Solid Phase Extraction

S*PURE

Solid
Phase
Extraction

SPE Introduction

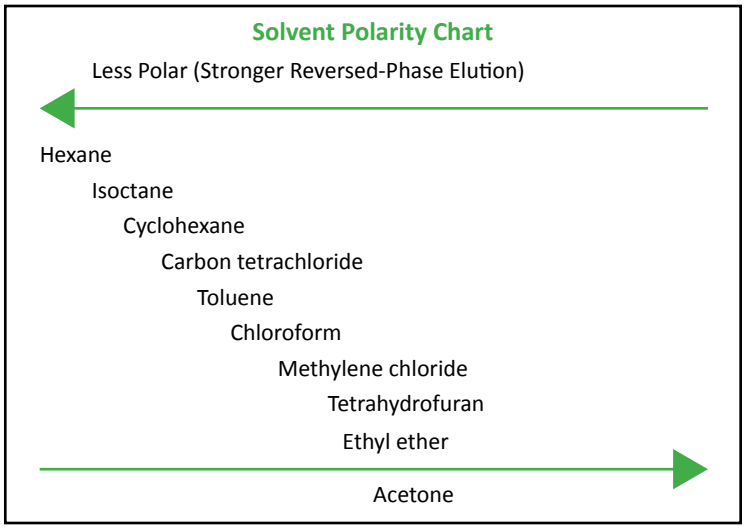
Incorporating the highest grade of silica in the industry with over 25 years experience in making SPEs. S*Pure brings to you a highly comprehensive range of SPE products. This includes Extract-Clean™, MaxiClean™, Ultra-Clean™, Vydac®; brands synonymous with quality, reproducibility and highest recoveries.

Working with Experts in Media Production

We use a consistent and pure silica base that employs tightly controlled bonding techniques, producing a bonded phase with high and reproducible recoveries and ensuring predictable analyte-sorbent interactions.

Highest Quality Control

Every part of our manufacturing process is carefully monitored. From managing our raw materials to stringent quality controls in the final product, we perform multiple quality tests, and provide a comprehensive quality assurance certificate.



SPE Method Development

SPE method development typically contains four steps:

Step 1: Condition

The conditioning step is composed of two substeps; the first activates the sorbent ligands, the second equilibrates the sorbent bed.

Step 2: Load

In the load step, sample is applied to the SPE device. Matrix and flow rate are optimized to quantitatively retain target analytes.

Step 3: Wash

In the wash step, choose a solvent that elutes impurities but retains target analytes. Often the second conditioning solvent is a suitable wash solvent.

Step 4: Elute

The elution step ideally removes all target analytes with minimal solvent to maximize sensitivity. Sometimes this requires a combination of solvents to optimize elution.

Tech Tips

To calculate sorbent bed volume, use 150µL for every 100mg of sorbent.

Retention capacity describes the total amount that an SPE sorbent will bind. This includes all compounds retained—analytes of interest as well as the contaminants.

The minimum elution volume recommended in the bed size chart above will offer best sensitivity, but more solvent may be required depending on the application.

General Method Development Procedures

	Step 1 - Condition ~ 4 bed volumes	Step 2 - Load	Step 3 - Wash ~ 6 bed volumes	Step 4 - Elute ~ 3 bed volumes
Reversed-Phase Extraction Procedure Mechanism: Bind moderately polar to non-polar compounds from a polar sample matrix.	Methanol followed by water	Process sample at a flow rate of 1– 5mL/min	Water or water:methanol (95:5)	Methanol or acetonitrile. May need to add strong acid or base to organic solvent to break secondary interactions.
Normal Phase Extraction Procedure Mechanism: Bind polar compounds from a non-polar sample matrix.	IPA followed by hexane	Process sample at a flow rate of 1– 5mL/min	Hexane or hexane:IPA (98:2)	IPA, ethyl acetate, acetone, or hexane:IPA (50:50)
Ion-Exchange Extraction Procedure Mechanism: Bind charged (negative/ anionic or positive/cationic) compounds.	Methanol:water (50:50) followed by low ionic strength (0.1M) buffer	Apply slowly: less than or equal to 1mL/min ion exchange kinetics are slower than reversed or normal phase	Methanol:low ionic strength (0.1M) buffer (10:90)	High ionic strength (0.5M –1.0M) buffer or modify pH such that the analyte is uncharged. May need to add organic to break hydrophobic interactions.

