µg/L: Ba 1 µg/L: Be, Ce, Co, In, Fe, Pb, Mg, Th, U	1,000 mL	**N8125041**
Tuning Solution 1			
2% HNO_3/ 5% HCl	10 mg/L: Ba, Be, Ce, Co, In, Li, Mg, Pb, Rh, Tl, U, Y	125 mL	**N9303843**
NexION Setup Solution			
1% HNO_3	1 µg/L: Be, Ce, Fe, In, Li, Mg, Pb, U	500 mL	**N8145051**
1% HNO_3	10 µg/L: Be, Ce, Fe, In, Li, Mg, Pb, U	500 mL	**N8145284**

Instrument Setup Solutions

Matrix	Contents	Vol.	Part No.
Vis Wavecal Solution			
2% HNO_3	50 mg/L: K 10 mg/L: La, Li, Mn, Na, Sr 1 mg/L: Ba, Ca	250 mL	**N9302946**
UV Wavecal Solution			
5% HCl	100 mg/L: K, P, S	250 mL	**N0681470**
	20 mg/L: As, La, Li, Mn, Mo, Na, Mo, Na, Ni, Sc		
5% HCl	100 mg/L: K, P, S	500 mL	**N0582152**
	20 mg/L: As, La, Li, Mn, Mo, Na, Ni, Sc 1 mg/L: Ca		
Low UV Standard			
2% HNO_3	10 mg/L: Al, P, S	250 mL	**N0691580**
Calcium Stray Light Standard			
H_2O	10,000 mg/L: Ca	125 mL	**N0691581**
1% HNO_3	10 µg/L: Be, Ce, Fe, In, Li, Mg, Pb, U	500 mL	**N8145284**

Initial Calibration Verification Standards

Matrix	Contents	Vol.	Part No.
5% HNO_3/ tr Tartaric Acid	500 mg/L: Ca, K, Mg, Na 200 mg/L: Al, Ba 100 mg/L: Fe 60 mg/L: Sb 50 mg/L: Co, V 40 mg/L: Ni 25 mg/L: Cu 20 mg/L: Zn 15 mg/L: Mn 10 mg/L: Ag, As, Cr, Tl 5 mg/L: Be, Cd, Se 3 mg/L: Pb	500 mL	**N9300224**
5% HNO_3/ tr Tartaric Acid	500 mg/L: Ca, K, Mg, Na 200 mg/L: Al, Ba 100 mg/L: Fe 60 mg/L: Sb 50 mg/L: Co, V 40 mg/L: Ni 25 mg/L: Cu 20 mg/L: Zn 15 mg/L: Mn 10 mg/L: Ag, As, Cr, Tl 5 mg/L: Be, Cd, Se 3 mg/L: Pb	125 mL	**N9303953**

Instrument Calibration Standards for CLP

Matrix	Contents	Vol.	Part No.
Instrument Calibration Standard 1			
5% HNO_3	5,000 mg/L: Ca, K, Mg, Na	125 mL	**N9300218**
Instrument Calibration Standard 2			
5% HNO_3	400 mg/L: Ni 200 mg/L: Zn 150 mg/L: Mn 100 mg/L: Ag, Cr	125 mL	**N9300219**
Instrument Calibration Standard 3			
5% HNO_3	2,000 mg/L: Al, Ba 1,000 mg/L: Fe 500 mg/L: Co, V 250 mg/L: Cu 50 mg/L: Be	125 mL	**N9300220**
Instrument Calibration Standard 4			
5% HNO_3	100 mg/L: As, Tl 50 mg/L: Cd, Se 30 mg/L: Pb	125 mL	**N9300221**

Instrument Check Standards

Matrix	Contents	Vol.	Part No.
Instrument Check Standard 1			
2% HNO_3/ tr Tartaric Acid/ tr HF	10 mg/L: Ag, Al, As, Ba, Be, Cd, Co, Cr, Cu, Mn, Ni, Pb, Sb, Se, Tl, V, Zn	125 mL	**N9303821**
Instrument Check Standard 3			
2% HNO_3	200 mg/L: Ca, Fe, K, Mg, Na	125 mL	**N9303822**
Instrument Check Standard 4			
2% HNO_3	10 mg/L: Mo, Th, U	125 mL	**N9303823**
Instrument Check Standard 5			
2% HNO_3/tr HF	10 mg/L: Mo, Sn, Sr, Ti	125 mL	**N9303824**

