

Solid Phase Extraction

Supelclean™ ENVI and Supelclean™ SPE

Supelclean™ ENVI and Supelclean™ SPE



Supelclean ENVI SPE Features and Benefits

- Developed, highly tested, and quality controlled for environmental applications
- Over seven different phase chemistries ranging from our unique ENVI-Carb carbon adsorbents to ENVI-18 DSKs – reversed-phase SPE membranes for large volume water sample
- Available in glass tubes, PTFE, and stainless steel frit configurations for EPA compliance
- Ultra clean phases for highly sensitive analyses
- Documented applications in compliance to standardized EPA methodology
- Consistent particle size and specific surface area to ensure reproducible recoveries

Supelclean ENVI and Supelclean SPE Specifications

- Base Silica: *Irregular shape, acid washed for Supelclean ENVI*
- Mean Particle Size: *45 μm*
- Mean Pore Diameter: *60 Å*
- Total Pore Volume: *0.8 cm³/g*
- Specific Surface Area: *475 m²/g*
- Endcapped: *Yes (for Supelclean ENVI)*
- Hardware: *Polypropylene (unless otherwise noted)*
- Frit: *Polyethylene (unless otherwise noted), 20μm porosity*

Supelclean™ ENVI-18 SPE Products

Retention Mechanism: Reversed-phase

Sample Matrix Compatibility: Aqueous solutions (drinking, ground, waste water)

- Polymerically bonded, octadecyl (17% C), endcapped
- Excellent for cleaning, extracting and concentrating pollutants from aqueous environmental samples
- Higher 17% C loading for increased binding capacities and higher recoveries
- Higher carbon loading also offers greater resistance to extreme pH conditions
- Used for extracting herbicides, fungicides, and pesticides from waste material

	Cat. No.	Qty
Supelclean™ ENVI-18 SPE Tube		
bed wt: 100 mg, volume 1 mL	57062	108 ea
bed wt: 500 mg, volume 3 mL	57063	54 ea
bed wt: 500 mg, volume 6 mL	57064	30 ea
bed wt: 1 g, volume 6 mL	505706	30 ea
bed wt: 2 g, volume 12 mL	57114	20 ea
bed wt: 5 g, volume 20 mL	57137	20 ea
bed wt: 10 g, volume 60 mL	57138	16 ea
glass hardware, PTFE frit, bed wt: 500 mg, volume 6 mL	54331-U	30 ea
Supelclean™ ENVI-18 SPE Bulk Packing		
-	57219	100 g

Supelclean™ ENVI-8 SPE Products

Retention Mechanism: Reversed-phase

Sample Matrix Compatibility: Aqueous solutions (drinking, ground, waste water)

- High 14% C loading for increased binding capacities and higher recoveries
- Higher carbon loading also offers greater resistance to extreme pH conditions
- Excellent for cleaning, extracting and concentrating pollutants from aqueous environmental samples
- Used for extracting herbicides, fungicides, and pesticides from waste material

	Cat. No.	Qty
Supelclean™ ENVI-8 SPE Tube		
bed wt: 100 mg, volume 1 mL	57230-U	108 ea
bed wt: 500 mg, volume 3 mL	57231	54 ea
bed wt: 500 mg, volume 6 mL	57232	30 ea
bed wt: 1 g, volume 6 mL	57233	30 ea
bed wt: 5 g, volume 20 mL	57139	20 ea
bed wt: 10 g, volume 60 mL	57140-U	16 ea
glass hardware, PTFE frit, bed wt: 500 mg, volume 3 mL	57106	27 ea
glass hardware, PTFE frit, bed wt: 500 mg, volume 6 mL	57107	20 ea

Supelclean™ ENVI-18 and ENVI-8 SPE Disks



ENVI-8 DSK SPE Disk, 47 mm diam. (57172)

Retention Mechanism: Reversed-phase

Sample Matrix Compatibility: Aqueous solutions (drinking water)

- The SPE membrane equivalents of ENVI-18 and ENVI-8 packed bed SPE sorbents
- Porous glass fiber membranes embedded with C18 or C8 modified silica particles
- Provides faster flow rates and exhibits less clogging than PTFE discs for the extraction of organic contaminants from drinking water samples
- Typical applications include polynuclear aromatic hydrocarbons (PAHs), polychlorinated biphenyls (PCBs), phthalates, semivolatile organics, paraquat and diquat, pesticides and herbicides

	Cat. No.	Qty
ENVI-8 DSK SPE Disk		
diam. 47 mm	57172	24 ea
ENVI-18 DSK SPE Disk		
diam. 90 mm	57170-U	12 ea
diam. 47 mm	57171	24 ea

