

Internal Standard Kits

In-line Standard Additions kits, one which includes a glass mixing chamber/combiner for solutions which do not contain HF and another which includes an inert mixing chamber/combiner. Both kits are completely modular so that damaged or worn components can easily be replaced. The heart of the kit is the mixing chamber/combiner. It is designed for zero dead volume on the input ends which accommodate the sample and addition lines. The output end is designed with a small mixing chamber so that the sample and added reagent are intimately mixed prior to introduction to the nebulizer. All connections to the mixing chamber/combiner use EzyFit connectors. A sampling probe for the reagent addition bottle is included so that it remains well anchored in the bottle. Inline addition of internal standards and ionization buffers provides an efficient means of accurately and precisely dosing all of your samples without extra effort or the risk of error or contamination. Internal standardization is often used to compensate for physical and mass-space interferences in ICP spectrometry. In many cases, it also enhances short-term and long-term reproducibility.

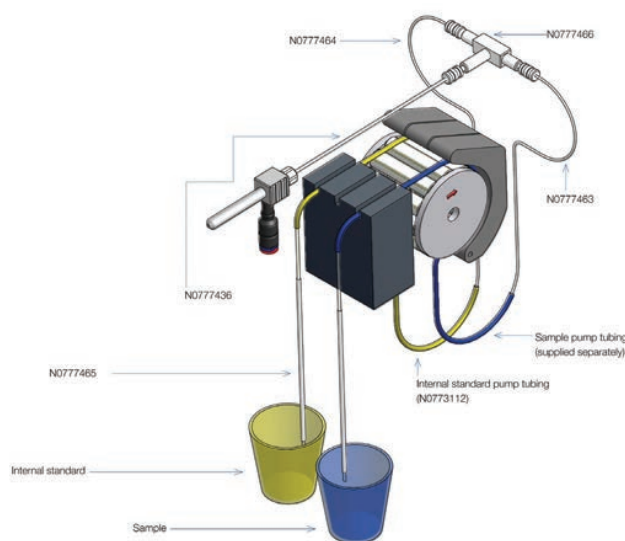
HF-Resistant Internal Standard Kit

Description	Part No.
HF-Resistant Internal Standard Kit	N0774067
Includes:	
HF Mixing T-piece	N077466
Internal Standard Sample Probe 0.25 mm ID	N077465
EzyFit Sample Tube 0.5 mm ID	N077463
EzyFit with 1/16 inch OD x 0.50 mm ID x 700 mm Long Sample Tube	N077436
EzyFit Internal Standard Tube 0.25 mm ID	N077464
Vitex® Gripper Paper - Qty. 6	N077848
Orange-Blue Flared End PVC Tubing 0.25 mm ID – Qty. 12	N0773112

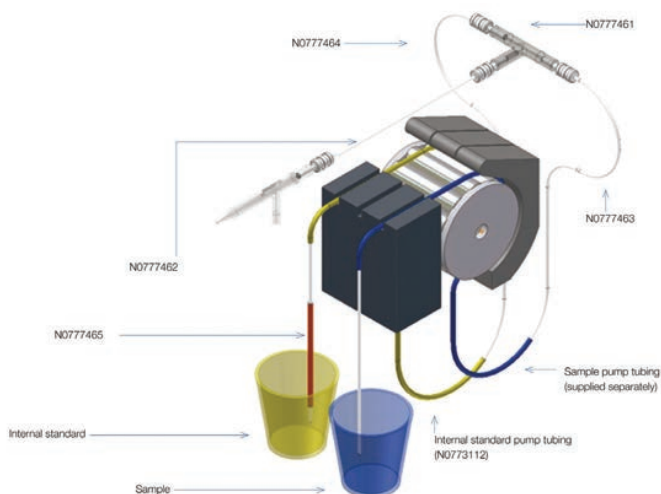
Non HF-Resistant Internal Standard Kit

Description	Part No.
Non HF-Resistant Internal Standard Kit	N0774068
Includes:	
HF Mixing T-piece	N077466
Internal Standard Sample Probe 0.25 mm ID	N077465
EzyFit Sample Tube 0.5 mm ID	N077463
EzyFit with 1/16 inch OD x 0.50 mm ID x 700 mm Long Sample Tube	N077436
EzyFit Internal Standard Tube 0.25 mm ID	N077464
Vitex® Gripper Paper - Qty. 6	N077848
Orange-Blue Flared End PVC Tubing 0.25 mm ID – Qty. 12	N0773112

HF-Resistant Internal Standard Kit



Non HF-Resistant Internal Standard Kit



PUMP TUBING

ESI MP² Two-Stop Peristaltic Pump Tubing



i.d. (mm)	Stop Colors	Calibration Slope ($\mu\text{L}/\text{min}$ per RPM)	Non-Flared			Flared*	
			PVC 2-stop	Santoprene 2-stop	Solva 2-stop	PVC 2-stop	Solva 2-stop
0.13	orange black	0.6	N8145145			N8145194	N8145208
0.19	orange red	1.3	N8145146			N8145195	N8145209
0.27	orange blue	2.7	N8145147			N8145196	N8145210
0.38	orange green	4.7	N8145148	N8145171		N8145197	N8145211
0.44	green yellow	7.6	N8145149			N8145198	N8145212
0.51	orange yellow	9.5	N8145150			N8145199	N8145213
0.57	white yellow	11	N8145151			N8145200	N8145214
0.64	orange white	14	N8145152			N8145201	N8145215
0.76	black black	19	N8145153	N8145172	N8145176	N8145202	N8145216
0.89	orange orange	24	N8145154		N8145177	N8145203	N8145217
0.95	white black	28	N8145155		N8145178	N8145204	N8145218
1.02	white white	31	N8145156		N8145179	N8145205	N8145219
1.09	white red	33	N8145157		N8145180	N8145206	N8145220
1.14	red red	35	N8145158		N8145181	N8145207	
1.22	red grey	46	N8145159		N8145182		
1.30	grey grey	47	N8145160	N8145173	N8145183		
1.42	yellow yellow	50	N8145161		N8145184		
1.52	yellow blue	51	N8145162	N8145174	N8145185		
1.65	blue blue	55	N8145163		N8145186		
1.75	blue green	58	N8145164		N8145187		
1.85	green green	61	N8145165		N8145188		
2.06	purple purple	64	N8145166		N8145189		
2.20	purple black	65	N8145167		N8145190		
2.54	purple orange	67	N8145168		N8145191		
2.79	purple white	69	N8145169		N8145192		
3.17	black white	70	N8145170	N8145175	N8145193		
Bridge Length			72 mm	72 mm	72 mm	72 mm	72 mm

* For easy insertion of PFA capillaries

i.d. = internal diameter

Non-Flared



PVC

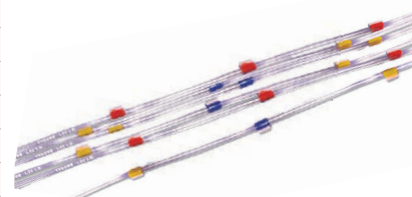
Santoprene

SOLVA

Three-Stop Peristaltic Pump Tubing

i.d. (mm)	Stop Colors	Standard PVC Clear (Pkg 12)	Pharmed Tan (Pkg 12)	Solvent Resistant Yellow (Pkg 12)
1.65	black black black	B0506058		
1.75	white white white			B0507692
1.85	red red red	B0193160	*B3140730	
2.06	yellow blue yellow	B0193161		
2.20	purple purple purple	B0199034		
2.54	purple white purple		*B3140721	
2.79	black white black	B0508310		
0.51	orange yellow orange	B0506737		

* Used for S10 and AS9X autosamplers



AUTOSAMPLER PROBES AND COMPONENTS

PerkinElmer AS-90/90A/90plus/ 91/93plus/S10 Sampling Probe Assemblies Stainless Steel



Description	Part No.
Flame Sampling Probe Assembly, 0.6 mm i.d. Includes Stainless Steel Sampling Probe and Screw Fitting (B3000152) and Flame Capillary (B3000157 – replaces B0196963) Tubing Assembly.	B3000159
FIAS™ Sampling Probe Assembly, 0.6 mm i.d. Includes Stainless Steel Sampling Probe and Screw Fitting (B3000152) and FIAS Capillary Tubing Assembly (B3000158 – replaces B0196966).	B3000160
FIAS Standard Sampling Probe Assembly, 1.0 mm i.d. Includes Stainless Steel Sampling Probe and Screw Fitting (B3000152) and FIAS Capillary Tubing Assembly (B0191060 – replaces B0501044).	B3000161

Corrosion-Resistant

Corrosion-resistant probes are suitable for inorganic acids and most organic solvents, except NMP.

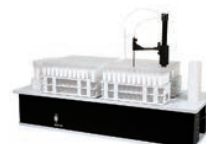
Description	Part No.
Flame Sampling Probe Assembly, 0.6 mm i.d.* Includes Sampling Probe with FEP Tube and Screw Fitting (B3000055) and Capillary Tubing Assembly (B3000157). Standard with AS93plus/S10.	B3001770
FIAS Sampling Probe Assembly, 0.6 mm i.d.* Includes Sampling Probe with FEP Tube and Screw Fitting (B3000055) and FIAS Capillary Tubing Assembly (B3000158).	B3001771
FIAS Standard Sampling Probe Assembly, 1.0 mm i.d.* Includes Sampling Probe with FEP Tube and Screw Fitting (B3001769) and Capillary Tubing Assembly (B0191060).	B3001772

*This probe cannot be used with AS-90s, with the older sampling probe holder.

Sampling Probe Assembly Components

Description	Part No.
Stainless Steel Sampling Probe with Screw Fitting Requires, but does not include, one of the capillary tubing assemblies described below.	B3000152
Flame Capillary Tubing Assembly 1 m length, 0.6 mm i.d., one fitting (red)	B3000157
FIAS Capillary Tubing Assembly 1 m length, 0.6 mm i.d., two fittings (red)	B3000158
FIAS Capillary Tubing Assembly 1 m length, 1.0 mm i.d., two fittings (blue)	B0191060

Description	Part No.
Corrosion-Resistant Probe only 0.6 mm	B3000055
Corrosion-Resistant Probe only 01.0 mm	B3001769
O-Ring to hold Probe	B0172053
Probe Holder (white plastic)	B3000151



ESI Autosampler Probes

Description	Part No.
Autosampler Probes	
Autosampler Probe, 0.15 mm	N0777221
Autosampler Probe, 0.20 mm	N0777222
Autosampler Probe, 0.25 mm	N0777223
Autosampler Probe, 0.30 mm	N0777224
Autosampler Probe, 0.50 mm	N0777225
Autosampler Probe, 0.80 mm	N0777226
Sample Probes	
High Flow, Carbon Fiber Support, 0.8 mm i.d. (blue)	N0777285
Low Flow, Carbon Fiber Support, 0.8 mm i.d. (blue)	N0777266
Sample Probe Line Holder	N0777227
Carrier Probes	
High Flow, Carbon Fiber Support, 0.5 mm i.d. (orange)	N0777286
Low Flow, Carbon Fiber Support, 0.5 mm i.d. (orange)	N0777267



Cetac Carbon Fiber Autosampler Probes

Probes reinforced with rigid carbon fiber to ensure probe accuracy without the use of a guide plate when mounted to a Z-drive with double probe clamps.

Description	Part No.
0.5 Blue 0.5 mm ID x 108 in - Teflon	N0777547
1.0 2 Blue 1.0 mm ID x 75 in - Teflon	N0777568

Cetac Ultem Autosampler Probes

Probes made with Ultem brand polyetherimide resin are more flexible than the carbon fiber reinforced probes. Use of a Z-drive-mounted guide plate is required.

Description	Part No.
0.5 mm Blue 0.5 mm ID x 108 in - Teflon	N0774088
1.0 mm 2 Blue 1.0 mm ID x 75 in - Teflon	N0777565

Cetac Stainless Steel Autosampler Probe

Description	Part No.
Steel probe with screen tip (100 mesh) designed for oil analysis.	N0771529

TRAYS AND RACKS



PerkinElmer Sample Trays

AS-93plus/S10 Sample Trays

Description/Capacity	Sample Vessel Size	Part No.
Tray F – 9/29* ¹	50 mL/15 mL	B3001647
Tray E – 90 ²	4.5 mL, 6 mL, 8 mL	B3140617
Tray H & Tray F – 60 ³	15 mL, 16 mL	B3140618
Tray E, H & Tray G – 21 ⁴	50 mL	B3140621

* AS-93plus/S10 sample trays are polypropylene.

¹ Rack B3001647 (rinsing-port rack) with rinsing port location (location 0), 8 locations for 50 mL solution containers (calibration and/or test sample solutions), and 29 locations for 15 mL solution containers (test sample solutions).

² Rack B3140617 each with 90 locations for 6 mL and 8 mL solution containers (test sample solutions).

³ Rack B3140618 with 60 locations for 15 mL solution containers (test sample solutions).

⁴ Rack B3140621 with 21 locations each for 50 mL solution containers (calibration and/or test sample solutions). Location 0 in the first rack is for the rinsing port.

AS-90/90A/90plus Sample Trays

Description/Capacity	Sample Vessel Size	Part No.
Tray A – 144	4.5 mL, 6 mL, 8 mL	B3000133
Tray B – 98*	15 mL, 16 mL	B3000132
Tray C – 36	50 mL	B3000135
Blank Tray		B0501056

* Polypropylene sample tray.

AS-91 Sample Trays

Description/Capacity	Sample Vessel Size	Part No.
Tray E – 218	4.5 mL, 6 mL, 8 mL	B0509554
8 - 50 mL spots & Tray F – 152 / 8 (160)	15 mL, 16 mL	B0509555
Tray G – 55	50 mL	B0508520

Trays A, C, E, F and G are powder-coated, corrosion-resistant aluminum.