Interference Check Standards

Matrix	Contents	Vol.	Part No.
Interference Check Standard 1			
H_2O/tr HNO_3/ 0.6% Tartaric Acid	1,000 mg/L: Sb	125 mL	**N9300207**
Interference Check Standard 5			
5% HNO_3	6,000 mg/L: Ca 5,000 mg/L: Fe 3,000 mg/L: Mg 1,200 mg/L: Al 1,000 mg/L: Na	125 mL	**N9300208**
Interference Check Standard 18			
5% HNO_3	20,000 mg/L: K 1,000 mg/L: As, Pb, Tl 500 mg/L: Se 300 mg/L: Ag, Ba, Cd, Co, Cr, Cu, Ni, V, Zn 200 mg/L: Mn 100 mg/L: Be, Hg*	125 mL	**N9300205**
Interferents A			
5% HNO_3	5,000 mg/L: Al, Ca, Mg 2,000 mg/L: Fe	500 mL	**N9300226**
Alternate Interferents A			
5% HNO_3	1,000 mg/L: Cr, Cu, Mn, Ni, Ti, V	500 mL	**N9300228**
Analytes B			
5% HNO_3/ tr Tartaric Acid/ tr HF	100 mg/L: Cd, Ni, Zn 60 mg/L: Sb 50 mg/L: Ba, Be, Co, Cr, Cu, Mn, V 20 mg/L: Ag 10 mg/L: As, Tl 5 mg/L: Pb, Se	125 mL	**N9300227**
Alternate Analytes B			
5% HNO_3/ tr Tartaric Acid /tr HF	100 mg/L: Al, As, B, Mo, Na, Sb, Se, Tl 10 mg/L: Ca, Fe, Mg, Si	125 mL	**N9300229**
Interference Check Standards			
H_2O/tr HNO_3/ 0.6% Tartaric Acid	1,000 mg/L: Sb	500 mL	**N9303797**
Interference Check Solution 1 (for SW-846 & ILM 05.2)			
5% HNO_3/tr HF	10,000 mg/L: Cl 2,000 mg/L: C 1,000 mg/L: Al, Ca, Fe, K, Mg, Na, P, S 20 mg/L: Mo, Ti	125 mL	**N9303828**
Interference Check Solution 2 (for SW-846)			
2% HNO_3	10 mg/L: Ag, As, Cd, Co, Cr, Cu, Mn, Ni, Zn	125 mL	**N9303830**
Analytes C (for ILM 05.2)			
2% HNO_3/ tr Tartaric Acid/ tr HF	2 mg/L: Ag, As, Ba, Be, Cd, Co, Cr, Cu, Hg*, Mn, Ni, Pb, Sb, Se, Tl, V, Zn	125 mL	**N9303831**

**Supplied in separate bottle.*

Internal Standard Solutions

Matrix	Contents	Vol.	Part No.
Multi-Element Internal Standard			
2% HNO_3	10 mg/L: Bi, Ho, In, Li6, Sc, Tb, Y	125 mL	**N9303834**
Internal Standard Mix			
5-10% HNO_3	10 mg/L: Bi, Ge, In, Li6, Sc, Tb, Y	125 mL	**N9303832**
Internal Standard Mix			
5-10% HNO_3	10 mg/L: Bi, Ge, In, Li6, Sc, Tb, Y	500 mL	**N9303833**

Contract Required Detection Limits (CRDL)

Matrix	Contents	Vol.	Part No.
5% HNO_3/ tr Tartaric Acid /tr HF	120 mg/L: Sb 100 mg/L: Co, V 80 mg/L: Ni 50 mg/L: Cu 40 mg/L: Zn 30 mg/L: Mn 20 mg/L: Ag, As, Cr, Tl 10 mg/L: Be, Cd, Se 6 mg/L: Pb	125 mL	**N9300225**

Performance Verification Standards

Matrix	Contents	Vol.	Part No.
Methanol Blank Solution			
1% Semiconductor Grade		125 mL	**N8125037**
Chromium in Methanol Solution			
1% Semiconductor Grade Methanol	10 mg/L: Cr	125 mL	**N8125038**
Selenium Solution			
5% HNO_3	10 mg/L: Se	250 mL	**N8125039**
NexION® 300Q Solution Kit – Non-Cell			**N8140503**
Solution Kit (Includes items listed below)			
1% HNO_3	1 x 250 mL NexION Wash Solution		N8145050
	1 X 500 mL NexION Setup Solution		N8145051
	1 X 500 mL NexION 300Q Non-cell Stability Solution		N8145053
	1 x 100 mL NexION Standard/ DRC Mode Detection Limit Blank Solution		N8145055
	1 X 100 mL NexION Standard/ DRC Mode Detection Limit Solution		N8145056
	1 x 100 mL NexION Dual Detector Solution		N8145059
NexION 300 X/D/S Solution Kit – Cell Instruments			**N8140504**
Solution Kit (Includes items listed below)			
	1 x 250 mL NexION Wash Solution		N8145050
	1 X 500 mL NexION Setup Solution		N8145051
	1 x 250 mL NexION KED Setup Solution		N8145052
	1 x 500 mL NexION 300X/D/S Cell Stability Solution		N8145054

