SOLUTIONS FOR SAMPLE PREPARATION

SiliCycle

Greyhound CHROMATOGRAPHY AND ALLIED CHEMICALS

SILICYCLE

Founded in 1995, SiliCycle is specialized in the development, manufacturing and commercialization of high value silica gels and specialty products for chromatography, purification and synthesis.

Solutions for Sample Preparation

SiliaPrep™ and SiliaPrepX™

SPE Cartridges and Well Plates

- **Wide variety of sorbents**
- **Tight particle size distribution**
- **Very good packing (*no fines*)**
- **High recovery and yield**

Silica-based and polymeric sorbents

Solid-phase extraction (*SPE*) is designed for rapid sample preparation and purification prior to chromatographic analysis.

Our Silia*Prep* (*silica-based*) and Silia*PrepX* (*polymeric*) families of SPE cartridges and well plates have been created to cover the entire spectrum of solid-phase extraction. This complete range of sorbents allows treatment of most common matrices:

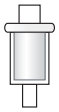
- human and animal biological fluids
- waste waters
- petrochemical residues
- toxicological residues
- food and beverage

Silia*Prep* and Silia*PrepX* products are made using state-of-the-art technology, giving you the highest quality and the best lot-to-lot reproducibility. These advanced sorbents are providing you a clean extract, reducing ion suppression and increasing selectivity for LC/MS/MS applications. All our ultra pure Silia*Flash* silica gels and functionalized Silia*Bond* silica gels are available in SPE formats. Just tell us what you need!

Cartridge sizes

We can provide a complete range of SPE cartridge lengths and diameters.

Silia*Prep* Cartridge Sizes

Tips Micro-SPE Cartridges		Mini-Silia*Prep* SPE Cartridges		SPE Cartridges					
		500 mg	1 g	1 mL	3 mL	6 mL	10 mL	12 mL	25 mL
									

Bigger sizes (*70 mL, 150 mL & 276 mL*) are also available under Silia*Sep* OT branding.

Tips for your method development

Tips for Your Method Development

Sorbent Type	Silica-Based (*SiliaPrep*)	Polymeric (*SiliaPrepX*)
Sorbent Capacity	Load up to 5 % of bed weight: 100 mg of silica-based sorbent will retain up to 5 mg of sample	Load up to 10 % of bed weight: 100 mg of polymeric sorbent will retain up to 10 mg of sample

Not enough sorbent: ANALYTE LOSS ► low recovery and reproducibility
Too much sorbent: MORE EXPENSIVE ► more solvent used, taller SPE cartridges
Concentrated samples: double the bed weight to avoid analyte loss

Product Selection Guide by Technical Characteristics

Product Selection Guide by Technical Characteristics								
SiliaPrep / SiliaPrepX	Sorbent Number	Particule Size	Pore Size	Surface Area	Carbon Load*	Endcapping	Ionic Capacity	pH Stability
Silica-Based Non Polar Phases								
SiliaPrep C18 Plus	SPE-R00830B-xxx	40 - 63 µm	60 Å	500 m²/g	17 %	Proprietary	-	2 - 10
SiliaPrep C18 *nec*	SPE-R35530B-xxx	40 - 63 µm	60 Å	500 m²/g	17 %	No	-	2 - 10
SiliaPrep C18 WPD	SPE-R33229G-xxx	37 - 55 µm	125 Å	300 m²/g	13 %	Yes	-	2 - 10
SiliaPrep C8	SPE-R31030B-xxx	40 - 63 µm	60 Å	500 m²/g	12 %	Yes	-	2 - 10
SiliaPrep C8 *nec*	SPE-R31130B-xxx	40 - 63 µm	60 Å	500 m²/g	12 %	No	-	2 - 10
SiliaPrep Phenyl (*PH*)	SPE-R34030B-xxx	40 - 63 µm	60 Å	500 m²/g	9 %	Yes	-	2 - 10
SiliaPrep PFP	SPE-R67530B-xxx	40 - 63 µm	60 Å	500 m²/g	11 %	Yes	-	2 - 10
Silica-Based Polar Phases								
SiliaPrep Cyano (*CN*)	SPE-R38030B-xxx	40 - 63 µm	60 Å	500 m²/g	7 %	Yes	-	2 - 10
SiliaPrep Diol *nec*	SPE-R35030B-xxx	40 - 63 µm	60 Å	500 m²/g	8 %	No	-	2 - 10
SiliaPrep Florisil	SPE-AUT-0014-xxx	40 - 75 µm	100 Å	250 m²/g	-	-	-	3 - 8
SiliaPrep Florisil LP	SPE-AUT-0014LP-xxx	75 - 150 µm	100 Å	250 m²/g	-	-	-	3 - 8
SiliaPrep Florisil PR	SPE-AUT-0015-xxx	150 - 250 µm	100 Å	200 m²/g	-	-	-	3 - 8
SiliaPrep Silica	SPE-R10030B-xxx	40 - 63 µm	60 Å	500 m²/g	-	-	-	2 - 9
SiliaPrep Silica WPD	SPE-R10029G-xxx	37 - 55 µm	125 Å	300 m²/g	-	-	-	2 - 9
SiliaPrep Acidic Alumina	SPE-AUT-0053-xxx	75 - 150 µm	70 Å	150 - 320 m²/g	-	-	-	3 - 8
SiliaPrep Neutral Alumina	SPE-AUT-0054-xxx	75 - 150 µm	70 Å	150 - 320 m²/g	-	-	-	3 - 8
SiliaPrep Basic Alumina	SPE-AUT-0055-xxx	75 - 150 µm	70 Å	150 - 320 m²/g	-	-	-	3 - 8
Silica-Based Ion Exchange Phases								
SiliaPrep SAX *nec*	SPE-R66530B-xxx	40 - 63 µm	60 Å	500 m²/g	10 %	No	0.90 meq/g	2 - 10
SiliaPrep SAX-2 *nec*	SPE-R66430B-xxx	40 - 63 µm	60 Å	500 m²/g	9 %	No	0.71 mmol/g	2 - 10
SiliaPrep Carbonate	SPE-R66030B-xxx	40 - 63 µm	60 Å	500 m²/g	6 %	Yes	0.46 mmol/g	2 - 10
SiliaPrep Amine (*WAX*)	SPE-R52030B-xxx	40 - 63 µm	60 Å	500 m²/g	7 %	Yes	1.2 mmol/g	2 - 10
SiliaPrep SCX	SPE-R60530B-xxx	40 - 63 µm	60 Å	500 m²/g	9 %	Yes	0.54 meq/g	2 - 10
SiliaPrep SCX-2	SPE-R51230B-xxx	40 - 63 µm	60 Å	500 m²/g	5 %	Yes	0.63 meq/g	2 - 10
SiliaPrep WCX	SPE-R70030B-xxx	40 - 63 µm	60 Å	500 m²/g	7 %	Yes	0.92 mmol/g	2 - 10
Specialty Phases								
SiliaPrep PCB	SP2-R00650030B-xxx	40 - 63 µm	60 Å	500 m²/g	3 %	Proprietary	-	2 - 10
SiliaPrep CleanDRUG	SPEC-R651230B-xxx	40 - 63 µm	60 Å	500 m²/g	9 %	Proprietary	-	2 - 10
SiliaPrep CleanENVI	SPEC-R31930B-xxx	40 - 63 µm	60 Å	500 m²/g	19 %	Proprietary	-	2 - 10
SiliaPrep PAH	SP2-R0610030B-xxx	40 - 63 µm	60 Å	500 m²/g	13 %	Proprietary	-	2 - 10
Polymeric Phases								
SiliaPrepX DVB	SPE-P0001-xxx	85 µm	60 Å	1,000 m²/g	90 %	-	-	1 - 14
SiliaPrepX HLB	SPE-P0002-xxx	40 µm	110 Å	850 m²/g	88 %	-	-	1 - 14
SiliaPrepX SCX	SPE-P0005-xxx	85 µm	60 Å	800 m²/g	80 %	-	0.80 meq/g	1 - 14
SiliaPrepX SAX	SPE-P0010-xxx	85 µm	60 Å	900 m²/g	85 %	-	0.20 meq/g	1 - 14
SiliaPrepX WCX	SPE-P0015-xxx	85 µm	60 Å	800 m²/g	85 %	-	0.70 meq/g	1 - 14
SiliaPrepX WAX	SPE-P0020-xxx	85 µm	60 Å	800 m²/g	86 %	-	0.50 meq/g	1 - 14

* Typical values

Typical Applications - Reversed and Normal Phases

The table below will help you select the right media to purify your compounds of interest, in either reversed-phase or normal phase.

SPE Cartridges & Well Plates Portfolio (*Reversed and Normal Phases*)		
Mode	**Silia*Prep* Phases**	**Applications**
Reversed-Phases: non-polar sorbents	Silia*Prep* C18 (*Plus, WPD Widepore, nec*)	For organic compounds from water, drugs & metabolites from fluids
	Silia*Prep* C8 (*endcapped & nec*)	For extremely non-polar and large compounds (*vitamin D, oils*)
	Silia*Prep* Phenyl (*PH*) & Pentafluorophenyl (*PFP*)	For aromatic compounds, complex natural products
Polymeric Reversed-Phases	Silia*PrepX* HLB & DVB	For drugs & metabolites from biological fluids, API from tablets and cream
Normal Phases: polar sorbents	Silia*Prep* Cyano (*CN*)	For acidic, basic and neutral compounds from aqueous solutions
	Silia*Prep* Diol *nec*	For polar compounds from non-polar solvents, structural isomers
	Silia*Prep* Florisil & Florisil PR (*Pesticide Residues*)	For chlorinated pesticides, PCB's and polysaccharides
	Silia*Prep* Silica & Silica WPD (*Widepore*)	For various compounds from non-polar solvents, structural isomers
	Silia*Prep* Alumina (*Acidic, Neutral & Basic*)	For aromatic compounds and aliphatic amines

Experimental Procedures - Reversed and Normal Phases

Generic protocols are presented below, for reversed-phase and normal phase SPE, to help you develop your method depending on the sorbent used, the sample matrix and the analyte properties.

These are only convenient starting points for method development. Further optimization may be required to tailor the method to the application needs.

Reversed-Phases

Extraction of neutral, acidic & basic organic compounds

Extraction of neutral, acidic & basic organic compounds	
CONDITIONNING STEP	1 x CV[(1)] of **Methanol**
EQUILIBRATION STEP	1 x CV of **water**
LOADING STEP	Aqueous sample, **pH** adjusted **2 units above pK_a** (*bases*) or **below pKa** (*acids*)
WASHING STEP	1 x CV of **5 % Methanol[(2)] in water**
ELUTION STEP	1 x CV of **Methanol**

Normal Phases

Extraction of compounds from non-polar solvents

Extraction of compounds from non-polar solvents	
CONDITIONNING STEP	1 x CV of **Isopropanol**
EQUILIBRATION STEP	1 x CV of **Hexane** (*or other low polar solvent*)
LOADING STEP	Sample diluted in **Hexane**
WASHING STEP	1 x CV of **5 % Isopropanol in Hexane**
ELUTION STEP	1 x CV of **50 - 95 % Isopropanol in Hexane**

Notes:

(1) Abbreviation used: CV = Column Volume

(2) For polymeric sorbents used in reversed-phase, you can add up to 60 % Methanol in water during the washing step, if your application requires it.

Typical Applications - Ion Exchange Phases

The table below will help you select the right media according to the pK_a of your analyte.

SPE Cartridges & Well Plates Portfolio (*Ion Exchange Phases*)		
Mode	**Silia*Prep* Phases**	**Applications**
Ion Exchange Phases: ionic sorbents	**Silia*Prep* SAX & SAX-2 (*TMA Chloride & Acetate*) nec**	For weakly acidic molecules (pK_a *3 - 5*)
	Silia*Prep* Carbonate	For scavenging of TFA, extraction of acids (*boronic acids & acidic phenols*)
	Silia*Prep* Amine (*WAX*)	For strongly acidic molecules (pK_a *< 3*), structural isomers, saccharides
	Silia*Prep* SCX & SCX-2 (*Tosic & Propylsulfonic Acids*)	For weakly basic molecules (pK_a *7 - 9*), catch & release of amines
	Silia*Prep* WCX (*Carboxylic Acid*)	For strongly basic compounds (pK_a *> 9*)
Polymeric Ion Exchange Phases	**Silia*PrepX* SAX & WAX**	For acidic compounds & metabolites, highly stable in organic solvents
	Silia*PrepX* SCX & WCX	For basic compounds, highly stable in organic solvents

Experimental Procedures - Ion Exchange Phases

Strong Anion Exchangers (*SAX*)

Extraction of weak acids (pK_a *3 - 5*[3])	
CONDITIONNING STEP	1 x CV of **Methanol**
LOADING STEP	Aqueous sample, **pH** adjusted at **7 - 8**
WASHING STEP	1 x CV of **Methanol** (*elution of basic & neutral compounds*)
ELUTION STEP	1 x CV of **2 - 5 % HCO_2H in Methanol** (*elution of weak acidic compounds*)

Strong Cation Exchangers (*SCX*)

Extraction of weak bases (pK_a *7 - 9*)	
CONDITIONNING STEP	1 x CV of **Methanol**
EQUILIBRATION STEP	1 x CV of **water**
LOADING STEP	Aqueous sample, **pH** adjusted at **3 - 4**
WASHING STEP 1	1 x CV of **water**
WASHING STEP 2	1 x CV of **Methanol** (*elution of acidic & neutral compounds*)
ELUTION STEP	1 x CV of **2 - 5 % NH_4OH[4] in Methanol** (*elution of weak basic compounds*)

Weak Anion Exchangers (*WAX*)

Extraction of strong acids (pK_a *< 3*)	
CONDITIONNING STEP	1 x CV of **Methanol**
EQUILIBRATION STEP	1 x CV of **water**
LOADING STEP	Aqueous sample, **pH** adjusted at **4 - 5**
WASHING STEP 1	1 x CV of **water**
WASHING STEP 2	1 x CV of **Methanol** (*elution of basic & neutral compounds*)
ELUTION STEP	1 x CV of **2 - 5 % NH_4OH[4] in Methanol** (*elution of strong acidic compounds*)

Weak Cation Exchangers (*WCX*)

Extraction of strong bases (pK_a *> 9*)	
CONDITIONNING STEP	1 x CV of **Methanol**
EQUILIBRATION STEP	1 x CV of **water**
LOADING STEP	Aqueous sample, **pH** adjusted at **8**
WASHING STEP 1	1 x CV of **water**
WASHING STEP 2	1 x CV of **Methanol** (*elution of acidic & neutral compounds*)
ELUTION STEP	1 x CV of **2 - 5 % HCO_2H in Methanol** (*elution of strong basic compounds*)

Notes:

[3] For extraction of Phenol (pK_a *10*), we recommend using a polymeric phase (*Silia*Prep*X SAX*) and load the sample with a pH adjusted to 12.

[4] For silica-based sorbents, NH_4OH can be too aggressive. You can use NH_3 (*7M*) in Methanol to avoid degrading the phase.

Typical Applications - Specialty Phases & Metal Scavengers

The table below presents our specialty phases, to remove specific compounds from your samples.

SPE Cartridges & Well Plates Portfolio (*Specialty Phases & Metal Scavengers*)		
Mode	**Silia*Prep* Phases**	**Applications**
Specialty Phases	**Silia*Prep* PCB**	For extraction of PCB's from waste oil (*hexane extract*)
	Silia*Prep* CleanDRUG	For drugs of abuse applications
	Silia*Prep* CleanENVI	For PAH's, PCB's, herbicides and pesticides from waste waters
	Silia*Prep* PAH	For PAH's from waste waters
Metal Scavengers	**Silia*Prep* Cysteine, Diamine, DMT, DOTA, TAAcOH, TAAcONa, Thiol, Thiourea, Imidazole, Triamine**	For lowering the residual metal concentration of various metal complexes (*Pd, Pt, Rh, Ru, Ni, Sn, etc*) to single digit ppm

Experimental Procedures - Specialty Phases & Metal Scavengers

The procedures below are only convenient starting points for method development. Further optimization may be required to tailor the method to your application needs.

Specialty Phases

Extraction of PCBs, drugs and PAHs

PCBs from waste oil with Silia*Prep* PCB	
CONDITIONNING STEP	1 x CV[(1)] of **Hexane**
LOADING STEP	**Diluted sample** (*with **Hexane***)
ELUTION STEP	1 x CV of **Hexane**

Drugs of abuse with Silia*Prep* CleanDRUG	
CONDITIONNING STEP	1 x CV of **Methanol**
EQUILIBRATION STEP	1 x CV of **water** (*buffered at **pH 6***)
LOADING STEP	**Aqueous sample** (*buffered at **pH 6***)
WASHING STEP	1 x CV of **water** then 1 x CV of **Methanol**
ELUTION STEP	1 x CV of **Isopropanol:NH_4OH (*90:10*)**

Environmental samples with Silia*Prep* CleanENVI & PAH	
CONDITIONNING STEP	1 x CV of **Dichloromethane** then 1 x CV of **Methanol**
EQUILIBRATION STEP	1 x CV of **water**
LOADING STEP	**Aqueous sample**
WASHING STEP	1 x CV of **5 - 50 % Methanol in water**
ELUTION STEP	1 x CV of **Dichloromethane**

Metal Scavengers

Catch of the metal & release of your analyte

Catch and release of the analyte	
EQUILIBRATION STEP	1 x CV of **sample solvent**
LOADING STEP[(2)]	**Diluted sample**
RINSING STEP	1 x CV of **sample solvent**

Notes:

(1) Abbreviation used: CV = Column Volume

(2) Non retentive SPE (*Catch & Release*): analyte won't retain on the sorbent and will elute directly during loading and rinsing steps. Scavenged compounds will remain in the SPE cartridge.