AS-93plus/S10 Rinsing Kit

Description/Capacity	Part No.
AS-93plus/S10 Rinsing Kit	B3140236

Spare Parts

Rinsing Port	B3140622
Adapter M	B0507919
Pump Tube – 2.79 mm i.d. (pkg. 6) purple-white	B3140721
Pump Tube – 1.14 mm i.d. (pkg. 6)	B3140730
Tygon® Drain Tube – 2 m red-red-red	B0018283
PVC Rinse Liquid Feed Tube – 1 m	B0048139
Connector	B3140715

Cetac Autosampler Racks

Racks

Rack	Vial Size	Part No.
21-Position, 30.5 mm square opening	50 mL	N0777152
24-Position, 25.2 mm square opening	30 mL	N0777151
40-Position, 20.6 mm square opening	20 mL	N0777150
30-Position Tall Rack, square opening	14 mL	N0777062
40-Position	20 mL	N0777169
40-Position/Gilson 29	20 mL	N0777155
45-Position/120 cc Sample Rack (oils)		N0777298
60-Position, 17.0 mm square opening	14 mL or 15 mL	N0777149
80-Position Collection Metal for Oil	15 mL	N0774085
90-Position, 13.5 mm square opening	7 mL or 8 mL	N0777148
90-Position, 13.3 mm round opening	7 mL or 8 mL	N0777153
90-Position Collection Metal for Oil	8 mL	N0777154



ESI Autosampler Racks

Racks and Rack Covers

Description	Size	Diameter	Part No.
Standard Racks			
10-Position		28 mm	N0777228
24-Position	4 x 6	14 mm	N0777234
Adapter Plate**			N0777235

**For Gemeted/Cetac ASX-100's racks

Micro Racks

21-Position	3 x 7	14 mm	N0777229
40-Position	4 x 10	14 mm	N0777230
60-Position	5 x 12	8 mm	N0777231
90-Position	5 x 12		N0777232
Cover for Micro Racks			N0777233

Large Racks

21-Position	3 x 7	30 mm	N0777242
40-Position	4 x 10	20 mm	N0777243
60-Position	5 x 12	16 mm	N0777244
90-Position	6 x 15	13 mm	N0777245

Super Racks

10-Position***	2 x 5	61 mm	N0777253
12-Position	2 x 6	50 mm	N0777252
21-Position	3 x 7	22 mm	N0777251
21-Position	3 x 7	28 mm	N0777250
21-Position	3 x 7	30 mm	N0777249
27-Position	3 x 9	28 mm	N0777248
80-Position	5 x 16	16 mm	N0777247
120-Position	6 x 20	13 mm	N0777246

***Holds 205 mL bottles.

Polypropylene Autosampler Tubes

PerkinElmer translucent polypropylene tubes are designed to provide excellent chemical resistance. PerformR™ 15 mL and 50 mL conical tubes are designed for your routine everyday applications and storage needs. SuperClear™ tubes are made from a unique medical grade resin. PerformR and SuperClear tubes are available with either a flat cap with a two stage seal, or a plug style cap that includes a very deep sealing area.



Round Bottom Tubes



Description	Type	Size	Pack	Qty	Part No.
5 mL without caps	Standard	12 mm x 75 mm	Bulk	500	B0193235
8 mL without caps	Standard	13 mm x 100 mm	Bulk	1200	N0777156
8 mL without caps	Standard	13 mm x 100 mm	250/bag	1000	N0777159
8 mL without caps	Standard	13 mm x 100 mm	Bulk	1000	B0508901
14 mL without caps	Standard	17 mm x 100 mm	Bulk	1000	N0777940
14 mL with Dual Position, Polyethylene Caps included	Standard	17 mm x 100 mm	Bulk	1000	N0777941
Dual Position Caps for 14 mL, N0777940 Tubes (clear) Caps Only	Standard		Bulk	1000	N0777942
14 mL without caps	Standard	17 mm x 100 mm	250/bag	1000	N0777168
15 mL without plugs	Standard	17 mm x 100 mm	Bulk	1200	N0777167
Plugs for 15 mL N0777167 Tubes, (blue) Plugs Only	Standard		Bulk	1200	N0777599
15 mL Graduated without plugs	Standard	17 mm x 100 mm	Bulk	2000	N0777071
Plugs for 15 mL N0777071 Tubes, (white) Plugs Only	Standard		Bulk	1000	N0777072
16 mL without caps	Standard	17 mm x 100 mm	250/bag	1000	N9301205

Conical Bottom Tubes with Graduation



Description	Type	Size	Pack	Qty	Part No.
15 mL with Red Flat Caps attached, (Standard PerkinElmer S10 Tubes)	Standard	17 mm x 120 mm	50/bag	500	B0193233
15 mL Sterile Tubes, with Teal Flat Caps attached	Sterile	17 mm x 118 mm	50/bag	500	N0774095
15 mL Metal Free Sterile Tubes Racked with White Flat Caps	Sterile	17 mm x 118 mm	25/Rack	500	N0776118
15 mL with Teal Flat Caps attached	SuperClear	17 mm x 118 mm	50/bag	500	N0777701
15 mL with Teal Flat Caps attached	SuperClear	17 mm x 118 mm	Racked 50/bag	500	N0777702
15 mL with Teal Flat Caps attached	SuperClear	17 mm x 118 mm	Bulk	500	N0777703
15 mL with Teal Flat Caps attached	SuperClear	17 mm x 118 mm	50/bag	500	N0777704
15 mL with Teal Flat Caps attached	SuperClear		Racked 50/bag	500	N0777705
15 mL with Teal Plug Caps	SuperClear	17 mm x 118 mm	Bulk	500	N0777706
50 mL with Red Flat Caps attached, (Standard PerkinElmer S10 Tubes), Freestanding	Standard	28 mm x 115 mm	25/bag	500	B0193234
50 mL with Red Flat Caps attached	Standard	28 mm x 114 mm	25/bag	300	N0777901
50 mL with Teal Flat Caps attached, Freestanding	PerformR	30 mm x 116 mm	50/bag	500	N0777697
50 mL with Teal Flat Caps attached, Freestanding	PerformR	30 mm x 116 mm	Bulk	500	N0777698
50 mL with Teal Plug Caps attached, Freestanding	PerformR	30 mm x 116 mm	50/bag	500	N0777699
50 mL with Teal Plug Caps included, Freestanding	PerformR	30 mm x 116 mm	Bulk	500	N0777700
50 mL Sterile Tubes with Teal Flat Caps attached	Sterile	29 mm x 115 mm	50/bag	500	N0774096
50mL Metal Free Sterile Tubes Racked with White Flat Caps	Sterile	30 mm x 116 mm	25/Rack	500	N0776116
50 mL with Teal Flat Caps attached	SuperClear	29 mm x 115 mm	50/bag	500	N0777691
50 mL with Teal Flat Caps attached	SuperClear	29 mm x 115 mm	Racked 50/bag	500	N0777692
50 mL with Teal Flat Caps included	SuperClear	29 mm x 115 mm	Bulk	500	N0777693
50 mL with Teal Plug Caps attached	SuperClear	29 mm x 115 mm	50/bag	500	N0777694
50 mL with Teal Plug Caps attached	SuperClear	29 mm x 115 mm	Racked 50/bag	500	N0777695
50 mL with Teal Plug Caps included	SuperClear	29 mm x 115 mm	Bulk	500	N0777696

PIONEERED THE USE OF FLOW INJECTION TECHNIQUES



FIMS



FIAS

The use of flow injection saves time, money and manpower — while at the same time, extending your analytical flexibility and capabilities.

PerkinElmer carries a wide selection of genuine supplies and accessories for your FIMS-100, FIMS-400, FIAS-100 or FIAS-400. Keeping your system in good working order by using only the best replacement parts is the first step in assuring quality analytical performance. Regular maintenance and/or replacement of consumables such as tubing, connectors and adapters will maximize the lifetime and productivity of your PerkinElmer flow injection system.

Adapters with Internal Thread

¼ in (6.4 mm) Internal Screw Thread

Type*	Description	Part No.
A B	A 1.8 mm o.d. nipple B 3.3 mm o.d. nipple	B0193342 B0506716
C	4 mm o.d. nipple	B0196850
E	For the quartz cell	B0196857
F	0.7 mm o.d. Pt/Ir capillary nipple	B0193873
G	Two nipples to connect tubes to the pre-concentration accessory	B0501580

Connectors

Type*	Description	Part No.
IA	Connector with nipples for 1.7 to 3.2 mm i.d. tubes	B0199233
IB	Connector with nipples for 2.4 to 3.2 mm i.d. tubes	B0196882
II	Connector with ¼ in (6.4 mm) internal screw thread	B0196704
IIIA	T-piece with nipples for 1.5 to 2.5 mm i.d. tubes	B0199035
IIIB	T-piece with nipples for 3.5 to 4.5 mm i.d. tubes	B0198201

Adapters with External Thread

¼ in (6.4 mm) External Screw Thread

Type*	Description	Part No.
K L	K 1.8 mm o.d. nipple L 2.8 mm o.d. nipple	B0507918 B0507920
M	4 mm o.d. nipple	B0507919
N	0.7 mm o.d. Pt/Ir capillary nipple	B0507949
	Screw Plug	B0507921

*Type designation refers to diagrams in instrument manuals.

FIAS/FIMS Cell Replacement Parts

Description	Part No.
Complete FIAS Cell and Windows	B0507486
FIAS Cell only (no windows)	B0507487
Quartz Windows for FIAS or FIMS	B0066549
FIMS Complete Cell and Windows	B0510334
FIMS Cell Only (no windows)	B0510370
FIMS Hg Lamp	B3000243
FIMS Hg Filter Replacement for Hg Scrubber	B3000274

Mixing/Separation Assembly

Complete modular unit, consisting of two mixing manifolds with tubing adapters, a gas liquid separator with a PTFE membrane, five spare PTFE membranes, one PTFE tube (110 mm long) and one PTFE tube (300 mm long).

Description	Part No.
Mixing/Separation Assembly	B0507957

Mixing Block

Modular “building block” type mixing manifold with one mixing channel and three connections, two inlet and one outlet. Made from chemically-resistant plastic. Several of these blocks can be “plugged” together easily to create a single unit with enhanced mixing capabilities.



Description	Part No.
Mixing Block	B0507962

Gas/Liquid Separator

Modular “building block” type gas-liquid separator made from chemically-resistant plastic. An exchangeable PTFE membrane in the screw cap of the separator prevents liquid from being carried into the quartz cell when working with strong foaming samples.



Description	Part No.
Gas/Liquid Separator	B0507959
Glass Gas/Liquid Separator	B0193772
Gas/Liquid Separator Holder for Glass Separator	B0509479
PTFE Membrane (pkg. 50)	B0508306
Mixing Manifold for Glass Gas/Liquid Separator	B0187258

Tool, Screw Connectors

Description	Part No.
Tool, Screw Connectors	B0501315

Flow Injection Furnace Supplies

Description	Part No.
FIAS-Furnace Sample Transfer Tube	B0509612
Quartz Pipette Tip/20 mm (pkg. 1)	B0510032
Silicone Tube	B0029796

Sample Loops

Description	Part No.
200 µL	B0194048
500 µL	B0194049
1,000 µL	B0501000

Tubing

Standard PVC clear peristaltic pump tubing has a wall thickness of 0.84 mm.

Three-Stop Peristaltic Pump Tubing, Pkg. 12

Tubing i.d.	Color Code	Part No.
0.76 mm	Black/black	B0506058
1.14 mm	Red/red	B0193160
1.52 mm	Yellow/blue	B0193161
2.06 mm	Violet/violet	B0199034
3.18 mm	Black/white	B0508310

Solvent Resistant Yellow Peristaltic Pump Tubing, Pkg. 12

Tubing i.d.	Color Code	Part No.
1.02mm	White/white	B0507692

PTFE Tubing

Tubing i.d.	Length	Part No.
0.35 mm	1 m	B0506060
0.5 mm	1 m	B0507020
0.7 mm	1 m	B0507021
1.0 mm	1 m	B0029792
1.75 mm	1 m	B0017998

PTFE Tubing Assemblies

Tubing i.d.	Screw Fittings Color	Length	Part No.
0.35 mm	White	60 mm	B0501594
1.0 mm	Blue	110 mm	B0191058
1.0 mm	Blue	300 mm	B0198097
1.0 mm	Blue	700 mm	B0191059
1.0 mm	Blue	1,000 mm	B0191060
1.75 mm	Black	250 mm	B0198099
1.75 mm	Black	450 mm	B0198100
3-dimensional reactor 0.35 mm (two flanged ends)			B0501595

PVC Tubing

Description	Part No.
3 mm i.d. with 1 mm wall thickness, no fittings	B0048139

Price per meter.

Silicone Tubing

Description	Part No.
1 m x 5 mm i.d., no fittings	B0018283
1 m x 3 mm i.d.	B0070126
For FIMS Cell Exhaust Outlet, 3 m	B0046948

EXPERIENCE RELIABLE, ACCURATE RESULTS



Inorganic Aqueous Standards

PerkinElmer offers a complete selection of atomic spectroscopy aqueous standards. Each solution is supplied with a comprehensive Certificate of Analysis that documents the quality and reliability.