Solid Phase Extraction

Supelclean™ ENVI and Supelclean™ SPE: *Supelclean™ ENVI-Carb SPE Products**Supelclean™ ENVI-Carb SPE Products*

Graphitized Non-Porous Carbon

Retention Mechanism: Reversed-phase**Sample Matrix Compatibility:** Aqueous solutions (drinking, ground, waste water)

- Surface area: 100 m²/g, Particle size: 100-400 mesh
- Extreme affinity for organic polar and non-polar compounds from both non-polar and polar matrices when used under reversed-phase conditions
- Carbon surface comprised of hexagonal ring structures, interconnected and layered into graphitic sheets
- Non-porous nature of the carbon phase allows for rapid processing, adsorption does not require analyte dispersion into solid phase pores
- Independent investigators have found ENVI-Carb extremely useful for the rapid sample preparation of over 200 pesticides from various matrices including ground water, fruits, and vegetables

	Cat. No.	Qty
Supelclean™ ENVI-Carb™ SPE Tube		
bed wt.: 100 mg, volume 1 mL	57109-U	108 ea
bed wt.: 250 mg, volume 3 mL	57088	54 ea
bed wt.: 250 mg, volume 6 mL	57092	30 ea
bed wt.: 500 mg, volume 6 mL	57094	30 ea
bed wt.: 1 g, volume 12 mL	57127-U	20 ea
bed wt.: 2 g, volume 12 mL	57128	20 ea
bed wt.: 5 g, volume 20 mL	57129	20 ea
bed wt.: 10 g, volume 60 mL	57130	16 ea
Supelclean™ ENVI-Carb™ SPE Bulk Packing		
-	57210-U	50 g
Supelclean™ ENVI-Carb™ C SPE Tube		
bed wt.: 1 g, volume 12 mL	57149	20 ea

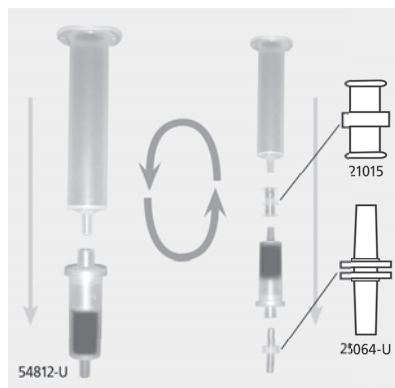
*Supelclean™ ENVI-Carb Plus SPE Products***Supelclean™ ENVI-Carb™ Plus SPE Tube**

Spherical Carbon Particles (Carbon Molecular Sieve)

Retention Mechanism: Reversed-phase**Sample Matrix Compatibility:** Aqueous solutions (drinking, ground, waste water)

- Developed and engineered for the solid phase extraction of highly polar compounds from aqueous samples such drinking and ground water
- Extreme affinity for organic polar and non-polar compounds from both non-polar and polar matrices when used under reversed-phase conditions
- Unlike traditional graphitized carbon black (GCB) phases (e.g., Supelclean ENVI-Carb) which are granular and friable, ENVI-Carb Plus consists of strong high surface area spherical particles.
- Examples of highly polar compounds recovered ($\geq 70\%$) using Supelclean ENVI-Carb Plus include (but not limited to) acephate ($\log P = -0.85$), phenol ($\log P = 1.51$), 1,4-dioxane ($\log P = -0.27$), and oxamly ($\log P = -1.2$).
- When used in conjunction with an SPE vacuum manifold, a male luer coupler (Cat. No. 25064-U), female luer coupler (Cat. No. 21015), and empty SPE tube(s) are required but not included.

matrix	Amorphous Carbon Molecular Sieve (CMS) Polymer Carbon or Graphitized Polymer Carbon (GPCs)
surface area	1149 m ² /g
density	2.27 g/mL
pore volume	0.782 mL/g
pore size	27.2 Å



▶ Reversible Tube, bed wt.: 400 mg, volume 1 mL

54812-U

30 ea

*Supelclean™ Coconut Charcoal SPE Products***Supelclean™ Coconut Charcoal SPE Tube**

▶ bed wt.: 2 g, volume 6 mL

Retention Mechanism: Reversed-phase**Sample Matrix Compatibility:** Aqueous solutions (drinking, ground, waste water)

- Particle Sz.: 80/120 mesh
- Developed specifically for EPA Method 521 - "Determination of Nitrosamines in Drinking Water by Solid Phase Extraction and Capillary Column Gas Chromatography with Large Volume Injection and Chemical Ionization Tandem Mass Spectrometry (MS/MS)"



57144-U

30 ea

Supelclean™ ENVI-Chrom P SPE Products

Styrene/divinylbenzene co-polymer

Retention Mechanism: Reversed-phase or Adsorption**Sample Matrix Compatibility:** Aqueous solutions