Product Selection Guide by Manufacturer

The table below will help you find equivalences to products of well-known SPE manufacturers.

Product Selection Guide by Manufacturer					
SiliCycle	**Waters**	**Phenomenex**	**Agilent**	**Biotage**	**Macherey-Nagel**
Silia*Prep* C18 Plus	Sep-Pak® tC18	Strata® C18-E	Bond Elut® C18	Isolute® C18 (*EC*)	Chromabond® C18 ec
Silia*Prep* C18 *nec*		Strata® C18-U	Bond Elut® C18 OH	Isolute® C18	Chromabond® C18
Silia*Prep* C18 WPD	Sep-Pak® C18	Strata® C18-T	Bond Elut® C18 EWP	Isolute® MFC18	Chromabond® C18 ec f
Silia*Prep* C8	Sep-Pak® C8	Strata® C8	Bond Elut® C8	Isolute® C8 (*EC*)	
Silia*Prep* C8 *nec*				Isolute® C8	Chromabond® C8
Silia*Prep* Phenyl (*PH*)		Strata® Phenyl	Bond Elut® PH	Isolute® PH	Chromabond® C_6H_5
Silia*Prep* PFP					
Silia*Prep* Cyano (*CN*)	Sep-Pak® Cyanopropyl	Strata® CN	Bond Elut® Cyano (*CN*)	Isolute® CN	Chromabond® CN
Silia*Prep* Diol *nec*	Sep-Pak® Diol		Bond Elut® Diol (*2OH*)	Isolute® DIOL	Chromabond® OH (*Diol*)
Silia*Prep* Silica		Strata® Silica (*Si-1*)	Bond Elut® SI	Isolute® SI	Chromabond® SiOH
Silia*Prep* Silica WPD	Sep-Pak® Silica				
Silia*Prep* Florisil LP & Florisil PR	Sep-Pak® Florisil®	Strata® FL-PR (*Florisil®*)	Bond Elut® Florisil	Isolute® FL	Chromabond® Florisil®
Silia*Prep* Alumina (*Acidic, Neutral, Basic*)	Sep-Pak® Alumina (*A, N, B*)	Strata® Alumina-N (*AL-N*)	Bond Elut® Alumina (*-A, -N, -B*)	Isolute® ALUMINA (*AL-A, AL-N & AL-B*)	Chromabond® Alox (*A, N, B*)
Silia*Prep* SAX *nec* (*TMA Chloride*)	Sep-Pak® Accell™ Plus QMA	Strata® SAX	Bond Elut® SAX	Isolute® SAX	Chromabond® SB
Silia*Prep* SAX-2 *nec* (*TMA Acetate*)				Isolute® PE-AX	
Silia*Prep* Carbonate	Accell Plus QMA Carbonate Plus Light			Isolute® Si-Carbonate (*Si-TMA-CO_3*)	
Silia*Prep* Amine (*WAX*)	Sep-Pak® Amino	Strata® NH_2	Bond Elut® NH2	Isolute® NH_2	Chromabond® NH_2
Silia*Prep* Tosic Acid (*SCX*)		Strata® SCX	Bond Elut® SCX	Isolute® SCX-3	Chromabond® SA
Silia*Prep* SCX-2 (*Propylsulfonic Acid*)			Bond Elut® PRS	Isolute® SCX-2	Chromabond® PSA
Silia*Prep* WCX (*Carboxylic Acid*)	Sep-Pak® Accell™ Plus CM	Strata® WCX	Bond Elut® CBA	Isolute® CBA	Chromabond® PCA
Silia*Prep* PCB			Bond Elut® PCB		Chromabond® SA/SiOH
Silia*Prep* CleanDRUG		Strata® Screen-C	Bond Elut® Certify	Isolute® HCX	Chromabond® Drug
Silia*Prep* CleanENVI & Silia*Prep* PAH		Strata® PAH	EnvirElut®	Isolute® PAH	Chromabond® C18 PAH
Silia*PrepX* HLB	Oasis® HLB	Strata®-X	Bond Elut® NEXUS		Chromabond® HLB
Silia*PrepX* DVB			Bond Elut® ENV	Isolute® 101	Chromabond® HR-X
Silia*PrepX* SAX	Oasis® MAX	Strata®-X-A	Bond Elut® Plexa PAX	Evolute® Express AX	Chromabond® HR-XA
Silia*PrepX* WAX	Oasis® WAX	Strata®-X-AW		Evolute® Express WAX	Chromabond® HR-XAW
Silia*PrepX* SCX	Oasis® MCX	Strata®-X-C	Bond Elut® Plexa PCX	Evolute® Express CX	Chromabond® HR-XC
Silia*PrepX* WCX	Oasis® WCX	Strata®-X-CW	Bond Elut® NEXUS WCX	Evolute® Express WCX	Chromabond® HR-XCW

Ordering Information - Reversed-Phases

We can provide a complete range of SPE cartridge volumes and bed weights, and 96-Well plates.

Silia*Prep* Reversed-Phases SPE & Well Plates Formats					
Formats	**Qty/Box**	**Silia*Prep* C18 Plus**	**Silia*Prep* C18 WPD**	**Silia*Prep* C18 nec**	**Silia*Prep* C8**
Silia*Prep* SPE Cartridges					
1 mL / 50 mg	100	SPE-R00830B-01B	SPE-R33229G-01B	SPE-R35530B-01B	SPE-R31030B-01B
1 mL / 100 mg	100	SPE-R00830B-01C	SPE-R33229G-01C	SPE-R35530B-01C	SPE-R31030B-01C
3 mL / 200 mg	50	SPE-R00830B-03G	SPE-R33229G-03G	SPE-R35530B-03G	SPE-R31030B-03G
3 mL / 500 mg	50	SPE-R00830B-03P	SPE-R33229G-03P	SPE-R35530B-03P	SPE-R31030B-03P
6 mL / 500 mg	50	SPE-R00830B-06P	SPE-R33229G-06P	SPE-R35530B-06P	SPE-R31030B-06P
6 mL / 1 g	50	SPE-R00830B-06S	SPE-R33229G-06S	SPE-R35530B-06S	SPE-R31030B-06S
6 mL / 2 g	50	SPE-R00830B-06U	SPE-R33229G-06U	SPE-R35530B-06U	SPE-R31030B-06U
12 mL / 2 g	20	SPE-R00830B-12U	SPE-R33229G-12U	SPE-R35530B-12U	SPE-R31030B-12U
25 mL / 5 g*	20	SPE-R00830B-20X	SPE-R33229G-20X	SPE-R35530B-20X	SPE-R31030B-20X
70 mL / 10 g*	16	FLH-R00830B-70Y	FLH-R33229G-70Y	FLH-R35530B-70Y	FLH-R31030B-70Y
70 mL / 15 g*	16	FLH-R00830B-70i	FLH-R33229G-70i	FLH-R35530B-70i	FLH-R31030B-70i
70 mL / 20 g*	16	FLH-R00830B-70Z	FLH-R33229G-70Z	FLH-R35530B-70Z	FLH-R31030B-70Z
150 mL / 25 g*	10	FLH-R00830B-95K	FLH-R33229G-95K	FLH-R35530B-95K	FLH-R31030B-95K
150 mL / 50 g*	10	FLH-R00830B-95M	FLH-R33229G-95M	FLH-R35530B-95M	FLH-R31030B-95M
150 mL / 70 g*	10	FLH-R00830B-95N	FLH-R33229G-95N	FLH-R35530B-95N	FLH-R31030B-95N
276 mL / 100 g*	12	FLH-R00830B-276F	FLH-R33229G-276F	FLH-R35530B-276F	FLH-R31030B-276F
Silia*Prep* Large Reservoir Volume SPE Cartridges					
10 mL / 200 mg	50	SPC-R00830B-10G	SPC-R33229G-10G	SPC-R35530B-10G	SPC-R31030B-10G
10 mL / 500 mg	50	SPC-R00830B-10P	SPC-R33229G-10P	SPC-R35530B-10P	SPC-R31030B-10P
Mini-Silia*Prep* SPE Cartridges					
500 mg	50	SPS-R00830B-P	SPS-R33229G-P	SPS-R35530B-P	SPS-R31030B-P
1 g	50	SPS-R00830B-S	SPS-R33229G-S	SPS-R35530B-S	SPS-R31030B-S
Silia*Prep* 96-Well Plates					
2 mL / 50 mg	1	96W-R00830B-B	96W-R33229G-B	96W-R35530B-B	96W-R31030B-B
2 mL / 100 mg	1	96W-R00830B-C	96W-R33229G-C	96W-R35530B-C	96W-R31030B-C

* Commercialized under Silia*Sep* OT branding.

Note:

- Custom formats available on request.
- Add "-J" at the end of the part number to order a box of 200 cartridges.

SiliaPrep Reversed-Phases SPE & Well Plates Formats				
Formats	**Qty/Box**	**SiliaPrep C8 nec**	**SiliaPrep Phenyl (PH)**	**SiliaPrep PFP**
SiliaPrep SPE Cartridges				
1 mL / 50 mg	100	SPE-R31130B-01B	SPE-R34030B-01B	SPE-R67530B-01B
1 mL / 100 mg	100	SPE-R31130B-01C	SPE-R34030B-01C	SPE-R67530B-01C
3 mL / 200 mg	50	SPE-R31130B-03G	SPE-R34030B-03G	SPE-R67530B-03G
3 mL / 500 mg	50	SPE-R31130B-03P	SPE-R34030B-03P	SPE-R67530B-03P
6 mL / 500 mg	50	SPE-R31130B-06P	SPE-R34030B-06P	SPE-R67530B-06P
6 mL / 1 g	50	SPE-R31130B-06S	SPE-R34030B-06S	SPE-R67530B-06S
6 mL / 2 g	50	SPE-R31130B-06U	SPE-R34030B-06U	SPE-R67530B-06U
12 mL / 2 g	20	SPE-R31130B-12U	SPE-R34030B-12U	SPE-R67530B-12U
25 mL / 5 g*	20	SPE-R31130B-20X	SPE-R34030B-20X	SPE-R67530B-20X
70 mL / 10 g*	16	FLH-R31130B-70Y	FLH-R34030B-70Y	FLH-R67530B-70Y
70 mL / 15 g*	16	FLH-R31130B-70i	FLH-R34030B-70i	FLH-R67530B-70i
70 mL / 20 g*	16	FLH-R31130B-70Z	FLH-R34030B-70Z	FLH-R67530B-70Z
150 mL / 25 g*	10	FLH-R31130B-95K	FLH-R34030B-95K	FLH-R67530B-95K
150 mL / 50 g*	10	FLH-R31130B-95M	FLH-R34030B-95M	FLH-R67530B-95M
150 mL / 70 g*	10	FLH-R31130B-95N	FLH-R34030B-95N	FLH-R67530B-95N
276 mL / 100 g*	12	FLH-R31130B-276F	FLH-R34030B-276F	FLH-R67530B-276F
SiliaPrep Large Reservoir Volume SPE Cartridges				
10 mL / 200 mg	50	SPC-R31130B-10G	SPC-R34030B-10G	SPC-R67530B-10G
10 mL / 500 mg	50	SPC-R31130B-10P	SPC-R34030B-10P	SPC-R67530B-10P
Mini-SiliaPrep SPE Cartridges				
500 mg	50	SPS-R31130B-P	SPS-R34030B-P	SPS-R67530B-P
1 g	50	SPS-R31130B-S	SPS-R34030B-S	SPS-R67530B-S
SiliaPrep 96-Well Plates				
2 mL / 50 mg	1	96W-R31130B-B	96W-R34030B-B	96W-R67530B-B
2 mL / 100 mg	1	96W-R31130B-C	96W-R34030B-C	96W-R67530B-C

* Commercialized under SiliaSep OT branding.

Note:

- Custom formats available on request.
- Add "-J" at the end of the part number to order a box of 200 cartridges.

Ordering Information - Normal Phases

We can provide a complete range of SPE cartridge volumes and bed weights, and 96-Well plates.

Silia*Prep* Normal Phases SPE & Well Plates Formats						
Formats	**Qty/Box**	**Silia*Prep* Cyano (*CN*)**	**Silia*Prep* Diol *nec***	**Silia*Prep* Florisil**	**Silia*Prep* Florisil LP**	**Silia*Prep* Florisil PR**
Silia*Prep* SPE Cartridges						
1 mL / 50 mg	100	SPE-R38030B-01B	SPE-R35030B-01B	SPE-AUT-0014-01B	SPE-AUT-0014LP-01B	SPE-AUT-0015-01B
1 mL / 100 mg	100	SPE-R38030B-01C	SPE-R35030B-01C	SPE-AUT-0014-01C	SPE-AUT-0014LP-01C	SPE-AUT-0015-01C
3 mL / 200 mg	50	SPE-R38030B-03G	SPE-R35030B-03G	SPE-AUT-0014-03G	SPE-AUT-0014LP-03G	SPE-AUT-0015-03G
3 mL / 500 mg	50	SPE-R38030B-03P	SPE-R35030B-03P	SPE-AUT-0014-03P	SPE-AUT-0014LP-03P	SPE-AUT-0015-03P
6 mL / 500 mg	50	SPE-R38030B-06P	SPE-R35030B-06P	SPE-AUT-0014-06P	SPE-AUT-0014LP-06P	SPE-AUT-0015-06P
6 mL / 1 g	50	SPE-R38030B-06S	SPE-R35030B-06S	SPE-AUT-0014-06S	SPE-AUT-0014LP-06S	SPE-AUT-0015-06S
6 mL / 2 g	50	SPE-R38030B-06U	SPE-R35030B-06U	SPE-AUT-0014-06U	SPE-AUT-0014LP-06U	SPE-AUT-0015-06U
12 mL / 2 g	20	SPE-R38030B-12U	SPE-R35030B-12U	SPE-AUT-0014-12U	SPE-AUT-0014LP-12U	SPE-AUT-0015-12U
25 mL / 5 g*	20	SPE-R38030B-20X	SPE-R35030B-20X	SPE-AUT-0014-20X	SPE-AUT-0014LP-20X	SPE-AUT-0015-20X
70 mL / 10 g*	16	FLH-R38030B-70Y	FLH-R35030B-70Y	FLH-AUT-0014-70Y	FLH-AUT-0014LP-70Y	FLH-AUT-0015-70Y
70 mL / 15 g*	16	FLH-R38030B-70i	FLH-R35030B-70i	FLH-AUT-0014-70i	FLH-AUT-0014LP-70i	FLH-AUT-0015-70i
70 mL / 20 g*	16	FLH-R38030B-70Z	FLH-R35030B-70Z	FLH-AUT-0014-70Z	FLH-AUT-0014LP-70Z	FLH-AUT-0015-70Z
150 mL / 25 g*	10	FLH-R38030B-95K	FLH-R35030B-95K	FLH-AUT-0014-95K	FLH-AUT-0014LP-95K	FLH-AUT-0015-95K
150 mL / 50 g*	10	FLH-R38030B-95M	FLH-R35030B-95M	FLH-AUT-0014-95M	FLH-AUT-0014LP-95M	FLH-AUT-0015-95M
150 mL / 70 g*	10	FLH-R38030B-95N	FLH-R35030B-95N	FLH-AUT-0014-95N	FLH-AUT-0014LP-95N	FLH-AUT-0015-95N
276 mL / 100 g*	12	FLH-R38030B-276F	FLH-R35030B-276F	FLH-AUT-0014-276F	FLH-AUT-0014LP-276F	FLH-AUT-0015-276F
Silia*Prep* Large Reservoir Volume SPE Cartridges						
10 mL / 200 mg	50	SPC-R38030B-10G	SPC-R35030B-10G	SPC-AUT-0014-10G	SPC-AUT-0014LP-10G	SPC-AUT-0015-10G
10 mL / 500 mg	50	SPC-R38030B-10P	SPC-R35030B-10P	SPC-AUT-0014-10P	SPC-AUT-0014LP-10P	SPC-AUT-0015-10P
Mini-Silia*Prep* SPE Cartridges						
500 mg	50	SPS-R38030B-P	SPS-R35030B-P	SPS-AUT-0014-P	SPS-AUT-0014LP-P	SPS-AUT-0015-P
1 g	50	SPS-R38030B-S	SPS-R35030B-S	SPS-AUT-0014-S	SPS-AUT-0014LP-S	SPS-AUT-0015-S
Silia*Prep* 96-Well Plates						
2 mL / 50 mg	1	96W-R38030B-B	96W-R35030B-B	96W-AUT-0014-B	96W-AUT-0014LP-B	96W-AUT-0015-B
2 mL / 100 mg	1	96W-R38030B-C	96W-R35030B-C	96W-AUT-0014-C	96W-AUT-0014LP-C	96W-AUT-0015-C

* Commercialized under Silia*Sep* OT branding.

Note:

- Custom formats available on request.
- Add "-J" at the end of the part number to order a box of 200 cartridges.