Single-Element Standards – 1,000 µg/mL

Element	Symbol	Matrix	Pure Grade 125 mL Part No.	Pure Grade 500 mL Part No.	Pure Plus Grade 125 mL Part No.
Aluminum	Al	2% 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 ₂ O		N9303760	N9300106
Cadmium	Cd	2% HNO ₃	N9300176	N9300107	N9303734
Calcium	Ca	2% HNO ₃	N9303763	N9300108	N9303733
Carbon	C	H ₂ O		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 ₂ O/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

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

Single-Element Standards – 1,000 µg/mL (con't)

Element	Symbol	Matrix	Pure Grade 125 mL Part No.	Pure Grade 500 mL Part No.	Pure Plus Grade 125 mL Part No.
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 ₂ O	N9303784	N9300134	N9303745
Neodymium	Nd	2% HNO ₃	N9303787	N9300135	
Nickel	Ni	2% HNO ₃	N9300177	N9300136	N9303747
Niobium	Nb	H ₂ O/0.4% HF	N9303786	N9300137	
Palladium	Pd	10% HCl	N9303789	N9300138	
Phosphorus	P	H ₂ O	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 ₂ O	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

Single-Element Standards – 1,000 µg/mL (con't)

Element	Symbol	Matrix	Pure Grade 125 mL Part No.	Pure Grade 500 mL Part No.	Pure Plus Grade 125 mL Part No.
Silicon	Si	H ₂ O	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 ₂ O	N9303796	N9300154	
Tantalum	Ta	H ₂ O/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 ₂ O/0.24% F-	N9303806	N9300162	N9303754
Tungsten	W	H ₂ O	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	

Single-Element Standards – 1 µg/mL

Element	Symbol	Matrix	Pure Grade 125 mL Part No.
Aluminum	Al	2% HCl	N9304200
Aluminum	Al	2% HNO ₃	N9304201
Antimony	Sb	2% HCl	N9304202
Antimony	Sb	H ₂ O/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 ₂ O	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 ₂ O	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 ₂ O	N9304220

Single-Element Standards – 1 µg/mL (con't)

Element	Symbol	Matrix	Pure Grade 125 mL Part No.
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 ₂ O	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
Potassium	K	2% HCl	N9304247
Potassium	K	2% HNO ₃	N9304248
Molybdenum	Mo	H ₂ O	N9304249
Niobium	Nb	H ₂ O/tr HF	N9304250
Neodymium	Nd	2% HNO ₃	N9304251
Nickel	Ni	2% HNO ₃	N9304252
Palladium	Pd	2% HCl	N9304253
Phosphorus	P	H ₂ O	N9304254
Platinum	Pt	2% HCl	N9304255
Praseodymium	Pr	2% HNO ₃	N9304256
Rubidium	Rb	2% HNO ₃	N9304257
Rhenium	Re	H ₂ O	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 ₂ O/tr HF	N9304264
Silver	Ag	2% HNO ₃	N9304265
Sodium	Na	2% HCl	N9304266

STANDARDS

Single-Element Standards – 1 µg/mL (con't)

Element	Symbol	Matrix	Pure Grade 125 mL Part No.
Sodium	Na	2% HNO ₃	N9304267
Strontium	Sr	2% HCl	N9304268
Strontium	Sr	2% HNO ₃	N9304269
Sulfur	S	H ₂ O	N9304270
Tantalum	Ta	H ₂ O/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 ₂ O/tr HF	N9304280
Tungsten	W	2% HNO ₃ /tr HF	N9304281
Tungsten	W	H ₂ O	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 µg/mL

Element	Symbol	Matrix	Pure Plus Grade 125 mL Part No.
Bismuth	Bi	2% HNO ₃	N9303731
Germanium	Ge	H ₂ O 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 µg/mL

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 ₂ O/Tartaric Acid/Tr HNO ₃	N9304294	
Arsenic	As	5% HNO ₃	N9304295	N9304296

Single-Element Pure Standards - 10,000 µg/mL (con't)

Element	Symbol	Matrix	Pure Grade 125 mL Part No.	Pure Grade 500 mL Part No.
Barium	Ba	5% HNO ₃	N9304297	N9304298
Beryllium	Be	5% HNO ₃	N9304299	N9304300
Boron	B	H ₂ O	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 ₂ O		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 ₂ O	N9304327	N9304328
Nickel	Ni	5% HNO ₃	N9304117	N9304116
Niobium	Nb	H ₂ O		N9304329
Niobium	Nb	H ₂ O/tr HF	N9304330	
Phosphorus	P	H ₂ O	N9304119	N9304118
Potassium	K	5% HNO ₃	N9304121	N9304120
Rubidium	Rb	2% HNO ₃	N9304331	N9304332
Scandium	Sc	2% HNO ₃	N9304333	
Scandium	Sc	5% HNO ₃	N9304334	
Selenium	Se	5% HNO ₃	N9304335	N9304336
Silicon	Si	H ₂ O/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 ₂ O	N9304126	N9304125
Tantalum	Ta	H ₂ O		N9304342
Tantalum	Ta	H ₂ O/tr HF	N9304343	
Tin	Sn	HNO ₃ /2% HF		N9304344
Tin	Sn	20% HCl	N9304345	N9304346
Titanium	Ti	40% HCl		N9304347
Titanium	Ti	H ₂ O	N9304348	N9304349
Tungsten	W	2% HNO ₃ /5% HF		N9304350

Single-Element Pure Standards - 10,000 µg/mL (con't)

Element	Symbol	Matrix	Pure Grade 125 mL Part No.	Pure Grade 500 mL Part No.
Tungsten	W	H ₂ O	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 µg/mL: Al, Ca, Fe, Mg	500 mL	N9307113
Multi-Element Solution			
5% HNO ₃	1,000 µg/mL: K, Na, P	500 mL	N9307114
Multi-Element Solution			
5% HNO ₃	1,000 µg/mL: Mo, Sb, Sn, W, Zr	500 mL	N9307115
Multi-Element Solution			
5% HNO ₃	1,000 µg/mL: 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 µg/mL: Ge, Mo, S, Si, Ti	125 mL	N9308541
20% HCl/ 1% HNO ₃	100 µg/mL: Au, Cr, Sb, Sn, Te	125 mL	N9308542
5% HNO ₃	100 µg/mL: Ag, As, B, Ba, Be, Bi, Ca, Cd, Co, Cu, Fe, K, Li, Mg, Mn, Na, Ni, P, Pb, Se, Sr, Ti, U, V, Zn	125 mL	N9308543
Multi-Element Solution 1			
2% HNO ₃	10 µg/mL: Be, Bi, Ce, Co, In, Mg, Ni, Pb, U	125 mL	N9300231
Multi-Element Solution 2			
5% HNO ₃	10 µg/mL: Ce, Dy, Er, Eu, Gd, Ho, La, Lu, Nd, Pr, Sc, Sm, Tb, Th, Tm, Y, Yb	125 mL	N9300232

Multi-Element Standards (con't)

Matrix	Contents	Vol.	Part No.
Multi-Element Solution 3			
5% HNO ₃	10 µg/mL: 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 *Supplied in separate bottle.	125 mL	N9300233
Multi-Element Solution 3 without Mercury			
			N9301720
Multi-Element Solution 4			
10% HCl/1% HNO ₃	10 µg/mL: Au, Hf, Ir, Pd, Pt, Rh, Ru, Sb, Sn, Te	125 mL	N9300234
Multi-Element Solution 5			
H ₂ O/tr HF/ tr HNO ₃	10 µg/mL: B, Ge, Mo, Nb, P, Re, S, Si, Ta, Ti, W, Zr	125 mL	N9300234
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 µg/mL: Tl 200 µg/mL: Bi, In, Pb 150 µg/mL: Ga 100 µg/mL: Al 50 µg/mL: Ag, Ni 25 µg/mL: Cr 20 µg/mL: Cd, Co, Cu, Zn 15 µg/mL: B, Fe 5 µg/mL: Ba, Mn 1 µg/mL: Be, Sr	125 mL	N9303940
PerkinElmer Pure IV (Quality Control Standard 23)			
10% HNO ₃	1,000 µg/mL: 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 µg/mL: 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 µg/mL: As, Be, Pb, Cd	125 mL	N9303943
PerkinElmer Pure X			
2% HNO ₃	35,000 µg/mL: Ca 15,000 µg/mL: Mg 8,000 µg/mL: Na 3,000 µg/mL: K 100 µg/mL: B, Fe, Mo, Sr 50 µg/mL: As, Ba, Ni, V, Zn 30 µg/mL: Mn 25 µg/mL: Co, Pb 20 µg/mL: Be, Cd, Cr, Cu 10 µg/mL: Bi, Se, Tl 8 µg/mL Mercury in 5% HNO ₃	125 mL	N9303944

STANDARDS

Multi-Element Standards (con't)

Matrix	Contents	Vol.	Part No.
8 µg/mL Mercury in 5% HNO₃			
5% HNO ₃	8 µg/mL: Hg	125 mL	N9303954
PerkinElmer Pure XI			
5% HNO ₃	2,500 µg/mL: Zn 900 µg/mL: Cr, Pb 800 µg/mL: Cu 200 µg/mL: Ni 10 µg/mL: Cd	125 mL	N9303945
5 µg/mL Mercury in 5% HNO₃			
5% HNO ₃	5 µg/mL: Hg in 5% HNO ₃	125 mL	N9303949
PerkinElmer Pure XIII			
5% HNO ₃	500 µg/mL: Al 250 µg/mL: V 100 µg/mL: As, Be, Co, Cr, Cu, Fe, Mn, Ni, Pb, Zn 25 µg/mL: Cd, Se	125 mL	N9303946
PerkinElmer Pure XVI (Quality Control Standard, 21 Elements)			
5% HNO ₃ / tr Tartaric Acid/ tr HF	100 µg/mL: 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 µg/mL: Hf, Ir, Sb, Sn, Ta, Tl, Zr	125 mL	N9303948
PerkinElmer Pure VI			
1 mol/L HNO ₃ / tr Tartaric Acid	10 µg/mL: Ag, Al, Ba, Bi, Cd, Co, Cr, Cu, Ga, K, Li, Mg, Mn, Mo, Na, Ni, Pb, Rb, Sr, Te, Tl, U, V 100 µg/mL: As, B, Be, Fe, Se, Zn 1000 µg/mL: Ca	125 mL	N9307741

Mixed Calibration Standards

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

Mixed Calibration Standards (con't)

Matrix	Contents	Vol.	Part No.
Mixed Calibration Standard 5			
5% HNO ₃ tr Tartaric Acid/ tr HF	1,000 µg/mL: Mg 200 µg/mL: Sb, Tl 100 µg/mL: B 50 µg/mL: Ag	125 mL	N9300204

Spike Standards

Matrix	Contents	Vol.	Part No.
Spike Sample Standard I			
5% HNO ₃ tr Tartaric Acid/ tr HF	200 µg/mL: Al, As, Ba, Se, Tl 100 µg/mL: Fe 50 µg/mL: Co, Mn, Ni, Pb, Sb, V, Zn	125 mL	N9300230
Spike Sample Standard I (water)			
5% HNO ₃ tr Tartaric Acid/ tr HF	500 µg/mL: Fe 250 µg/mL: Ba, Zn 100 µg/mL: Co, Cr, Cu, Mn, Ni, Sb, V 50 µg/mL: As, Pb 25 µg/mL: Ag, Be, Cd, Se, Tl	125 mL	N9303839
Spike Sample Standard 2 (soil)			
5% HNO ₃ tr Tartaric Acid/ tr HF	250 µg/mL: Ba, Cr, Cu, Zn 150 µg/mL: V 125 µg/mL: Ni 100 µg/mL: Co, Pb, Sb 50 µg/mL: As, Cd 25 µg/mL: Ag, Be, Se, Tl	125 mL	N9303840
Spike Sample Standard 3 (for ILM 05.2)			
5% HNO ₃ tr Tartaric Acid/ tr HF	200 µg/mL: Al, Ba 50 µg/mL: Co, Mn, Ni, V, Zn 25 µg/mL: Cu 20 µg/mL: Cr 10 µg/mL: Sb 5 µg/mL: Ag, Be, Cd, Tl 4 µg/mL: As 2 µg/mL: Pb 1 µg/mL: 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 µg/mL: Sb, Ti	125 mL	N9304130
Quality Control Standard 1B			
10% HNO ₃	1,000 µg/mL: 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 µg/mL: 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 µg/mL: 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 µg/mL: K 500 µg/mL: Si 100 µg/mL: Al, B, Ba, Na 50 µg/mL: 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 µg/mL: Al, As, Pb, Sb, Se, Ti 50 µg/mL: Ba, Co, Cu, Ni 20 µg/mL: Cr, Fe, Mn 10 µg/mL: Ag 5 µg/mL: Be, Cd	125 mL	N9300244

AA Test Mix

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

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 ₄ H ₂ PO ₄	10% NH ₄ H ₂ PO ₄	100 mL	N9303445

Reagents

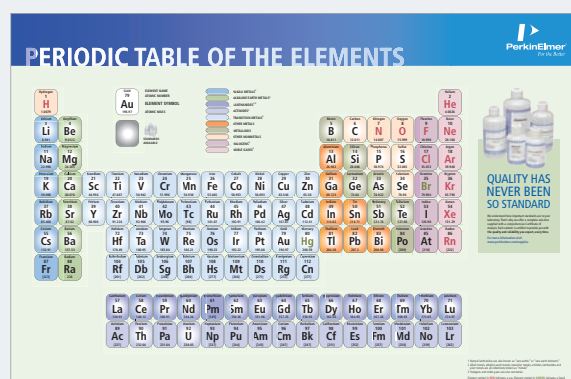
Description	Vol.	Part No.
Triton® X-100 Wetting Agent	100 mL	N9300260
Antifoaming Silicone Emulsion	500 mL	B0507226
Glycerol	1 L	B3141064

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ENVIRONMENTAL ANALYSIS STANDARDS