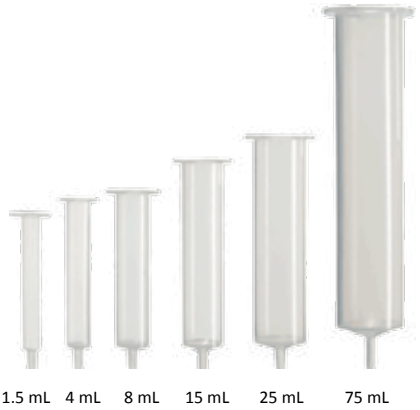
SPE Sorbent Specifications

Reversed-Phases (Non-Polar)										
Sorbent	**Base**	**Carbon (%)**	**End-capped**	**Average Particle Size (µm)**	**Pore Size (Å)**	**Features**	**Benefits**	**Extract-Clean™**	**Ultra-Clean™**	**Maxi-Clean™**
Prevail™ C18	Silica	11	Yes	50	60	100% water wettable	Hydrophilic/hydrophobic retention. Phase remains active even when completely dry. Can omit preconditioning step	X		X
Low Carbon Load C18	Silica	6	Yes	50	60	Low carbon load C18	General purpose phase	X	X	X
High-Flow C18	Silica	8	Yes	100	60	Large particle	Less flow resistance for faster flow rates of large volume sample	X		
High-Capacity C18	Silica	17	Yes	50	60	High carbon load	Maximum capacity phase	X		X
Large Pore C18	Silica	14	Yes	50	150	Larger than average pore size	Ideal for compounds >1500 MW	X		X
Octyl (C8)	Silica	4.5	Yes	50	60	Less hydrophobic than C18	Less retention of highly hydrophobic compounds. Use when C18 is too retentive	X	X	X
Ethyl (C2)	Silica	5.5	Yes	50	60	Short chain functional group is less hydrophobic than C8	Less retention of highly hydrophobic compounds. Use when C8 is too retentive	X		X
Phenyl (Ph)	Silica	3.8	Yes	50	60	Aromatic structure	Highly selective for aromatic compounds	X		X
Normal-Phases (Polar)										
Silica (SI)	Silica	-	-	50	60	Highly polar surface	Most common polar phase	X	X	X
Aminopropyl (NH_2)	Silica	5	No	50	60	Polar phase with slight anion exchange properties	Ideal for carbohydrates or generally with analyses containing hydroxyl functional groups	X		X
Cyanopropyl (CN)	Silica	6	Yes	50	60	Unique selectivity	Can be used in normal-phase or reversed-phase modes	X	X	X
Diol (2OH)	Silica	4	No	50	60	Polar surface with minor hydrophobic retention	Wets easily and offers more reproducibility	X		X
Florisil® (FL)	Magnesium Silicate	-	-	75-150	60	Highly polar surface	Referenced in many EPA methods. Ideally suited for pesticides and metals	X	X	X
Florisil® PR (FL-PR)	Magnesium Silicate	-	-	75-150	60	Specifically tested for chlorinated pesticides	Recommended for highly active compounds	X	X	X
Alumina Acidic (AL-A)	Aluminum Oxide	-	-	130	100	Alumina washed with acid surface	Increased capacity for acidic compounds	X		X
Alumina Basic (AL-B)	Aluminum Oxide	-	-	130	100	Alumina washed with base surface	Increased capacity for basic compounds	X		X
Alumina Neutral (AL-N)	Aluminum Oxide	-	-	130	100	Alumina washed with neutral surface	Interacts with highly aromatic compounds and neutral hydroxyls	X		X
Specialty Packings										
AFT	C18/Alumina	-	-	50-130	60-100	Blend of C18 and Alumina	Offers unique selectivity for mycotoxin. AFT tubes are ideal for Aflatoxins	X		
Carbograph	Graphitized Carbon	-	-	38-125	-	Graphitized Carbon	Retains polar organics in aqueous matrices. Ideally suited for acid, base-neutral extraction of pesticides and herbicides	X	X	
Drug-Clean SB-C	Silica	-	-	50	60	Silica-based mixed mode C8/cation exchange	Ideal for drugs of abuse	X		
Drug-Clean SB-A	Silica	-	-	50	60	Silica-based mixed mode C8/anion exchange	Ideal for drugs of abuse	X		
Drug-Clean PB	Polymer	-	-	30	-	Polymer-based mixed mode C8/cation exchange	pH stable with no conditioning required. Extract acidic, neutral and basic drugs of abuse from single column	X		
General Ion-Exchange Sorbent										
Sorbent	**Base**	**Counter Ion**	**Particle Size**	**Functional Group Echange**	**Exchange Capacity**	**Retains**	**Applications**			
SCX	Styrene-DVB	Hydrogen	50	Benzene Sulfonic Acid	2.0 meq/mL	Cations, (+) charged compounds	Remove/concentrate basic compounds	X	X	X
SAX	Styrene-DVB	Acetate	50	Tetramethyl Ammonium	1.0 meq/mL	Anions, (–) charged compounds	Remove/concentrate acidic compounds	X	X	X
Ion Chromatography Sorbent										
Sorbent	**Base**	**Counter Ion**	**Particle Size**	**Molecular Exclusion Limit**	**Exchange Capacity**	**Retains**	**Applications**			
IC-OH	Styrene-DVB	Hydroxide	50	1000 Daltons	1.0 meq/mL	Anions	Exchanges anions for hydroxide. May be used to remove or concentrate anions from sample and to increase pH of acidic samples. Removes cations that form insoluble hydroxide salts	X		X
IC-H	Styrene-DVB	Hydronium	50	1000 Daltons	2.0 meq/mL	Cations	Exchanges cations for H+. May be used to remove or concentrate cations from sample and to reduce pH of basic samples	X		X
IC-Ag	Styrene-DVB	Silver	50	1000 Daltons	2.0 meq/mL	Chloride Iodide Bromide	Removes excess halides through formation of Ag-halide salts	X		X
IC-Ba	Styrene-DVB	Barium	50	1000 Daltons	2.0 meq/mL	Sulfate	Removes excess sulfate through formation of BaSO	X		X
IC-Na	Styrene-DVB	Sodium	50	1000 Daltons	2.0 meq/mL	Cations	Exchanges cations for Na+. May be used to remove or retain cations from sample without changing the pH of the sample	X		X
IC-Chelate	Styrene-DVB	Sodium	50	1000 Daltons	0.4 meq/mL	Polyvalent metal ions	Exchanges transition metals and divalent cations for Na+. May be used to remove or retain divalent cations and transition metals from sample	X		X
IC-RP	Polystyrene	-	550	-	-	Hydrophobic components	Removes surfactants, organic acids, and other organic substances. Inorganic ions pass through	X		X

Extract-Clean™ SPE Columns

Summary: In production for over 25 years, with proven consistency, this is one of the most comprehensive SPE product line. It includes 30 media types in over 10 different bed weights. With a complete offering of reversed-phase, normal phase, and specialty media exhibiting unique retention properties, you are sure to find the packing that delivers a cleaner and more concentrated sample.