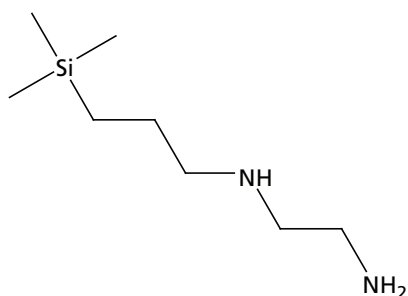
- Particle Size: 80-160 μm , Spherical Shape, Pore Size: 110- 175 Å, Surface Area: 900 m²/g
- Highly crosslinked, neutral, specially cleaned styrene/ divinylbenzene resin used to retain hydrophobic compounds with some hydrophilic functionality under reversed phase conditions
- Highly resistant to extreme pH conditions
- Typical applications include aromatics and phenolic compounds from aqueous sample matrices
- Used for priority pollutant phenols from aqueous samples

	Cat. No.	Qty
Supelclean™ ENVI-Chrom P SPE Bulk Packing		
-	57217	50 g
Supelclean™ ENVI-Chrom P SPE Tube		
bed wt.: 100 mg, volume 1 mL	57143	108 ea
bed wt.: 250 mg, volume 3 mL	57224	54 ea
bed wt.: 250 mg, volume 6 mL	57225-U	30 ea
bed wt.: 500 mg, volume 6 mL	57226	30 ea
volume 6 mL, bed wt.: 500 mg, for use with Gerstel® MPS 3	57239-U	30 ea

Solid Phase Extraction

Supelclean™ ENVI and Supelclean™ SPE: Supelclean™ PSA SPE Products

Supelclean™ PSA SPE Products



Retention Mechanism: Normal-phase and anion-exchange

Sample Matrix Compatibility: Organic or aqueous solutions

- Polymerically bonded, ethylenediamine-N-propyl phase that contains both primary and secondary amines
- A weak anion exchanger with a pKa of 10.1 and 10.9
- Similar to aminopropyl SPE phases (NH₂) in terms of selectivity, but has a much higher capacity due to presence of secondary amine (0.98-1.05 meq/g)
- Strong affinity and high capacity for removing fatty acids, organic acids, and some polar pigments and sugars when conducting multi-residue pesticide analysis in foods
- Has been shown to significantly reduce matrix-enhancement effects encountered during the GC analysis of food products
- Tested for superior cleanliness using GC-FID and GC-MS
- Bidentate nature of ligand allows chelation

	Cat. No.	Qty
Supelclean™ PSA SPE Tube		
bed wt.: 200 mg, volume 3 mL	52578-U	54 ea
bed wt.: 500 mg, volume 6 mL	52579-U	30 ea
Supelclean™ PSA SPE Bulk Packing		
-	52738-U	100 g

Supelclean™ ENVI-Florisil® SPE Products

Magnesium Silicate

Retention Mechanism: Normal phase or Adsorption

Sample Matrix Compatibility: Organic solutions

- Mesh: 100/200, Available with PTFE or stainless steel frits
- Tested for US Environmental Protection Agency (EPA) Contract Laboratory Program (CLP) statement of work for pesticides
- Highly polar material that strongly adsorbs to polar compounds from nonpolar matrices under normal phase conditions
- Typical applications include alcohols, aldehydes, amines, herbicides, pesticides, PCBs, ketones, nitro compounds, organic acids, and phenols

	Cat. No.	Qty
Supelclean™ ENVI-Florisil® SPE Tubes		
PTFE frit, bed wt.: 500 mg, volume 3 mL	57058	54 ea
stainless steel frit, bed wt.: 500 mg, volume 6 mL	57046	30 ea
stainless steel frit, bed wt.: 1 g, volume 6 mL	57053	30 ea

Supelclean™ ENVI-Carb-II/PSA SPE Products



Retention Mechanism: Reversed-phase and anion-exchange

Sample Matrix Compatibility: Organic or aqueous solutions

- Dual layer SPE tube that contains both Supelclean ENVI-Carb (upper layer) & PSA (lower layer) SPE sorbents (separated by PE frit)
- Developed to offer superior clean up when conducting multi-residue pesticide analysis from food (e.g. agricultural products, meats, etc.).
- ENVI-carb has a strong affinity towards planar molecules, and can isolate/remove pigments (e.g., chlorophyll and carotinoids) and sterols commonly present in foods and natural products
- Supelclean PSA is a polymerically bonded, ethylenediamine-N-propyl phase that contains both primary and secondary amines
- Supelclean PSA has a strong affinity and high capacity for fatty acids, organic acids, and some polar pigments and sugars
- Tested for superior cleanliness using GC-FID and GC-MS