Performance Verification Standards *continued*

Matrix	Contents	Vol.	Part No.
	1 x 100 mL NexION Standard/ DRC Mode Detection Limit Blank Solution		N8145055
	1 x 100 mL NexION Standard/ DRC Mode Detection Limit Solution		N8145056
	1 x 100 mL NexION KED Mode Detection Limit Blank Solution		N8145057
	1 x 100 mL NexION KED Mode Detection Limit Solution		N8145058
	1 x 100 mL NexION Dual Detector Solution		N8145059
NexION Setup Solution			
1% HNO_3	1 µg/L: Be, Ce, Fe, In, Li, Mg, Pb, U	500 mL	**N8145051**
1% HNO_3	10 µg/L: Be, Ce, Fe, In, Li, Mg, Pb, U	500 mL	**N8145284**
NexION KED Setup Solution			
1% HNO_3	10 mg/L: Be, Ce, Fe, In, Li, Mg, Pb, U	500 mL	**N8145289**
1% HCl	10 µg/L: Co 1 µg/L: Ce	250 mL	**N8145052**
NexION 300Q Non-cell Stability Solution			
1% HNO_3	1 µg/L: Cd, Cu, Mg, Pb	500 mL	**N8145053**
NexION 300X/D/S Cell Stability Solution			
1% HNO_3	1 µg/L: Cd, Cr, Fe, In, Mg, Pb 10 µg/L: Co, Cu, Se	500 mL	**N8145054**
NexION 300X/D Internal Standard Stock Solution			
2% HNO_3	100 mg/L: Sc 50 mg/L: Ge 1 mg/L: Rh, In, Tb	125 mL	**N9308592**
NexION 300Q Internal Standard Stock Solution			
2% HNO_3	50 mg/L: Sc, Ge 10 mg/L: Rh, In, Tb	125mL	**N9308591**
NexION Standard/DRC Mode Detection Limit Blank Solution			
0.5% HNO_3		100 mL	**N8145055**
NexION Standard/DRC Mode Detection Limit Solution			
0.5% HNO_3	1 µg/L: Be, Ca, Co, Fe, In, U	100 mL	**N8145056**
NexION KED Mode Detection Limit Blank Solution			
1% HCl		100 mL	**N8145057**
NexION KED Mode Detection Limit Solution			
1% HCl	10 µg/L: V, As, Se	100 mL	**N8145058**
NexION Dual Detector Solution			
2% HNO_3	200 µg/L: Al, Ba, Ce, Co, ,Cu In, Li, Mg, Mn, Ni, Pb, Tb, U, Zn	100 mL	**N8145059**
NexION AFT Single-Element Solution			
2% HNO_3	2 µg/L: Fe	100 mL	**N8145060**
NexION AFT Multi-Element Solution			
2% HNO_3	2 µg/L: Ag, Al, As, Ba, Be, Bi, Be, Bi, Ca, Cd, Co, Cr, Cs, Cu, Fe, Ga, In, K, Li, Mg, Mn, Na, Ni, Pb, Rb, Se, Sr, Tl, U, V, Zn	100 mL	**N8145061**

UNIVERSAL DATA ACQUISITION STANDARDS

UNIVERSAL DATA ACQUISITION STANDARDS KIT

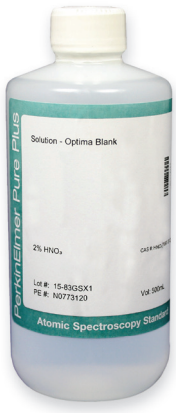
Our Universal Data Acquisition Standards Kit includes 5 standards solutions in bottles of 125 mL.

Universal Data Acquisition Standards Kit

Matrix	Contents	Vol.	Part No.
Solution Kit (Includes items listed below)			**N9306225**
5% HNO_3	10 mg/L: Ce, Dy, Er, Eu, Gd, Ho, La, Lu, Nd, Pr, Sm, Sc, Tb, Th, Tm, Y, Yb	125 mL	N9300232
5% HNO_3	10 mg/L: Al, Ag, As, Ba, Be, Bi, Ca, Cd, Co, Cr, Cs, Cu, Fe, Ga, Hg*, In, K, Li, Mg, Mn, Na, Ni, Pb, Rb, Se, Sr, Tl, U, V, Zn	125 mL	N9300233
10% HCl/ 1% HNO_3	10 mg/L: Au, Hf, Ir, Pd, Pt, Rh, Ru, Sb, Sn, Te	125 mL	N9300234
5% HNO_3	10 mg/L: Hg	125 mL	N9300253
H_2O/tr HF/ tr HNO_3	10 mg/L: B, Ge, Mo, Nb, P, Re, S, Si, Ta, Ti, W, Zr	125 mL	N9300235

**Supplied in separate bottle.*

MATRIX BLANKS AND WASH STANDARDS



MATRIX BLANKS AND WASH STANDARDS

We offer wash standards and matrix blanks for your application needs.

Wash Standards

Matrix	Vol.	Part No.
ELAN DRC Wash Solution		
0.5% HNO_3	250 mL	**N8125033**
ELAN 9000/6X00/DRC-e Wash Solution		
1% HNO_3	1,000 mL	**N8122038**
NexION Wash Solution		
1% HNO_3	250 mL	**N8145050**

Matrix Blanks

Matrix	Vol.	Part No.
Water Blank		
ASTM® Type I Water, 18 megohm	125 mL	**N9303814**
ASTM® Type I Water, 18 megohm	250 mL	**N9303813**
Hydrochloric Acid Blanks		
2% HCl in ASTM® Type I Water	125 mL	**N9300238**
5% HNO_3 in ASTM® Type I Water	500 mL	**N9308571**
Nitric Acid Blanks		
1% HNO_3 in ASTM® Type I Water	125 mL	**N9303732**
2% HNO_3 in ASTM® Type I Water	125 mL	**N0773120**
2% HNO_3 in ASTM® Type I Water	500 mL	**N9308550**
5% HNO_3 in ASTM® Type I Water	500 mL	**N9308571**

ISOTOPE STANDARD

The PerkinElmer ICP and ICP-MS isotope standard comes in a 125 mL bottle and is supplied with a comprehensive Certificate of Analysis.