- Open top tubes with male luer bottom
- Process multiple samples with vacuum manifold or automated SPE instruments
- Process individual samples manually with a syringe using Extract-Clean™ syringe adapters (see pg 12)



Device Specifications

Device Type: SPE Columns
Device Sizes: 1.5, 4, 8, 15, 25, 75mL
Device Material: Polypropylene
Device Frits: 20µm Polyethylene

Extract-Clean™ SPE Columns				
Item No.	**Old Alltech No.**	**Description**	**Size**	**Qty**
Extract-Clean™ Prevail C18				
SP-5123197	605001	Extract-Clean Prevail C18	100mg/1.5mL	\100
SP-5123209	605250	Extract-Clean Prevail C18	500mg/4mL	\50
SP-5123210	605350	Extract-Clean Prevail C18	500mg/8mL	\30
SP-5123212	605430	Extract-Clean Prevail C18	1000mg/8mL	\30
Extract-Clean™ Low Carbon Load C18				
SP-5122281	204900	Extract-Clean C18	50mg/1.5mL	\100
SP-5122282	205000	Extract-Clean C18	100mg/1.5mL	\100
SP-5122283	205150	Extract-Clean C18	200mg/4mL	\50
SP-5122284	205250	Extract-Clean C18	500mg/4mL	\50
SP-5122285	205350	Extract-Clean C18	500mg/8mL	\30
SP-5122286	205430	Extract-Clean C18	1000mg/8mL	\30
SP-5122287	205450	Extract-Clean C18	2000mg/8mL	\30
SP-5122288	205462	Extract-Clean C18	2000mg/15mL	\30
SP-5122487	225450	Extract-Clean C18	5000mg/25mL	\20
SP-5122507	235410	Extract-Clean C18	10000mg/75mL	\16
Extract-Clean™ High Flow C18				
SP-5122462	215250	Extract-Clean C18-HF	500mg/4mL	\50
SP-5122463	215430	Extract-Clean C18-HF	1000mg/8mL	\30
Extract-Clean™ High Capacity C18				
SP-5122521	255100	Extract-Clean C18-HC	100mg/1.5mL	\100
SP-5122522	255200	Extract-Clean C18-HC	200mg/4mL	\50
SP-5122523	255300	Extract-Clean C18-HC	500mg/4mL	\50
SP-5122524	255350	Extract-Clean C18-HC	500mg/8mL	\30
SP-5122525	255430	Extract-Clean C18-HC	1000mg/8mL	\30
SP-5122526	255440	Extract-Clean C18-HC	2000mg/15mL	\30
SP-5122527	255450	Extract-Clean C18-HC	5000mg/25mL	\20
SP-5148443	255460	Extract-Clean C18-HC	10000mg	\16
Extract-Clean™ C8				
SP-5122290	206000	Extract-Clean C8	100mg/1.5mL	\100
SP-5122291	206150	Extract-Clean C8	200mg/4mL	\50
SP-5122292	206250	Extract-Clean C8	500mg/4mL	\50
SP-5122293	206350	Extract-Clean C8	500mg/8mL	\30
Extract-Clean™ C2				
SP-5122314	207550	Extract-Clean C2	500mg/4mL	\50
Extract-Clean™ Phenyl				
SP-5122505	232300	Extract-Clean Phenyl	500mg/4mL	\50