SiliaPrep Normal Phases SPE & Well Plates Formats						
Formats	Qty/Box	SiliaPrep Silica	SiliaPrep Silica WPD	SiliaPrep Acidic Alumina	SiliaPrep Neutral Alumina	SiliaPrep Basic Alumina
SiliaPrep SPE Cartridges						
1 mL / 50 mg	100	SPE-R10030B-01B	SPE-R10029G-01B	SPE-AUT-0053-01B	SPE-AUT-0054-01B	SPE-AUT-0055-01B
1 mL / 100 mg	100	SPE-R10030B-01C	SPE-R10029G-01C	SPE-AUT-0053-01C	SPE-AUT-0054-01C	SPE-AUT-0055-01C
3 mL / 200 mg	50	SPE-R10030B-03G	SPE-R10029G-03G	SPE-AUT-0053-03G	SPE-AUT-0054-03G	SPE-AUT-0055-03G
3 mL / 500 mg	50	SPE-R10030B-03P	SPE-R10029G-03P	SPE-AUT-0053-03P	SPE-AUT-0054-03P	SPE-AUT-0055-03P
6 mL / 500 mg	50	SPE-R10030B-06P	SPE-R10029G-06P	SPE-AUT-0053-06P	SPE-AUT-0054-06P	SPE-AUT-0055-06P
6 mL / 1 g	50	SPE-R10030B-06S	SPE-R10029G-06S	SPE-AUT-0053-06S	SPE-AUT-0054-06S	SPE-AUT-0055-06S
6 mL / 2 g	50	SPE-R10030B-06U	SPE-R10029G-06U	SPE-AUT-0053-06U	SPE-AUT-0054-06U	SPE-AUT-0055-06U
12 mL / 2 g	20	FLH-R10030B-15U*	SPE-R10029G-12U	SPE-AUT-0053-12U	SPE-AUT-0054-12U	SPE-AUT-0055-12U
25 mL / 5 g*	20	FLH-R10030B-25X	SPE-R10029G-20X	SPE-AUT-0053-20X	SPE-AUT-0054-20X	SPE-AUT-0055-20X
70 mL / 10 g*	16	FLH-R10030B-70Y	FLH-R10029G-70Y	FLH-AUT-0053-70Y	FLH-AUT-0054-70Y	FLH-AUT-0055-70Y
70 mL / 15 g*	16	FLH-R10030B-70i	FLH-R10029G-70i	FLH-AUT-0053-70i	FLH-AUT-0054-70i	FLH-AUT-0055-70i
70 mL / 20 g*	16	FLH-R10030B-70Z	FLH-R10029G-70Z	FLH-AUT-0053-70Z	FLH-AUT-0054-70Z	FLH-AUT-0055-70Z
150 mL / 25 g*	10	FLH-R10030B-95K	FLH-R10029G-95K	FLH-AUT-0053-95K	FLH-AUT-0054-95K	FLH-AUT-0055-95K
150 mL / 50 g*	10	FLH-R10030B-95M	FLH-R10029G-95M	FLH-AUT-0053-95M	FLH-AUT-0054-95M	FLH-AUT-0055-95M
150 mL / 70 g*	10	FLH-R10030B-95N	FLH-R10029G-95N	FLH-AUT-0053-95N	FLH-AUT-0054-95N	FLH-AUT-0055-95N
276 mL / 100 g*	12	FLH-R10030B-276F	FLH-R10029G-276F	FLH-AUT-0053-276F	FLH-AUT-0054-276F	FLH-AUT-0055-276F
SiliaPrep Large Reservoir Volume SPE Cartridges						
10 mL / 200 mg	50	SPC-R10030B-10G	SPC-R10029G-10G	SPC-AUT-0053-10G	SPC-AUT-0054-10G	SPC-AUT-0055-10G
10 mL / 500 mg	50	SPC-R10030B-10P	SPC-R10029G-10P	SPC-AUT-0053-10P	SPC-AUT-0054-10P	SPC-AUT-0055-10P
Mini-SiliaPrep SPE Cartridges						
500 mg	50	SPS-R10030B-P	SPS-R10029G-P	SPS-AUT-0053-P	SPS-AUT-0054-P	SPS-AUT-0055-P
1 g	50	SPS-R10030B-S	SPS-R10029G-S	SPS-AUT-0053-S	SPS-AUT-0054-S	SPS-AUT-0055-S
SiliaPrep 96-Well Plates						
2 mL / 50 mg	1	96W-R10030B-B	96W-R10029G-B	-	-	-
2 mL / 100 mg	1	96W-R10030B-C	96W-R10029G-C	-	-	-

* Commercialized under SiliaSep OT branding.

Note:

- Custom formats available on request.
- Add "-J" at the end of the part number to order a box of 200 cartridges.

Ordering Information - Ion Exchange Phases

We can provide a complete range of SPE cartridge volumes and bed weights, and 96-Well plates.

Silia*Prep* Ion Exchange Phases SPE & Well Plates Formats					
Formats	**Qty/Box**	**Silia*Prep* SAX *nec***	**Silia*Prep* SAX-2 *nec***	**Silia*Prep* Carbonate**	**Silia*Prep* Amine (*WAX*)**
Silia*Prep* SPE Cartridges					
1 mL / 50 mg	100	SPE-R66530B-01B	SPE-R66430B-01B	SPE-R66030B-01B	SPE-R52030B-01B
1 mL / 100 mg	100	SPE-R66530B-01C	SPE-R66430B-01C	SPE-R66030B-01C	SPE-R52030B-01C
3 mL / 200 mg	50	SPE-R66530B-03G	SPE-R66430B-03G	SPE-R66030B-03G	SPE-R52030B-03G
3 mL / 500 mg	50	SPE-R66530B-03P	SPE-R66430B-03P	SPE-R66030B-03P	SPE-R52030B-03P
6 mL / 500 mg	50	SPE-R66530B-06P	SPE-R66430B-06P	SPE-R66030B-06P	SPE-R52030B-06P
6 mL / 1 g	50	SPE-R66530B-06S	SPE-R66430B-06S	SPE-R66030B-06S	SPE-R52030B-06S
6 mL / 2 g	50	SPE-R66530B-06U	SPE-R66430B-06U	SPE-R66030B-06U	SPE-R52030B-06U
12 mL / 2 g	20	SPE-R66530B-12U	SPE-R66430B-12U	SPE-R66030B-12U	SPE-R52030B-12U
25 mL / 5 g*	20	SPE-R66530B-20X	SPE-R66430B-20X	SPE-R66030B-20X	SPE-R52030B-20X
70 mL / 10 g*	16	FLH-R66530B-70Y	FLH-R66430B-70Y	FLH-R66030B-70Y	FLH-R52030B-70Y
70 mL / 15 g*	16	FLH-R66530B-70i	FLH-R66430B-70i	FLH-R66030B-70i	FLH-R52030B-70i
70 mL / 20 g*	16	FLH-R66530B-70Z	FLH-R66430B-70Z	FLH-R66030B-70Z	FLH-R52030B-70Z
150 mL / 25 g*	10	FLH-R66530B-95K	FLH-R66430B-95K	FLH-R66030B-95K	FLH-R52030B-95K
150 mL / 50 g*	10	FLH-R66530B-95M	FLH-R66430B-95M	FLH-R66030B-95M	FLH-R52030B-95M
150 mL / 70 g*	10	FLH-R66530B-95N	FLH-R66430B-95N	FLH-R66030B-95N	FLH-R52030B-95N
276 mL / 100 g*	12	FLH-R66530B-276F	FLH-R66430B-276F	FLH-R66030B-276F	FLH-R52030B-276F
Silia*Prep* Large Reservoir Volume SPE Cartridges					
10 mL / 200 mg	50	SPC-R66530B-10G	SPC-R66430B-10G	SPC-R66030B-10G	SPC-R52030B-10G
10 mL / 500 mg	50	SPC-R66530B-10P	SPC-R66430B-10P	SPC-R66030B-10P	SPC-R52030B-10P
Mini-Silia*Prep* SPE Cartridges					
500 mg	50	SPS-R66530B-P	SPS-R66430B-P	SPS-R66030B-P	SPS-R52030B-P
1 g	50	SPS-R66530B-S	SPS-R66430B-S	SPS-R66030B-S	SPS-R52030B-S
Silia*Prep* 96-Well Plates					
2 mL / 50 mg	1	96W-R66530B-B	96W-R66430B-B	96W-R66030B-B	96W-R52030B-B
2 mL / 100 mg	1	96W-R66530B-C	96W-R66430B-C	96W-R66030B-C	96W-R52030B-C

* Commercialized under Silia*Sep* OT branding.

Note:

- Custom formats available on request.
- Add "-J" at the end of the part number to order a box of 200 cartridges.

Silia*Prep* Ion Exchange Phases SPE & Well Plates Formats				
Formats	**Qty/Box**	**Silia*Prep* Tosic Acid (*SCX*)**	**Silia*Prep* SCX-2**	**Silia*Prep* WCX**
Silia*Prep* SPE Cartridges				
1 mL / 50 mg	100	SPE-R60530B-01B	SPE-R51230B-01B	SPE-R70030B-01B
1 mL / 100 mg	100	SPE-R60530B-01C	SPE-R51230B-01C	SPE-R70030B-01C
3 mL / 200 mg	50	SPE-R60530B-03G	SPE-R51230B-03G	SPE-R70030B-03G
3 mL / 500 mg	50	SPE-R60530B-03P	SPE-R51230B-03P	SPE-R70030B-03P
6 mL / 500 mg	50	SPE-R60530B-06P	SPE-R51230B-06P	SPE-R70030B-06P
6 mL / 1 g	50	SPE-R60530B-06S	SPE-R51230B-06S	SPE-R70030B-06S
6 mL / 2 g	50	SPE-R60530B-06U	SPE-R51230B-06U	SPE-R70030B-06U
12 mL / 2 g	20	SPE-R60530B-12U	SPE-R51230B-12U	SPE-R70030B-12U
25 mL / 5 g*	20	SPE-R60530B-20X	SPE-R51230B-20X	SPE-R70030B-20X
70 mL / 10 g*	16	FLH-R60530B-70Y	FLH-R51230B-70Y	FLH-R70030B-70Y
70 mL / 15 g*	16	FLH-R60530B-70i	FLH-R51230B-70i	FLH-R70030B-70i
70 mL / 20 g*	16	FLH-R60530B-70Z	FLH-R51230B-70Z	FLH-R70030B-70Z
150 mL / 25 g*	10	FLH-R60530B-95K	FLH-R51230B-95K	FLH-R70030B-95K
150 mL / 50 g*	10	FLH-R60530B-95M	FLH-R51230B-95M	FLH-R70030B-95M
150 mL / 70 g*	10	FLH-R60530B-95N	FLH-R51230B-95N	FLH-R70030B-95N
276 mL / 100 g*	12	FLH-R60530B-276F	FLH-R51230B-276F	FLH-R70030B-276F
Silia*Prep* Large Reservoir Volume SPE Cartridges				
10 mL / 200 mg	50	SPC-R60530B-10G	SPC-R51230B-10G	SPC-R70030B-10G
10 mL / 500 mg	50	SPC-R60530B-10P	SPC-R51230B-10P	SPC-R70030B-10P
Mini-Silia*Prep* SPE Cartridges				
500 mg	50	SPS-R60530B-P	SPS-R51230B-P	SPS-R70030B-P
1 g	50	SPS-R60530B-S	SPS-R51230B-S	SPS-R70030B-S
Silia*Prep* 96-Well Plates				
2 mL / 50 mg	1	96W-R60530B-B	96W-R51230B-B	96W-R70030B-B
2 mL / 100 mg	1	96W-R60530B-C	96W-R51230B-C	96W-R70030B-C

* Commercialized under Silia*Sep* OT branding.

Note:

- Custom formats available on request.
- Add "-J" at the end of the part number to order a box of 200 cartridges.

Ordering Information - Polymeric Phases

We can provide a complete range of SPE cartridge volumes and bed weights, and 96-Well plates.

Silia*PrepX* Polymeric Phases SPE & Well Plates Formats				
Formats	**Qty/Box**	**Silia*PrepX* DVB**	**Silia*PrepX* HLB**	**Silia*PrepX* SCX**
Silia*PrepX* SPE Cartridges				
1 mL / 30 mg	100	SPE-P0001-01AA	SPE-P0002-01AA	SPE-P0005-01AA
3 mL / 30 mg	50	SPE-P0001-03AA	SPE-P0002-03AA	SPE-P0005-03AA
3 mL / 60 mg	50	SPE-P0001-03BB	SPE-P0002-03BB	SPE-P0005-03BB
6 mL / 100 mg	30	SPE-P0001-06C	SPE-P0002-06C	SPE-P0005-06C
6 mL / 200 mg	30	SPE-P0001-06G	SPE-P0002-06G	SPE-P0005-06G
6 mL / 500 mg	30	SPE-P0001-06P	SPE-P0002-06P	SPE-P0005-06P
12 mL / 500 mg	20	SPE-P0001-12P	SPE-P0002-12P	SPE-P0005-12P
12 mL / 1 g	20	SPE-P0001-12S	SPE-P0002-12S	SPE-P0005-12S
25 mL / 1 g*	20	SPE-P0001-20S	SPE-P0002-20S	SPE-P0005-20S
25 mL / 2 g*	20	SPE-P0001-20U	SPE-P0002-20U	SPE-P0005-20U
70 mL / 5 g*	16	FLH-P0001-70X	FLH-P0002-70X	FLH-P0005-70X
Silia*PrepX* 96-Well Plates				
2 mL / 10 mg	1	96W-P0001-1A	96W-P0002-1A	96W-P0005-1A
2 mL / 30 mg	1	96W-P0001-AA	96W-P0002-AA	96W-P0005-AA
2 mL / 60 mg	1	96W-P0001-BB	96W-P0002-BB	96W-P0005-BB

Silia*PrepX* Polymeric Phases SPE & Well Plates Formats				
Formats	**Qty/Box**	**Silia*PrepX* SAX**	**Silia*PrepX* WCX**	**Silia*PrepX* WAX**
Silia*PrepX* SPE Cartridges				
1 mL / 30 mg	100	SPE-P0010-01AA	SPE-P0015-01AA	SPE-P0020-01AA
3 mL / 30 mg	50	SPE-P0010-03AA	SPE-P0015-03AA	SPE-P0020-03AA
3 mL / 60 mg	50	SPE-P0010-03BB	SPE-P0015-03BB	SPE-P0020-03BB
6 mL / 100 mg	30	SPE-P0010-06C	SPE-P0015-06C	SPE-P0020-06C
6 mL / 200 mg	30	SPE-P0010-06G	SPE-P0015-06G	SPE-P0020-06G
6 mL / 500 mg	30	SPE-P0010-06P	SPE-P0015-06P	SPE-P0020-06P
12 mL / 500 mg	20	SPE-P0010-12P	SPE-P0015-12P	SPE-P0020-12P
12 mL / 1 g	20	SPE-P0010-12S	SPE-P0015-12S	SPE-P0020-12S
25 mL / 1 g*	20	SPE-P0010-20S	SPE-P0015-20S	SPE-P0020-20S
25 mL / 2 g*	20	SPE-P0010-20U	SPE-P0015-20U	SPE-P0020-20U
70 mL / 5 g*	16	FLH-P0010-70X	FLH-P0015-70X	FLH-P0020-70X
Silia*PrepX* 96-Well Plates				
2 mL / 10 mg	1	96W-P0010-1A	96W-P0015-1A	96W-P0020-1A
2 mL / 30 mg	1	96W-P0010-AA	96W-P0015-AA	96W-P0020-AA
2 mL / 60 mg	1	96W-P0010-BB	96W-P0015-BB	96W-P0020-BB

* Commercialized under Silia*SepX* OT branding.

Note:

- Custom formats available on request.
- Add "-J" at the end of the part number to order a box of 200 cartridges.

Ordering Information - Specialty Phases

We can provide a complete range of SPE cartridge volumes and bed weights.