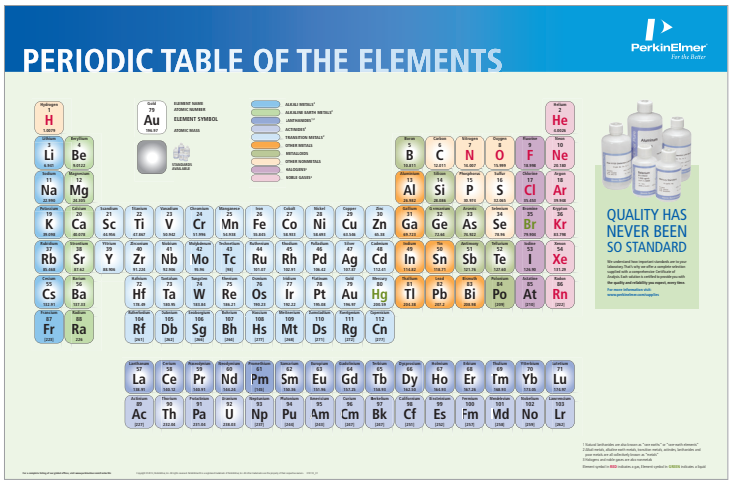
Isotope Standard

Matrix	Contents	Vol.	Part No.
Lithium 6 Standard			
2% HNO_3	100 mg/L: Li6	125 mL	**N9303955**

Order your FREE PerkinElmer Pure Standards Periodic Table Poster

Our standards periodic table poster is a great addition to any lab. Aside from its modern design, we provide you with more than just a table of elements. In order to make a better periodic table, we highlighted all the elements for which we offer standards for, increasing the functionality and utility of the poster.

Go to www.perkinelmer.com/periodic and fill out the form to receive your standards periodic table poster.



METALLO-ORGANIC STANDARDS

PerkinElmer Metallo-Organic Standards provide a comprehensive solution to your application needs.

Our product offering includes:

- Single and multi-element standards for the analysis of wear metals and metal additives in oil
- Reference materials for used oil analysis of fuel, soot, water, acid number, base number, or viscosity
- Sulfur standards made from polysulfide oil
- High purity matrix oils and solvents
- Proficiency testing standards with instant feedback

Each product is shipped with a comprehensive Certificate of Analysis. Our Metallo-Organic Standards have been designed to give you the confidence you need when analyzing difficult samples.

Single-Element, Metallo-Organic Standards

Element Name	Symbol	Matrix	Size	Part No.
Aluminum 1000 µg/g	Al	hydrocarbon oil	50 g	**N9308200**
Antimony 1000 µg/g	Sb	hydrocarbon oil	50 g	**N9308201**
Arsenic 1000 µg/g	As	hydrocarbon oil	50 g	**N9308202**
Barium 1000 µg/g	Ba	hydrocarbon oil	50 g	**N9308203**
Beryllium 1000 µg/g	Be	hydrocarbon oil	50 g	**N9308204**
Bismuth 1000 µg/g	Bi	hydrocarbon oil	50 g	**N9308205**
Boron 1000 µg/g	B	hydrocarbon oil	50 g	**N9308206**
Cadmium 1000 µg/g	Cd	hydrocarbon oil	50 g	**N9308207**
Calcium 1000 µg/g	Ca	hydrocarbon oil	50 g	**N9308208**
Calcium 5000 µg/g	Ca	hydrocarbon oil	50 g	**N9308322**
Chromium 1000 µg/g	Cr	hydrocarbon oil	50 g	**N9308209**
Cobalt 1000 µg/g	Co	hydrocarbon oil	50 g	**N9308210**
Copper 1000 µg/g	Cu	hydrocarbon oil	50 g	**N9308211**
Iron 1000 µg/g	Fe	hydrocarbon oil	50 g	**N9308212**
Lanthanum 1000 µg/g	La	hydrocarbon oil	50 g	**N9308213**
Lead 1000 µg/g	Pb	hydrocarbon oil	50 g	**N9308214**
Lithium 1000 µg/g	Li	hydrocarbon oil	50 g	**N9308215**
Magnesium 1000 µg/g	Mg	hydrocarbon oil	50 g	**N9308216**
Manganese 1000 µg/g	Mn	hydrocarbon oil	50 g	**N9308217**
Mercury 1000 µg/g	Hg	hydrocarbon oil	50 g	**N9308218**
Molybdenum 1000 µg/g	Mo	hydrocarbon oil	50 g	**N9308219**

Element Name	Symbol	Matrix	Size	Part No.
Nickel 1000 µg/g	Ni	hydrocarbon oil	50 g	**N9308220**
Phosphorus 1000 µg/g	P	hydrocarbon oil	50 g	**N9308221**
Potassium 1000 µg/g	K	hydrocarbon oil	50 g	**N9308222**
Scandium 1000 µg/g	Sc	hydrocarbon oil	10 g	**N9308255**
Scandium 1000 µg/g	Sc	hydrocarbon oil	50 g	**N9308223**
Selenium 1000 µg/g	Se	hydrocarbon oil	50 g	**N9308224**
Silicon 1000 µg/g	Si	hydrocarbon oil	50 g	**N9308225**
Silver 1000 µg/g	Ag	hydrocarbon oil	50 g	**N9308226**
Sodium 1000 µg/g	Na	hydrocarbon oil	50 g	**N9308227**
Strontium 1000 µg/g	Sr	hydrocarbon oil	50 g	**N9308228**
Sulfur 10 µg/g	S	hydrocarbon oil	50 g	**N9308229**
Sulfur 100 µg/g	S	hydrocarbon oil	50 g	**N9308230**
Sulfur 1000 µg/g	S	hydrocarbon oil	50 g	**N9308231**
Thallium 1000 µg/g	Tl	hydrocarbon oil	50 g	**N9308232**
Tin 1000 µg/g	Sn	hydrocarbon oil	50 g	**N9308233**
Titanium 1000 µg/g	Ti	hydrocarbon oil	50 g	**N9308234**
Vanadium 1000 µg/g	V	hydrocarbon oil	50 g	**N9308235**
Yttrium 1000 µg/g	Y	hydrocarbon oil	50 g	**N9308236**
Yttrium 5000 µg/g	Y	hydrocarbon oil	50 g	**N9308323**
Zinc 1000 µg/g	Zn	hydrocarbon oil	50 g	**N9308237**
Zirconium 1000 µg/g	Zr	hydrocarbon oil	50 g	**N9308238**

Lubricant's Guide

For more information on our Lubricants consumables offering visit www.PerkinElmer.com/lubricants. You'll find everything from application notes to a comprehensive guide of consumables for all your Lubricants analysis needs.