Extract-Clean™ SPE Columns - continued

Extract-Clean™ SPE Columns				
Item No.	**Old Alltech No.**	**Description**	**Size**	**Qty**
Extract-Clean™ Silica				
SP-5122327	209062	Extract-Clean SI	50mg/1.5mL	\100
SP-5122326	209000	Extract-Clean SI	100mg/1.5mL	\100
SP-5122330	209150	Extract-Clean SI	200mg/4mL	\50
SP-5122334	209250	Extract-Clean SI	500mg/4mL	\50
SP-5122331	209200	Extract-Clean SI	500mg/8mL	\30
SP-5122328	209100	Extract-Clean SI	1000mg/8mL	\30
SP-5122332	209202	Extract-Clean SI	2000mg/8mL	\30
SP-5122342	209362	Extract-Clean SI	2000mg/15mL	\30
SP-5122500	22935	Extract-Clean SI	5000mg/25mL	\20
SP-5122510	239310	Extract-Clean SI	10000mg/75mL	\16
SP-5122511	239322	Extract-Clean SI	20000mg/75mL	\16
Extract-Clean™ Amino				
SP-5122434	211000	Extract-Clean NH_2	100mg/1.5mL	\100
SP-5122436	211025	Extract-Clean NH_2	200mg/4mL	\50
SP-5122442	211150	Extract-Clean NH_2	500mg/4mL	\50
SP-5122445	211256	Extract-Clean NH_2	500mg/8mL	\30
SP-5122443	211153	Extract-Clean NH_2	1000mg/8mL	\30
Extract-Clean™ Cyano				
SP-5122347	209450	Extract-Clean CN	200mg/4mL	\50
SP-5122352	209550	Extract-Clean CN	500mg/4mL	\50
SP-5122359	209650	Extract-Clean CN	500mg/8mL	\50
Extract-Clean™ Diol				
SP-5122321	208000	Extract-Clean Diol	100mg/1.5mL	\100
SP-5122324	208150	Extract-Clean Diol	200mg/4mL	\50
SP-5122325	208250	Extract-Clean Diol	500mg/4mL	\50
Extract-Clean™ Florisil				
SP-5122278	204500	Extract-Clean FL	100mg/1.5mL	\100
SP-5122279	204650	Extract-Clean FL	500mg/4mL	\50
SP-5122280	204650B	Extract-Clean FL	500mg/4mL	\500
SP-5122316	207750	Extract-Clean FL	200mg/4mL	\50
SP-5122317	207930	Extract-Clean FL	1000mg/8mL	\30
SP-5122318	207931	Extract-Clean FL	1000mg/8mL	\500
SP-5122319	207962	Extract-Clean FL	2000mg/15mL	\30
SP-5122488	227950	Extract-Clean FL	5000mg/25mL	\20
SP-5122508	237910	Extract-Clean FL	10000mg/75mL	\16
Extract-Clean™ Florisil PR				
SP-5122514	250020	Extract-Clean FL-PR	1000mg/8mL	\30
Extract-Clean™ Alumina				
SP-5122490	228150	Extract-Clean Alumina-B (acid)	500mg/4mL	\50
SP-5122493	228400	Extract-Clean Alumina-N (Neutral)	100mg/1.5mL	\100
SP-5122494	228550	Extract-Clean Alumina-N (Neutral)	500mg/4mL	\50
SP-5122495	22856	Extract-Clean Alumina-N (Neutral)	2000mg/15mL	\30
SP-5122496	228580	Extract-Clean Alumina-N (Neutral)	10000mg/75mL	each
Extract-Clean™ AFT				
SP-5122498	229101	Extract-Clean AFT	1000mg/8mL	\100

Extract-Clean™ SPE Columns - continued

Extract-Clean™ SPE Columns				
Item No.	**Old Alltech No.**	**Description**	**Size**	**Qty**
Extract-Clean™ Carbograph				
SP-5122423	210142	Extract-Clean Carbograph	150mg/4mL	\50
SP-5122418	210101	Extract-Clean Carbograph	300mg/8mL	\30
SP-5122424	210150	Extract-Clean Carbograph	500mg/8mL	\30
SP-5122422	210121	Extract-Clean Carbograph	1000mg/15mL	\20
Extract-Clean™ Drug Clean				
SP-5122305	207030	Extract-Clean Drug Clean A	100mg/1.5mL	\100
SP-5122306	207034	Extract-Clean Drug Clean A	200mg/4mL	\50
SP-5122302	207015	Extract-Clean Drug Clean C	100mg/1.5mL	\100
SP-8604527	207010	Extract-Clean Drug Clean C	200mg/4mL	\50
SP-5122303	207017	Extract-Clean Drug Clean C	500mg/4mL	\50
SP-5122304	207019	Extract-Clean Drug Clean C	500mg/8mL	\30
SP-5122515	250120	Extract-Clean Drug Clean PB	30mg/1.5mL	\100
SP-5122516	250130	Extract-Clean Drug Clean PB	30mg/4mL	\100
SP-5122517	250140	Extract-Clean Drug Clean PB	50mg/8mL	\50
Extract-Clean™ SAX				
SP-5122356	209600	Extract-Clean SAX	100mg/1.5mL	\100
SP-5122357	209625	Extract-Clean SAX	200mg/4mL	\50
SP-5122366	209750	Extract-Clean SAX	500mg/4mL	\50
SP-5122374	209850	Extract-Clean SAX	1000mg/8mL	\30
Extract-Clean™ SCX				
SP-5122370	209800	Extract-Clean SCX	100mg/1.5mL	\100
SP-5122372	209825	Extract-Clean SCX	200mg/4mL	\50
SP-5122380	209950	Extract-Clean SCX	500mg/4mL	\50
SP-5122379	209930	Extract-Clean SCX	1000mg/8mL	\30
Extract-Clean™ Ion Chromatography				
SP-5121733	105050	Extract-Clean IC-Ag	0.5mL/4mL	\50
SP-5122035	140258	Extract-Clean IC-Ag	1.5mL/4mL	\30
SP-5122911	40268	Extract-Clean IC-Ba	0.5mL/4mL	\50
SP-5122803	40250	Extract-Clean IC-Chelate	0.5mL/4mL	\50
SP-5122038	140265	Extract-Clean IC-Chelate	1.5mL/4mL	\30
SP-5122910	40264	Extract-Clean IC-H	0.5mL/4mL	\50
SP-5122034	140256	Extract-Clean IC-H	1.5mL/4mL	\30
SP-5122912	40270	Extract-Clean IC-Na	0.5mL/4mL	\50
SP-5122037	140263	Extract-Clean IC-Na	1.5mL/4mL	\30
SP-5122909	40262	Extract-Clean IC-OH	0.5mL/4mL	\50
SP-5122033	140254	Extract-Clean IC-OH	1.5mL/4mL	\30
SP-5122898	40260	Extract-Clean IC-RP	0.5mL/4mL	\50

1.5 mL 4 mL 8 mL 15 mL 25 mL 75 mL

Maxi-Clean™ Luer SPE Cartridges

Summary: The Maxi-Clean™ is an alternative format to SPE columns which consist of a polypropylene housing with a female luer inlet and a male luer outlet tip. This allows use of positive pressure from a syringe or negative pressure from a vacuum manifold. The packing material is packed and compressed to improve or optimize flow characteristics.