	Cat. No.	Qty
Supelclean™ ENVI-Carb™ II/PSA SPE Tube		
bed B: 600 mg, bed A: 300 mg, volume 6 mL	54058-U	30 ea
bed A: 500 mg, bed B: 500 mg, volume 6 mL	54067-U	30 ea
bed B: 300 mg, bed A: 500 mg, volume 6 mL	55119-U	30 ea
bed B: 500 mg, bed A: 500 mg, volume 20 mL	54217-U	20 ea
bed A: 500 mg, bed B: 500 mg, volume 6 mL	54103-U	300 ea

Supelclean™ ENVI-Carb/NH₂ SPE Products



Retention Mechanism: Reversed-phase and anion-exchange

Sample Matrix Compatibility: Organic or aqueous solutions

- Dual layer SPE tube that contains both Supelclean ENVI-Carb (upper layer) & LC-NH₂ (lower layer) SPE sorbents (separated by PE frit)
- Developed to offer superior clean up when conducting multi-residue pesticide analysis from food (e.g. agricultural products, meats, etc.).
- ENVI-carb has a strong affinity towards planar molecules, and can isolate/remove pigments (e.g., chlorophyll and carotinoids) and sterols commonly present in foods and natural products
- Supelclean LC-NH₂ is an aminopropyl phase that retains fatty acids, organic acids, and some polar pigments and sugars common in food matrices

	Cat. No.	Qty
Supelclean™ ENVI-Carb/NH₂ SPE Tube		
bed B: 500 mg, bed A: 500 mg, volume 6 mL	54035-U	30 ea
bed B: 500 mg, bed A: 500 mg, volume 20 mL	54216-U	20 ea
bed B: 500 mg, bed A: 500 mg, volume 6 mL	54024-U	300 ea
bed B: 500 mg, bed A: 500 mg, volume 20 mL	54096-U	200 ea
bed A: 1000 mg, bed B: 500 mg, volume 6 mL	54117-U	30 ea
bed B: 500 mg, bed A: 1000 mg, volume 12 mL	54118-U	20 ea
bed B: 200 mg, bed A: 200 mg, volume 6 mL	54104-U	20 ea

Solid Phase Extraction

Supelclean™ ENVI and Supelclean™ SPE: *Supelclean™ ENVI-Carb-II/SAX/PSA SPE Products*

Supelclean™ ENVI-Carb-II/SAX/PSA SPE Products

Supelclean™ ENVI-Carb-II/SAX/PSA SPE Tube

Retention Mechanism: Reversed-phase and anion-exchange

Sample Matrix Compatibility: Organic or aqueous solutions

- Tri-layer SPE tube that contains Supelclean ENVI-Carb (upper layer), SAX (middle layer) & PSA (lower layer) SPE sorbents (separated by PE frit)
- Developed to offer superior clean up when conducting multi-residue pesticide analysis from food (e.g. agricultural products, meats, etc.).
- ENVI-carb has a strong affinity towards planar molecules, and can isolate/remove pigments (e.g., chlorophyll and carotenoids) and sterols commonly present in foods and natural products
- Supelclean PSA has a strong affinity and high capacity for fatty acids, organic acids, and some polar pigments and sugars
- Supelclean SAX offers additional ion-exchange capacity for removing matrix components that may induce ion-suppression or enhancement during GC analysis.

PE frit (20 µm porosity)

polypropylene hardware

► **bed B: 500 mg, bed C: 500 mg, bed A: 500 mg, volume 12 mL**

52574-U

20 ea

Supelclean™ SAX/PSA SPE Products

Retention Mechanism: Normal-phase and anion-exchange

Sample Matrix Compatibility: Organic or aqueous solutions

- Dual layer SPE tube that contains both Supelclean SAX (upper layer) and PSA (lower layer) SPE sorbents (separated by PE frit)
- Supelclean SAX is a quarternary amine, Cl⁻ counter-ion.
- Supelclean PSA is an ethylenediamine-N-propyl phase that contains both primary and secondary amines.
- Ideal for removing matrix components (fatty acids, organic acids, polar pigments, and some sugars) when conducting multi-residue pesticide analysis in foods
- In compliance with the Luke II method which uses SPE to remove matrix interference and enhancement of pesticides from food for GC-ITMS analysis

	Cat. No.	Qty
Supelclean™ SAX/PSA SPE Tube		
bed A: 250 mg, bed B: 250 mg, volume 6 mL	52576-U	30 ea
bed A: 500 mg, bed B: 500 mg, volume 6 mL	52577-U	30 ea