V-21 Wear Metal Standards

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

Description	Matrix	Size	Part No.
V-21 Wear Metals Standard 10 µg/g	hydrocarbon oil	100 g	**N9308300**
V-21 Wear Metals Standard 10 µg/g	hydrocarbon oil	200 g	**N9308301**
V-21 Wear Metals Standard 10 µg/g	hydrocarbon oil	400 g	**N9308324**
V-21 Wear Metals Standard 30 µg/g	hydrocarbon oil	100 g	**N9308302**
V-21 Wear Metals Standard 30 µg/g	hydrocarbon oil	200 g	**N9308303**
V-21 Wear Metals Standard 30 µg/g	hydrocarbon oil	400 g	**N9308325**
V-21 Wear Metals Standard 50 µg/g	hydrocarbon oil	100 g	**N9308304**
V-21 Wear Metals Standard 50 µg/g	hydrocarbon oil	200 g	**N9308305**
V-21 Wear Metals Standard 50 µg/g	hydrocarbon oil	400 g	**N9308326**
V-21 Wear Metals Standard 100 µg/g	hydrocarbon oil	100 g	**N9308306**
V-21 Wear Metals Standard 100 µg/g	hydrocarbon oil	200 g	**N9308307**
V-21 Wear Metals Standard 100 µg/g	hydrocarbon oil	400 g	**N9308327**
V-21 Wear Metals Standard 300 µg/g	hydrocarbon oil	100 g	**N9308308**
V-21 Wear Metals Standard 300 µg/g	hydrocarbon oil	200 g	**N9308309**
V-21 Wear Metals Standard 300 µg/g	hydrocarbon oil	400 g	**N9308328**
V-21 Wear Metals Standard 500 µg/g	hydrocarbon oil	100 g	**N9308310**
V-21 Wear Metals Standard 500 µg/g	hydrocarbon oil	200 g	**N9308311**
V-21 Wear Metals Standard 500 µg/g	hydrocarbon oil	400 g	**N9308329**
V-21 Wear Metals Standard 900 µg/g	hydrocarbon oil	100 g	**N9308312**
V-21 Wear Metals Standard 900 µg/g	hydrocarbon oil	200 g	**N9308313**
V-21 Wear Metals Standard 900 µg/g	hydrocarbon oil	400 g	**N9308330**

V-21+K Wear Metal Standards

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

Description	Matrix	Size	Part No.
V-21+K Wear Metals Standard 10 µg/g	hydrocarbon oil	100 g	**N9308355**
V-21+K Wear Metals Standard 10 µg/g	hydrocarbon oil	200 g	**N9308356**
V-21+K Wear Metals Standard 30 µg/g	hydrocarbon oil	100 g	**N9308357**
V-21+K Wear Metals Standard 30 µg/g	hydrocarbon oil	200 g	**N9308358**
V-21+K Wear Metals Standard 30 µg/g	hydrocarbon oil	400 g	**N9308371**
V-21+K Wear Metals Standard 50 µg/g	hydrocarbon oil	100 g	**N9308359**
V-21+K Wear Metals Standard 50 µg/g	hydrocarbon oil	200 g	**N9308360**
V-21+K Wear Metals Standard 50 µg/g	hydrocarbon oil	400 g	**N9308372**
V-21+K Wear Metals Standard 100 µg/g	hydrocarbon oil	100 g	**N9308361**
V-21+K Wear Metals Standard 100 µg/g	hydrocarbon oil	200 g	**N9308362**
V-21+K Wear Metals Standard 100 µg/g	hydrocarbon oil	400 g	**N9308373**
V-21+K Wear Metals Standard 300 µg/g	hydrocarbon oil	100 g	**N9308363**
V-21+K Wear Metals Standard 300 µg/g	hydrocarbon oil	200 g	**N9308364**
V-21+K Wear Metals Standard 500 µg/g	hydrocarbon oil	100 g	**N9308365**
V-21+K Wear Metals Standard 500 µg/g	hydrocarbon oil	200 g	**N9308366**
V-21+K Wear Metals Standard 500 µg/g	hydrocarbon oil	400 g	**N9308374**
V-21+K Wear Metals Standard 900 µg/g	hydrocarbon oil	100 g	**N9308367**
V-21+K Wear Metals Standard 900 µg/g	hydrocarbon oil	200 g	**N9308368**