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Environmental Method Sets

Matrix	Contents	Vol.	Part No.
Environmental Standard Kit for NexION Standard Mode			N9307118
1 bottle each:			
5% HNO ₃	1,000 µg/mL: Ca, K, Mg, Na	125 mL	N9307805
5% HNO ₃	1,000 µg/mL: Al, Fe	125 mL	N9307806
5% HNO ₃ / tr Tartaric Acid/ tr HF	100 µg/mL: 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 µg/mL: B, Th, U	125 mL	N9307807
5% HNO ₃	10 µg/mL: Hg	125 mL	N9300253
2% HNO ₃	50 µg/mL: Sc, Ge 10 µg/mL: Rh, In, Tb	125 mL	N9308591
Environmental Standard Kit for NexION KED/DRC Mode			N9307119
1 bottle each:			
5% HNO ₃	1,000 µg/mL: Ca, K, Mg, Na	125 mL	N9307805
5% HNO ₃	1,000 µg/mL: Al, Fe	125 mL	N9307806
5% HNO ₃ / tr Tartaric Acid/ tr HF	100 µg/mL: 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 µg/mL: B, Th, U	125 mL	N9307807
5% HNO ₃	10 µg/mL: Hg	125 mL	N9300253
2% HNO ₃	100 µg/mL: Sc 50 µg/mL: Ge 1 µg/mL: Rh, In, Tb	125 mL	N9308592

Environmental Method Sets (con't)

Matrix	Contents	Vol.	Part No.
Environmental Standard Kit for ELAN non-DRC/ Standard ICP-MS Instruments			N9307111
1 bottle each:			
5% HNO ₃	1,000 µg/mL: Ca, K, Mg, Na	125 mL	N9307805
5% HNO ₃	1,000 µg/mL: Al, Fe	125 mL	N9307806
5% HNO ₃ / tr Tartaric Acid/ tr HF	100 µg/mL: 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 µg/mL: B, Th, U	125 mL	N9307807
5% HNO ₃	10 µg/mL: Hg	125 mL	N9300253
Internal Standard Mix			
5% HNO ₃ / tr HCL	50 µg/mL: Sc 20 µg/mL: Ge 10 µg/mL: In, Ir, Li6, Rh, Tb, Y	125 mL	N9307808
Environmental Standard Kit for ELAN DRC Instruments			N9307112
1 bottle each:			
5% HNO ₃	1,000 µg/mL: Ca, K, Mg, Na	125 mL	N9307805
5% HNO ₃	1,000 µg/mL: Al, Fe	125 mL	N9307806
5% HNO ₃ / tr Tartaric Acid/ tr HF	100 µg/mL: 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 µg/mL: B, Th, U	125 mL	N9307807
5% HNO ₃	10 µg/mL: Hg	125 mL	N9300253
5% HNO ₃ / tr HCL	Internal Standard Mix 200 µg/mL: Sc 20 µg/mL: Ga 10 µg/mL: In, Ir, Rh, Tm	125 mL	N9307738
Contract Lab Program Modification Set			N9307103
1 bottle each:			
2% HNO ₃ / 5% HCL	10 µg/mL: Ba, Be, Ce, Co, In, Li, Mg, Pb, Rh, Tl, U, Y	125 mL	N9303843
2% HNO ₃ / tr Tartaric Acid/ tr HF	20 µg/mL: 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 µg/mL: 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 µg/mL: Ca, K, Mg, Na 20 µg/mL: Al, Ba 10 µg/mL: Fe 6 µg/mL: Sb 5 µg/mL: Co, V 4 µg/mL: Ni 2.5 µg/mL: Cu 2 µg/mL: Zn 1.5 µg/mL: Mn 1 µg/mL: Ag, As, Cr, Tl 0.5 µg/mL: Be, Cd, Se 0.3 µg/mL: Pb	125 mL	N9303819
2% HNO ₃ / tr Tartaric Acid/ tr HF	10 µg/mL: Ag, Al, As, Ba, Be, Cd, Co, Cr, Cu, Mn, Ni, Pb, Sb, Se, Tl, V, Zn	125 mL	N9303821
5% HNO ₃	10 µg/mL: Hg	125 mL	N9300253
2% HNO ₃	200 µg/mL: Ca, Fe, K, Mg, Na		N9303822
2% HNO ₃	10 µg/mL: Mo, Th, U		N9303823
2% HNO ₃ / tr HF	10 µg/mL: Mo, Sn, Sr, Ti	125 mL	N9303824

Environmental Method Sets (con't)

Matrix	Contents	Vol.	Part No.
5% HNO ₃ / tr HF	21,215 µg/mL: Cl 3,000 µg/mL: Ca 2,500 µg/mL: Fe, Na 2,000 µg/mL: C 1,000 µg/mL: Al, K, Mg, P, S 20 µg/mL: Mo, Ti	125 mL	N9303827
2% HNO ₃	20 µg/mL: Co, Cr, Cu, Mn, Ni, V 10 µg/mL: As, Cd, Se, Zn 5 µg/mL: Ag	125 mL	N9303829
5% HNO ₃ / tr Tartaric Acid/ tr HF	500 µg/mL: Fe 250 µg/mL: Ba, Zn 100 µg/mL: Co, Cr, Cu, Mn, Ni, Sb, V 50 µg/mL: As, Pb 25 µg/mL: Ag, Be, Cd, Se, Tl	125 mL	N9303839
5% HNO ₃ / tr Tartaric Acid/ tr HF	250 µg/mL: Ba, Cr, Cu, Zn 150 µg/mL: V 125 µg/mL: Ni 100 µg/mL: Co, Pb, Sb 50 µg/mL: As, Cd 5 µg/mL: Ag, Be, Se, Tl	125 mL	N9303840
5% HNO ₃	1,000 µg/mL: Al, Ca, Fe, K, Mg, Na 20 µg/mL: Ag, As, Ba, Be, Cd, Co, Cr, Cu, Mn, Ni, Pb, Se, Tl, V, Zn	125 mL	N9303835
H ₂ O/tr HF	7,200 µg/mL: Cl 2,000 µg/mL: C 1,000 µg/mL: P, S 20 µg/mL: Mo, Sb, Ti	125 mL	N9303836
Calibration Standards Set for Method 6010			N9307104
1 bottle each:			
5% HNO ₃	5,000 µg/mL: Ca, K, Mg, Na	125 mL	N9300218
5% HNO ₃	400 µg/mL: Ni 200 µg/mL: Zn 150 µg/mL: Mn 100 µg/mL: Ag, Cr	125 mL	N9300219
5% HNO ₃	2,000 µg/mL: Al, Ba 1,000 µg/mL: Fe 500 µg/mL: Co, V 250 µg/mL: Cu 50 µg/mL: Be	125 mL	N9300220
5% HNO ₃	100 µg/mL: As, Tl 50 µg/mL: Cd, Pb, Se	125 mL	N9300221
H ₂ O/tr HF	10 µg/mL: B, Ge, Mo, Nb, P, Re, S, Si, Ta, Ti, W, Zr	125 mL	N9300235
2% HNO ₃	1,000 µg/mL: Li	500 mL	N9300129
2% HNO ₃	1,000 µg/mL: Sb	500 mL	N9300101
2% HNO ₃	1,000 µg/mL: Sr	500 mL	N9300153
20% HNO ₃	1,000 µg/mL: Sn	500 mL	N9300161
2% HNO ₃	1,000 µg/mL: Cr	500 mL	N9300112
2% HNO ₃	1,000 µg/mL: Cu	500 mL	N9300114
2% HNO ₃	1,000 µg/mL: Mn	500 mL	N9300132
2% HNO ₃	1,000 µg/mL: Ni	500 mL	N9300136
H ₂ O/tr HF	1,000 µg/mL: Ti	500 mL	N9300162
2% HNO ₃	1,000 µg/mL: V	500 mL	N9300165
2% HNO ₃	1,000 µg/mL: Al	500 mL	N9300100
2% HNO ₃	1,000 µg/mL: Ca	500 mL	N9300108
2% HNO ₃	1,000 µg/mL: Fe	500 mL	N9300126
2% HNO ₃	1,000 µg/mL: Mg	500 mL	N9300131

Environmental Method Sets (con't)

Matrix	Contents	Vol.	Part No.
Internal Standard Set for Method 6010 & 200.7			N9307105
1 bottle each:			
2% HNO ₃	1,000 µg/mL: Y	500 mL	N9300167
2% HNO ₃	1,000 µg/mL: Sc	500 mL	N9300148
Interference Solutions for Method 6010			N9307106
1 bottle each:			
2% HNO ₃	1,000 µg/mL: Al	125 mL	N9300184
2% HNO ₃	1,000 µg/mL: Ca	500 mL	N9300108
2% HNO ₃	1,000 µg/mL: Mg	125 mL	N9300179
2% HNO ₃	1,000 µg/mL: Fe	500 mL	N9300126
2% HNO ₃	1,000 µg/mL: K	500 mL	N9300141
2% HNO ₃	1,000 µg/mL: Na	500 mL	N9300152
2% HNO ₃	1,000 µg/mL: Cr	500 mL	N9300112
2% HNO ₃	1,000 µg/mL: Cu	500 mL	N9300114
2% HNO ₃	1,000 µg/mL: Mn	500 mL	N9300132
2% HNO ₃	1,000 µg/mL: Ni	500 mL	N9300136
H ₂ O/tr HF	1,000 µg/mL: Ti	500 mL	N9300162
2% HNO ₃	1,000 µg/mL: V	500 mL	N9300165
5% HNO ₃	5,000 µg/mL: Al, Ca, Mg 2,000 µg/mL: Fe	500 mL	N9300226
5% HNO ₃ / tr Tart-HF	100 µg/mL: Cd, Ni, Zn 60 µg/mL: Sb 50 µg/mL: Ba, Be, Co, Cr, Cu, Mn, V 20 µg/mL: Ag 10 µg/mL: As, Tl 5 µg/mL: Pb, Se	125 mL	N9300227
5% HNO ₃	1,000 µg/mL: Cr, Cu, Mn, Ni, Ti, V	500 mL	N9300228
5% HNO ₃ / tr Tartaric Acid/ tr HF	100 µg/mL: Al, As, B, Mo, Na, Sb, Se, Tl 10 µg/mL: Ca, Fe, Mg, Si	125 mL	N9300229
Calibration Standards for Method 200.7			N9307107
5% HNO ₃	5,000 µg/mL: Ca, K, Mg, Na	125 mL	N9300218
5% HNO ₃	400 µg/mL: Ni 200 µg/mL: Zn 150 µg/mL: Mn 100 µg/mL: Ag, Cr	125 mL	N9300219
5% HNO ₃	2,000 µg/mL: Al, Ba 1,000 µg/mL: Fe 500 µg/mL: Co, V 250 µg/mL: Cu 50 µg/mL: Be	125 mL	N9300220
5% HNO ₃	100 µg/mL: As, Tl 50 µg/mL: Cd, Pb, Se	125 mL	N9300221
H ₂ O/tr HF	10 µg/mL: B, Ge, Mo, Nb, P, Re, S, Si, Ta, Ti, W, Zr	125 mL	N9300235
2% HNO ₃	1,000 µg/mL: Li	500 mL	N9300129
2% HNO ₃	1,000 µg/mL: Sb	500 mL	N9300101
2% HNO ₃	1,000 µg/mL: Sr	500 mL	N9300153
20% HNO ₃	1,000 µg/mL: Sn	500 mL	N9300161
2% HNO ₃	1,000 µg/mL: Cr	500 mL	N9300112
2% HNO ₃	1,000 µg/mL: Cu	500 mL	N9300114
2% HNO ₃	1,000 µg/mL: Mn	500 mL	N9300132
2% HNO ₃	1,000 µg/mL: Ni	500 mL	N9300136
H ₂ O/tr HF	1,000 µg/mL: Ti	500 mL	N9300162
2% HNO ₃	1,000 µg/mL: V	500 mL	N9300165
2% HNO ₃	1,000 µg/mL: Al	500 mL	N9300100
2% HNO ₃	1,000 µg/mL: Ca	500 mL	N9300108
2% HNO ₃	1,000 µg/mL: Fe	500 mL	N9300126
2% HNO ₃	1,000 µg/mL: Mg	500 mL	N9300131

STANDARDS

Environmental Method Sets (con't)

Matrix	Contents	Vol.	Part No.
Interference Solutions for Method 200.7			N9307108
2% HNO ₃	1,000 µg/mL: Al	125 mL	N9300184
2% HNO ₃	1,000 µg/mL: Ca	500 mL	N9300108
2% HNO ₃	1,000 µg/mL: Mg	125 mL	N9300179
2% HNO ₃	1,000 µg/mL: Fe	500 mL	N9300126
2% HNO ₃	1,000 µg/mL: K	500 mL	N9300141
2% HNO ₃	1,000 µg/mL: Na	500 mL	N9300152
5% HNO ₃	5,000 µg/mL: Al, Ca, Mg 2,000 µg/mL: Fe	500 mL	N9300226
5% HNO ₃ / tr Tart-HF	100 µg/mL: Cd, Ni, Zn 60 µg/mL: Sb 50 µg/mL: Ba, Be, Co, Cr, Cu, Mn, V 20 µg/mL: Ag 10 µg/mL: As, Tl 5 µg/mL: Pb, Se	125 mL	N9300227
Environmental EPA Set 1			N9307110
2% HNO ₃	500 µg/mL: Pb 200 µg/mL: Se 150 µg/mL: Cd, Zn 100 µg/mL: Mn 50 µg/mL: Be	125 mL	N9300200
5% HNO ₃	10,000 µg/mL: Fe 100 µg/mL: Ba, Co, Cu, V	125 mL	N9300201
2% HNO ₃ / tr HF	500 µg/mL: As 100 µg/mL: Mo, Si	125 mL	N9300202
5% HNO ₃	1,000 µg/mL: Ca 400 µg/mL: K 200 µg/mL: Al, Na 20 µg/mL: Cr, Ni	125 mL	N9300203
5% HNO ₃ / tr Tart-HF	1,000 µg/mL: Mg 200 µg/mL: Sb, Tl 100 µg/mL: B 50 µg/mL: Ag	125 mL	N9300204
5% HNO ₃	20,000 µg/mL: K 1,000 µg/mL: As, Pb, Tl 500 µg/mL: Se 300 µg/mL: Ag, Ba, Cd, Co, Cr, Cu, Ni, V, Zn 200 µg/mL: Mn 100 µg/mL: Be	125 mL	N9300205
5% HNO ₃	100 µg/mL: Hg	125 mL	N9300223
5% HNO ₃	6,000 µg/mL: Ca 5,000 µg/mL: Fe 3,000 µg/mL: Mgs 1,200 µg/mL: Al 1,000 µg/mL: Na	125 mL	N9300208
H ₂ O/tr HNO ₃ / 0.6% Tartaric Acid	1,000 µg/mL: 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 µg/mL: Pb 200 µg/mL: Se 150 µg/mL: Cd, Zn 100 µg/mL: Mn 50 µg/mL: Be	125 mL	N9300200
5% HNO ₃	10,000 µg/mL: Fe 100 µg/mL: Ba, Co, Cu, V	125 mL	N9300201
2% HNO ₃ / tr HF	500 µg/mL: As 100 mg/mL: Mo, Si	125 mL	N9300202