SiliaPrep Specialty Phases SPE Formats					
Formats	**Qty/Box**	**SiliaPrep PCB**	**SiliaPrep CleanDRUG**	**SiliaPrep CleanENVI**	**SiliaPrep PAH**
SiliaPrep SPE Cartridges					
1 mL / 50 mg	100	SP2-R00650030B-01B	SPEC-R651230B-01B	SPEC-R31930B-01B	SP2-R0610030B-01B
1 mL / 100 mg	100	SP2-R00650030B-01C	SPEC-R651230B-01C	SPEC-R31930B-01C	SP2-R0610030B-01C
3 mL / 200 mg	50	SP2-R00650030B-03G	SPEC-R651230B-03G	SPEC-R31930B-03G	SP2-R0610030B-03G
3 mL / 500 mg	50	SP2-R00650030B-03P	SPEC-R651230B-03P	SPEC-R31930B-03P	SP2-R0610030B-03P
6 mL / 500 mg	50	SP2-R00650030B-06P	SPEC-R651230B-06P	SPEC-R31930B-06P	SP2-R0610030B-06P
6 mL / 1 g	50	SP2-R00650030B-06S	SPEC-R651230B-06S	SPEC-R31930B-06S	SP2-R0610030B-06S
6 mL / 2 g	50	SP2-R00650030B-06U	SPEC-R651230B-06U	SPEC-R31930B-06U	SP2-R0610030B-06U
12 mL / 2 g	20	SP2-R00650030B-12U	SPEC-R651230B-12U	SPEC-R31930B-12U	SP2-R0610030B-12U
25 mL / 5 g*	20	SP2-R00650030B-20X	SPEC-R651230B-20X	SPEC-R31930B-20X	SP2-R0610030B-20X
70 mL / 10 g*	16	FLH-R00650030B-70Y	FLH-R651230B-70Y	FLH-R31930B-70Y	FLH-R0610030B-70Y
70 mL / 15 g*	16	FLH-R00650030B-70i	FLH-R651230B-70i	FLH-R31930B-70i	FLH-R0610030B-70i
70 mL / 20 g*	16	FLH-R00650030B-70Z	FLH-R651230B-70Z	FLH-R31930B-70Z	FLH-R0610030B-70Z
150 mL / 25 g*	10	FLH-R00650030B-95K	FLH-R651230B-95K	FLH-R31930B-95K	FLH-R0610030B-95K
150 mL / 50 g*	10	FLH-R00650030B-95M	FLH-R651230B-95M	FLH-R31930B-95M	FLH-R0610030B-95M
150 mL / 70 g*	10	FLH-R00650030B-95N	FLH-R651230B-95N	FLH-R31930B-95N	FLH-R0610030B-95N
276 mL / 100 g*	12	FLH-R00650030B-276F	FLH-R651230B-276F	FLH-R31930B-276F	FLH-R0610030B-276F
SiliaPrep Large Reservoir Volume SPE Cartridges					
10 mL / 200 mg	50	SPC-R00650030B-10G	SPC-R651230B-10G	SPC-R31930B-10G	SPC-R0610030B-10G
10 mL / 500 mg	50	SPC-R00650030B-10P	SPC-R651230B-10P	SPC-R31930B-10P	SPC-R0610030B-10P
Mini-SiliaPrep SPE Cartridges					
500 mg	50	SPS-R00650030B-P	SPS-R651230B-P	SPS-R31930B-P	SPS-R0610030B-P
1 g	50	SPS-R00650030B-S	SPS-R651230B-S	SPS-R31930B-S	SPS-R0610030B-S

* Commercialized under SiliaSep OT branding.

Note: Custom formats available on request.

Ordering Information - Metal Scavenger Phases

To find out which Silia*Prep* Metal Scavenger will better suit your need, we recommend performing some screening using the Silia*Prep* Metal Scavenger Kit (*PN: SPE-K30730B-03P*) to quickly determine which scavenger presents the highest efficiency, and optimize the results.

We can provide a complete range of SPE cartridge volumes and bed weights.

Silia*Prep* Metal Scavenger Phases SPE Formats					
Formats	**Qty/Box**	**Cysteine**	**DMT**	**TAAcOH**	**TAAcONa**
Silia*Prep* SPE Cartridges					
1 mL / 50 mg	100	SPE-R80530B-01B	SPE-R79030B-01B	SPE-R69030B-01B	SPE-R69230B-01B
1 mL / 100 mg	100	SPE-R80530B-01C	SPE-R79030B-01C	SPE-R69030B-01C	SPE-R69230B-01C
3 mL / 200 mg	50	SPE-R80530B-03G	SPE-R79030B-03G	SPE-R69030B-03G	SPE-R69230B-03G
3 mL / 500 mg	50	SPE-R80530B-03P	SPE-R79030B-03P	SPE-R69030B-03P	SPE-R69230B-03P
6 mL / 500 mg	50	SPE-R80530B-06P	SPE-R79030B-06P	SPE-R69030B-06P	SPE-R69230B-06P
6 mL / 1 g	50	SPE-R80530B-06S	SPE-R79030B-06S	SPE-R69030B-06S	SPE-R69230B-06S
6 mL / 2 g	50	SPE-R80530B-06U	SPE-R79030B-06U	SPE-R69030B-06U	SPE-R69230B-06U
12 mL / 2 g	20	SPE-R80530B-12U	SPE-R79030B-12U	SPE-R69030B-12U	SPE-R69230B-12U
25 mL / 5 g*	20	SPE-R80530B-20X	SPE-R79030B-20X	SPE-R69030B-20X	SPE-R69230B-20X
70 mL / 10 g*	16	FLH-R80530B-70Y	FLH-R79030B-70Y	FLH-R69030B-70Y	FLH-R69230B-70Y
70 mL / 15 g*	16	FLH-R80530B-70i	FLH-R79030B-70i	FLH-R69030B-70i	FLH-R69230B-70i
70 mL / 20 g*	16	FLH-R80530B-70Z	FLH-R79030B-70Z	FLH-R69030B-70Z	FLH-R69230B-70Z
150 mL / 25 g*	10	FLH-R80530B-95K	FLH-R79030B-95K	FLH-R69030B-95K	FLH-R69230B-95K
150 mL / 50 g*	10	FLH-R80530B-95M	FLH-R79030B-95M	FLH-R69030B-95M	FLH-R69230B-95M
150 mL / 70 g*	10	FLH-R80530B-95N	FLH-R79030B-95N	FLH-R69030B-95N	FLH-R69230B-95N
276 mL / 100 g*	12	FLH-R80530B-276F	FLH-R79030B-276F	FLH-R69030B-276F	FLH-R69230B-276F
Silia*Prep* Large Reservoir Volume SPE Cartridges					
10 mL / 200 mg	50	SPC-R80530B-10G	SPC-R79030B-10G	SPC-R69030B-10G	SPC-R69230B-10G
10 mL / 500 mg	50	SPC-R85030B-10P	SPC-R79030B-10P	SPC-R69030B-10P	SPC-R69230B-10P
Mini-Silia*Prep* SPE Cartridges					
500 mg	50	SPS-R80530B-P	SPS-R79030B-P	SPS-R69030B-P	SPS-R69230B-P
1 g	50	SPS-R85030B-S	SPS-R79030B-S	SPS-R69030B-S	SPS-R69230B-S

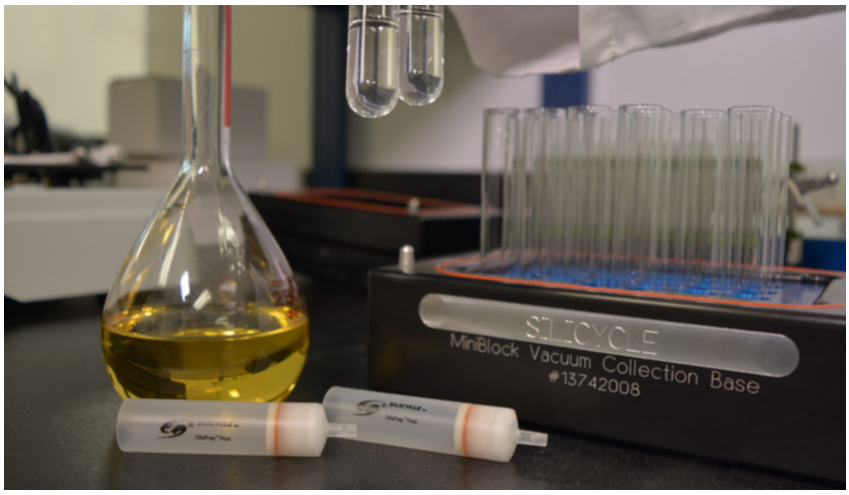
* Commercialized under Silia*Sep* OT branding.

Note: Custom formats available on request.

SiliaPrep Metal Scavenger Phases SPE Formats					
Formats	**Qty/Box**	**Thiol**	**Thiourea**	**Imidazole**	**Triamine**
SiliaPrep SPE Cartridges					
1 mL / 50 mg	100	SPE-R51030B-01B	SPE-R69530B-01B	SPE-R79230B-01B	SPE-R48030B-01B
1 mL / 100 mg	100	SPE-R51030B-01C	SPE-R69530B-01C	SPE-R79230B-01C	SPE-R48030B-01C
3 mL / 200 mg	50	SPE-R51030B-03G	SPE-R69530B-03G	SPE-R79230B-03G	SPE-R48030B-03G
3 mL / 500 mg	50	SPE-R51030B-03P	SPE-R69530B-03P	SPE-R79230B-03P	SPE-R48030B-03P
6 mL / 500 mg	50	SPE-R51030B-06P	SPE-R69530B-06P	SPE-R79230B-06P	SPE-R48030B-06P
6 mL / 1 g	50	SPE-R51030B-06S	SPE-R69530B-06S	SPE-R79230B-06S	SPE-R48030B-06S
6 mL / 2 g	50	SPE-R51030B-06U	SPE-R69530B-06U	SPE-R79230B-06U	SPE-R48030B-06U
12 mL / 2 g	20	SPE-R51030B-12U	SPE-R69530B-12U	SPE-R79230B-12U	SPE-R48030B-12U
25 mL / 5 g*	20	SPE-R51030B-20X	SPE-R69530B-20X	SPE-R79230B-20X	SPE-R48030B-20X
70 mL / 10 g*	16	FLH-R51030B-70Y	FLH-R69530B-70Y	FLH-R79230B-70Y	FLH-R48030B-70Y
70 mL / 15 g*	16	FLH-R51030B-70i	FLH-R69530B-70i	FLH-R79230B-70i	FLH-R48030B-70i
70 mL / 20 g*	16	FLH-R51030B-70Z	FLH-R69530B-70Z	FLH-R79230B-70Z	FLH-R48030B-70Z
150 mL / 25 g*	10	FLH-R51030B-95K	FLH-R69530B-95K	FLH-R79230B-95K	FLH-R48030B-95K
150 mL / 50 g*	10	FLH-R51030B-95M	FLH-R69530B-95M	FLH-R79230B-95M	FLH-R48030B-95M
150 mL / 70 g*	10	FLH-R51030B-95N	FLH-R69530B-95N	FLH-R79230B-95N	FLH-R48030B-95N
276 mL / 100 g*	12	FLH-R51030B-276F	FLH-R69530B-276F	FLH-R79230B-276F	FLH-R48030B-276F
SiliaPrep Large Reservoir Volume SPE Cartridges					
10 mL / 200 mg	50	SPC-R51030B-10G	SPC-R69530B-10G	SPC-R79230B-10G	SPC-R48030B-10G
10 mL / 500 mg	50	SPC-R51030B-10P	SPC-R69530B-10P	SPC-R79230B-10P	SPC-R48030B-10P
Mini-SiliaPrep SPE Cartridges					
500 mg	50	SPS-R51030B-P	SPS-R69530B-P	SPS-R79230B-P	SPS-R48030B-P
1 g	50	SPS-R51030B-S	SPS-R69530B-S	SPS-R79230B-S	SPS-R48030B-S

* Commercialized under SiliaSep OT branding.

Note: Custom formats available on request.



SiliaPrep™ and SiliaPrepX™ Applications

Forensics

Food

Environment

Extraction of Methadone from Human Urine and Serum

CARTRIDGE	Silia*PrepX* SCX 6 mL / 200 mg Part Number: SPE-P0005-06G
SAMPLE PRETREATMENT	200 µL of Phosphoric Acid 2 % was added to 1 mL of urine / serum sample
CONDITIONNING STEP	6 mL of Methanol
EQUILIBRATION STEP	6 mL of water
LOADING STEP	Treated sample was slowly aspirated through the cartridge
WASHING STEP	6 mL of Hydrochloric Acid 0.1N then 6 mL of Methanol, dry the cartridge
ELUTION STEP	2 x 3 mL of 10 % Ammonia in Methanol
FURTHER TREATMENT	Evaporation under Nitrogen, reconstitution with Acetonitrile / water and quantification by LC/MS
RECOVERY	at 1 µg/mL **Methadone** in urine 90 % **Methadone** in serum 95 %

Extraction of Methadone and EDDP from Human Urine

CARTRIDGE	Silia*PrepX* HLB 1 mL / 30 mg Part Number: SPE-P0002-01AA
SAMPLE PRETREATMENT	40 µL of internal standard (*Methadone-d9 at 200 ng/mL in Methanol*) was added to 200 µL of urine sample and 200 µL of Ammonium Hydroxide 4 %
CONDITIONNING STEP	1 mL of Methanol
EQUILIBRATION STEP	1 mL of Ammonium Hydroxide 2 %
LOADING STEP	Urine sample was slowly aspirated through the cartridge
WASHING STEP	1 mL of Methanol / Ammonium Hydroxide 2 % (*50:50*) then 1 mL of Methanol / Ammonium Hydroxide 2 % (*80:20*)
ELUTION STEP	1 mL of Methanol / water (*80:20*)
FURTHER TREATMENT	Quantification by LDTD/MS/MS (*collaboration with Phytronix*)
RECOVERY	at 1,000 ng/mL **Methadone** 91 % **EDDP** 85 %

Extraction of Fentanyl and Norfentanyl from Urine

CARTRIDGE	Silia*Prep* CleanDRUG 1 mL / 100 mg Part Number: SPEC-R651230B-01C
SAMPLE PRETREATMENT	200 µL of urine was added to 600 µL of Sodium Acetate in water and 40 µL of internal standard (*200 ng/mL in Methanol*)
CONDITIONNING STEP	1 mL of Methanol
EQUILIBRATION STEP	1 mL of water and 1 mL of Sodium Acetate in water (*100 mM, pH 6.0*)
LOADING STEP	Urine sample was slowly aspirated through the cartridge
WASHING STEP	1 mL of water then 1 mL of Methanol
ELUTION STEP	1 mL of Ethyl Acetate / Isopropanol / Ammonium Hydroxide (*78:20:2*)
FURTHER TREATMENT	Evaporation, reconstitution and quantification by LDTD/MS/MS (*collaboration with Phytronix*)
RECOVERY	at 500 ng/mL **Fentanyl** 96 % **Norfentanyl** 98 %

Extraction of Codeine from Human Urine and Serum

CARTRIDGE	Silia*PrepX* SCX 6 mL / 200 mg Part Number: SPE-P0005-06G
SAMPLE PRETREATMENT	200 µL of Phosphoric Acid 2 % was added to 1 mL of urine / serum sample
CONDITIONNING STEP	6 mL of Methanol
EQUILIBRATION STEP	6 mL of water
LOADING STEP	Treated sample was slowly aspirated through the cartridge
WASHING STEP	6 mL of Hydrochloric Acid 0.1N then 6 mL of Methanol, dry the cartridge
ELUTION STEP	2 x 3 mL of 5 % Ammonia in Methanol
FURTHER TREATMENT	Evaporation under Nitrogen, reconstitution with Methanol / water and quantification by LC/MS
RECOVERY	at 1 µg/mL **Codeine** in urine 70 % **Codeine** in serum 92 %

FORENSICS APPLICATIONS

Extraction of Tricyclic Antidepressants from Serum

CARTRIDGE	Silia*PrepX* WCX 3 mL / 60 mg Part Number: SPE-P0015-03BB
SAMPLE PRETREATMENT	250 µL of serum were diluted with 1 mL of 10 % Formic Acid in water
CONDITIONNING STEP	3 mL of Methanol
EQUILIBRATION STEP	3 mL of water
LOADING STEP	Treated sample was slowly aspirated through the cartridge
WASHING STEP	1 mL of 5 % Formic Acid in water then 1 mL Methanol, dry the cartridge
ELUTION STEP	3 mL of 5 % Formic Acid in Methanol
FURTHER TREATMENT	Evaporation under Nitrogen, reconstitution with Methanol / water and quantification by LC/MS

RECOVERY at 1 µg/mL

Doxepine	79 %
Imipramine	79 %
Amitriptyline	91 %
Trimipramine	98 %

Extraction of Pharmaceutical Drugs from Serum

CARTRIDGE	Silia*PrepX* SCX 6 mL / 200 mg Part Number: SPE-P0005-06G
SAMPLE PRETREATMENT	200 µL of Phosphoric Acid 2 % was added to 1 mL of serum sample
CONDITIONNING STEP	6 mL of Methanol
EQUILIBRATION STEP	6 mL of water
LOADING STEP	Treated sample was slowly aspirated through the cartridge
WASHING STEP	6 mL of Chlorhydric Acid 0.1N, dry the cartridge
ELUTION STEP	2 x 3 mL of Methanol (*acidic and neutrals analytes*) and 2 x 3 mL of 10 % Ammonia in Methanol (*basic analytes*)
FURTHER TREATMENT	Evaporation under Nitrogen, reconstitution with Methanol / water and quantification by LC/MS

RECOVERY at 1 µg/mL

Indomethacin	33 %	**Phenobarbital**	108 %
Tolmetin	73 %	**Trimipramine**	92 %
Hexobarbital	80 %	**Amitriptyline**	94 %
Naproxen	85 %	**Imipramine**	95 %
Suprofen	108 %	**Doxepin**	101 %

Ropinirole & Amitriptyline Detection in Human Plasma

CARTRIDGE	Silia*Prep* CleanDRUG 3 mL / 500 mg Part Number: SPEC-R651230B-03P
SAMPLE PRETREATMENT	Mix 0.1 mL of plasma with 0.1 mL of Methanol and water (*50:50*) and 2 mL of 1 % Acetic Acid
CONDITIONNING STEP	3 mL of Methanol
EQUILIBRATION STEP	3 mL of water
LOADING STEP	Plasma sample was slowly aspirated through the cartridge
WASHING STEP	3 mL of water then 3 mL of Methanol
ELUTION STEP	3 mL of 5 % Ammonium Hydroxide in Methanol
FURTHER TREATMENT	Evaporation under Nitrogen, reconstitution with Acetonitrile / water and quantification by LC/MS