Supelclean™ Sulfoxide SPE Products

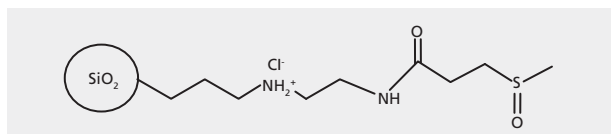
Supelclean™ Sulfoxide SPE

Retention Mechanism: Normal-Phase

Sample Matrix Compatibility: Hexane extracts of transformer, waste, and mineral oil

- Consists of a patent pending silica-bonded sulfoxide (-SO) SPE phase
- Developed specifically for the extraction of polychlorinated biphenyls (PCBs) from transformer, waste and mineral oil
- PCB retention is facilitated via interaction between the SPE phase's electrophilic sulfur atom and the pi-electron cloud formed from aromatic rings inherent with PCBs.

- This unique SPE phase offers a simple and efficient sample prep method for identifying PCBs at quantitation limits of 0.5 ppm
- When using the polypropylene SPE tube version, a large volume reservoir is recommended for increasing SPE volume headspace
- The glass SPE version is of unique design and is threaded on the mouth of the SPE tube. This allows for a screw-top cap and female luer plug to reduce moisture contamination during shipment and storage.



Supelclean Sulfoxide SPE Bonded Phase



Supelclean Sulfoxide SPE Glass Tube, 6g/20 mL (55252-U)

	Cat. No.	Qty
Supelclean™ Sulfoxide SPE Tube		
glass hardware, PE frit, bed wt: 6 g, volume 20 mL	55252-U	5 ea
PE frit, bed wt: 3 g, volume 6 mL	55253-U	30 ea
Supelclean™ Sulfoxide SPE Bulk Packing		
-	55254-U	100 g
Glass SPE Tube w/Frits		
for use with Supelclean Sulfoxide Glass SPE Tube (55252-U), I.D. 15.6 mm × O.D. 190 mm	55255-U	5 ea
Large Volume SPE Reservoir		
polypropylene body, for use with 6 mL polypropylene SPE tubes, volume 25 mL	54258-U	30 ea
PTFE body, for use with 6 mL polypropylene SPE tubes, volume 25 mL	54259-U	3 ea

Supelclean™ LC-Florisil®/Si SPE Products

Supelclean™ Florisil®/Si SPE Tube

► **bed B: 2 g, bed A: 2 g, volume 12 mL**

Retention Mechanism: Normal-phase or adsorption

Sample Matrix Compatibility: Organic solutions

- Dual layer SPE tube that contains Supelclean LC-Florisil (magnesium silicate; upper layer) and Supelclean LC-Si (silica; lower layer) separated and packed with PE frits (PP tubes)
- Developed specifically for Japan Electric Association Committee Method (JEAC 1201-1901) - "PCBs in Oil"

polypropylene hardware

PE frit

57154-U

20 ea

Solid Phase Extraction

Supelclean™ ENVI and Supelclean™ SPE: Dual Layer Florisil®/Sodium Sulfate SPE Products

Dual Layer Florisil®/Sodium Sulfate SPE Products

Dual Layer Florisil®/Na₂SO₄ SPE Tube

Retention Mechanism: Normal-phase or adsorption

Sample Matrix Compatibility: Organic solutions

- Dual layer SPE tube that contains Na₂SO₄ (upper layer) and Florisil (magnesium silicate; lower layer) separated and packed with PTFE frits (glass tubes) or PE frits (PP tubes)
- Florisil particle size- 60/100 mesh (150-200µm); Na₂SO₄ Purity- 99.99+%, density- 2.68 g/mL
- Excellent for removing/isolating polar compounds from organic matrices
- Na₂SO₄ layer aids in removing aqueous sample residues that may hinder Florisil performance and/or subsequent GC analysis
- Available in glass SPE hardware allowing users to reactivate Florisil through heating at 140°C, 16 hours
- Use in conjunction with Visiprep Large Volume Sampler (Cat No. 57275) and Visiprep SPE Vacuum Manifolds for processing larger volume samples

	Cat. No.	Qty
Dual Layer Florisil®/Na₂SO₄ SPE Tube		
glass hardware, PTFE frit, bed A: 2 g, bed B: 2 g, volume 6 mL	52582-U	48 ea
polypropylene hardware, PE frit, bed A: 2 g, bed B: 2 g, volume 6 mL	54116-U	48 ea

Multi-Layer SPE Products for US EPA Method 8290

Multi-Layer SPE for US EPA Method 8290

Developed specifically for use with US EPA Method 8290 - "Polychlorinated Dibenzodioxins (PCDDs) and Polychlorinated Dibenzofurans (PCDFs) by High-Resolution Gas Chromatography/High-Resolution Mass Spectrometry (HRGC/HRMS)"

The sample clean-up employed in EPA Method 8290 requires a series of hand-packed glass chromatography steps involving: 1) a multi-layer silica gel class column, 2) a sodium sulfate/alumina glass column, and 3) a multi-layer celite 545-activated carbon glass column.