Matrix	Contents	Vol.	Part No.
5% HNO ₃	1,000 µg/mL: Ca 400 µg/mL: K 200 µg/mL: Al, Na 20 µg/mL: Cr, Ni	125 mL	N9300203
5% HNO ₃ / tr Tart-HF	1,000 µg/mL: Mg 200 µg/mL: Sb, Tl 100 µg/mL: B 50 µg/mL: Ag	125 mL	N9300204
5% HNO ₃	20,000 µg/mL: K 1,000 µg/mL: As, Pb, Tl 500 µg/mL: Se 300 µg/mL: Ag, Ba, Cd, Co, Cr, Cu, Ni, V, Zn 200 µg/mL: Mn 100 µg/mL: Be	125 mL	N9300205
5% HNO ₃	6,000 µg/mL: Ca 5,000 µg/mL: Fe 3,000 µg/mL: Mgs 1,200 µg/mL: Al 1,000 µg/mL: Na	125 mL	N9300208
H ₂ O/tr HNO ₃ / 0.6% Tartaric Acid	1,000 µg/mL: 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 µg/mL: Ba 10 µg/mL: Ag, As, Cr, Hg*, Pb 5 µg/mL: Cd, Se	125 mL	N9300216
Secondary Drinking Water Metals			
2% HNO ₃	500 µg/mL: Zn 100 µg/mL: Cu 30 µg/mL: Fe 5 µg/mL: Mn	125 mL	N9300217
Trace Metals I			
5% HNO ₃	500 µg/mL: Al 250 µg/mL: V 100 µg/mL: As, Be, Co, Cr, Cu, Fe Mn, Ni, Pb, Zn 25 µg/mL: Cd, Se 10 µg/mL: Hg* <small>*Supplied in separate bottle.</small>	125 mL	N9300211
Trace Metals II			
2% HNO ₃	20 µg/mL: Sb, Tl 10 µg/mL: Ag	125 mL	N9300212
Trace Metals III			
2% HNO ₃	500 µg/mL: Ba, Ca, Mo, Na 100 µg/mL: K, Mg	125 mL	N9300213
Alternate Metals I			
2% HNO ₃	20 µg/mL: Al, Fe, V 10 µg/mL: Co, Cu, Mn, Ni, Zn 5 µg/mL: Be, Sb, Tl	125 mL	N9300214
Alternate Metals II			
2% HNO ₃	500 µg/mL: Ca, Na 100 µg/mL: K, Mg	125 mL	N9300215
Alternate Metals II			
2% HNO ₃	500 µg/mL: Ca, Na 100 µg/mL: K, Mg	500 mL	N9303952

Toxicity Characteristic Leachate Procedure (TCLP) Standard

Matrix	Contents	Vol.	Part No.
TCLP Standard 1			
2% HNO ₃	500 µg/mL: Ba 25 µg/mL: Ag, As, Cr, Pb 100 µg/mL: Hg* 5 µg/mL: Cd, Se *Supplied in separate bottle.	500 mL	N9300241

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	Vol.	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



GOLD NANOPARTICLE STANDARDS

Description	Diam (nm)	Number of Particles/mL	Vol. (mL)	Part No.
30 nm Spherical Au Nanoparticle in DI Water	30	2.00E+11	25	N8142300
40 nm Spherical Au Nanoparticle in DI Water	40	8.70E+10	25	N8142301
50 nm Spherical Au Nanoparticle in DI Water	50	4.50E+10	25	N8142302
60 nm Spherical Au Nanoparticle in DI Water	60	2.60E+10	25	N8142303
70 nm Spherical Au Nanoparticle in DI Water	70	1.60E+10	25	N8142304
80 nm Spherical Au Nanoparticle in DI Water	80	1.10E+10	25	N8142305
90 nm Spherical Au Nanoparticle in DI Water	90	7.80E+09	25	N8142306
100 nm Spherical Au Nanoparticle in DI Water	100	5.70E+09	25	N8142307

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 µg/mL: 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 µg/mL: 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 µg/mL: Ca, Fe, K, Mg, Na	125 mL	N9303818
Initial Calibration Verification Standard 1			
5% HNO ₃ / tr Tartaric Acid	1,000 µg/mL: Ca, Fe, K, Mg, Na, Sr 10 µg/mL: 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 µg/mL: 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			
Solution Kit (Includes items listed below)			N8120541
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

Instrument Calibration Standards (con't)

Matrix	Contents	Vol.	Part No.
ELAN 9000/6100 Solution Kit			
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
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, Rh, Sc, Pb, Mg, Rh, Sc, Tl, U	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 µg/mL: 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 µg/mL: K 10 µg/mL: La, Li, Mn, Na, Sr 1 µg/mL: Ba, Ca	250 mL	N9302946
UV Wavecal Solution			
5% HCL	100 µg/mL: K, P, S 20 µg/mL: As, La, Li, Mn, Mo, Na, Mo, Na, Ni, Sc	250 mL	N0681470
5% HCL	100 µg/mL: K, P, S 20 µg/mL: As, La, Li, Mn, Mo, Na, Ni, Sc 1 µg/mL: Ca	500 mL	N0582152
Low UV Standard			
2% HNO ₃	10 µg/mL: Al, P, S	250 mL	N0691580
Calcium Stray Light Standard			
H ₂ O	10,000 µg/mL: 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 µg/mL: Ca, K, Mg, Na 200 µg/mL: Al, Ba 100 µg/mL: Fe 60 µg/mL: Sb 50 µg/mL: Co, V 40 µg/mL: Ni 25 µg/mL: Cu 20 µg/mL: Zn 15 µg/mL: Mn 10 µg/mL: Ag, As, Cr, Tl 5 µg/mL: Be, Cd, Se 3 µg/mL: Pb	500 mL	N9300224
5% HNO ₃ / tr Tartaric Acid	500 µg/mL: Ca, K, Mg, Na 200 µg/mL: Al, Ba 100 µg/mL: Fe 60 µg/mL: Sb 50 µg/mL: Co, V 40 µg/mL: Ni 25 µg/mL: Cu 20 µg/mL: Zn 15 µg/mL: Mn 10 µg/mL: Ag, As, Cr, Tl 5 µg/mL: Be, Cd, Se 3 µg/mL: Pb	125 mL	N9303953

Instrument Calibration Standards for CLP

Matrix	Contents	Vol.	Part No.
Instrument Calibration Standard 1			
5% HNO ₃	5,000 µg/mL: Ca, K, Mg, Na	125 mL	N9300218
Instrument Calibration Standard 2			
5% HNO ₃	400 µg/mL: Ni 200 µg/mL: Zn 150 µg/mL: Mn 100 µg/mL: Ag, Cr	125 mL	N9300219
Instrument Calibration Standard 3			
5% HNO ₃	2,000 µg/mL: Al, Ba 1,000 µg/mL: Fe 500 µg/mL: Co, V 250 µg/mL: Cu 50 µg/mL: Be	125 mL	N9300220
Instrument Calibration Standard 4			
5% HNO ₃	100 µg/mL: As, Tl 50 µg/mL: Cd, Se 30 µg/mL: 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 µg/L: Ba 1 µg/L: Be, Ce, Co, In, Fe, Pb, Mg, Co, Cr, Cu, Mn, Ni, Pb, Sb, Se, Tl, V, Zn	125 mL	N9303821
Instrument Check Standard 3			
2% HNO ₃	200 µg/mL: Ca, Fe, K, Mg, Na	125 mL	N9303822
Instrument Check Standard 4			
2% HNO ₃	10 µg/mL: Mo, Th, U	125 mL	N9303823
Instrument Check Standard 5			
2% HNO ₃ / tr HF	10 µg/mL: Mo, Sn, Sr, Ti	125 mL	N9303824

Interference Check Standards

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

*Supplied in separate bottle.

STANDARDS

Internal Standard Solutions

Matrix	Contents	Vol.	Part No.
Multi-Element Internal Standard			
2% HNO ₃	10 µg/mL: Bi, Ho, In, Li6, Sc, Tb, Y	125 mL	N9303834
Internal Standard Mix			
5-10% HNO ₃	10 µg/mL: Bi, Ge, In, Li6, Sc, Tb, Y	125 mL	N9303832
Internal Standard Mix			
5-10% HNO ₃	10 µg/mL: Bi, Ge, In, Li6, Sc, Tb, Y	125 mL	N9303833

Contract Required Detection Limits (CRDL)

Matrix	Contents	Vol.	Part No.
5% HNO ₃ / tr Tartaric Acid/ tr HF	120 µg/mL: Sb 100 µg/mL: Co, V 80 µg/mL: Ni 50 µg/mL: Cu 40 µg/mL: Zn 30 µg/mL: Mn 20 µg/mL: Ag, As, Cr, Tl 10 µg/mL: Be, Cd, Se 6 µg/mL: Pb	125 mL	N9300225

Performance Verification Standards

Matrix	Contents	Vol.	Part No.
Methanol Blank Solution			
1% Semiconductor Grade	10 µg/mL: Cr	125 mL	N8125037
Chromium in Methanol Solution			
1% Semiconductor Grade Methanol	10 µg/mL: Cr	125 mL	N8125038
Selenium Solution			
5% HNO ₃	10 µg/mL: Se	250 mL	N8125039
NexION® 300Q Solution Kit – Non-Cell			
Solution Kit (Includes items listed below)			N8140503
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			
Solution Kit (Includes items listed below)			N8140504
1% HNO ₃	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
	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

Instrument Calibration Standards (con't)

Matrix	Contents	Vol.	Part No.
	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 µg/mL: 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 µg/mL: Sc 50 µg/mL: Ge 1 µg/mL: Rh, In, Tb	125 mL	N9308592
NexION 300Q Internal Standard Stock Solution			
2% HNO ₃	50 µg/mL: Sc, Ge 10 µg/mL: Rh, In, Tb	125 mL	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 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)			
Solution Kit (Includes items listed below)			N9306225
5% HNO ₃	10 µg/mL: Ce, Dy, Er, Eu, Gd, Ho, La, Lu, Nd, Pr, Sm, Sc, Tb, Th, Tm, Y, Yb	125 mL	N9300232
5% HNO ₃	10 µg/mL: 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, Ti, U, V, Zn	125 mL	N9300233
10% HCl/ 1% HNO ₃	10 µg/mL: Au, Hf, Ir, Pd, Pt, Rh, Ru, Sb, Sn, Te	125 mL	N9300234
5% HNO ₃	10 µg/mL: Hg	125 mL	N9300253
H ₂ O/tr HF /tr HNO ₃	10 µg/mL: B, Ge, Mo, Nb, P, Re, S, Si, Ta, Ti, W, Zr	125 mL	N9300235

*Supplied in separate bottle.



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 µg/mL: Li6	125 mL	N9303955

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
5% HNO ₃ in ASTM® Type I Water	500 mL	N9308571

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.

Lubricants 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.

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
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

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

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

STANDARDS



V-Solv™ ICP
Solvent 1 Gallon



V-Solv™ ICP
Solvent 5 Gallon

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.

Citrajel cleaner is ideal for use in labware washers, manual and ultrasonic cleaning. Use on glassware, metals, plastics, ceramics, porcelain, rubber and fiberglass. Corrosion inhibiting formula removes metal oxides, scale, salts, inorganic residues, trace metals and amphoteric proteins. Suitable for acid washing and rinsing.