RECOVERY at 10 ng/mL

Ropinirole	94 %
Amitriptyline	90 %

Extraction of Pharmaceutical Drugs from Serum

CARTRIDGE	Silia*PrepX* SAX 6 mL / 200 mg Part Number: SPE-P0010-06G
SAMPLE PRETREATMENT	pH of serum sample was adjusted to basic value with Sodium Hydroxide 1N
CONDITIONNING STEP	6 mL of Methanol
EQUILIBRATION STEP	6 mL of water
LOADING STEP	Treated sample was slowly aspirated through the cartridge
WASHING STEP	6 mL of water, dry the cartridge
ELUTION STEP	2 x 3 mL of Methanol (*basic analytes*) and 2 x 3 mL of Formic Acid 10 % in Methanol (*acidic analytes*)
FURTHER TREATMENT	Evaporation under Nitrogen, reconstitution with Methanol / water and quantification by LC/MS

RECOVERY at 1 µg/mL

Nortriptyline	69 %	**Imipramine**	80 %
Doxepine	72 %	**Tolmetin**	85 %
Trimipramine	73 %	**Naproxen**	86 %
Protriptyline	75 %	**Suprofen**	96 %
Amitriptyline	78 %		

Extraction of Tricyclic Antidepressants from Serum

CARTRIDGE	Silia*PrepX* DVB 6 mL / 200 mg Part Number: SPE-P0001-06G
CONDITIONNING STEP	5 mL of Methanol
EQUILIBRATION STEP	5 mL of water
LOADING STEP	1 mL of serum sample (*pH value adjusted with 25 µL of Phosphoric Acid*) was slowly aspirated through the cartridge
WASHING STEP	5 mL of water, dry the cartridge
ELUTION STEP	2 x 3 mL of Methanol
FURTHER TREATMENT	Quantification by LC/MS
RECOVERY	**Protriptyline** 80 % **Nortriptyline** 75 % **Doxepine** 91 % **Imipramine** 88 % **Amitriptyline** 88 % **Trimipramine** 88 %

Extraction of Barbiturates from Serum

CARTRIDGE	Silia*PrepX* DVB 6 mL / 200 mg Part Number: SPE-P0001-06G
CONDITIONNING STEP	6 mL of Methanol
EQUILIBRATION STEP	6 mL of water
LOADING STEP	1 mL of serum sample was slowly aspirated through the cartridge
WASHING STEP	6 mL of water, dry the cartridge
ELUTION STEP	6 x 1 mL of Methanol
FURTHER TREATMENT	Evaporation under Nitrogen, reconstitution with Acetonitrile / water and quantification by LC/MS
RECOVERY	at 100 ng/ml **Phenobarbital** 99 % **Pentobarbital** 69 % **Hexobarbital** 86 %

Extraction of Antibacterial Drugs from Serum

CARTRIDGE	Silia*PrepX* DVB 6 mL / 200 mg Part Number: SPE-P0001-06G
SAMPLE PRETREATMENT	Mix 0.1 mL of plasma with 2 mL of 1 % Acetic Acid
CONDITIONNING STEP	6 mL of Methanol
EQUILIBRATION STEP	6 mL of water
LOADING STEP	1 mL of serum sample was slowly aspirated through the cartridge
WASHING STEP	6 mL of water, dry the cartridge
ELUTION STEP	2 x 3 mL of Methanol
FURTHER TREATMENT	Evaporation under Nitrogen, reconstitution with Acetonitrile / Water and quantification by LC/MS
RECOVERY	**Cinoxacin** 100 % **Penicillin G** 94 % **Penicillin V** 90 % **Cloxacillin** 88 %

Sibutramine Detection in Human Plasma

CARTRIDGE	Silia*Prep* CleanDRUG 3 mL / 500 mg Part Number: SPEC-R651230B-03P
SAMPLE PRETREATMENT	Mix 0.1 mL of plasma with 2 mL of 1 % Acetic Acid
CONDITIONNING STEP	3 mL of Methanol
EQUILIBRATION STEP	3 mL of water
LOADING STEP	Plasma sample was slowly aspirated through the cartridge
WASHING STEP	3 mL of water then 3 mL of Methanol
ELUTION STEP	3 mL of 5 % Ammonium Hydroxide in Methanol
FURTHER TREATMENT	Evaporation under Nitrogen, reconstitution with Methanol / water and quantification by LC/MS
RECOVERY	at 5 ng/mL: 82 %

FORENSICS APPLICATIONS

Extraction of Acidic Pharmaceuticals from Serum

CARTRIDGE	Silia*PrepX* SAX 6 mL / 200 mg Part Number: SPE-P0010-06G
SAMPLE PRETREATMENT	pH of serum sample was adjusted to basic value with Sodium Hydroxide 1N
CONDITIONNING STEP	6 mL of Methanol
EQUILIBRATION STEP	6 mL of water
LOADING STEP	Treated sample was slowly aspirated through the cartridge
WASHING STEP	6 mL of water, then 6 mL of Sodium Hydroxide 0.1N and 6 mL of Methanol, dry the cartridge
ELUTION STEP	6 mL of 1 % Formic Acid in Methanol
FURTHER TREATMENT	Evaporation under Nitrogen, reconstitution with Methanol / water and quantification by LC/MS

RECOVERY at 1 µg/mL

Carprofen	69 %	**Diclofenac**	95 %
Ibuprofen	88 %	**Fenoprofen**	98 %
Ketoprofen	90 %	**Fenoprop**	104 %
Meclofenamic Acid	92 %	**Flurbiprofen**	106 %

Extraction of Anti-inflammatory Drugs From Serum

CARTRIDGE	Silia*PrepX* DVB 6 mL / 200 mg Part Number: SPE-P0001-06G
CONDITIONNING STEP	6 mL of Methanol
EQUILIBRATION STEP	6 mL of water
LOADING STEP	1 mL of serum sample (*pH value adjusted with 25 µL of Phosphoric Acid*) was slowly aspirated through the cartridge
WASHING STEP	6 mL of 5 % Metanol in water, dry the cartridge
ELUTION STEP	2 x 3 mL of Methanol
FURTHER TREATMENT	Evaporation under Nitrogen, reconstitution with Acetonitrile / water and quantification by LC/MS

RECOVERY

Suprofen	89 %	**Naproxen**	87 %
Tolmetin	89 %	**Flurbiprofen**	87 %
Sulindac	84 %	**Indomethazin**	85 %
Piroxicam	86 %	**Acetyl Salicylic Acid**	72 %

Determination of Clenbuterol in Human Plasma

CARTRIDGE	Silia*Prep* CleanDRUG 1 mL / 100 mg Part Number: SPEC-R651230B-01C
SAMPLE PRETREATMENT	50 µL of internal standard (*Clenbuterol-d9 at 20 ng/mL in Methanol*) was added to 500 µL of plasma and 500 µL of Sodium Acetate (*100 mM, pH 6*)
CONDITIONNING STEP	1 mL of Methanol
EQUILIBRATION STEP	1 mL of water and 1 mL of Sodium Acetate (*100 mM, pH 6*)
LOADING STEP	Plasma sample was slowly aspirated through the cartridge
WASHING STEP	1 mL of water, then 1 mL of Acetic Acid 1M and 2 x 1 mL of Methanol
ELUTION STEP	1 mL of Ethyl Acetate/Isopropanol/Ammonium Hydroxide (*78:20:2*)
FURTHER TREATMENT	Evaporation under Nitrogen, reconstitution with Methanol / water and quantification by LDTD/MS/MS (*collaboration with Phytronix*)
RECOVERY	at 100 pg/mL: 94 %

Extraction of Atenolol from Human Urine

CARTRIDGE	Silia*PrepX* WCX 3 mL / 60 mg Part Number: SPE-P0015-03BB
SAMPLE PRETREATMENT	9 mL of urine was mixed with 1 mL of a solution of Atenolol in Methanol / Water (*10:90*)
CONDITIONNING STEP	2 mL of Methanol
EQUILIBRATION STEP	2 mL of water
LOADING STEP	1 mL of sample solution was slowly aspirated through the cartridge
WASHING STEP	2 mL of Monopotassium Phosphate 25 mM (*pH 5*) then 2 mL of Methanol, dry the cartridge
ELUTION STEP	2 mL of 2 % Formic Acid in Methanol
FURTHER TREATMENT	Evaporation under Nitrogen, reconstitution with Acetonitrile / water and quantification by LC/MS
RECOVERY	at 10 µg/mL: 90 %

Determination of Testosterone in Human Urine

CARTRIDGE	Mini-Silia*Prep* C18 WPD 500 mg Part Number: SPS-R33229G-P
CONDITIONNING STEP	5 mL of Methanol
EQUILIBRATION STEP	5 mL of water
LOADING STEP	2mL of urine sample was slowly aspirated through the cartridge
WASHING STEP	5 mL of water then 5 mL of Hexane
ELUTION STEP	5 mL of Methanol
FURTHER TREATMENT	Evaporation under Nitrogen, derivatization using Girard-P and quantification by LC/MS/MS
RECOVERY	at 250 ng/mL: 95 %

Extraction of Steroids from Serum

CARTRIDGE	Silia*PrepX* DVB 6 mL / 200 mg Part Number: SPE-P0001-06G
CONDITIONNING STEP	5 mL of Methanol
EQUILIBRATION STEP	5 mL of water
LOADING STEP	1 mL of serum sample was slowly aspirated through the cartridge
WASHING STEP	5 mL of 5 % Metanol in water, dry the cartridge
ELUTION STEP	2 x 3 mL of Methanol
FURTHER TREATMENT	Evaporation under Nitrogen, reconstitution with Acetonitrile / water and quantification by LC/MS
RECOVERY	**Methyl-6a-hydroxy-11ß-progesterone** 89 % **Methyl-6a-hydroxy-17a-progesterone** 86 % **Methyl-6a-hydroxy-17a-progesterone acetate** 84 % **Hydrocortisone-21-acetate** 31 %

FORENSICS APPLICATIONS

Isolation of Synthetic Cannabinoid Metabolites from Urine

CARTRIDGE
SiliaPrep CleanDRUG 1 mL / 30 mg
Part Number: SPEC-R651230B-03G

SAMPLE PRETREATMENT
1 mL of synthetic urine was spiked with the metabolites and deuterated internal standard, then diluted with 2 mL of a Phosphate buffer solution (*pH 6*)

CONDITIONNING STEP
3 mL of Methanol

EQUILIBRATION STEP
3 mL of water and 1 mL of Phosphate buffer

LOADING STEP
Urine sample was slowly aspirated through the cartridge

WASHING STEP
3 mL of water then 3 mL of Phosphate buffer / Acetonitrile (*80:20*)

ELUTION STEP
6 mL of Ethyl Acetate / Methanol (*90:10*)

FURTHER TREATMENT
Evaporation under Nitrogen, derivatization using BSTFA and TMCS, and quantification by GC/MS

RECOVERY

at 1,000 ng/mL	SiliaPrepX Clean DRUG	Bond Elut® Certify II	HyperSep™ Verify AX	Clean Screen® CSTHC
JWH-018	102 %	109 %	112 %	97 %
JWH-122	96 %	72 %	111 %	80 %
JWH-250	101 %	71 %	118 %	89 %

CONCLUSION
Our SiliaPrep CleanDRUG performs as well as competitive products to extract cannabinoid metabolites from urine.

Source: Thesis *"An Evaluation of Commercially Available Solid Phase Extraction Cartridges for the Isolation of Synthetic Cannabinoid Metabolites from urine"*, by Amanda Marie Forni, B.S., Ohio University, **2011**

Detection of Δ^9-Tetrahydrocannabinol in Human Plasma

CARTRIDGE
SiliaPrep CleanENVI 3 mL / 500 mg
Part Number: SPEC-R31930B-03P

SAMPLE PRETREATMENT
250 µL of plasma was added to 1 mL Phosphate buffer (*0.1M, pH 6.0*)

CONDITIONNING STEP
3 mL of Methanol, then 3 mL of Hydrochloric Acid 1M and 3 mL of water

EQUILIBRATION STEP
5 mL of water

LOADING STEP
Plasma sample was slowly aspirated through the cartridge

WASHING STEP
2 mL of water, then 1 mL of Acetic Acid 1M and 2 mL of 20 % Methanol in water

ELUTION STEP
5 mL of Methanol

FURTHER TREATMENT
Evaporation under Nitrogen, derivatization using Dansyl Chloride, liquid-liquid extraction, centrifugation, evaporation under Nitrogen, reconstitution with Formic Acid / Acetone and quantification by LC/MS

RECOVERY

at 2 ng/mL	
THC	80 %
THC-COOH	99 %
THC-OH	92 %

Extraction of Phencyclidine (*PCP*) from Human Urine

CARTRIDGE	Silia*PrepX* HLB 1 mL / 30 mg Part Number: SPE-P0002-01AA
SAMPLE PRETREATMENT	40 µL of internal standard (*PCP-d5 at 200 ng/mL in Methanol*) was added to 200 µL of urine sample and 200 µL of Ammonium Hydroxide 4 %
CONDITIONNING STEP	1 mL of Methanol
EQUILIBRATION STEP	1 mL of Ammonium Hydroxide 2 %
LOADING STEP	Urine sample was slowly aspirated through the cartridge
WASHING STEP	1 mL of Methanol / Ammonium Hydroxide 2 % (*50:50*) then 1 mL of Methanol / Ammonium Hydroxide 2 % (*80:20*)
ELUTION STEP	1 mL of Methanol / Hydrochloric Acid 0.02N (*80:20*)
FURTHER TREATMENT	Quantification by LDTD/MS/MS (*collaboration with Phytronix*)
RECOVERY	at 25 ng/mL: 99 %

Drugs of Abuse Determination in Human Urine

CARTRIDGE	Silia*Prep* CleanDRUG 3 mL / 200 mg Part Number: SPEC-R651230B-03G
SAMPLE PRETREATMENT	0.5 mL of urine sample was mixed with 2.5 mL Sulfuric Acid 0.1M
CONDITIONNING STEP	3 mL of Methanol
EQUILIBRATION STEP	3 mL of Sulfuric Acid 0.1M
LOADING STEP	2 mL of urine sample was slowly aspirated through the cartridge
WASHING STEP	3 mL of Phosphate buffer (*pH 7*), then 3 mL of Sulfuric Acid 0.1M and 3 mL of Methanol
ELUTION STEP	2 x 3 mL of Ammonium Hydroxide (*5 % in Methanol*)
FURTHER TREATMENT	Evaporation under Nitrogen, reconstitution with water / Methanol and quantification by LC/MS
RECOVERY	at 25 ng/mL

MDMA	92 %
MDEA	89 %
Amphetamine	82 %

Amphetamine Quantification in Human Urine

CARTRIDGE	Silia*PrepX* HLB 3 mL / 60 mg Part Number: SPE-P0002-03BB
SAMPLE PRETREATMENT	100 µL of TFA was added to 10 mL of urine
CONDITIONNING STEP	3 mL of Methanol
EQUILIBRATION STEP	3 mL of water
LOADING STEP	1 mL of urine sample was slowly aspirated through the cartridge
WASHING STEP	3 mL of (*5:95*) Methanol / water with 2 % Ammonium Hydroxide; then 3 mL of (*20:80*) Methanol / water with 2 % Ammonium Hydroxide and 1 mL of (*80:20*) Methanol / water
ELUTION STEP	3 mL of Methanol then 3 mL of 2 % Formic Acid in Methanol
FURTHER TREATMENT	Evaporation under Nitrogen, reconstitution with Methanol / water (*70:30*) and quantification by LC/MS

RECOVERY

at 100 ng/mL	Silia*PrepX* HLB	Bond Elut® Plexa	Oasis® HLB	Strata™-X
Amphetamine	91 %	88 %	75 %	87 %
MDA	86 %	86 %	91 %	98 %
MDEA	95 %	97 %	90 %	101 %
MDMA	92 %	94 %	91 %	101 %
Methamphetamine	92 %	95 %	86 %	101 %
Phentermine	99 %	93 %	90 %	97 %

CONCLUSION: Silia*PrepX* HLB allows to extract amphetamines from urine with recoveries as good as competitive products.

FORENSICS APPLICATIONS

Extraction of Camphorsulfonic Acid from Serum

CARTRIDGE	Silia*PrepX* WAX 3 mL / 60 mg Part Number: SPE-P0020-03BB
SAMPLE PRETREATMENT	5 mL of serum was mixed with 5 µL of a solution of Camphorsulfonic Acid (*0.5 mg/mL*) and 5 mL of Phosphoric Acid 4 %
CONDITIONNING STEP	2 mL of Methanol
EQUILIBRATION STEP	2 mL of water
LOADING STEP	2 mL of sample solution was slowly aspirated through the cartridge
WASHING STEP	2 mL of 2 % Formic Acid in water then 2 mL of Methanol, dry the cartridge
ELUTION STEP	2 mL of 5 % Ammonia in Methanol
FURTHER TREATMENT	Evaporation under Nitrogen, reconstitution with Acetonitrile / water and quantification by LC/MS
RECOVERY	at 0.25 µg/mL: 99 %

Extraction of Alkaloids from Serum

CARTRIDGE	Silia*PrepX* DVB 6 mL / 200 mg Part Number: SPE-P0001-06G
CONDITIONNING STEP	6 mL of Methanol
EQUILIBRATION STEP	6 mL of water
LOADING STEP	1 mL of serum sample was slowly aspirated through the cartridge
WASHING STEP	6 mL of Methanol, dry the cartridge
ELUTION STEP	2 x 3 mL of Acetone
FURTHER TREATMENT	Evaporation under Nitrogen, reconstitution with Acetonitrile / water and quantification by LC/MS

RECOVERY — at 2 µg/mL

Atropine	99 %
Papaverine	97 %
Noscapine	95 %
Strychnine	94 %
Quinine	60 %

Extraction of Caffeine, Cotinine & Nicotine from Human Urine

CARTRIDGE	Silia*PrepX* HLB 3 mL / 60 mg Part Number: SPE-P0002-03BB
SAMPLE PRETREATMENT	500 µL of urine was mixed with 1.5 mL of Sodium Hydroxide 0.1M
CONDITIONNING STEP	3 mL of Methanol
EQUILIBRATION STEP	3 mL of water
LOADING STEP	1 mL of urine sample was slowly aspirated through the cartridge
WASHING STEP	3 mL of water and dry the cartridge
ELUTION STEP	3 mL of Methanol
FURTHER TREATMENT	Evaporation under Nitrogen, reconstitution with Methanol / water and quantification by LC/MS

RECOVERY

at 100 ng/mL	Silia*PrepX* HLB	Bond Elut® Plexa	Oasis® HLB	Strata™-X
Caffeine	97 %	99 %	96 %	97 %
Cotinine	99 %	100 %	98 %	99 %
Nicotine	89 %	86 %	90 %	89 %

CONCLUSION	Silia*PrepX* HLB is as efficient as competitive products to extract caffeine, cotinine and nicotine from urine.