Metal Additive

V-Solv™ ICP Solvent 1 Gallon

V-Solv™ ICP Solvent 5 Gallon

V-23 Wear Metal Standards

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

Description	Matrix	Size	Part No.
V-23 Wear Metals Standard 10 µg/g	hydrocarbon oil	100 g	**N9308239**
V-23 Wear Metals Standard 10 µg/g	hydrocarbon oil	200 g	**N0776109**
V-23 Wear Metals Standard 10 µg/g	hydrocarbon oil	400 g	**N9308315**
V-23 Wear Metals Standard 30 µg/g	hydrocarbon oil	100 g	**N9308241**
V-23 Wear Metals Standard 30 µg/g	hydrocarbon oil	200 g	**N9308242**
V-23 Wear Metals Standard 30 µg/g	hydrocarbon oil	400 g	**N9308316**
V-23 Wear Metals Standard 50 µg/g	hydrocarbon oil	100 g	**N9308243**
V-23 Wear Metals Standard 50 µg/g	hydrocarbon oil	200 g	**N0776104**
V-23 Wear Metals Standard 50 µg/g	hydrocarbon oil	400 g	**N9308317**
V-23 Wear Metals Standard 100 µg/g	hydrocarbon oil	100 g	**N9308245**
V-23 Wear Metals Standard 100 µg/g	hydrocarbon oil	200 g	**N0776105**
V-23 Wear Metals Standard 100 µg/g	hydrocarbon oil	400 g	**N9308318**
V-23 Wear Metals Standard 300 µg/g	hydrocarbon oil	100 g	**N9308247**
V-23 Wear Metals Standard 300 µg/g	hydrocarbon oil	200 g	**N9308248**
V-23 Wear Metals Standard 300 µg/g	hydrocarbon oil	400 g	**N9308319**
V-23 Wear Metals Standard 500 µg/g	hydrocarbon oil	100 g	**N9308249**
V-23 Wear Metals Standard 500 µg/g	hydrocarbon oil	200 g	**N0776106**
V-23 Wear Metals Standard 500 µg/g	hydrocarbon oil	400 g	**N9308320**
V-23 Wear Metals Standard 900 µg/g	hydrocarbon oil	100 g	**N9308251**
V-23 Wear Metals Standard 900 µg/g	hydrocarbon oil	200 g	**N9308252**
V-23 Wear Metals Standard 900 µg/g	hydrocarbon oil	400 g	**N9308321**

Internal Standards

Description	Matrix	Size	Part No.
Cobalt (Co) Internal Standard, 6%	mineral spirits	200 g	**N0776107**
Cobalt (Co) Internal Standard, 6%	mineral spirits	400 g	**N9308334**
Cobalt (Co) Internal Standard, 5000 µg/g	hydrocarbon oil	50 g	**N9308258**
Cobalt Sulfur-Free Metallo-Organic Concentrate: Co @ approx 3%	hydrocarbon oil	400 g	**N9304168**

Metal Additive Standards

Description	Matrix	Size	Part No.
Metal Additive Standard 3: Ca @ 5000 µg/g; P, Zn @ 1600 µg/g	hydrocarbon oil	100 g	**N9308369**
Metal Additive Standard 3: Ca @ 5000 µg/g; P, Zn @ 1600 µg/g	hydrocarbon oil	200 g	**N9308370**
Metal Additive Standard 3: Ca @ 5000 µg/g; P, Zn @ 1600 µg/g	hydrocarbon oil	400 g	**N9308552**
Metal Additive Standard 4: Ca @ 5000 µg/g; Mg, P, Zn @ 1600 µg/g	hydrocarbon oil	100 g	**N9308259**
Metal Additive Standard 4: Ca @ 5000 µg/g; Mg, P, Zn @ 1600 µg/g	hydrocarbon oil	200 g	**N0776108**
Metal Additive Standard 4: Ca @ 5000 µg/g; Mg, P, Zn @ 1600 µg/g	hydrocarbon oil	400 g	**N9308333**

Matrix Oils and Solvents

Description	Matrix	Size	Part No.
Hydrocarbon Oil	75 cSt oil	500 mL	**N0776103**
Hydrocarbon Oil	75 cSt oil	1 Gal.	**N9308262**
Mineral Oil (low sulfur)	20 cSt mineral oil	500 mL	**N9308263**
Mineral Oil (low sulfur)	20 cSt mineral oil	1/2 Gal.	**N9308264**
V-Solv™ ICP Solvent	V-Solv™	1 Gal.	**N9308265**
V-Solv™ ICP Solvent	V-Solv™	5 Gal.	**N9308378**

V-Solv™ ICP Solvent is a proprietary solvent that is used for diluting oil and other organic liquids for analysis by ICP and ICP-MS. Use V-Solv™ as a matrix blank and as a diluent for your calibration standards and samples for outstanding nebulization characteristics.

Fuel Dilution Standards

Description	Matrix	Size	Part No.
Blank for Diesel Fuel Dilution Standard	75 cSt hydrocarbon oil	100 mL	**N9308266**
2% (v/v) Devolatilized Diesel Fuel in Hydrocarbon Oil	75 cSt hydrocarbon oil	100 mL	**N9308267**
4% (v/v) Devolatilized Diesel Fuel in Hydrocarbon Oil	75 cSt hydrocarbon oil	100 mL	**N9308297**
5% (v/v) Devolatilized Diesel Fuel in Hydrocarbon Oil	75 cSt hydrocarbon oil	100 mL	**N9308268**
10% (v/v) Devolatilized Diesel Fuel in Hydrocarbon Oil	75 cSt hydrocarbon oil	100 mL	**N9308269**
Blank for Gas Fuel Dilution Standard	75 cSt hydrocarbon oil	100 mL	**N9308270**
2% (v/v) Devolatilized Gasoline in Hydrocarbon Oil	75 cSt hydrocarbon oil	100 mL	**N9308271**
5% (v/v) Devolatilized Gasoline in Hydrocarbon Oil	75 cSt hydrocarbon oil	100 mL	**N9308272**
10% (v/v) Devolatilized Gasoline in Hydrocarbon Oil	75 cSt hydrocarbon oil	100 mL	**N9308273**
Blank	20 cSt hydrocarbon oil	100 mL	**N9308274**
Ethylene Glycol & Propylene Glycol – conc. 100 µg/g	20 cSt hydrocarbon oil	100 mL	**N9308275**
Ethylene Glycol & Propylene Glycol – conc. 500 µg/g	20 cSt hydrocarbon oil	100 mL	**N9308276**
Ethylene Glycol & Propylene Glycol – conc. 1000 µg/g	20 cSt hydrocarbon oil	100 mL	**N9308277**