- Female luer top and male luer bottom
- Process single cartridge by syringe or multiple cartridges by vacuum
- Stack for multi-step extractions

300 mg Bed 600 mg Bed 900 mg Bed

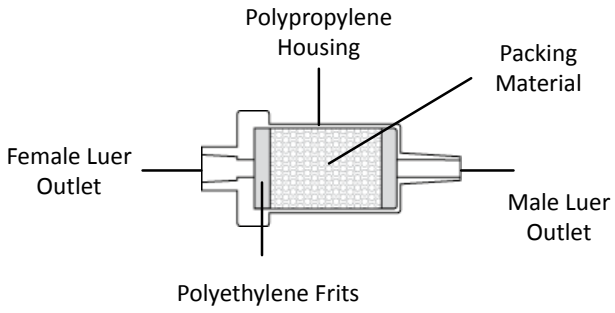
Device Specifications

Device Type: Luer SPE Cartridges
Device Sizes: 300, 600, 900mg
Device Material: Polypropylene
Device Frits: 20µm Polyethylene

Maxi-Clean™ Luer SPE Cartridges				
Item No.	**Old Alltech No.**	**Description**	**Size**	**Qty**
Maxi-Clean™ Prevail C18				
SP-5123213	605926	Maxi-Clean Prevail C18	300mg	\50
SP-5123214	605929	Maxi-Clean Prevail C18	500mg	\50
SP-5123216	605942	Maxi-Clean Prevail C18	900mg	\50
Maxi-Clean™ Low Carbon Load C18				
SP-5122335	20926	Maxi-Clean C18	300mg	\50
SP-5122336	20928	Maxi-Clean C18	300mg	\100
SP-5122337	20929	Maxi-Clean C18	500mg	\50
SP-5122340	20934	Maxi-Clean C18	600mg	\50
SP-5122341	20936	Maxi-Clean C18	600mg	\100
SP-5122344	20942	Maxi-Clean C18	900mg	\50
SP-5122345	20944	Maxi-Clean C18	900mg	\100
Maxi-Clean™ High Capacity C18				
SP-5122346	20945	Maxi-Clean Hi-Cap C18	300mg	\50
Maxi-Clean™ Large Pore C18				
SP-5122482	22012	Maxi-Clean Lrg Pore C18	300mg	\100
SP-5122483	22017	Maxi-Clean Lrg Pore C18	600mg	\100
SP-5122484	220215	Maxi-Clean Lrg Pore C18	900mg	\100
Maxi-Clean™ C8				
SP-5122350	20950	Maxi-Clean C8	300mg	\50
SP-5122351	20952	Maxi-Clean C8	300mg	\100
SP-5122354	20958	Maxi-Clean C8	600mg	\50
SP-5122360	20966	Maxi-Clean C8	900mg	\50
SP-5122362	20968	Maxi-Clean C8	900mg	\100
Maxi-Clean™ C2				
SP-5122399	210064	Maxi-Clean C2	300mg	\50
Maxi-Clean™ Silica				
SP-5122365	20974	Maxi-Clean Silica	300mg	\50
SP-5122367	20976	Maxi-Clean Silica	300mg	\100
SP-5122371	20982	Maxi-Clean Silica	600mg	\50
SP-5122373	20984	Maxi-Clean Silica	600mg	\100
SP-5122377	20990	Maxi-Clean Silica	900mg	\50
SP-5122378	20992	Maxi-Clean Silica	900mg	\100
Maxi-Clean™ Amino				
SP-5122388	210044	Maxi-Clean NH2	300mg	\50
SP-5122389	210046	Maxi-Clean NH2	300mg	\100
SP-5122390	210047	Maxi-Clean NH2	900mg	\100

Maxi-Clean™ Luer SPE Cartridges - continued

Maxi-Clean™ Luer SPE Cartridges				
Item No.	**Old Alltech No.**	**Description**	**Size**	**Qty**
Maxi-Clean™ Florisil				
SP-5122392	210054	Maxi-Clean FL	300mg	\50
SP-5122393	210056	Maxi-Clean FL	300mg	\100
SP-5122394	210057	Maxi-Clean FL	900mg	\50
SP-5122396	210061	Maxi-Clean FL	900mg	\100
Maxi-Clean™ Florisil PR				
SP-5122405	210076	Maxi-Clean FL-PR	300mg	\100
SP-5122404	210075	Maxi-Clean FL-PR	900mg	\100
Maxi-Clean™ Alumina				
SP-5122413	210095	Maxi-Clean AL-N	300mg	\25
SP-5122416	210098	Maxi-Clean AL-N	1800mg	\25
Maxi-Clean™ SAX				
SP-5122471	21907	Maxi-Clean SAX	600mg	\50
SP-5122472	21908	Maxi-Clean SAX	600mg	\100
Maxi-Clean™ SCX				
SP-5122468	21902	Maxi-Clean SCX	600mg	\50
SP-5122469	21903	Maxi-Clean SCX	600mg	\100
Maxi-Clean™ Ion Chromatography				
SP-5122577	30266	Maxi-Clean IC-AG	0.5mL	\50
SP-5122569	30258	Maxi-Clean IC-AG	1.5mL	\25
SP-5122579	30268	Maxi-Clean IC-Ba	0.5mL	\50
SP-5122572	30261	Maxi-Clean IC-Ba	1.5mL	\25
SP-5122565	30250	Maxi-Clean IC-Chelate	0.5mL	\50
SP-5122576	30265	Maxi-Clean IC-Chelate	1.5mL	\25
SP-5122575	30264	Maxi-Clean IC-H	0.5mL	\50
SP-5122568	30256	Maxi-Clean IC-H	1.5mL	\25
SP-5122580	30270	Maxi-Clean IC-Na	0.5mL	\50
SP-5122574	30263	Maxi-Clean IC-Na	1.5mL	\25
SP-5122573	30262	Maxi-Clean IC-OH	0.5mL	\50
SP-5122567	30254	Maxi-Clean IC-OH	1.5mL	\25
SP-5122571	30260	Maxi-Clean IC-RP	0.5mL	\50
SP-5122566	30252	Maxi-Clean IC-RP	1.5mL	\25