Extraction of Fungicides in Apple Juice

CARTRIDGE	Silia*PrepX* SCX 6 mL / 200 mg Part Number: SPE-P0005-06G
SAMPLE PRETREATMENT	0.5 mL of Sodium Hydroxide 0.1N was added to 5 mL of apple juice
CONDITIONNING STEP	6 mL of Methanol
EQUILIBRATION STEP	6 mL of Ammonia 2 %
LOADING STEP	Treated sample was slowly aspirated through the cartridge
WASHING STEP	3 mL of Ammonia 2 %, 3 mL of 30 % Methanol in Ammonia 5 %, 3 mL of Hydrochloric Acid 0.1N and 3 mL of Methanol, dry the cartridge
ELUTION STEP	6 mL of 30 % Methanol in Ammonia 5 %
FURTHER TREATMENT	Evaporation under Nitrogen, reconstitution with water / Methanol and quantification by LC/MS
RECOVERY	at 1 µg/mL

Carbendazime	89 %
Thiabendazole	92 %

Extraction of Patulin from Apple Juice

CARTRIDGE	Silia*PrepX* HLB 3 mL / 60 mg Part Number: SPE-P0002-03BB
SAMPLE PRETREATMENT	100 µL of internal standard (*250 µg/mL of Patulin-13C (3) in water*) and 75 µL of Pectinase Aspergillus Aculeatus were added to 9 mL of apple juice, centrifugate at 3,000 rpm
CONDITIONNING STEP	3 mL of Methanol
EQUILIBRATION STEP	3 mL of water
LOADING STEP	2 mL of sample supernatant was slowly aspirated through the cartridge
WASHING STEP	3 mL of 1 % Sodium Bicarbonate and 1 mL of 0.1 % Acetic Acid, dry the cartridge
ELUTION STEP	2 x 1.5 mL of Ethyl Acetate
FURTHER TREATMENT	Evaporation under Nitrogen, reconstitution with Acetonitrile / water and quantification by LC/MS
RECOVERY	at 150 ng/kg: 85 %

Determination of Carbendazim in Orange Juice

CARTRIDGE	Silia*PrepX* SCX 3 mL / 60 mg Part Number: SPE-P0005-03BB
SAMPLE PRETREATMENT	Centrifugate 5 mL of orange juice 5 min at 3,000 rpm. Sample 1 mL of the supernatant. Add 2 mL of Acetic Acid 10 % and vortex 1 min
CONDITIONNING STEP	3 mL of Methanol
EQUILIBRATION STEP	3 mL of Acetic Acid 10 %
LOADING STEP	3 mL of the treated sample was slowly aspirated through the cartridge
WASHING STEP	2 mL of Acetic Acid 10 % then 2 mL of Methanol
ELUTION STEP	3 mL of 5 % Ammonium Hydroxide in Methanol
FURTHER TREATMENT	Evaporation under Nitrogen, reconstitution with water / Methanol and quantification by LC/MS
RECOVERY	at 100 ng/mL

Silia*PrepX* SCX	93 %
Bond Elut® Plexa PCX	92 %
Oasis® MCX	92 %
Strata™-X-C	91 %

CONCLUSION	Silia*PrepX* SCX performs as well as Waters, Phenomenex & Agilent products to extract carbendazim from orange juice.

FOOD APPLICATIONS

Enrichment of Streptomycin in Honey

CARTRIDGE	Silia*PrepX* DVB 6 mL / 200 mg Part Number: SPE-P0001-06G
SAMPLE PRETREATMENT	Add 2 g of honey to 8 mL of phosphate buffer (*pH 2*), filter, dilute to 16 mL (*with the same phosphate buffer*) and adjust pH value to 7.5
CONDITIONNING STEP	5 mL of Methanol
EQUILIBRATION STEP	3 mL of water
LOADING STEP	Treated sample was slowly aspirated through the cartridge
WASHING STEP	5 mL of water, dry the cartridge
ELUTION STEP	5 mL of 3 % Formic Acid in Methanol
FURTHER TREATMENT	Evaporation under Nitrogen, reconstitution with water / Acetonitrile and identification by LC/UV
RECOVERY	at 10 µg/kg: 30 %

Extraction of Melamine from Milk

CARTRIDGE	Silia*PrepX* SCX 6 mL / 200 mg Part Number: SPE-P0005-06G
SAMPLE PRETREATMENT	1 mL of Hydrochloric Acid 1N was added to 10 mL of milk sample, then mixed with 10 mL of Methylene Chloride. After 15 min centrifugation, remove aqueous layer and extract again organic layer 2 times with 5 mL of Hydrochloric Acid 0.1N. Combine the 3 aqueous fractions.
CONDITIONNING STEP	6 mL of Methanol
EQUILIBRATION STEP	6 mL of water
LOADING STEP	Combined aqueous fractions were slowly aspirated through the cartridge
WASHING STEP	6 mL of Hydrochloric Acid 0.1N then 6 mL of Methanol, dry the cartridge
ELUTION STEP	2 x 6 mL of 30 % Methanol in Ammonia 5 %
FURTHER TREATMENT	Evaporation under Nitrogen, reconstitution with water / Methanol and quantification by LC/MS
RECOVERY	at 1 µg/mL: 99 %

Sulfonamides, Tetracyclines & Pyrimethamine Determination in Milk

CARTRIDGES	Silia*PrepX* HLB 3 mL / 60 mg Part Number: SPE-P0002-03BB OR Silia*PrepX* DVB 3 mL / 60 mg Part Number: SPE-P0001-03BB
SAMPLE PRETREATMENT	Vortex 2 min 600 µL of bovine milk with 250 µL of 20 % Trichloroacetic Acid in water. Add 2.5 mL of McIlvain buffer (*vortex 3 min*). Adjust pH of the solution at 5.5 with 1M Sodium Hydroxide. Centrifugate at 3,000 rpm for 5 min.
CONDITIONNING STEP	3 mL of Methanol
EQUILIBRATION STEP	3 mL of water
LOADING STEP	1 mL of the treated sample was slowly aspirated through the cartridge
WASHING STEP	2 x 3 mL of 10 % Methanol in Ammonium Acetate buffer (*pH 5.5*), dry the cartridge
ELUTION STEP	3 mL of Methanol
FURTHER TREATMENT	Evaporation under Nitrogen, reconstitution with Methanol / water and quantification by LC/MS

RECOVERY

at 1,000 pg/mL	Silia*PrepX* HLB	Silia*PrepX* DVB	Bond Elut® Plexa	Oasis® HLB	Strata®-X
Sulfathiazol	84 %	83 %	85 %	83 %	86 %
Sulfadiazine	90 %	89 %	88 %	87 %	85 %
Sulfamethoxypyridazine	87 %	89 %	85 %	83 %	87 %
Sulfamethazole	88 %	84 %	87 %	89 %	82 %
Sulfamethazine	83 %	84 %	86 %	86 %	84 %
Pyrimethamine	90 %	90 %	91 %	89 %	86 %
Tetracycline	96 %	96 %	95 %	84 %	88 %
Oxytetracycline	96 %	96 %	93 %	80 %	87 %

CONCLUSION Silia*PrepX* HLB and DVB are both equivalent to competitive products to extract sulfonamides, tetracyclines and pyrimethamine from milk.

Extraction of Marbofloxacin & Sarafloxacin from Salmon

CARTRIDGE	Silia*PrepX* SCX 3 mL / 60 mg Part Number: SPE-P0005-03BB
SAMPLE PRETREATMENT	Add 2 g of salmon and 15 mL of 3 % H_3PO_4 aqueous solution in a 50 mL tube. Shake the tube in a horizontal position for 15 min. Add 5 mL of hexane and vortex for 2 min. Centrifugate at 3,000 rpm for 5 min. Recuperate the aqueous phase from the gelled organic phase by filtration.
CONDITIONNING STEP	3 mL of Methanol
EQUILIBRATION STEP	3 mL of Hydrochloric Acid 1M and 3 mL of water
LOADING STEP	3 mL of the filtered sample was slowly aspirated through the cartridge
WASHING STEP	2 mL of Hydrochloric Acid 2M then 1 mL of Methanol
ELUTION STEP	3 mL of 10 % Ammonium Hydroxide in Methanol
FURTHER TREATMENT	Evaporation under Nitrogen, reconstitution with water / Methanol and quantification by LC/MS
RECOVERY	at 50 ppb

Marbofloxacin	97 %
Sarafloxacin	87 %

Extraction of Clenbuterol and Ractopamine from Beef

CARTRIDGE	Silia*PrepX* WCX 3 mL / 60 mg Part Number: SPE-P0015-03BB
SAMPLE PRETREATMENT	100 µL of internal standard (*250 µg/mL of Ractopamine d-6 and 250 µg/mL of Clenbuterol-d9 in Methanol*) were added to 1g of chopped beef. Add 5 mL of 0.2N Sodium Acetate (*pH 5.2*) and 50 µL of Beta-Glucuronidase / Arylsufatase. Add 2.5 mL of 0.1M Perchloric Acid, 2 mL of Phosphoric Acid 4 % in Acetonitrile and 5 mL of 0.5M Glycine (*pH 10.5*). Adjust to pH 10,50. Add 10 mL of Acetonitrile, 4g of $MgSO_4$ and 1g of NaCl. Evaporation and reconstitution with 0.1M Perchloric Acid.
CONDITIONNING STEP	3 mL of Methanol
EQUILIBRATION STEP	3 mL of water
LOADING STEP	2 mL of treated sample was slowly spirated through the cartridge
WASHING STEP	1.5 mL of Phosphate buffer 25 mM (*pH 7*), then 3 mL of water and 1 mL of Methanol
ELUTION STEP	3 mL of Formic Acid 2 % in Methanol
FURTHER TREATMENT	Evaporation under Nitrogen, reconstitution with Methanol / water and quantification by LC/MS
RECOVERY	at 70 ppb

Clenbuterol	92 %
Ractopamine	91 %

FOOD APPLICATIONS

Extraction of Glycoalkaloids from Potatoes

CARTRIDGE	Silia*PrepX* DVB 6 mL / 200 mg Part Number: SPE-P0001-06G
SAMPLE PRETREATMENT	Extract 3 g of potato powder with 20 mL of water / Acetic Acid / Sodium Metabisulfite (*95:5:0.5*). Centrifugate for 10 min and filtrer.
CONDITIONNING STEP	5 mL of Acetonitrile
EQUILIBRATION STEP	5 ml of water / Acetic Acid / Sodium Metabisulfite (*95:5:0.5*)
LOADING STEP	10 mL of treated sample was slowly aspirated through the cartridge
WASHING STEP	4 mL of 0.5 % Ammonium Hydroxide, then 4 mL of water and 4 mL of Acetonitrile / water (*15:85*). Dry the cartridge.
ELUTION STEP	5 mL of Acetonitrile / Potassium Dihydrogen Phosphate 10mM (*60:40*), pH 7.6
FURTHER TREATMENT	Qualitative analysis by TLC

Acrylamide Determination in Fried Potato Chips

CARTRIDGES	Step 1: Silia*PrepX* HLB 6 mL / 200 mg Part Number: SPE-P0002-06G Step 2: Silia*PrepX* SCX 3 mL / 60 mg Part Number: SPE-P0005-03BB
SAMPLE PRETREATMENT	Extraction 1: vortex for 1 min 1g of potato chips and 8 mL of Sodium Chloride aqueous 4M. Incubate 30 min at 60°C (*vortex 10 sec every 10 min*). Centrifugate for 10 min at 4,500 rpm and collect the supernatant. Extraction 2: repeat previous 3 steps with same potato chips. Add 1 mL of solution Cirraz 1 (*15 g of $K_3[Fe(CN)_6]$ in 100 mL water*) and 1 mL of solution Cirraz 2 (*30 g of $Zn(O_2CCH_3)_2$ in 100 mL water*).
CONDITIONNING STEP (1) [SILIA*PREPX* HLB]	3 mL of Methanol
EQUILIBRATION STEP (1)	3 mL of water
LOADING STEP (1)	1.5 mL of the treated sample was slowly aspirated through the cartridge
WASHING STEP (1)	1.5 mL of water
ELUTION STEP (1)	3 mL of Methanol
CONDITIONNING STEP (2) [SILIA*PREPX* SCX]	3 mL of Methanol
LOADING STEP (2)	The treated sample eluted from Silia*PrepX* HLB was slowly aspirated through the cartridge (*collect this fraction*)
WASHING STEP (2)	1 mL of Methanol (*mix this fraction with the one previously collected*)
FURTHER TREATMENT	Evaporation to dryness, reconstitution with water / Methanol and quantification by LC/MS
RECOVERY	at 100 µg/kg: 88 %

Determination of Pesticides in Drinking Water

CARTRIDGE
Silia*PrepX* HLB 6 mL / 200 mg
Part Number: SPE-P0002-06G

CONDITIONNING STEP
6 mL of Methanol

EQUILIBRATION STEP
6 mL of water (*HPLC grade*)

LOADING STEP
100 mL of drinking water was slowly aspirated through the cartridge

WASHING STEP
6 mL of water (*HPLC grade*)

ELUTION STEP
2 x 6 mL of Methanol

FURTHER TREATMENT
Evaporation under Nitrogen, reconstitution with Methanol and quantification by LC/MS

RECOVERY

at 1,000 pg/mL	Atrazine	Benalaxyl	Carbendazim	Chloroxuron	Imazalil
Silia*PrepX* HLB	75 %	76 %	103 %	91 %	78 %
Oasis® HLB	66 %	48 %	103 %	99 %	78 %

	Methalaxyl	Myclobutanil	Propoxur	Simazine	Thiambazole
Silia*PrepX* HLB	87 %	91 %	70 %	98 %	91 %
Oasis® HLB	61 %	101 %	42 %	79 %	80 %

CONCLUSION
Silia*PrepX* HLB compares favorably with Oasis® HLB for the extraction of 8 pesticides out of 10.