Cat. No. 52732-U can be used in place of the required multi-layer silica gel glass column, and Cat. No. 52733-U can be used in place of the required multi-layer celite 545-activated carbon glass column.

Note that the bed weights packed into these SPE tubes are smaller than what is described in EPA Method 8290. Therefore, to use these SPE tubes, sample volumes need to be scaled down accordingly.

	Cat. No.	Qty
Multi-Layer Celite/Activated Carbon SPE Tube		
configured for US EPA Method 8290, PTFE frit, glass hardware, volume 6 mL	52733-U	30 ea
Multi-Layer Silica Gel SPE Tube		
configured for US EPA Method 8290, PTFE frit, glass hardware, volume 6 mL, bed A: 0.1 g	52732-U	30 ea

Glass SPE Products

Glass SPE Tubes with PTFE Frits

A select line of our Supelclean SPE phase chemistries is also available in inert glass and PTFE hardware configurations.

Features & Benefits:

- Resistant to harsh chemicals and aggressive solvents
- Absence of leachables such as phthalates and plasticizers
- Hygroscopic adsorbents (e.g. Florisil) can be easily heat treated/activated (e.g., 105-120 °C oven, overnight) prior to use



	Cat. No.	Qty
Supelclean™ ENVI-18 SPE Tube		
glass hardware, PTFE frit, bed wt: 500 mg, volume 6 mL	54331-U	30 ea
Supelclean™ ENVI-8 SPE Tube		
glass hardware, PTFE frit, bed wt: 500 mg, volume 3 mL	57106	27 ea
glass hardware, PTFE frit, bed wt: 500 mg, volume 6 mL	57107	20 ea
Dual Layer Florisil®/Na₂SO₄ SPE Tube		
glass hardware, PTFE frit, bed B: 2 g, bed A: 2 g, volume 6 mL	52582-U	48 ea
Supelclean™ LC-Florisil® SPE Tube		
glass hardware, PTFE frit, bed wt: 500 mg, volume 6 mL	54333-U	30 ea
glass hardware, PTFE frit, bed wt: 1 g, volume 6 mL	54334-U	30 ea
Supelclean™ LC-Si SPE Tube		
glass hardware, PTFE frit, bed wt: 1 g, volume 6 mL	54335-U	30 ea
Supelclean™ ENVI-Florisil® SPE Tubes		
glass hardware, PTFE frit, bed wt: 1 g, volume 6 mL	54095-U	30 ea

Solid Phase Extraction

Reversed-Phase Supelclean™ SPE Products

Reversed-Phase Supelclean™ SPE Products

Used to extract non-polar to moderately polar compounds from aqueous samples.

Supelclean™ LC-18 SPE

- Octadecyl, monomerically bonded
- Loading ~11.5% C
- Endcapped

	Cat. No.	Qty
Supelclean™ LC-18 SPE Tube		
bed wt: 100 mg, volume 1 mL	504270	108 ea
bed wt: 500 mg, volume 3 mL	57012	54 ea
bed wt: 500 mg, volume 6 mL	57054	30 ea
bed wt: 1 g, volume 6 mL	505471	30 ea
bed wt: 2 g, volume 12 mL	57117	20 ea
bed wt: 5 g, volume 20 mL	57135-U	20 ea
bed wt: 10 g, volume 60 mL	57136	16 ea
Supelclean™ LC-18 SPE Bulk Packing		
-	57202	100 g

Supelclean™ LC-8 SPE

- Octyl, monomerically bonded
- Loading ~7% C
- Endcapped

	Cat. No.	Qty
Supelclean™ LC-8 SPE Bulk Packing		
-	57201	100 g
Supelclean™ LC-8 SPE Tube		
bed wt: 100 mg, volume 1 mL	504157	108 ea
bed wt: 500 mg, volume 3 mL	505145	54 ea
bed wt: 500 mg, volume 6 mL	57052	30 ea

Supelclean™ LC-4 (Wide Pore) SPE

Supelclean™ LC-4 SPE Tube

- Larger pore size to accommodate larger macromolecules (e.g. proteins and peptide)
- Commonly used for desalting and extracting proteins/peptides in aqueous samples

polypropylene hardware

PE frit (20 µm porosity)

base material silica gel (irregularly shaped)
 bonding butyldimethyl
 endcapped Yes
 particle size 45 µm
 pore size 500 Å