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	hydrocarbon oil	1 Gal.	N9308265
V-Solv™ ICP Solvent	hydrocarbon oil	5 Gal.	N9308378
Citrajel® Liquid Acid Cleaner		1 Gal.	N0777063
Citrajel® Liquid Acid Cleaner		5 Gal.	N0777064

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

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

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	50 g	N9308278
Karl Fischer Water in Oil, 0.1%	10W30 motor oil	400 g	N9308279
Karl Fischer Water in Oil, 0.5%	10W30 motor oil	50 g	N9308280
Karl Fischer Water in Oil, 1.0%	10W30 motor oil	50 g	N9308281

Soot Content Standards

Nominal Water Concentration (%)	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

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
Metals in Biodiesel - Ca, K, Mg, Na, P @ 5µg/g	B100 Biodiesel	100 g	N9308726

Coolant Standards

Description	Matrix	Size	Part No.
Custom HI 1A: Al @ 10µg/mL; Mg @ 20µg/mL; Ca @ 32µg/mL; Cu, Fe, Pb, Zn @ 50µg/mL; B @ 1000µg/mL; P @ 2000µg/mL; K @ 5000µg/mL; Na @ 10,000µg/mL 3% HNO ₃ (v/v)		500mL	N9308341
Custom QC 1A: Al, Cu @ 5µg/mL; Mg @ 10µg/mL; Zn @ 20µg/mL; Fe, Pb @ 25µg/mL; Ca @ 50µg/mL; B @ 250µg/mL; P @ 1000µg/mL; K @ 2500µg/mL; Na @ 5000µg/mL 3% HNO ₃ (v/v)		500mL	N9308342
Custom LO 1A: Al, Cu @ 2µg/mL; Mg, Zn @ 4µg/mL; Fe @ 5µg/mL; Ca, Pb @ 10µg/mL; B @ 50µg/mL; P @ 400µg/mL; K, Na @ 1000µg/mL 3% HNO ₃ (v/v)		500mL	N9308343
Custom QC 1B: Sn @ 10µg/mL; Si @ 30µg/mL; Mo @ 50µg/mL 3% HNO ₃ (v/v)/tr HF 500mL		500mL	N9308344
Custom LO 1B: Sn @ 5µg/mL; Si @ 10µg/mL; Mo @ 20µg/mL 3% HNO ₃ (v/v)/tr HF		500mL	N9308345
Custom HI 1B: Sn @ 20µg/mL; Mo, Si @ 100µg/mL 3% HNO ₃ (v/v)/tr HF		500mL	N9308346

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

STANDARDS



OilExpress Standards

Description	Matrix	Size	Part No.
In-Service Lubricants FT-IR Control Standard	15W40 Diesel Oil	100 g	N9308350
In-Service Lubricants FT-IR Control Standard	15W40 Diesel Oil	500 g	N9308375
OilExpress 4 Test Oil 120 cSt	PAO Oils	500 g	N9308351
OilExpress 4 Test Oil 360 cSt	PAO Oils	100 g	N9308352
OilExpress 4 System Liquid Detergent Additive		100 g	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 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

Viscosity Reference Standards



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 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).

Description	Size	Part No.
Sample for Particle Count Analysis	125 mL	N9308725

Note: Particle Count PTP test standard includes 8 channels (4, 6, 8, 14, 21, 38, 50 and 70 µm). One bottle for ISO 11171 only.

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

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

PolyScience® WhisperCool™ Refrigerated Chiller

The PolyScience® WhisperCool® Refrigerated Chiller is designed to deliver quiet and reliable performance over a broad range of operating temperatures and conditions. Extremely dependable and energy efficient, it features a -10 to 40 °C operating temperature range, built-in process and equipment protection, and highly intuitive user interface. This chiller is designed for use on both ICP-OES and ICP-MS instruments.

Key Advantages

- 50% quieter operation than comparable models (62 dB*)
- 2900 watts (9889 BTU/hour) cooling capacity
- Built-in temperature, pressure, and flow rate alarms

* WhisperCool® environmental control reduces operational noise (62 dB)

ICP Chiller Coolant Mix
Part No: N0776099



Ordering Information

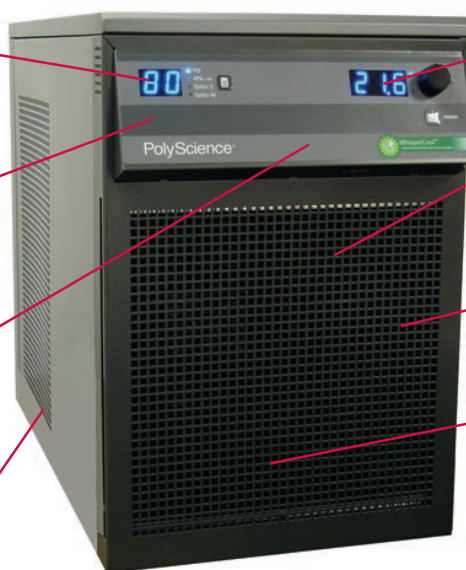
Part No.	N0772046	N0772045
Electrical Requirements	208-230 V, 60 Hz, 12.2 A	240 V, 50 Hz, 12.2 A
Operating Temperature Range	-10 to 40 °C	-10 to 40 °C
Temperature Stability	±0.1 °C (±1.8 °F)	±0.1 °C (±1.8 °F)
Cooling Capacity	at 20 °C 2900 Watts (9889 BTU/hr) at 10 °C 1925 Watts (6574 BTU/hr) at 0 °C 1000 Watts (3410 BTU/hr)	2650 Watts (9889 BTU/hr) 1900 Watts (6574 BTU/hr) 1200 Watts (3410 BTU/hr)
Compressor	1.0 HP	1.0 HP
Reservoir Capacity	4.2 L	4.2 L
Pump Type	Turbine	Turbine
Maximum Pump Pressure	90 PSI	83 PSI
Maximum Pump Flow	13.2 LPM	13.2 LPM
Dimensions	22 5/8 x 14 1/2 x 27 5/8 in / 57.6 x 36.8 x 70.2 cm	
Shipping Weight	189 lb / 85.7 kg	
Replacement Air Filter	N0777095 (Air Filter with Frame, 13 x 14 in)	
ICP Chiller Coolant Mix	N0776099 (Five Half-gallon bottles)	
ICPMS Chiller Coolant Mix	WE016558 (1 liter bottles) for ELAN/NexION	
Stainless Steel Strainer for Reservoir	N0691907	

At-a-glance access to pressure and flow rate information

Adaptive environmental technology optimizes compressor and evaporator performance to reduce overall energy consumption

Smart electronics control fan speed based on cooling demand, reducing operating noise by as much as 50%

Louvered side and rear vents for added noise dampening



±0.1 °C temperature stability

High performance turbine pump with vibration isolators for quiet fluid flow

Compact portable design

Washable air filter removes quickly for easy cleaning



Heat Exchanger System

Cooling systems for the ELAN 9000/DRC II/e/NexION systems. Air cooled recirculator without refrigeration. Not to be placed in areas with temperatures above 30 °C (86 °F). Requires the use of Coolant Fluid (WE016558).

ICP-MS Power Requirement	Part No.
120 V, 60 Hz	N8122248
220/250 V, 50/60 Hz	N8122247

NOISE ENCLOSURES



For NexION® Leybold SV40 Vacuum Pump

External Dimensions	Centimeters	Inches
Depth	67.4	26.5
Width	45.6	17.95
Height	55	21.65
Height with oil tray	64.6	25.39
Weight	Kilograms	Pounds (lbs)
Enclosure	14	30.8
Oil tray	8	16.75

Description	Part No.
Noise enclosure (dolly not included)	N8121068
Noise enclosure with Built-in Overheating Temperature Alarm (dolly not included)	N8145407
Noise enclosure dolly (option)	N8121069
Noise reduction cover (dolly not included)	MZ321146
Noise reduction cover dolly (option)	MZ321147



Vacuum Pump
Noise Enclosure



Vacuum Pump
Noise Reduction Cover

Noise Enclosures for Vacuum Pumps and Chillers

Laboratories can be loud and noise in labs is distracting, stressful and potentially harmful to your hearing. While noise in labs may not be frequently talked about, it is something you should be concerned with.

Our noise reduction enclosures are designed specifically for your instrument. They provide noise reduction performance from -12 db(A) up to -20 db(A), equivalent to a 75% reduction in noise perception! Thick 50 mm Polyurethane acoustic open cell foam covers the interior part of the enclosure, delivering good noise absorption. The wave shape of the foam multiplies the absorption capacity, providing you with a quieter, safer lab. Each noise enclosure has efficient air circulation, is easy-to-install and maintain and is compatible with all electrical outlets worldwide.

Chiller Noise Enclosure Key Advantages

- Performance: average sound level decrease is - 15 dB(A) (equivalent to a 75% reduction in noise perception).
- Environment friendly noise adsorbing material, oil and water resistant.
- Heat exchange controlled by six internal silent fans.
- Worldwide electrical compatibility-enclosures are delivered with European, US, Japan, and UK plugs.
- Easy access to front monitor and switch (the transparent window can be opened).
- Easy water level check (window on the back panel).
- Includes Overheating temperature alarm.
- The noise reduction is in conformity with the European directive related to low voltage equipment(2006/95/EC) and electromagnetic compatibility (2004/108/EC).
- Power supply Csa, Ce and Ccc

For Model: Polyscience 6000 Series

External Dimensions	Centimeters	Inches
Depth	88	34.7
Width	57	23.7
Height	71	30.7

Description	Part No.
Chiller Enclosure	N0777920



POWER CONDITIONERS AND UPS SYSTEMS

Damaged or compromised components, disrupted processes, lack of reliability – they all add up to frustration, broken schedules and costly downtime. The problem is caused by a host of power disturbances – some visible and many invisible – that threaten

your equipment’s operation every year. Power “disturbances” are simply those large and small variations in the quality of the electric power you use day in and day out. Some come from your local utility company, but most are created within your own facility as a result of the distribution and use of electrical power. These variations include high-energy voltage transients, sags and swells, electrical noise, and common mode voltage, as well as the power outages everyone witnesses when the lights go out.

Power Conditioners

Instrument Model	Description	Frequency (Hz)	Part No.
ATOMIC ABSORPTION			
AAAnalyst™ 100/200/300/400	520 VA	60	N9307504
AAAnalyst 100/200/300/400/PinAAcle™ 900 F	750 VA	50	N9307521
AAAnalyst 600/800	5.8 kVA	60	N9307511
AAAnalyst 600/800	6.0 kVA	50	N9307523
AAAnalyst 700	3.8 kVA	60	N9307509
AAAnalyst 700	3.6 kVA	50	N9307522
PinAAcle 900 H/T/Z	5.8 kVA	60	N9307760
PinAAcle 900 H/T/Z	6.0 kVA	50	N9307523
PinAAcle 900F	720 VA	60	N9307515
ICP-OES			
Optima™ 2x00/4x00/5x00/7x00/8x00	3.8 kVA	60	N9307512
Optima 2x00/4x00/5x00/7x00/8x00	3.6 kVA	50	N9307522
ICP-MS			
ELAN® 6x00/9000 Controller Side	3.8 kVA	60	N9307519
ELAN 6x00/9000 Controller Side	3.6 kVA	50	N9307522
AAAnalyst 600/800/ELAN 6x00/9000 RF Generator Side	5.8 kVA	60	N9307511
ELAN 6x00/9000/NexION® RF Generator Side	6.0 kVA	50	N9307523
NexION	5.0 kVA	60	N0777690
TITAN MPST™			
Titan MPS	2.0 kVA	60	N9306758
Titan MPS	2.0 kVA	50	N9306755



On-Line Conditioned Uninterruptable Power Supply Systems

With the Security Plus Series, you get much more protection and a higher comfort level than you get with most other UPS systems. The Security Plus Series also provides complete power conditioning and, because the Security Plus Series features on-line inverter design, added peace of mind. And regardless of input fluctuations, the Security Plus Series insures that the output remains continuous and regulated.

UPS Systems

Instrument Model	Description	Frequency (Hz)	Part No.
ATOMIC ABSORPTION			
PinAAcle 900F/AAAnalyst 100/200/300/400	800 VA	60	N0777681
PinAAcle 900F/AAAnalyst 100/200/300/400	800 VA	50	N0777689
AAAnalyst 700/HGA 900	5.2 kVA	50/60	N9308150
PinAAcle 900 T/H/Z	10 kVA	50/60	N9306757
AAAnalyst 600/800	10 kVA	50/60	N0777613
ICP-OES			
Optima 2x00/4x00/5x00/7x00/8x00	5.2 kVA	50/60	N0777511
ICP-MS			
NexION	8.0 kVA	50/60	N0777682
ELAN	12 kVA	50/60	N0777719



TESTED AND APPROVED

Acetylene Regulator

For AA labs, this regulator includes an adapter so that the pressure regulator can be connected to cylinders requiring either CGA 300 or CGA 510 fittings and a connector for attaching the fuel hose assembly supplied with the instrument. Includes hose assembly.



Description	Part No.
Max Inlet Pressure: 400 psig	03030106

Air Regulator

For AA labs. Regulator to cylinder CGA no. 590. Includes hose assembly.



Description	Part No.
Max Inlet Pressure: 3,000 psig	03030264

Nitrous Oxide Regulator

For use in AA labs with gas cylinders with a CGA 326 connection. Provides pressure control from 350–520 kPa (50–75 psig) and contains an integral thermostatted heater to prevent freezing of the regulator diaphragm.



Description	Part No.
115 V	03030204
220 V	03030349

Argon/Nitrogen Regulator

For AA and ICP, this regulator can be used with argon or nitrogen and has a CGA 580 fitting. A color-coded hose with ¼" SWAGELOK® fittings is also included.



Description	Part No.
Max Inlet Pressure: 3,000 psig	03030284

Matheson Flashback Arrestor

Because acetylene is an extremely unstable gas, users can experience flashbacks at the instrument burner head. The flash arrestor prevents these potentially dangerous flashbacks from reaching the regulator or cylinder.



Description	Part No.
Acetylene Max Operating Pressure: 15 psig	N9300068

Hose Assemblies

Hose assemblies for connecting fuel, air and nitrous oxide from supply to instrument.



Description	Part No.
Acetylene, Red Neoprene, 3.7 m (12 ft)	00570559
Air/Argon, Black, 3.7 m (12 ft)	00570567
Nitrous Oxide, Blue, 3.7 m (12 ft)	00470258

Blower and Vent Assembly for AA and ICP

A venting system is required to remove fumes and vapors from the torch of ICP emission spectrometers. A vent is recommended for use over the power supply unit of most ICP spectrometers for removal of dissipated heat. Use exhaust venting to:

- Protect lab personnel from toxic vapors
- Protect your instrument from corrosive vapors
- Improve stability of the ICP torch



Includes Exhaust Hood, Adapter and Blower. Does not include ducting. PerkinElmer service engineers are not permitted to install this unit.