Pesticides Determination in Drinking Water

CARTRIDGE
Silia*Prep* CleanENVI 6 mL / 1 g
Part Number: SPEC-R31930B-06S

CONDITIONNING STEP
10 mL of Methanol

EQUILIBRATION STEP
10 mL of water (*HPLC grade*)

LOADING STEP
10 mL of drinking water was slowly aspirated through the cartridge

WASHING STEP
2 x 5 mL of water (*HPLC grade*)

ELUTION STEP
2 x 3 mL of Acetone

FURTHER TREATMENT
Evaporation under Nitrogen, reconstitution with water / Methanol and quantification by LC/MS

RECOVERY

at 50 ng/mL	
Atrazine	84 %
Simazine	95 %
Alachlor	68 %

Pesticides Determination in Water

CARTRIDGE
Silia*PrepX* LRV SAX 10 mL / 60 mg
Part Number: SPC-P0010-10BB

CONDITIONNING STEP
3 mL of Methanol

EQUILIBRATION STEP
3 mL of water (*HPLC grade*)

LOADING STEP
100 mL of sample water was slowly aspirated through the cartridge

WASHING STEP
3 mL of water (*HPLC grade*)

ELUTION STEP
3 mL of Methanol then 3 mL of Methanol with Formic Acid 2 %

FURTHER TREATMENT
Quantification by LC/MS/MS

RECOVERY
at 1,000 pg/mL: > 80 % for 23 pesticides

ENVIRONMENT APPLICATIONS

Glyphosate & AMPA Determination in Water

CARTRIDGE	Silia*PrepX* HLB 3 mL / 60 mg Part Number: SPE-P0002-03BB
SAMPLE PRETREATMENT	Derivatization with FMOC-Cl: to 5 mL of sample water was added 325 µL of Sodium Borate 50mM, 200 µL of EDTA 0.1M, 4.5 mL of Acetonitrile and 0.6 mL of FMOC-Cl 50 mg/mL. Evaporate. Aqueous supernatant was mixed with 2 mL Ethyl Acetate. Adjust pH of the aqeous layer to 3 by adding 100 µL of Formic Acid 5 %.
CONDITIONNING STEP	3 mL of Methanol
EQUILIBRATION STEP	3 mL of water and 3 mL of Formic Acid 0.1 %
LOADING STEP	Derivatized sample was slowly aspirated through the cartridge
WASHING STEP	1 mL of Formic Acid 0.1 % then 2 x 500 µL of water, dry the cartridge
ELUTION STEP	3 mL of Methanol
FURTHER TREATMENT	Evaporation under Nitrogen, reconstitution with water / Acetonitrile and quantification by LC/MS/MS
RECOVERY	at 5 ng/mL

Glyphosate	120 %
AMPA	106 %

Diquat & Paraquat Determination in Water

CARTRIDGE	Silia*PrepX* WCX 3 mL / 60 mg Part Number: SPE-P0015-03BB
CONDITIONNING STEP	3 mL of Methanol
EQUILIBRATION STEP	3 mL of water
LOADING STEP	100 mL of sample water was slowly aspirated through the cartridge
WASHING STEP	3 mL of water then 3 mL of Methanol
ELUTION STEP	2 x 3 mL of Acetonitrile / Isopropanol / Formic Acid (*40:40:20*)
FURTHER TREATMENT	Quantification by LC/MS/MS
RECOVERY	at 10 ppb

Diquat	90 %
Paraquat	90 %

Determination of Pesticides in Water (*by GC/ECD*)

CARTRIDGE	Silia*PrepX* HLB 3 mL / 60 mg Part Number: SPE-P0002-03BB
CONDITIONNING STEP	3 mL of 30 % Acetone in Toluene then 3 mL of Methanol
EQUILIBRATION STEP	3 mL of distilled water
LOADING STEP	100 mL of sample water was slowly aspirated through the cartridge
WASHING STEP	3 mL of distilled water, dry the cartridge
ELUTION STEP	500 µL of Acetone, then 2 mL of 30 % Acetone in Toluene and 2.5mL of 30 % Acetone in Toluene
FURTHER TREATMENT	Quantification by GC/ECD
RECOVERY	

Trifluralin	90 %	**Endrin**	95 %
Lindane	88 %	**4,4'-DDT**	75 %
Aldrin	78 %	**Diclofop-methyl**	90 %
Heptachlor Epoxide	88 %	**Methoxychlor**	86 %
Dieldrin	90 %	**Chlordane**	79 %

Extraction of Desphenyl Chloridazon from Water

CARTRIDGE	Silia*PrepX* SAX 3 mL / 60 mg Part Number: SPE-P0010-03BB
SAMPLE PRETREATMENT	100 µL of Ammonium Hydroxide 26 % was added to 1 mL of water sample
CONDITIONNING STEP	1 mL of Methanol
EQUILIBRATION STEP	1 mL of Ammonium Hydroxide 5 %
LOADING STEP	Treated sample was slowly aspirated through the cartridge
WASHING STEP	1 mL of Ammonium Hydroxide 5 % then 1 mL of Methanol
ELUTION STEP	2 x 1 mL of 5 % Formic Acid in Ethyl Acetate
FURTHER TREATMENT	Evaporation under Nitrogen, reconstitution with Acetonitrile / water and quantification by LC/MS
RECOVERY	at 10 µg/mL: 83 %

Quantification of Acidic Herbicides

CARTRIDGE	Silia*PrepX* SAX 6 mL / 200 mg Part Number: SPE-P0010-06G
SAMPLE PRETREATMENT	pH of sample was adjusted to basic value with Sodium Hydroxide 1N
CONDITIONNING STEP	6 mL of Methanol
EQUILIBRATION STEP	6 mL of water
LOADING STEP	Treated sample was slowly aspirated through the cartridge
WASHING STEP	3 mL of Sodium Acetate then 3 mL of Methanol, dry the cartridge
ELUTION STEP	2 x 3 mL of Formic Acid 10 % in Methanol
FURTHER TREATMENT	Evaporation under Nitrogen, reconstitution with Methanol / water and quantification by LC/MS
RECOVERY	at 1 µg/mL

Bentazon	79 %
Dicamba	87 %
2,4-Dichlorophenoxy Acetic Acid	82 %
4-Chloro-2-methylphenoxy Acetic Acid	76 %

Isothiazolinone Biocides in an Aqueous Sample

CARTRIDGE	Silia*PrepX* DVB 6 mL / 200 mg Part Number: SPE-P0001-06G
SAMPLE PRETREATMENT	5 mL of isothiazolinones standard solution (*1 µg/mL*) are diluted in 50 mL water and 500 µL Formic Acid. The solution is filled up to 100 mL.
CONDITIONNING STEP	6 mL of Methanol
EQUILIBRATION STEP	6 mL of 0.1 % Formic Acid in water
LOADING STEP	5 mL of sample was slowly aspirated through the cartridge
WASHING STEP	6 mL 0.1 % Formic Acid in water, dry the cartridge
ELUTION STEP	3 mL of Methanol then 6 mL of Acetonitrile
FURTHER TREATMENT	Evaporation under Nitrogen, reconstitution with Methanol / water and quantification by LC/MS
RECOVERY	at 50 ng/L

Methylisothiazolinone	93 %
Chloromethylisothiazolinone	96 %
Benzisothiazolinone	85 %
Butylbenzisothiazolinone	88 %
Octylisothiazolinone	90 %
Dichloroctylisothiazolinone	83 %

ENVIRONMENT APPLICATIONS

Extraction of Bisphenol A, Triclosan & Ethynyl Estradiol from Water

CARTRIDGE	Silia*PrepX* HLB 3 mL / 60 mg Part Number: SPE-P0002-03BB
SAMPLE PRETREATMENT	To 25 mL of sample water was added 250 µL of internal standard (*1 ppb of 17α-Ethynyl Estradiol d-6, 1 ppb of Bisphenol A d-16 and 0.4 ppb of Triclosan d-3 in Methanol*)
CONDITIONNING STEP	3 mL of Methanol
EQUILIBRATION STEP	3 mL of water and 1 mL of Acetic Acid 100mM
LOADING STEP	Treated sample was slowly aspirated through the cartridge
WASHING STEP	3 mL of water, 1 mL of Acetic Acid 100 mM and 2 mL of 20 % Methanol in water, dry the cartridge
ELUTION STEP	2 x 3 mL of Dichloromethane / Acetone (*50:50*)
FURTHER TREATMENT	Evaporation under Nitrogen, reconstitution with Sodium Carbonate in water, derivatization with Dansyl Chloride and quantification by LC/MS/MS
RECOVERY	**17α-Ethynyl Estradiol** 93 % **Bisphenol A** 115 % **Triclosan** 98 %

Analysis of Bisphenol A in Bottled Water

CARTRIDGE	Silia*Prep* C18 Plus 6 mL / 200 mg (*glass*) Part Number: SPE-R00830B-06G
SAMPLE PRETREATMENT	100 µL of internal standard (*Bisphenol A-d16 in methanol, 1 µg/mL*) was added to 50 mL of bottled water
CONDITIONNING STEP	3 mL of Methanol
EQUILIBRATION STEP	3 mL of water (*HPLC grade*) and 1 mL of Acetic Acid 100 mM
LOADING STEP	The whole sample was aspirated through the cartridge using SiliCycle MiniBlock equipment (*2 drops / second*)
WASHING STEP	5 mL of water (*HPLC grade*), dry the cartridge
ELUTION STEP	3 mL of Methanol
FURTHER TREATMENT	Evaporation to dryness, derivatization using Dansyl Chloride, liquid-liquid extraction, evaporation, reconstitution with Methanol and quantification by LC/MS/MS
RECOVERY	at 3,000 pg/mL: 97 %

Pharmaceutical Drugs Determination in Water

CARTRIDGE	Silia*PrepX* HLB (*200 mg*) + SAX (*60 mg*) / 10 mL Part Number: SPC-P0210-10i
SAMPLE PRETREATMENT	100 mL of sample water was mixed with 5 mL of Sodium Acetate 10 %. pH was adjusted to 9.5 with a buffer solution (*NH_4Cl 0.5M and NH_4OH 0.5M in water*).
CONDITIONNING STEP	6 mL of Methanol
EQUILIBRATION STEP	6 mL of water and 6 mL of buffer pH 9.5
LOADING STEP	Treated sample was slowly aspirated through the cartridge
WASHING STEP	3 mL of buffer pH 9.5 and 3 mL of water, dry the cartridge
ELUTION STEP	2 mL of Methanol and 2 mL of Formic Acid 2 % in Methanol
FURTHER TREATMENT	Evaporation under Nitrogen, reconstitution with water / Acetonitrile and quantification by LC/MS/MS
RECOVERY	at 100 ppt

Trimethroprim	105 %	**Caffeine C13**	96 %
Sulphamethoxazole	100 %	**Acetaminophen**	93 %
Naproxen	100 %	**Norfloxacin**	70 %
Ibuprofen	85 %	**Maprotiline**	79 %
Carbamazepine	102 %		

Determination of Tricyclic Antidepressants in Water

CARTRIDGE	Silia*PrepX* DVB 3 mL / 60 mg Part Number: SPE-P0001-03BB
CONDITIONNING STEP	1 mL of Methanol
EQUILIBRATION STEP	1 mL of water
LOADING STEP	1 mL of sample was slowly aspirated through the cartridge
WASHING STEP	1 mL of water
ELUTION STEP	1 mL of Acetonitrile
FURTHER TREATMENT	Quantification by LC/MS
RECOVERY	at 1 µg/mL

Protriptyline	93 %
Nortriptyline	90 %

ENVIRONMENT APPLICATIONS

Determination of Explosives in Well Water

CARTRIDGE	Silia*PrepX* DVB 6 mL / 200 mg Part Number: SPE-P0001-06G
CONDITIONNING STEP	6 mL of Methanol, 6 mL of Acetonitrile
EQUILIBRATION STEP	10 mL of water
LOADING STEP	1 L of well water (*with 5 g of Sodium Chloride*) was slowly aspirated through the cartridge
WASHING STEP	10 mL of water, DO NOT dry the cartridge
ELUTION STEP	6 of mL Methanol / Acetonitrile (*50:50*)
FURTHER TREATMENT	Evaporation under Nitrogen, reconstitution with Methanol / water and quantification by LC/MS
RECOVERY	at 1 µg/L

Hexanitrodiphenylamine	96 %	**4-Amino-2,6-dinitrotoluene**	95 %
Diphenylamine	100 %	**2-Amino-4,6-dinitrotoluene**	94 %
Pentaerythritol Tetranitrate	108 %	**2,4,6-Trinitrotoluene**	92 %
3-Nitrotoluene	78 %	**Nitroglycerine**	88 %
4-Nitrotoluene	81 %	**1,3-Dinitrobenzene**	86 %
2-Nitrotoluene	67 %	**1,3,5-Trinitrobenzene**	96 %
2,6-Dinitrotoluene	94 %	**Ethylene Glycol Dinitrate**	95 %
2,4-dinitrotoluene	85 %	**Picric Acid**	92 %
Octogen	94 %	**Diethylene Glycol Dinitrate**	74 %

Determination of Surfactants in Water

CARTRIDGE	Silia*PrepX* WAX 3 mL / 60 mg Part Number: SPE-P0020-03BB
CONDITIONNING STEP	2 mL of 5 % Ammonia in Methanol then 2 mL of Methanol
EQUILIBRATION STEP	2 mL of water
LOADING STEP	500 mL of water sample was slowly aspirated through the cartridge
WASHING STEP	2 mL of water, then 2 mL of Acetone / Acetonitrile / Formic Acid (*50:50:1*) and 2 mL of Methanol
ELUTION STEP	2 mL of 5 % Ammonia in Methanol
FURTHER TREATMENT	Evaporation under Nitrogen, reconstitution with Methanol / water and quantification by LC/MS
RECOVERY	at 20 µg/L

Perfluorooctane Sulfonate Potassium Salt	81 %
Perfluoropentanoic Acid	94 %
Perfluorohexanoic Acid	94 %
Perfluorooctanoic Acid	95 %
Perfluoropropionic Acid	103 %
Perfluorododecanoic Acid	82 %

Quantification of Phenolic Acids

CARTRIDGE	Silia*PrepX* SAX 6 mL / 200 mg Part Number: SPE-P0010-06G
SAMPLE PRETREATMENT	pH of sample was adjusted to basic value with Sodium Hydroxide 1N
CONDITIONNING STEP	6 mL of Methanol
EQUILIBRATION STEP	6 mL of water
LOADING STEP	Treated sample was slowly aspirated through the cartridge
WASHING STEP	3 mL of water, then 3 mL of Sodium Hydroxide 0.1N and 3 mL of Methanol, dry the cartridge
ELUTION STEP	2 x 3 mL of Formic Acid 5 % in Methanol
FURTHER TREATMENT	Evaporation under Nitrogen, reconstitution with Methanol / water and quantification by LC/MS
RECOVERY	at 1 µg/mL

Syringic Acid	70 %
Vanillic Acid	86 %
p-Hydroxybenzoic Acid	97 %

Extraction of Amines from an Aqueous Sample

CARTRIDGE
SiliaPrepX SCX 6 mL / 200 mg
Part Number: SPE-P0005-06G

SAMPLE PRETREATMENT
200 µL of Phosphoric Acid 2 % was added to 1 mL of aqueous sample

CONDITIONNING STEP
6 mL of Methanol

EQUILIBRATION STEP
6 mL of water

LOADING STEP
Treated sample was slowly aspirated through the cartridge

WASHING STEP
6 mL of Hydrochloric Acid 0.1N then 6 mL of Methanol, dry the cartridge

ELUTION STEP
2 x 3 mL of 10 % Ammonia in Methanol

FURTHER TREATMENT
Evaporation under Nitrogen, reconstitution with Methanol / water and quantification by LC/MS

RECOVERY
at 100 ppm

2-Naphthylamine	65 %	**4,4´-Methylene-bis-(2-chloro-aniline)**	75 %
Benzidine	104 %	**4,4´-Oxydianiline**	104 %
5-Nitro-o-toluidine	80 %	**4,4´-Methylenedianiline**	109 %
Xenylamine	89 %	**4,4´-Thiodianiline**	100 %
o-Aminoazotoluene	89 %	**4,4´-Methylendi-o-toluidine**	110 %
4-Aminoazobenzene	99 %	**3,3-Dichlorobenzidine**	110 %

Extraction of PAHs from Drinking Water

CARTRIDGE
SiliaPrep PAH 6 mL / 1.5 g
Part Number: SP2-R0610030B-06T

CONDITIONNING STEP
5 mL of 2-Propanol

EQUILIBRATION STEP
5 mL of water / 2-Propanol (*92:8*)

LOADING STEP
500 mL of drinking water was slowly aspirated through the cartridge

WASHING STEP
3 mL of Dichloromethane HPLC grade, soak the sorbent for 10 minutes before eluting. Repeat a second time.

ELUTION STEP
2 mL of Dichloromethane HPLC grade, soak the sorbent for 10 minutes before eluting. Combine the 3 eluates.

FURTHER TREATMENT
Evaporation under Nitrogen, reconstitution with Acetone / water and qualification by HPLC (*Fluorescence*)

RECOVERY

	Benzo[b]fluoranthene	Benzo[k]fluoranthene	Benzo[a]pyrene
SiliaPrep PAH	118 %	99 %	94 %
BAKERBOND PAH Aqua	117 %	102 %	100 %

	Benzo[ghi]perylene	Indeno[1,2,3-cd]pyrene
SiliaPrep PAH	117 %	126 %
BAKERBOND PAH Aqua	115 %	114 %

CONCLUSION
SiliaPrep PAH performs as well as BAKERBOND PAH Aqua for the extraction of PAHs from water.

ENVIRONMENT APPLICATIONS

Analysis of Pesticides in Oats, after a Fatty Acids Cleanup

CARTRIDGE	SiliaPrep Diamine 6 mL / 500 mg Part Number: SPE-R49030B-06P
SAMPLE PRETREATMENT	10 g of oat was added to 100 mL of water and 200 mL of Acetone. 35 g of NaCl and 100 mL of 50 % Ethylacetate in Cyclohexane were added for liquid-liquid extraction. The organic layer (*200 mL*) was dried with $NaSO_4$, filtered, evaporated and reconstituted with 10 mL of 50 % Ethylacetate in Cyclohexane.
CONDITIONNING STEP	3 mL of Methanol
EQUILIBRATION STEP	3 mL of Acetone and 3 mL of 50 % Ethyl Acetate in Cyclohexane
LOADING STEP	1 mL of treated sample was slowly aspirated through the cartridge (*collect the eluted solvent*)
WASHING STEP	6 mL of Hydrochloric Acid 0.1N then 6 mL of Methanol, dry the cartridge
ELUTION STEP	15 mL of 50 % Ethyl Acetate in Cyclohexane (*mix with the fraction previously collected*)
FURTHER TREATMENT	Evaporation under Nitrogen, reconstitution with Acetonitrile, derivatization using HMDS and TFA, and quantification by GC/MS
RECOVERY	> 80 % for 84 pesticides < 1 % for fatty acids

Source: P. Steinbach, W. Schwack, "Comparison of different solid-phase-extraction cartridges for a fatty acid cleanup of the ethyl acetate / cyclohexane based multi-pesticide residue method EN 12393", *J. Chromatogr. A*, **2014,** *1323*, 28 - 38

Triacylglycerols Profiling of Marine Microalgae

CARTRIDGE	SiliaPrep Silica 3 mL / 500 mg Part Number: SPE-R10030B-03P
SAMPLE PRETREATMENT	Algal extracts were extracted with Hexane, washed with water and evaporated
CONDITIONNING STEP	3 mL of Hexane
EQUILIBRATION STEP	3 mL of distilled water
LOADING STEP	50 mg of lipid sample in 300 µL of Hexane was slowly aspirated through the cartridge
ELUTION STEP	Elution 1 (*for triacylglycerols*): Hexane / Diethyl Ether / Acetic Acid (*80:20:1*) Elution 2 (*for polar lipids and chlorophyl*): Acetone
FURTHER TREATMENT	Evaporation, reconstitution with Hexane and quantification by LC/MS/MS

Source: M. Danielewicz, L. Anderson, A. Franz, "Triacylglycerol profiling of marine microalgae by mass spectrometry", *Journal of Lipid Research*, **2011**, *52*, 2101 - 2108

Extraction of Allantoin from a Cosmetic Product

CARTRIDGE	SiliaPrepX SAX 3 mL / 60 mg Part Number: SPE-P0010-03BB
SAMPLE PRETREATMENT	1g of cosmetic was diluted in 100 mL of water, pH was adjusted to 10 with Ammonium Hydroxide 5 %
CONDITIONNING STEP	3 mL of Methanol
EQUILIBRATION STEP	3 mL of Ammonium Hydroxide 5 %
LOADING STEP	1 mL of treated sample was slowly aspirated through the cartridge
WASHING STEP	3 mL of Ammonium Hydroxide 5 % then 3 mL of Methanol
ELUTION STEP	2 x 1 mL of Hydrochloric Acid 0.6 %
FURTHER TREATMENT	Add Acetonitrile / Ammonium Chloride 30mM, and qualification by HPLC

Share your complete Silia*Prep* / Silia*PrepX* application with SiliCycle...