▶ **Wide Pore, bed wt.: 500 mg, volume 3 mL**

57089 54 ea

Supelclean™ HISEP SPE

Supelclean™ Hisep™ SPE Tube

- Hydrophobic sites shielded by a hydrophilic surface for protein exclusion
- Hydrophobicity similar to C8 SPE phases

▶ **bed wt.: 500 mg, volume 3 mL**

57076-U 54 ea

Supelclean™ LC-Ph SPE

- Phenyl, monomerically bonded
- Loading ~5.5% C
- Endcapped

	Cat. No.	Qty
Supelclean™ LC-Ph SPE Tube		
bed wt: 100 mg, volume 1 mL	504599	108 ea
bed wt: 500 mg, volume 3 mL	505269	54 ea

Normal-Phase Supelclean™ SPE Products

Used to extract moderately polar to polar compounds from nonaqueous samples.

Supelclean™ LC-CN SPE

- Cyanopropyl, monomerically bonded
- Loading ~7% C
- Endcapped

	Cat. No.	Qty
Supelclean™ LC-CN SPE Tube		
bed wt: 100 mg, volume 1 mL	504386	108 ea
bed wt: 500 mg, volume 3 mL	57013	54 ea
bed wt: 500 mg, volume 6 mL	57056	30 ea
bed wt: 5 g, volume 20 mL	57141	20 ea
Supelclean™ LC-CN, 100g		
-	57218	100 g

Supelclean™ LC-Diol SPE

- Diol, monomerically bonded
- Loading ~7% C

	Cat. No.	Qty
Supelclean™ LC-Diol SPE Tube		
bed wt: 100 mg, volume 1 mL	504718	108 ea
bed wt: 500 mg, volume 3 mL	57016	54 ea

Supelclean™ LC-NH₂ SPE

- Aminopropyl, monomerically bonded
- Loading ~5% C

	Cat. No.	Qty
Supelclean™ LC-NH₂ SPE Bulk Packing		
-	57205	100 g
Supelclean™ LC-NH₂ SPE Tube		
bed wt: 100 mg, volume 1 mL	504483	108 ea
bed wt: 500 mg, volume 3 mL	57014	54 ea
bed wt: 500 mg, volume 6 mL	54059-U	30 ea

Solid Phase Extraction

Adsorption Supelclean™ SPE Products

Adsorption Supelclean™ SPE Products

No bonded phase; used to adsorb moderately polar to polar compounds from nonaqueous samples.

Supelclean™ LC-Alumina A SPE

- Alumina for acidic pH (~5), 60/325 mesh
- Brockman Act. I

	Cat. No.	Qty
Supelclean™ LC-Alumina A SPE Bulk Packing		
-	57206	100 g
Supelclean™ LC-Alumina-A SPE Tube		
bed wt: 1 g, volume 3 mL	57082-U	54 ea
bed wt: 2 g, volume 6 mL	57083-U	30 ea

Supelclean™ LC-Alumina B SPE

- Alumina for basic pH (~8.5), 60/325 mesh
- Brockman Act. I

	Cat. No.	Qty
Supelclean™ LC-Alumina-B SPE Bulk Packing		
-	57207	100 g
Supelclean™ LC-Alumina-B SPE Tube		
bed wt: 1 g, volume 3 mL	57084	54 ea
bed wt: 2 g, volume 6 mL	57085	30 ea

Supelclean™ LC-Alumina-N SPE

- Alumina for neutral pH (~6.5), 60/325 mesh
- Brockman Act. I

	Cat. No.	Qty
Supelclean™ LC-Alumina SPE Bulk Packing		
-	57208	100 g
Supelclean™ LC-Alumina-N SPE Tube		
bed wt: 1 g, volume 3 mL	57086	54 ea
bed wt: 2 g, volume 6 mL	57087	30 ea

Supelclean™ LC-Florisil® SPE

- Magnesium silicate, 100/120 mesh

	Cat. No.	Qty
Supelclean™ LC-Florisil® SPE Tube		
bed wt: 1 g, volume 6 mL	57057	30 ea
bed wt: 2 g, volume 12 mL	57115	20 ea
bed wt: 5 g, volume 20 mL	57131	20 ea
bed wt: 10 g, volume 60 mL	57132	16 ea
glass hardware, PTFE frit, bed wt: 500 mg, volume 6 mL	54333-U	30 ea
glass hardware, PTFE frit, bed wt: 1 g, volume 6 mL	54334-U	30 ea
Supelclean™ LC-Florisil® SPE Bulk Packing		
-	57209	100 g