Ultra-Clean™ SPE Columns

Summary: Choose this ultra-low extractable version for very sensitive applications. Various media can be packed into highly inert fluorinated polypropylene tubes with PTFE frits. Less expensive than glass extraction devices, this durable format offers comparable inertness without the added concern of being easily broken.

Device Specifications

Device Type: SPE Columns
Device Sizes: 4, 8mL
Device Material: Fluorinated Polypropylene
Device Frits: 10µm PTFE

Ultra-Clean™ SPE Columns				
Item No.	**Old Alltech No.**	**Description**	**Size**	**Qty**
SP-5123009	505150	Ultra-Clean C18	200mg/4mL	\50
SP-5123033	510142	Ultra-Clean Carbograph	150mg/4mL	\50

*other phase chemistries available upon request

Vydac® BioSelect SPE Columns

Summary: Ideal for extraction, concentration and cleanup of biological samples. This 300Å silica-based media has the same properties as the industry-leading Vydac® TP HPLC packing. Offered in C18 and C4, use for a variety of protein and peptide applications.

Device Specifications

Device Type: SPE Column
Device Sizes: 1, 3mL
Device Material: Polypropylene
Device Frits: Glass Fiber Filter Paper with Polyethylene Mesh Support

Vydac® BioSelect Protein/Peptide SPE				
Item No.	**Old Alltech No.**	**Description**	**Size**	**Qty**
SP-5103901	214SPE1000	Vydac BioSelect Protein/Peptide C4	50mg/1mL	\50
SP-5103902	214SPE3000	Vydac BioSelect Protein/Peptide C4	100mg/3mL	\50
SP-5103967	218SPE1000	Vydac BioSelect Protein/Peptide C18	50mg/1mL	\50
SP-5103968	218SPE3000	Vydac BioSelect Protein/Peptide C18	100mg/3mL	\50

Phase Separator Extract-Clean™

Use for fast and simple separation of organic and aqueous mixed sample. The column contains a 20µm polyethylene frit and a hydrophobic silicone membrane that allows the hydrophobic phase to pass through, while the aqueous phase is retained in the upper chamber.

Phase Separator Extract-Clean™ SPE Column				
Item No.	**Old Alltech No.**	**Description**	**Size**	**Qty**
SP-8604520	205289	Extract-Clean	4mL	each
SP-8604521	205389	Extract-Clean	8mL	each
SP-8604522	205589	Extract-Clean	25mL	each

Filter Columns

Filter columns are Extract-Clean™ reservoirs with two frits at the outlet end that remove particulate matter down to 20µm from samples. Syringe adapters will connect filter columns to the tops of Extract-Clean™ Columns.

Filter Columns				
Item No.	**Old Alltech No.**	**Description**	**Size**	**Qty**
SP-5122439	211101	Extract-Clean	1.5mL	\100
SP-5122440	211104	Extract-Clean	4mL	\50
SP-5122441	211108	Extract-Clean	8mL	\50
SP-5122433	210775	Extract-Clean	75mL	\50

Drying Tubes

Packed with anhydrous sodium sulfate, use these to remove residual water from SPE extracts. They are suitable for pesticide analysis.

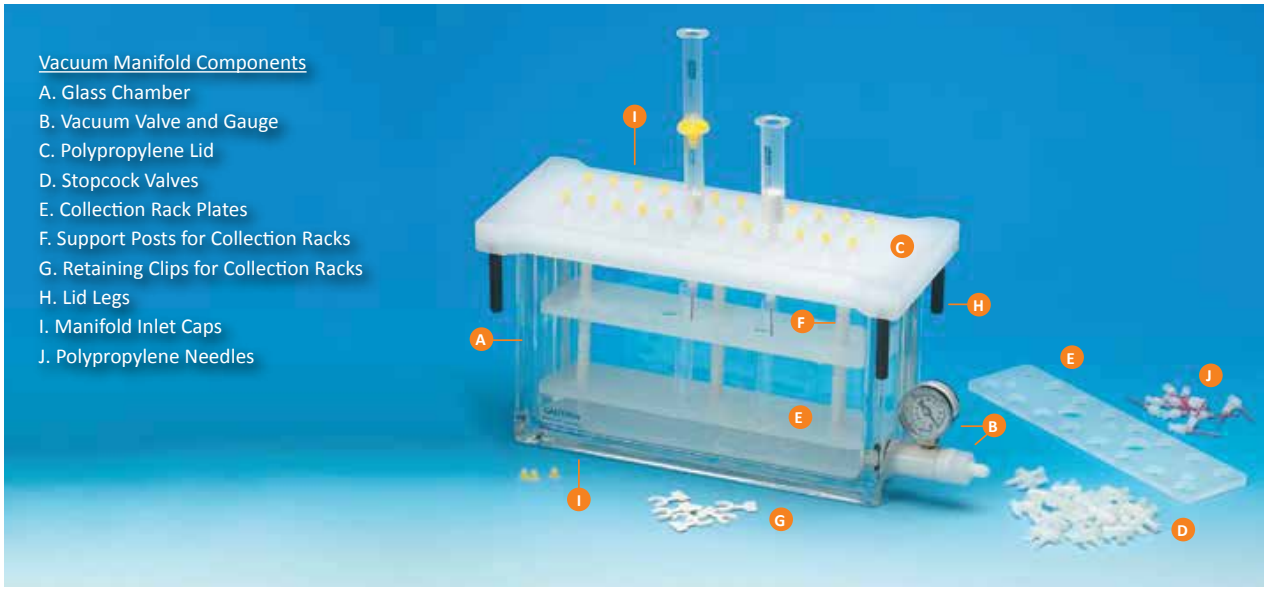
Drying Tubes				
Item No.	**Old Alltech No.**	**Description**	**Size**	**Qty**
SP-5122466	219002	Extract-Clean	3g	\100
SP-5122465	219001	Maxi-Clean Luer SPE	3g	\100