Acid Number Standards

Description	Matrix	Size	Part No.
Acid Number (AN) Reference Material, 0.1 mg KOH/g	hydrocarbon Oil	100 g	**N9308160**
Acid Number (AN) Reference Material, 0.1 mg KOH/g	hydrocarbon Oil	400 g	**N9308161**
Acid Number (AN) Reference Material, 1 mg KOH/g	hydrocarbon Oil	100 g	**N9308162**
Acid Number (AN) Reference Material, 1 mg KOH/g	hydrocarbon Oil	400 g	**N9308163**
Acid Number (AN) Reference Material, 1.5 mg KOH/g	hydrocarbon Oil	100 g	**N9308164**
Acid Number (AN) Reference Material, 1.5 mg KOH/g	hydrocarbon Oil	400 g	**N9308165**
Acid Number (AN) Reference Material, 0.5 mg KOH/g	hydrocarbon Oil	100 g	**N9308166**
Acid Number (AN) Reference Material, 0.5 mg KOH/g	hydrocarbon Oil	400 g	**N9308167**
Acid Number (AN) Reference Material, 3 mg KOH/g	hydrocarbon Oil	50 g	**N9308168**
Acid Number (AN) Reference Material, 3 mg KOH/g	hydrocarbon Oil	400 g	**N9308169**
Acid Number (AN) Reference Material, 2 mg KOH/g	hydrocarbon Oil	50 g	**N9308170**

Dilution Oil

Karl Fischer Standards

Base Number Standards

Description	Matrix	Size	Part No.
Base Number (BN) Reference Material, 10 mg KOH/g	hydrocarbon Oil	50 g	**N9308555**
Base Number (BN) Reference Material, 10 mg KOH/g	hydrocarbon Oil	400 g	**N9308173**
Base Number (BN) Reference Material, 15 mg KOH/g	hydrocarbon Oil	50 g	**N9308174**
Base Number (BN) Reference Material, 30 mg KOH/g	hydrocarbon Oil	50 g	**N9308176**
Base Number (BN) Reference Material, 30 mg KOH/g	hydrocarbon Oil	400 g	**N9308177**
Base Number (BN) Reference Material, 40 mg KOH/g	hydrocarbon Oil	50 g	**N9308178**
Base Number (BN) Reference Material, 6 mg KOH/g	hydrocarbon Oil	50 g	**N9308554**
Base Number (BN) Reference Material, 6 mg KOH/g	hydrocarbon Oil	400 g	**N9308181**
Base Number (BN) Reference Material, 70 mg KOH/g	hydrocarbon Oil	50 g	**N9308182**

Karl Fischer Standards

Nominal Water Concentration (%)	Matrix	Size	Part No.
Karl Fischer Water in Oil, Blank	10W30 motor oil	100 mL	**N9308278**
Karl Fischer Water in Oil, 0.1%	10W30 motor oil	100 mL	**N9308279**
Karl Fischer Water in Oil, 0.5%	10W30 motor oil	100 mL	**N9308280**
Karl Fischer Water in Oil, 1.0%	10W30 motor oil	100 mL	**N9308281**

Soot Content Standards

Nominal Soot Content Range (%)	Matrix	Size	Part No.
Nominal Soot Content Range: Blank	15W40 diesel oil	50 mL	**N9308282**
Nominal Soot Content Range: 0.5-2%	15W40 diesel oil	50 mL	**N9308283**
Nominal Soot Content Range: 2-4%	15W40 diesel oil	50 mL	**N9308284**
Nominal Soot Content Range: 4-6%	15W40 diesel oil	50 mL	**N9308285**

OilExpress Standards

Description	Matrix	Size	Part No.
In-Service Lubricants FT-IR Control Standard	15W40 Diesel Oil	100 mL	**N9308350**
In-Service Lubricants FT-IR Control Standard	15W40 Diesel Oil	500 mL	**N9308375**
OilExpress 4 Test Oil 120 cSt	PAO Oils	500 mL	**N9308351**
OilExpress 4 Test Oil 360 cSt	PAO Oils	100 mL	**N9308352**
OilExpress 4 System Liquid Detergent Additive		100 mL	**N9308354**
OilExpress 4 System Liquid Detergent Additive		500 mL	**N9308376**
OilExpress 4 System Liquid Detergent Additive		1 Gal.	**N9308380**
Pathlength Calibration Fluid (Squalane)		50 mL	**N9308377**
OilExpress 4 Installation Kit (includes N9308350, N9308351, N9308352, N9308354, and N9308377)		Kit	**N9300850**

Biodiesel Standards

Description	Matrix	Size	Part No.
Biodiesel Blank	B100 biodiesel	100 mL	**N9308286**
Biodiesel Blank	B100 biodiesel	500 mL	**N9308287**
Sulfur @ 20 µg/g in Biodiesel	B100 biodiesel	100 mL	**N9308288**
Metals in Biodiesel – Ca, K, Mg, Na, P @ 20 µg/g	B100 biodiesel	100 g	**N9308289**