Supelclean™ LC-Si SPE

- Silica gel

	Cat. No.	Qty
12mL Si/1G-44%H2SO4/Si SPE Tube		
-	57145-U	20 ea
12mL Si-5G-44%H2SO4/Si SPE Tube		
-	57148-U	20 ea
Supelclean™ LC-Si Bulk Packing		
-	57200	100 g
Supelclean™ LC-Si SPE Tube		
bed wt: 100 mg, volume 1 mL	504041	108 ea
bed wt: 500 mg, volume 3 mL	505048	54 ea
bed wt: 500 mg, volume 6 mL	505374	30 ea
bed wt: 1 g, volume 6 mL	57051	30 ea
bed wt: 2 g, volume 12 mL	57116	20 ea
bed wt: 5 g, volume 20 mL	57133	20 ea
packing: 10 g, volume 60 mL	57134	16 ea
glass hardware, PTFE frit, bed wt: 1 g, volume 6 mL	54335-U	30 ea
glass hardware, PTFE frit, bed wt: 500 mg, volume 6 mL	54046-U	30 ea

Ion Exchange Supelclean™ SPE Products

Interaction based on ionic attraction.

Supelclean™ LC-SAX SPE

- Quarternary amine, Cl⁻ counter-ion

	Cat. No.	Qty
Supelclean™ LC-SAX SPE Bulk Packing		
-	57203	100 g
Supelclean™ LC-SAX SPE Tube		
bed wt: 100 mg, volume 1 mL	504815	108 ea
bed wt: 500 mg, volume 3 mL	57017	54 ea

Supelclean™ LC-SCX SPE

- Aliphatic sulfonic acid, Na⁺ counter-ion
- Endcapped

	Cat. No.	Qty
Supelclean™ LC-SCX SPE Bulk Packing		
-	57204	100 g
Supelclean™ LC-SCX SPE Tube		
bed wt: 100 mg, volume 1 mL	504920	108 ea
bed wt: 500 mg, volume 3 mL	57018	54 ea

Supelclean™ LC-WCX SPE

- Carboxylic acid, Na⁺ counter-ion

	Cat. No.	Qty
Supelclean™ LC-WCX SPE Tube		
bed wt: 100 mg, volume 1 mL	505595	108 ea
bed wt: 500 mg, volume 3 mL	57061	54 ea

Solid Phase Extraction

SPE Method Development Kits

SPE Method Development Kits

Supelclean™ SPE Method Development Kit

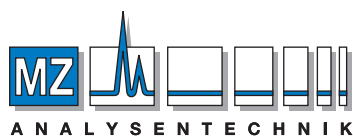
Supelclean SPE Method Development Kits consist of an assortment of SPE phase chemistries and cartridge configurations ideal for SPE method development. The range of phase chemistries available for each kit allows the user to profile for compound retention, elution and sample matrix selectivity.

	Cat. No.	Qty
Supelclean™ SPE Method Development Kit		
Kit A	57019	1 ea
Kit B	57009-U	1 ea
Kit C	57075-U	1 ea
Kit NP-3	57074-U	1 ea
Kit IX-3	57073	1 ea

Note: Please see below table for Supelclean SPE Method Development Kit descriptions

Supelclean SPE Method Development Kits

SPE Method Development Kit	Kit A	Kit B	Kit C	Kit NP-3	Kit IX-3
Cat. No.	57019	57009-U	57075-U	57074-U	57073
Qty. Ea. Tube	6	12	3	6	12
Supelclean Packing	Sorbent Qty./Tube Size				
LC-Si	500 mg/3 mL	100 mg/1 mL	500 mg/6 mL 1 g/6 mL	500 mg/3 mL	
LC-8	500 mg/3 mL	100 mg/1 mL	500 mg/6 mL		
LC-18	500 mg/3 mL	100 mg/1 mL	500 mg/6 mL		
LC-CN	500 mg/3 mL	100 mg/1 mL	500 mg/6 mL		500 mg/3 mL
LC-Diol	500 mg/3 mL	100 mg/1 mL		500 mg/3 mL	
LC-NH2	500 mg/3 mL	100 mg/1 mL		500 mg/3 mL	500 mg/3 mL
LC-Ph	500 mg/3 mL	100 mg/1 mL			
LC-SAX	500 mg/3 mL	100 mg/1 mL			500 mg/3 mL
LC-SCX	500 mg/3 mL	100 mg/1 mL			500 mg/3 mL
LC-WCX	500 mg/3 mL	100 mg/1 mL			500 mg/3 mL
LC-Alumina-A			2 g/6 mL	1 g/3 mL	
LC-Alumina-B			2 g/6 mL	1 g/3 mL	
LC-Alumina-N			2 g/6 mL	1 g/3 mL	
LC-Florisil			1 g/6 mL		



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