SPE Vacuum Manifolds & Accessories

Vacuum Manifolds

- 12 and 24 port manifolds
- Glass chamber for visual monitoring
- Accepts standard male luer devices

Vacuum manifolds process multiple samples simultaneously, saving time and effort. Manifold systems come complete with the components listed below. Stainless steel or PTFE needles are available separately.



12-Port Manifold

- For up to 12 samples
- Also includes one waste container

24-Port Manifold

- Process up to 24 samples

Vacuum Manifolds & Accessories			
Item No.	**Old Alltech No.**	**Description**	**Qty**
SP-210351	210351	SPE Tube 12 Port Vacuum Manifold Set - Complete	Ea
SP-210224	210224	SPE Tube 24 Port Vacuum Manifold Set - Complete	Ea
SP-213212	213212	SPE Tube 12 Port Vacuum Manifold Glass Chamber	Ea
SP-210124	210124	SPE Tube 24 Port Vacuum Manifold Glass Chamber	Ea
SP-212001	212001	SPE Tube Vacuum Manifold Cover, Gasket & 12 Stopcocks	Ea
SP-211224	211224	SPE Tube Vacuum Manifold Cover, Gasket & 24 Stopcocks	Ea
SP-212112	212112	SPE Tube Vacuum 12 Port Manifold Gaskets, pk 2	PKG
SP-210724	210724	SPE Tube Vacuum 24 Port Manifold Gaskets, pk 2	PKG
SP-212304	212304	SPE Tube 12 Port Vacuum Manifold, Gauge & Glass Chamber	Ea
SP-212324	212324	SPE Tube 24 Port Vacuum Manifold, Gauge & Glass Chamber	Ea

Manifold Accessories

Replacement parts for all size manifolds come complete with all necessary gauges and accessories. Individual replacement parts are sold separately.

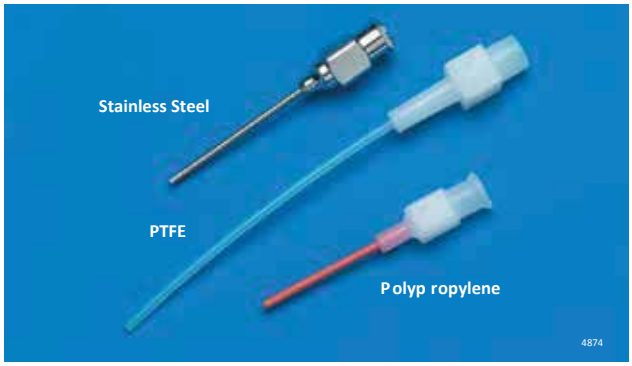
Replacement Parts for All Size Manifolds			
Item No.	**Old Alltech No.**	**Description**	**Qty**
SP-213112	213112	SPE Tube Vacuum Manifold, Stopcocks, pk12	PKG
SP-211524	211524	SPE Tube Vacuum Manifold, Stopcocks, pk24	PKG
SP-212100	212100	SPE Tube 12 Port Vacuum Manifold, Drying Attachment	Ea
SP-212124	212124	SPE Tube 24 Port Vacuum Manifold, Drying Attachment	Ea
SP-210033	210033	SPE Tube 12 Port Vacuum Manifold, Waste Container	Ea
SP-212002	212002	SPE Tube Vacuum Manifold, Female Luer Fittings, pk2	PKG
SP-212302	212302	SPE Tube Vacuum Manifold, Female Luer Fittings, pk24	PKG
SP-212120	212120	SPE Tube Vacuum Manifold, Male Luer Fitting, pk2	PKG
SP-212320	212320	SPE Tube Vacuum Manifold, Male Luer Fitting, pk24	PKG
SP-410410	410410	SPE Tube Vacuum Manifold, Support Posts for Rack, pk3	PKG
SP-410510	410510	SPE Tube Vacuum Manifold, Legs for Cover - Black, pk4	PKG
SP-212203	212203	SPE Tube Vacuum Manifold, Vacuum Gauge & Valve Assembly	Ea
SP-212912	212912	SPE Tube Vacuum Manifold, Retaining Clips, pk12	PKG
SP-211234	211234	SPE Tube Vacuum Manifold, Vacuum Manifold Plugs, pk50	PKG

Replacement Parts
A. Vacuum Gauge and Valve
B. Retaining Clips for Collection Racks
C. Female Luer Inlet
D. Male Luer Outlet
E. Caps for Lid Inlets
F. Lid Legs, Black
G. Collection Rack Posts

Manifold Needles

PTFE needles are disposable, fit many different manifold types, and eliminate cross contamination by extending into the collection tube. They also provide a complete PTFE fluid path for samples to virtually eliminate extractables. Stainless steel and polypropylene needles are also available.