Description	Part No.
110 V	03030447
230 V	03030448

Parker Balston® 73-099 AA Gas Purifier

For AA labs, this wall-mounted system designed to purify the compressed air and acetylene gases used in atomic absorption. It consists of two independent filtration systems, one for compressed air and one for acetylene. The unit also has a flashback arrestor on the acetylene line and a pressure regulator on the compressed air line.



The 2-stage air filtration assembly consists of a Balston Grade DX coalescing filter and a Balston Grade BX coalescing filter. Together these filters remove oil, water and particulate contamination (99.99% at 0.01 micron) from the compressed air supply.

Description	Part No.
Parker Balston 73-099 AA Gas Purifier	N9301398

Parker Balston® Replacement Filters

Description	Cartridges Part No.	Seal Sets Part Part No.
1st Air Filter	N9301710	N9301712
2nd Air Filter	N9301711	N9301712
Acetylene Filter	N9301714	N9301715

Balston® 95A Acetylene Filter

For your AA lab, this filter includes a Balston Grade BQ filter cartridge to remove liquid and solid contaminants from the acetylene supply to 99.99% at 0.01 micron. Max working pressure: 15 psig.



Description	Part No.
Acetylene Filter	N9301399
Replacement Acetylene Filter Cartridge	N9301714

Balston® Air Filter Assembly Type A-82

For AA and ICP labs, this filter is specifically designed to remove water, oil and dirt particles down to 0.6 microns in diameter from compressed air lines. It is recommended for use with oil-type compressors and for removing moisture and dirt particles from air supplied by oil-less compressors. Also recommended to filter argon for the PinAAcle furnace.



Description	Part No.
Air Filter Assembly	N0580531
Replacement Filter Cartridge Element	N0582251

Air Dryer Filter Assembly with R250 Regulator

To filter compressed air for AA and ICP instrumentation. Replaces 00470652 and N0770198.



Description	Part No.
Air Dryer Filter Assembly with R250 Regulator	N0775325
Replacement Filter Element	N9306067
Float Assembly	N0777710
Bowl O-Ring	N0777328

Wilkerson® Air Dryer Filter Accessories*

Description	Pre-Filter Part Part No.	Final Filter Part No.
Filter Elements	09923464	09907120
Filter Bowls	N9302199	N9302199
Bowl O-Ring Kit, Final Filter	N9302197	N9301715

* For Wilkerson Filter PerkinElmer (00470652)

ICP Filter Replacement Parts

ICP Model	Filter Element	Part No.
2x00/3x00/4x00/5x00/7x00/8x00	Air filter in front of spectrometer fan	09995098
2x00/3x00/4x00	Water Filter	09904845
2x00/3x00/4x00	Cartridge for Water Filter	09904846
2x00/4x00/5x00/7x00/8x00	Air Filter for the RF Generator Inlet	N0775220
3x00	Washable Air Filter for the RF Generator Inlet	02509115
3x00	Disposable Air Filter for the RF Generator Inlet	09923517

Instrument Filters

Description	Part No.
For AAnalyst 100/300/PinAAcle 900	09995097
For AAnalyst 200/400/600/700/800	B0501696
For AAnalyst 600/700/800 (80x80)	B0502706
For Optima 2x00/3x00/4x00/5x00/7x00/8x00	09995098
For NexION (left)	W1036712
For NexION (back right)	W1036713

Polyscience Replacement Air Filters

Description	Part No.
Polyscience Air Filter	N0777359
Polyscience Air Filter with Frame	N0777095
Heat Exchanger Air Filter	N0777360

SAMPLE PREPARATION BLOCKS

SAMPLE PREPARATION BLOCK SYSTEMS



PerkinElmer offers a variety of sample preparation blocks and accessories for your lab needs.

Better laboratory practices demand modern techniques in sample preparation. In the past, hot plates were used to digest samples where common digestion problems involved rusting, cross contamination of digestion system to sample, and poor sample temperature control.

With no exposed metal components and an outer shell manufactured from acid-resistant thermoplastic, the SPB blocks reduce the chances of sample contamination. Each system is constructed with a solid, PTFE-coated, graphite block where a flat heater covers 95% of the block's base. This guarantees temperature uniformity and eliminates hot spots found in hot plates.

All PerkinElmer sample preparation blocks are manufactured to specific tolerances which operates under a Quality Management System that is certified ISO 9001:2008.

Features and Benefits

- Ideal for any digestion/heating method which requires a temperature below 180 °C.
- Provides uniform temperature (± 1.0 °C across the block).
- Delivers even sample evaporation results.
- PTFE-coated graphite block resists aggressive, corrosive attack.
- Choose from 8 different SPB blocks.

“The major advantage of the PerkinElmer Sample Preparation Block is its ability to provide me with accurate temperature across the entire block.

With every run, I am confident that I have excellent recovery rates from my samples and there is no chance of contamination – which is critical when I'm conducting lead testing on my ICP-AES.”

Michigan Department of Community Health
Mark Knottnerus
Trace Metals Manager

Sample Preparation Blocks

The SPB series of block digestion systems offers the latest in graphite block technology in many different packages. Graphite blocks are PTFE-coated to resist aggressive corrosive attack for guaranteed long life in harsh laboratory environments.

Our sample blocks operate with either a SPB Digital Controller or SPB Touch Controller*. Please select a controller below and the appropriate Start Up Kit* which includes RackLock DigiTUBE®, disposable watch glasses, DigiFILTER™s and much more. Each SPB Block includes one set of racks.

Sample Preparation Blocks

Description	Capacity	Part No.
SPB 15-40, (115 V/230 V)	40 Tubes/15 mL	N9308709
SPB 15-108, (115 V/230 V)	108 Tubes/15 mL	N9308710
SPB 50-24, (115 V/230 V)	24 Tubes/50 mL	N9308019
SPB 100-12, (115 V/230 V)	12 Tubes/100 mL	N9308010
SPB 50-48, (115 V/230 V)	48 Tubes/50 mL	N9308004
SPB 100-30, (115 V/230 V)	30 Tubes/100 mL	N9308012
SPB 50-72, (230 V)	72 Tubes/50 mL	N9308005
SPB 100-42, (230 V)	42 Tubes/100 mL	N9308014

*sold separately.



Controllers

The user friendly SPB Digital Controller includes programmable features such as: temperature set-point to 0.1 °C, even sample heating and evaporation results, timer shutdown option, and programmable alarm for end of cycle.

The SPB Touch Controller includes all of the SPB Digital Controller features and more. Added features include: a graphical representation of the heating profile in real-time to identify the current stage of the method heating program. Safety features include the ability of the controller to monitor the heating cycle of the block to prevent run away situations. The controller allows for the SPB Probe to be calibrated to meet your SOP requirements.

The SPB Probe, used with either the Digital or Touch models, can directly monitor and control the block's heating rate via sample temperature feedback to the controller.

Controllers

Description	Part No.
SPB Digital Controller	N9308006
SPB Touch Controller	N9308007

Start Up Kits

PerkinElmer's SPB Start Up kits contain all consumable items required to operate the system including: RackLock DigiTUBE[®]s and Caps, disposable Watch Glasses, DigiFILTER[™]s, RackLock Racks and Storage Racks.

Start Up Kits

Description	DigiTUBE [®] s/ Caps	Watch Glasses	Racks	Part No.
Start Up Kit for SPB 15-40	540		2	N9308704
Start Up Kit for SPB 15-108	540		2	N9308706
Start Up Kit for SPB 50-24	500	1000	1	N9308017
Start Up Kit for SPB 100-12	200	500	1	N9308011
Start Up Kit for SPB 50-48	500	1000	2	N9308002
Start Up Kit for SPB 100-30	200	500	2	N9308013
Start Up Kit for SPB 50-72	500	1000	3	N9308025
Start Up Kit for SPB 100-42	200	500	2	N9308015



DigiFILTER[™]

The vacuum assisted DigiFILTER[™] assembly provides a quick and easy way to filter samples prior to analysis. Increase lab productivity by filtering particulates from digested samples in a matter of seconds directly from the digestion tube. Available with a 0.45 or 1.0 micron hydrophilic PTFE membrane. Field Filtration Kit conforms to Item 8.2 in the EPA 200.7, 200.8 and 200.9 Methods.

DigiFILTERs[™]

Description	Quantity	Part No.
DigiFILTER [™] 0.45 micron for 50 mL DigiTUBE [®] s	100	N9308031
DigiFILTER [™] 1.0 micron for 50 mL DigiTUBE [®] s	100	N9308032
Field Filtration Kit 0.45 for 50 mL DigiTUBE [®] s*	1	N9308033
DigiFILTER [™] Manifold	1	N9308034

*Contains: 25 DigiFILTER[™]s, 30 DigiTUBE[®]s, 1x 6 mL eyedropper bottle to dispense 2 to 3 drops of (1+1) PlasmaPURE[®] Nitric acid, 1 storage rack, 1 Sharpie[®] pen and 2x 60 mL plastic syringes to create a vacuum to filter samples from the collection vessel to the sample tube.

Tubes, Caps and Watch Glasses

Why use a thermometer to monitor and manually adjust sample temperature when a SPB Probe will automatically do the job? The SPB Probe provides direct control and monitoring of actual sample temperature via a corrosion-resistant, PFA-coated temperature probe. Available with different holders in a 6" configuration for use with 50 and 100 mL DigiTUBE[®]s. Each probe is supplied with 5 Probe Watch Glasses and a probe holder.



Tubes, Caps and Watch Glasses

Description	Quantity	Part No.
Tubes		
DigiTUBE [®] s 15 mL with RackLock (incl. caps)	1620	N9308711
DigiTUBE [®] s 15 mL with RackLock (no caps)	1620	N9308712
DigiTUBE [®] s 15 mL with RackLock (incl. caps)	540	N9308713
DigiTUBE [®] s 50 mL with RackLock (incl. caps)	750	N9308008
DigiTUBE [®] s 50 mL with RackLock (no caps)	750	N9308340
DigiTUBE [®] s 50 mL with non-RackLock (incl. caps)	750	N9308037
DigiTUBE [®] s 100 mL with RackLock (incl. caps)	300	N9308016
DigiTUBE [®] s 100 mL with non-RackLock (incl. caps)	300	N9308066
PTFE Digestion Tube 50 mL (incl. blue caps)	6	N9308024
Tube, Quartz, 62.5 mL, Uncalibrated	6	N9308048
Tube, Borosilicate, 62.5 mL, Uncalibrated	6	N9308049
Tube, Borosilicate, 62.5 mL, Calibrated at 50 mL	6	N9308050
Caps		
Screw Caps, Blue, for 15 mL DigiTUBE [®] s	540	N9308705
Screw Caps, Clear, for 15 mL DigiTUBE [®] s	540	N9308708
Screw Caps, Orange, for 50 mL DigiTUBE [®] s	250	N9308058
Screw Caps, Red, for 50 mL DigiTUBE [®] s	250	N9308059
Screw Caps, Clear, for 50 mL DigiTUBE [®] s	250	N9308060
Screw Caps, Yellow, for 50 mL DigiTUBE [®] s	250	N9308056
PTFE Screw Cap for PTFE 50 mL, N9308024 replaces blue caps supplied	6	N9308027
Watch Glasses		
Disposable Watch Glasses, 50 mL	1000	N9308003
Disposable Watch Glasses, 100 mL	500	N9308030

DigiTUBE[®] Dimensions

Tube	Outside	Inside
15 mL DigiTUBE [®]	1.2 cm	1.1 cm
50 mL DigiTUBE [®]	30 mm	28 mm
100 mL DigiTUBE [®]	46 mm	44 mm

SAMPLE PREPARATION BLOCKS

Temperature Probes



Why use a thermometer to monitor and manually adjust sample temperature when a SPB Probe will automatically do the job? The SPB Probe provides direct control and monitoring of actual sample temperature via a corrosion-resistant, PFA-coated temperature probe. Available with different holders in a 6" configuration for use with 50 and 100 mL DigiTUBE®s. Each probe is supplied with 5 Probe Watch Glasses and a probe holder.

Temperature Probes

Description	Quantity	Part No.
SPB Probe 6" for 15 mL Tubes	1	N9308707
SPB Probe 6" for 50 mL Tubes	1	N9308018
SPB Probe 6" for 100 mL Tubes	1	N9308009
SPB Probe Watch Glass (replacement) for 50 mL Tubes	25	N9308041
SPB Probe Watch Glass (replacement) for 100 mL Tubes	25	N9308073
SPB Probe Holder for DigiTUBES 15 mL	1	N9308703
SPB Probe Holder for DigiTUBES 50 mL	1	N9308044
SPB Probe Holder for DigiTUBES 100 mL	1	N9308045



Racks

For busy labs, additional acid resistant, polycarbonate Racks are available for all SPB systems. Exclusive RackLock feature locks DigiTUBE®s in position within the rack allowing for easy, one-handed closure of screw cap.

SPB Block Racks

Description	Quantity	Part No.
40 Position Rack for SPB 15-40, 15 mL	1	N9308700
54 Position Rack for SPB 15-108, 15 mL	1	N9308701
12 position Rack for SPB-100-12, 100 mL	1	N9308067
15 position Rack for SPB-100-30, 100 mL	1	N9308068
21 position Rack for SPB-100-42, 100 mL	1	N9308069
24 position Rack for SPB-50-24, 50 mL	1	N9308070
24 position Rack for SPB-50-48 and SPB-50-72, 50 mL	1	N9308042

Storage Racks

Description	Quantity	Part No.
Foam Storage Rack 15 mL	5	N9308702
Plastic Storage Rack 50 mL	5	N9308381
Foam Storage Rack 100 mL	5	N9308382

Automatic Shut-Off System



Designed to shut-off SPB systems with no lab supervision. Ideal for overnight digestions and evaporations where samples require volume reductions (volume control ± 2.5 mL). Increase lab efficiency by automatically digesting samples off-hours. Select appropriate Probe for Tube use.