Biodiesel Blends for IR

Description	Matrix	Size	Part No.
100% High Cetane Diesel	High Cetane Diesel Fuel	20 mL	**N9308290**
2% (v/v) Biodiesel	High Cetane Diesel Fuel	20 mL	**N9308291**
5% (v/v) Biodiesel	High Cetane Diesel Fuel	20 mL	**N9308292**
10% (v/v) Biodiesel	High Cetane Diesel Fuel	20 mL	**N9308293**
15% (v/v) Biodiesel	High Cetane Diesel Fuel	20 mL	**N9308294**
20% (v/v) Biodiesel	High Cetane Diesel Fuel	20 mL	**N9308295**
100% (v/v) Biodiesel	B100 biodiesel	20 mL	**N9308296**

Sulfur Standards

Description	Matrix	Size	Part No.
Polysulfide Oil Blank	13 cSt Mineral Oil	500 mL	**N9308390**
Sulfur @ 500 µg/g, from Polysulfide Oil	13 cSt Mineral Oil	500 mL	**N9308391**
Sulfur @ 1000 µg/g, from Polysulfide Oil	13 cSt Mineral Oil	500 mL	**N9308392**
Sulfur @ 5000 µg/g, from Polysulfide Oil	13 cSt Mineral Oil	500 mL	**N9308393**
Sulfur @ 1 wt%, from Polysulfide Oil	13 cSt Mineral Oil	500 mL	**N9308394**
Sulfur @ 5 wt%, from Polysulfide Oil	13 cSt Mineral Oil	500 mL	**N9308395**
Sulfur @ 0 µg/g (Blank)	#2 Diesel Fuel	500 mL	**N9308714**
Sulfur @ 5 µg/g, from Polysulfide Oil	#2 Diesel Fuel	500 mL	**N9308715**
Sulfur @ 10 µg/g, from Polysulfide Oil	#2 Diesel Fuel	500 mL	**N9308716**
Sulfur @ 15 µg/g, from Polysulfide Oil	#2 Diesel Fuel	500 mL	**N9308717**
Sulfur @ 20 µg/g, from Polysulfide Oil	#2 Diesel Fuel	500 mL	**N9308718**
Sulfur @ 25 µg/g, from Polysulfide Oil	#2 Diesel Fuel	500 mL	**N9308719**
Sulfur @ 50 µg/g, from Polysulfide Oil	#2 Diesel Fuel	500 mL	**N9308720**
Sulfur @ 100 µg/g, from Polysulfide Oil	#2 Diesel Fuel	500 mL	**N9308721**
Sulfur @ 500 µg/g, from Polysulfide Oil	#2 Diesel Fuel	500 mL	**N9308722**
Sulfur @ 1000 µg/g, from Polysulfide Oil	#2 Diesel Fuel	500 mL	**N9308723**
Sulfur @ 1500 µg/g, from Polysulfide Oil	#2 Diesel Fuel	500 mL	**N9308724**

Viscosity Reference Standards

Description	Matrix	Size	Part No.
Viscosity Standard Reference Kit	Hydrocarbons	5 x 500 mL	**N5316000**
Nominal Viscosity: 4.5 cSt at 40 °C, and 1.6 cSt at 100 °C	Hydrocarbons	500 mL	**N9307740**
Nominal Viscosity: 10 cSt at 40 °C, and 2.7 cSt at 100 °C	Hydrocarbons	500 mL	**N5316001**
Nominal Viscosity: 30 cSt at 40 °C, and 5.3 cSt at 100 °C	Hydrocarbons	500 mL	**N5316002**
Nominal Viscosity: 30 cSt at 40 °C, and 5.3 cSt at 100 °C	Hydrocarbons	1 Gal.	**N5316025**
Nominal Viscosity: 100 cSt at 40 °C, and 16.8 cSt at 100 °C	Hydrocarbons	500 mL	**N5316003**
Nominal Viscosity: 100 cSt at 40 °C, and 16.8 cSt at 100 °C	Hydrocarbons	1 Gal.	**N5316024**
Nominal Viscosity: 360 cSt at 40 °C, and 42 cSt at 100 °C	Hydrocarbons	500 mL	**N5316004**
Nominal Viscosity: 930 cSt at 40 °C, and 82 cSt at 100 °C	Hydrocarbons	500 mL	**N5316005**

Proficiency Testing Standards

Proficiency Testing Program

The Proficiency Testing Program offered by PerkinElmer has been designed to provide laboratories with a method of monitoring their analytical performance as measured against Certified Reference Materials (CRMs).

1. Analyze a sample
2. Report the results online
3. Receive an instant response to submitted values

Confirm the accuracy of your analytical results, quickly, easily, and definitively.

Description	Size	Part No.
PTP Standard for Elemental Analysis of Oils	25 g	**N9308314**

Note: Analyze a sample for up to 23 common elements and report the concentrations in µg/g (ppm). Enter all elements or only those that are of interest to you. Results are color-coded pass/fail indications in green (pass), yellow (borderline), and red (fail).

Proficiency Testing Standards

Description	Size	Part No.
Viscosity PTP Test Standard	50 mL	**N9308540**

Note: Report viscosity values in cSt at 40 °C, 100 °C, or both.

Viscosity Reference Standards

PART NUMBER INDEX

PerkinElmer, Inc.
940 Winter Street
Waltham, MA 02451 USA
P: (800) 762-4000 or
(+1) 203-925-4602
www.perkinelmer.com

For a complete listing of our global offices, visit www.perkinelmer.com/ContactUs