Manifolds Needles			
Item No.	**Old Alltech No.**	**Description**	**Qty**
SP-2107148	2107148	SPE Tube Vacuum Manifold, PTFE Needles, pk 100	PKG
SP-2107149	2107149	SPE Tube Vacuum Manifold, PTFE Needles, pk 500	PKG
SP-212412	212412	SPE Tube Vacuum Manifold, Polypropylene Needles, pk 12	PKG
SP-210924	210924	SPE Tube Vacuum Manifold, Polypropylene Needles, pk 24	PKG
SP-212400	212400	SPE Tube Vacuum Manifold, Stainless Steel Needles, pk 12	PKG
SP-210824	210824	SPE Tube Vacuum Manifold, Stainless Steel Needles, pk 24	PKG



Reservoirs and Frits

Select empty reservoirs and loose frits to pack your own custom SPE columns.

Bulk Reservoirs and Frits		
Item No.	**Description**	**Qty**
Extract-Clean™ Empty Reservoirs, Polypropylene		
SP-5122381	1.5 mL	100
SP-5122419	4.0 mL	100
SP-5122425	8.0 mL	100
SP-5122427	15.0 mL	100
SP-5122429	25.0 mL	100
SP-3119413	75.0 mL	50
Polyethylene Frits for Extract-Clean™ Reservoirs		
SP-3119414	For 1.5 mL Reservoir	100
SP-3119415	For 4.0 mL or EV Reservoir	100
SP-3119416	For 8.0 mL Reservoir	100
SP-3119417	For 15.0 mL Reservoir	100
SP-3119418	For 25.0 mL Reservoir	100
SP-3119419	For 75.0 mL Reservoir	100
Ultra-Clean™ Empty Reservoirs, Fluorinated Polypropylene		
SP-5123374	4.0 mL	100
SP-5123375	8.0 mL	100
PTFE Frits for Ultra-Clean™ Reservoirs		
SP-5122449	For 4.0 mL Reservoir	100
SP-5122450	For 8.0 mL Reservoir	100

Adapters and Caps

Inlet caps fit SPE devices as indicated. Outlet caps fit any column or cartridge with a male luer tip.

Caps		
Item No.	**Description**	**Qty**
SP-5125472	Inlet Caps for Maxi-Clean™ Cartridges	50
SP-5125499	Inlet Caps for 1.5 mL	50
SP-5125500	Inlet Caps for 4.0 mL	50
SP-5125501	Inlet Caps for 8.0 mL	50
SP-5125504	Inlet Caps for 15.0 mL	50
SP-5125503	Inlet Caps for 25.0 mL	50
SP-5125554	Inlet Caps for 75.0 mL	50
SP-5125502	Outlet Caps for Male Luers	50

Syringe Adapters fit the tops of SPE columns allowing attachment of any male luer device. This lets you process an Extract-Clean™ SPE column with a syringe or add an empty reservoir to increase sample volume capacity.

Extract-Clean™ Syringe Adapters		
Item No.	**Description**	**Qty**
SP-5125469	Syringe Adapters for 1.5, 4.0, and 8.0 mL Columns	15
SP-5125470	Syringe Adapters for 25 mL Columns	5
SP-5125471	Syringe Adapters for 75 mL Columns	5

Bulk SPE Packings

The same high-quality material we use to manufacture our Extract-Clean™ and Maxi-Clean™ SPE products.

4900

Bulk SPE Packings			
Item No.	**Old Alltech No.**	**Decription**	**Qty**
SP-211505	211505	SPE Bulk Packing, Prevail C18 (11%), 100grams	PKG
SP-211502	211502	SPE Bulk Packing, C18 (6%), 100grams	PKG
SP-211503	211503	SPE Bulk Packing, C18 (17%), 100grams	PKG
SP-211542	211542	SPE Bulk Packing, C18 Large Pore (14%), 100grams	PKG
SP-211504	211504	SPE Bulk Packing, C8, 100grams	PKG
SP-211506	211506	SPE Bulk Packing, C2, 100grams	PKG
SP-211522	211522	SPE Bulk Packing, Phenyl, 100grams	PKG
SP-211512	211512	SPE Bulk Packing, Silica, 100grams	PKG
SP-211516	211516	SPE Bulk Packing, AminoPropyl, 100grams	PKG
SP-211518	211518	SPE Bulk Packing, Diol, 100grams	PKG
SP-5618	5618	SPE Bulk Packing, Florisil, 227grams	PKG
SP-5615	5615	SPE Bulk Packing, Florisl PR, 227grams	PKG
SP-211541	211541	SPE Bulk Packing, Alumina N, 100grams	PKG
SP-211520	211520	SPE Bulk Packing, SCX, 100grams	PKG
SP-211510	211510	SPE Bulk Packing, SAX, 100grams	PKG
SP-1769	1769	SPE Bulk Packing, Carbograph, 25grams	PKG