Controllers

Description	Quantity	Part No.
TempSET, without Probe	1	N9308020
TempSET Probe for 50 mL Tubes	1	N9308023
TempSET Probe for 100 mL Tubes	1	N9308029
TempSET Probe Holder for 100 mL Tubes	1	N9308065

Fume Hoods and Accessories



The bench top fume hoods for SPB systems are the right choice for trace-metal digestions. Made from clear, acid resistant polycarbonate with a solid surface material base, the fume hood eliminates the risk of trace-metal contamination common with traditional fume hoods. HEPA® filters ensure clean input air. The fume hood can be connected to an in-house laboratory exhaust system or used with the SPB blower unit (N9308022). Fume hoods come flatpacked to save transport costs and can be assembled in minutes without tools.

Fume Hoods and Accessories

Description	Part No.
Fume Hood for SPB 50-24/100-12, 50-48/100-30	N9308000
Fume Hood for SPB 50-72/100-42 - Filter for SPB Fume Hoods N9308078	N9308001
Fume Hood II for AutoSampler	N9308036
DigiVAC™ Evacuation Hood, mounts directly on SPB 50-48/SPB 100-30	N9308021
SPB Blower Unit, for use with all systems	N9308022

GREAT RESULTS BEGIN WITH GOOD PREPARATION



Titan MPS™ Microwave Sample Preparation System

PerkinElmer offers the Titan MPS microwave sample preparation systems, consumables and accessories for your lab needs.

Microwave digestion provides the high-temperature, high-pressure digestion needed to deliver quick, complete sample digestion of the most difficult samples and allow for total elemental analysis. Using ultra-clean sealed digestion vessels, the Titan MPS avoids loss of volatile analytes and prevents sample contamination from the working environment. With its high performance, microwave digestion is ideal for nearly any sample including those from the challenging mining/geologic, metallurgical, environmental, petrochemical and pharmaceutical industries.

The Titan MPS microwave sample preparation system delivers the instrument-ready solutions you need for high throughput and reliable results. Using our Direct Pressure Control™ (DPC) and Direct Temperature Control™ (DTC) sensing technologies, the Titan MPS system accurately monitors digestion reactions and the sample temperature in each digestion vessel to provide outstanding reaction control and deliver consistent digestion results.

With the Titan MPS microwave sample preparation system, we're delivering on the promise of a simple, safe, cost-effective microwave – one that provides the quick return on investment that labs are looking for in these times of constrained budgets. And it's backed by PerkinElmer, the one-stop, go-to resource for all things atomic spectroscopy. With a team of support individuals who understand, in a deep-seated way, the science behind the goals your lab is trying to achieve.

The Titan MPS microwave sample preparation system. Yes, it's a microwave. But we think it's a whole lot more.

Features:

- A top-loading system that allows the easy loading and removal of vessels.
- The DTC and DPC optical temperature and pressure reaction monitoring technologies and a cylindrical oven chamber ensure the most reproducible results.
- Vessels are reusable and guaranteed for one year, for considerable savings on consumables.
- Integrated gas collection system efficiently vents the oven chamber to keep it free of gas or acidic vapors.
- Color touch-screen controller simplifies programming, data storage, and reaction control.
- The PFA-coated stainless steel body and lid, safety interlocks and unique vessels deliver the highest level of operator safety and unprecedented corrosion resistance.

Titan MPS Systems

Before you prepare your first sample, you'll notice the difference: The Titan MPS is a top-loading microwave sample preparation system protected by hardware interlocks to ensure safety during operation. And it's simple to load and unload samples, which keeps everyone more productive – and saves your lab time and money.

Titan MPS 16 Position



Includes: 16 position turntable, gas containment manifold, 16 standard pressure 75 mL digestion vessels, 15 vessel caps without pressure sensor, 1 vessel cap with pressure sensor, a lip seal forming tool, exhaust hose, consumables kit, and power cord (US)

Weight: 53 kg

Dimensions (WxDxH): 21 in. x 25 in. x 17 in.

Description	Part No.
Titan MPS 16 Position, (230V 50/60Hz)	N3130100

Titan MPS 8 Position



Includes: 8 position turntable, gas containment manifold, 8 high pressure 100 mL digestion vessels, 8 TFM sample vessel inserts, 8 ceramic pressure jackets, 7 Vessel Caps without pressure sensor, 1 vessel cap with pressure sensor, a vessel opening station, a lip seal forming tool, exhaust hose, consumables kit, and power cord (US)

Weight: 53 kg

Dimensions (WxDxH): 21 in. x 25 in. x 17 in.

Description	Part No.
Titan MPS 8 Position, (230V 50/60Hz)	N3130110

MICROWAVE SAMPLE PREPARATION

System Accessories



External Exhaust System

Optional accessory for exhausting Titan MPS oven cavity in laboratories that do not have exhaust systems.

Includes: one 1.5 m exhaust tube. ID = 76 mm, OD = 82 mm. and power cord (US)

Description	Part No.
External Exhaust System 230V 50/60 Hz	N3131009

Exhaust Tubes



Description	Part No.
Exhaust Tube 1.5 m (one included with Titan)	N3134015
Exhaust Tube 3 m (optional if longer is required)	N3134064

Titan MPS Bench



The Titan MPS bench is a heavy-duty Chemsurf laminated rolling cart. The top working surface is constructed with durable Chemsurf material, a chemically-resistant laminate specifically designed for applications in laboratories with routine exposure to chemicals. A full lower shelf with durable Chemsurf laminate provides storage space for digestion vessels and other Titan MPS spares and accessories. Locking 4" diameter casters provide stability and easy movement.

Dimensions: 32"D x 30"W x 29"H

Description	Part No.
Titan MPS Bench	N077900



Turntables

Description	Part No.
16 Position	
16 position turntable with Standard 75 mL (40 Bar) Digestion Vessels, with DPC (complete)	N3131010
16 position turntable with Standard 75 mL (40 Bar) Digestion Vessels, without DPC (complete)	N3131005
16 position turntable for Standard 75 mL (40 Bar) Digestion Vessels (turntable only)	N3131006
8 Position	
8 position turntable with High Pressure 100 mL (100 Bar) Digestion Vessels, with DPC (complete)	N3131011
8 position turntable with High Pressure 100 mL (100 Bar) Digestion Vessels, without DPC (complete)	N3131007
8 position turntable for High Pressure 100 mL (100 Bar) Digestion Vessels (turntable only)	N3131008



Vessels and Spares

Description	Part No.
Standard (All Part No. Quantities are 1)	
Standard 75 mL (40 Bar) Digestion Vessel without DPC Consists of: Pressure seal, Vessel cap, Rupture disc and Vessel base	N3132009
Standard 75 mL (40 Bar) Digestion Vessel with DPC (Complete) Consists of: Pressure seal, Vessel cap with DPC, Rupture disc and Vessel base	N3132010
Standard 75 mL (40 Bar) Digestion Vessel TFM Base (base only)	N3132011
TFM Cap for Standard 75 mL (40 Bar) Digestion vessels without pressure sensor	N3132012
TFM DPC Cap for Standard 75 mL (40 Bar) Digestion vessels with pressure sensor	N3132013
High Pressure (All Part No. Quantities are 1)	
High Pressure 100 mL (100 Bar) Digestion Vessel without DPC (complete) Consists of: Pressure seal, Vessel cap, Rupture disc, TFM Vessel insert, Ceramic pressure jacket and Vessel base	N3133012
High Pressure 100 mL (100 Bar) Digestion Vessel with DPC (complete) Consists of: Pressure seal, Closure cap with DPC, Rupture disc, TFM Vessel insert, Ceramic pressure jacket and Vessel base	N3133013
High Pressure 100 mL (100 Bar) Digestion Vessel Base (base only)	N3133014
TFM Cap for High Pressure 100 mL (100 Bar) Digestion Vessels without pressure sensor	N3133015
TFM DPC for high pressure 100 mL (100 Bar) Digestion Vessels with pressure sensor	N3133016



Consumable Kits

Description	Part No.
Consumable Kit for Standard 75 mL Digestion Vessels	
Consumable Kit for Standard 75 mL (40 Bar) Digestion Vessels	N3132000

Includes: 10 Pressure Seals (N3132002), 4 Rupture Cap Discs (N3132001), and 5 Lip Seal Rings of the Gas Containment Manifold (N3134000)

Description	Part No.
Consumable Kit for High Pressure 100 mL Digestion Vessels	
Consumable Kit for High Pressure 100 mL (100 Bar) Digestion Vessels	N3133024

Includes: 10 Pressure Seals (N31330203), 7 Rupture Cap Discs (N3133022), 50 PEEK Ring Nuts (N3133011), and 5 Lip Seal Rings of the Gas Containment Manifold (N3134000)

MICROWAVE SAMPLE PREPARATION



Spares and Replacement Parts

Description	Part No.
Rupture Disc for Standard 75 mL (40 Bar) Digestion Vessels Made of aluminum, set of 25 pcs	N3132001
Pressure Seal for Standard 75 mL (40 Bar) Digestion Vessels Made of TFM, set of 10 pcs	N3132002
DPC Glass-Ring for Standard 75 mL (40 Bar) Digestion Vessel	N3132003
DPC Glass Prism for Standard 75 mL (40 Bar) Digestion Vessel	N3132004
DPC Polarization foil for Digestion Vessel caps with pressure control for Standard 75 mL (40 Bar) and High Pressure 100 mL (100 Bar) Digestion Vessel, set of 24 pcs	N3132005
DPC TFM Cap Insert for Standard 75 mL (40 Bar) Digestion Vessel	N3132006
DPC Clamp Screw for Glass Prism for Standard 75 mL (40 Bar) Digestion Vessel	N3132007
DPC Viton O-Ring (25 x 3 mm) for Digestion Vessel caps with pressure control for Standard 75 mL (40 Bar) Digestion Vessel, qty 1. Two are required per vessel cap	N3132008
Rupture Disc for High Pressure 100 mL (100 Bar) Digestion Vessels Made of titanium, set of 10 pcs	N3133022
Pressure Seal for High Pressure 100 mL (100 Bar) Digestion Vessels Made of TFM, set of 5 pcs	N3133023
DPC Glass-Ring for High Pressure 100 mL (100 Bar) Digestion Vessel	N3133003
DPC Glass Prism for High Pressure 100 mL (100 Bar) Digestion Vessel	N3132004
DPC TFM Cap Insert for High Pressure 100 mL (100 Bar) Digestion Vessel	N3133006
DPC Clamp Screw for Glass Prism for High Pressure 100 mL (100 Bar) Digestion Vessel	N3133007
DPC O-Ring for Digestion Vessel Caps with pressure control for High Pressure 100 mL (100 Bar) Digestion Vessel, qty 1. Two are required per vessel cap	N3133008
DPC Polarization foil for Digestion Vessel caps with pressure control for Standard 75 mL (40 Bar) and High Pressure 100 mL (100 Bar) Digestion Vessel, set of 24 pcs	N3132005
TFM Sample Vessel Insert for High Pressure 100 mL (100 Bar) Digestion Vessel	N3133009
Ceramic Pressure Jacket for High Pressure 100 mL (100 Bar) Digestion Vessel	N3133010
PEEK Ring Nut for High Pressure 100 mL (100 Bar) Digestion Vessel closure cap. (Left handed threads)	N3133011
PEEK Ring Nut Removal Tool for 100 mL	N3133021



Gas Containment Manifold Spares

Description	Part No.
End Cap Plug for Gas Containment Manifold Sealing plug for 8 and 16 position Gas Containment Manifold to seal the gas collection system at unused vessel positions	N3134004
Clamping Screw (PTFE) for the top seal of the 8 and 16 position Gas Containment Manifold	N3134002
Lip Seal Ring of the Gas Containment Manifold PTFE Sealing Ring for use with 8 and 16 position Gas Containment Manifolds Seals the top PFA gas tube to the Gas Containment Manifold	N3134000
Tube for connection of vessel to Gas Containment Manifold (PTFE) PTFE connecting tube for connection to digestion vessels with 8 and 16 position Gas Containment Manifold	N3134005
PTFE connector for use with 8 and 16 position Gas Containment Manifold	N3134007
Gas Containment Manifold PFA Vent Line 1M (O-Ring in picture not included)	N3134014
Gas Containment Manifold Vent Line replacement O-Ring (Qty. 2)	N3134072



Accessories

Description	Part No.
Single lip seal forming tool for Standard 75 mL (40 Bar) Digestion Vessel pressure seals	N3132015
Eight position lip seal forming tool for Standard 75 mL (40 Bar) Digestion Vessel pressure seals Forms up to 8 seals simultaneously	N3132014
Vessel cap disassembly tools for Standard 75 mL (40 Bar) Digestion Vessel	N3134011
High Pressure 100 mL (100 Bar) Digestion Vessel opening station	N3133017
Eight position lip seal forming tool for High Pressure 100 mL (100 Bar) Digestion Vessel pressure seals	N3133018
Single lip seal forming tool for High Pressure 100 mL (100 Bar) Digestion Vessel pressure seals Forms 1 seal	N3133019
Vessel cap disassembly tools for High Pressure 100 mL (100 Bar) Digestion Vessel	N3134012
PTFE 2 mL sample weighing cup for use in Standard 75 mL (40 Bar) or High Pressure 100 mL (100 Bar) Digestion Vessel, qty. 1	N3134009
PTFE 2 mL sample weighing cup for use in Standard 75 mL (40 Bar) or High Pressure 100 mL (100 Bar) Digestion Vessel, qty. 16	N3134010
Turntable Base Ring	N3134013

HUMAN HEALTH

ENVIRONMENTAL HEALTH



LEAPFROGGING EVERYONE IN SENSITIVITY AND STABILITY



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