... *and get any standard* SPE box for free!*

Send us:

- **the detailed method (*cartridge used, conditionning, equilibration, loading, washing & elution steps*)**
- **analytes & matrix**
- **pre- and post-treatments**
- **recoveries**
- **HPLC or GC analysis**

* box of 200 cartridges are not available for this promotion

Contact us: **sampleprep@silicycle.com**

Silia*Prep*™ Accessories

Simplify your Solid-Phase Extractions

- **Vacuum Manifolds**
- **Empty Tubes**
- **Adapters & Vacuum Adapters**
- **96-Well Collection Plates**
- **Phase Separator Cartridges**

Maximize your Productivity with Silia*Prep* Accessories

SiliCycle offers various accessories for SPE Cartridges and Well Plates to simplify method development and expedite high throughput analysis.

Silia*Prep* SPE Vacuum Manifolds

Run multiple samples simultaneously, with a controlled flow rate for higher reproducibility, with Silia*Prep* SPE Vacuum Manifolds. These manifolds are available in 12 and 24-Positions configurations and allow consistent extraction. No possibility of cross-contamination from one sample to another.

The design consists in a clear glass chamber equipped with replaceable individual stopcocks (*also known as control valves*) and solvent guide needles. The adjustable rack allows the use of a wide variety of collection vessels including 13 and 16 mm test tubes, autosampler vials and volumetric flasks.

Simply apply a vacuum source to elute sample through a cartridge directly to the collection vessel of choice.

Complete sets include:

- Glass chamber, vacuum gauge & bleed valve
- Cover, gasket, male and female luer fittings
- Individual stopcocks and needles
- Collection rack with posts, shelves and retaining clips.

Silia*Prep* SPE Vacuum Manifolds (*Complete Sets*)

Product Number	Description
AUT-0128-12	12-Positions Silia*Prep* SPE Vacuum Manifold
AUT-0129-24	24-Positions Silia*Prep* SPE Vacuum Manifold

Silia*Prep* Vacuum Manifold Accessories

Various replacement parts are available for the two Silia*Prep* Vacuum Manifolds offered by SiliCycle.

Silia*Prep* Vacuum Manifold Accessories			
Description		**12-Positions Vacuum Manifold**	**24-Positions Vacuum Manifold**
Silia*Prep* Vacuum Manifold Complete Set		AUT-0128-12 (*1/box*)	AUT-0129-24 (*1/box*)
Spare Parts Ordering Information			
INCLUDED	Glass chamber [Dimensions: Length x Width x Height]	AUT-0182-2 (*1/box*) [7" x 5.25" x 7"]	AUT-0185 (*1/box*) [12" x 5.25" x 7"]
	Vacuum gauge, valve & glass chamber kit	AUT-0187 (*1/box*)	AUT-0189 (*1/box*)
	Top cover gasket	AUT-0174 (*2/box*)	AUT-0193 (*2/box*)
	Polypropylene stopcocks	AUT-0146 (*12/box*)	AUT-0147 (*24/box*)
	Polypropylene needles	AUT-0154 (*12/box*)	AUT-0155 (*24/box*)
	Collection rack kit (*posts, shelves and retaining clips included*)	AUT-0202 (*1/box*)	AUT-0204 (*1/box*)
	Plate for 13 mm test tubes	AUT-0205 (*1/box*)	AUT-0207 (*1/box*)
	Plate for 16 mm test tubes	AUT-0208 (*1/box*)	AUT-0210 (*1/box*)
	Plate for autosampler vials	AUT-0213 (*1/box*)	-
	Plate for volumetric flasks	AUT-0214 (*1/box*)	-

Note: Stainless Steel needles and Teflon® needles are available upon request.

Silia*Prep* Waste Containers

Disposable solvent resistant polypropylene containers are available for the 12-Positions manifold. These waste containers greatly simplify sample preparation, solvent disposal and clean-up. Depending on the nature of the solvent used, the waste container can be reused many times prior to discarding.

Note: Waste containers not available for the 24-Positions vacuum manifold.

AUT-0176 (*10/box*)

Silia*Prep* Drying Manifold Covers

Silia*Prep* Drying Manifold Covers can be used to concentrate samples with a flow of air or gaz (*nitrogen*).

Silia*Prep* Drying Manifold Covers	
Product Number	**Description**
AUT-0215-12	12-Positions Silia*Prep* Drying Manifold Cover (*1/box*)
AUT-0215-24	24-Positions Silia*Prep* Drying Manifold Cover (*1/box*)

AUT-0215-12

Silia*Prep* Adapters

Enable cartridge stacking and easy SPE cartridge connection with syringe or gas lines (*for positive pressure*).

Silia*Prep* Adapters	
Product Number	**Description**
AUT-0172	Silia*Prep* Adapter for 1, 3, 6 & 12 mL SPE (*10/box*)
AUT-0173	Silia*Prep* Adapter for 25 & 70 mL SPE (*10/box*)

AUT-0172

AUT-0173

Silia*Prep* Vacuum Adapters

Fast, user-friendly, and economical adapters for SPE cartridges. Only a vacuum source is needed.

Silia*Prep* Vacuum Adapter - Flasks		
Joint	**PN**	**Description**
24/40	AUT-0043	24/40 - Silia*Prep* Vacuum Adapter (*1/box*)
19/22	AUT-0044	19/22 - Silia*Prep* Vacuum Adapter (*1/box*)
14/22	AUT-0045	14/22 - Silia*Prep* Vacuum Adapter (*1/box*)

Silia*Prep* Vacuum Adapter - Screw Thread Vials		
Thread	**PN**	**Description**
22/400	AUT-0046	22/400 Vial - Silia*Prep* Vacuum Adapter Without Vial Connector (*1/box*)
22/400	AUT-0047	22/400 Vial - Silia*Prep* Vacuum Adapter With Vial Connector (*1/box*)

AUT-0043

AUT-0044

AUT-0045

AUT-0046

AUT-0047

Silia*Prep* Empty Tubes

You can use our Silia*Prep* Empty Tubes to pack your own SPE cartridges with bulk sorbents of your choice.

Silia*Prep* Empty Tubes	
Formats	**Description**
SIM-0007-001	Empty 1 mL SPE tube with 2 frits (*100/box*)
SIM-0008-003	Empty 3 mL SPE tube with 2 frits (*100/box*)
SIM-0002-006	Empty 6 mL SPE tube with 2 frits (*100/box*)
SIM-0003-012	Empty 12 mL SPE tube with 2 frits (*100/box*)
SIM-0004-020	Empty 25 mL SPE tube with 2 frits (*100/box*)
SIM-0006-060	Empty 60 mL SPE tube with 2 frits (*100/box*)
SIM-0009-150	Empty 150 mL SPE tube with 2 frits (*20/box*)

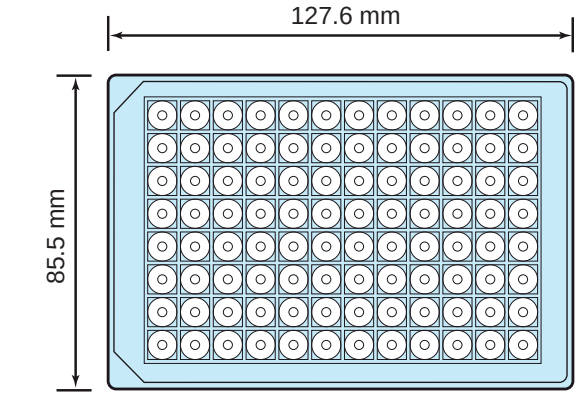
Silia*Prep* 96-Well Collection Plates

SiliCycle offers Silia*Prep* 96-Well Collection Plates, made from polypropylene with extremely low extractable levels.

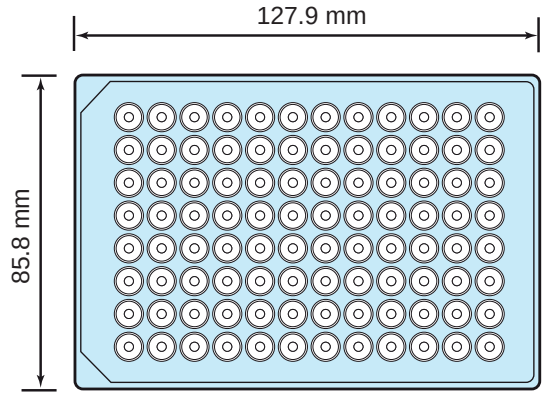
These collection plates are available with square deep shape in both 1.0 mL and 2.0 mL well volume (*V-shaped bottom*), and with round bottom in 1 mL only. Cap mats are available for all of these collection plates.

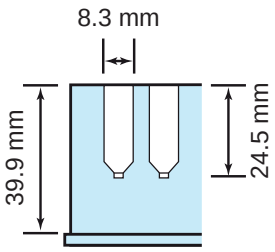
Silia*Prep* 96-Well Collection Plates	
Product Number	**Description**
96W-0009	Silia*Prep* 96-Well Collection Plate Square Bottom, 2 mL (*50/box*)
96W-0010	Silia*Prep* 96-Well Collection Plate Square Bottom, 1 mL (*50/box*)
96W-0011	Silia*Prep* 96-Well Collection Plate Round Bottom, 1 mL (*50/box*)

96-Well Collection Plates Square Shape

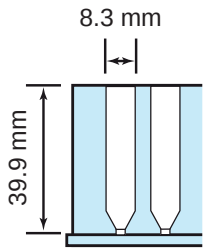


96-Well Collection Plates Round Shape

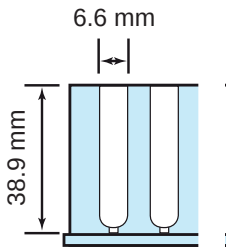




1.0 mL Well Volume



2.0 mL Well Volume



1.0 mL Well Volume

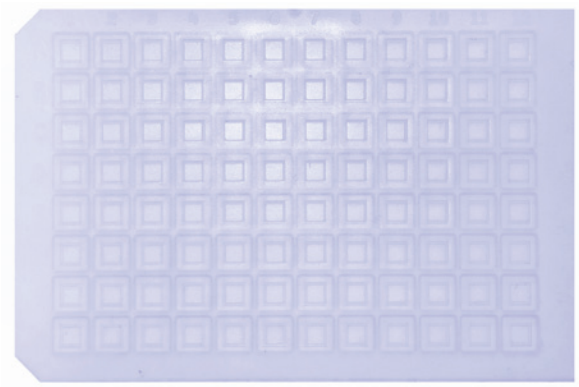
Silia*Prep* Disposable Reservoir Trays for 96-Well Plates

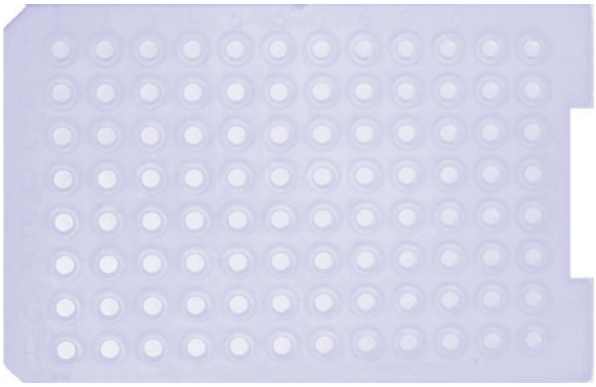
SiliCycle offers Silia*Prep* Disposable Reservoir Trays to collect waste solvents used during activation, loading and washing steps.
These disposable trays are made of polycarbonate and are compatible with all manifolds used with well plates.

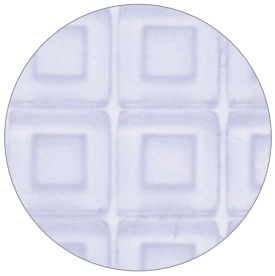
Silia*Prep* Disposable Reservoir Trays	
Product Number	**Description**
96W-0012	Silia*Prep* Disposable Reservoir Trays (*25/box*)

Silia*Prep* 96-Well Plate Cap Mats

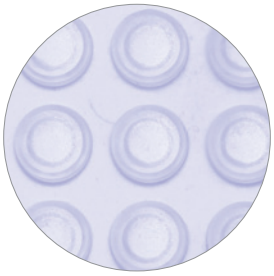
SiliCycle offers Silia*Prep* 96-Well Plate Cap Mats compatible with most 96-Well Plates available on the market. These cap mats are made of premium-quality silicone, with a PTFE coating for ultra low bleed. Slit and 384-Well Plate cap mats are available under request.







Silia*Prep* 96-Well Plate Square
Silicone / PTFE Cap Mats



Silia*Prep* 96-Well Plate Round
Silicone / PTFE Cap Mats

Silia*Prep* 96-Well Plate Cap Mats			
Well Shape	**Quantity**	**Product Number**	**Description**
Square	5/box	96M-0001S	Silia*Prep* 96-Well Plate Square Silicone / PTFE Cap Mats (*to be used with 96W-0009 & 96W-0010 collection plates*)
	25/box	96M-0001S-25	
	50/box	96M-0001S-50	
	100/box	96M-0001S-100	
Round	5/box	96M-0001R	Silia*Prep* 96-Well Plate Round Silicone / PTFE Cap Mats (*to be used with 96W-0011 collection plates*)
	25/box	96M-0001R-25	
	50/box	96M-0001R-50	
	100/box	96M-0001R-100	

Note: Contact us if you are looking for a cap mat not listed above.

Silia*Prep* Phase Separator Cartridges

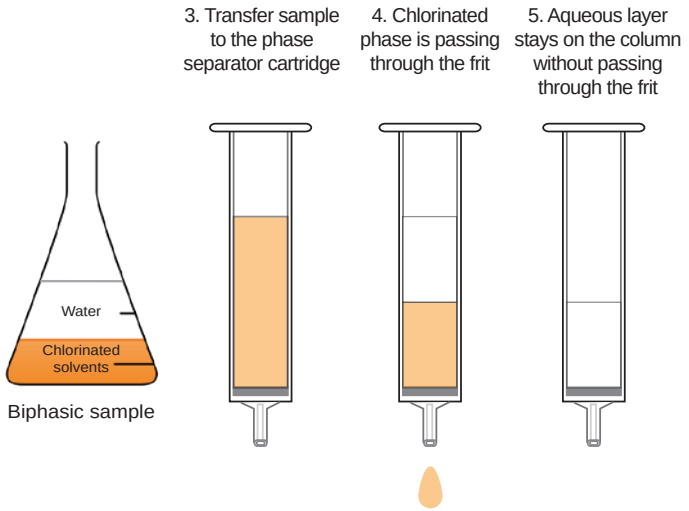
SiliCycle offers Silia*Prep* Phase Separator Cartridges to separate the aqueous phase from heavier chlorinated solvents, under gravity. These ready-to-use cartridges are fitted with a proprietary hydrophobic frit and are a great alternative to liquid-liquid extraction, the most popular technique to do this separation. However, this last method is time consuming, requires the use of a glass funnel (*which needs to be washed between each separate extraction*) and is not suitable for multiple extractions. Silia*Prep* Phase Separator Cartridges solve these drawbacks and offer many advantages:

- Ease of use
- Efficient and cost saving
- Compatible with automated systems

Silia*Prep* Phase Separator Cartridges	
Product Number	**Description**
PS-012	Silia*Prep* Phase Separator Cartridges, 12 mL (*100/box*)
PS-060	Silia*Prep* Phase Separator Cartridges, 60 mL (*50/box*)
PS-150	Silia*Prep* Phase Separator Cartridges, 150 mL (*25/box*)

Typical Experimental Procedure

1. Select the appropriate size of Silia*Prep* Phase Separator Cartridge to hold your entire sample volume (*both aqueous and chlorinated phases*).
2. Connect the Silia*Prep* Phase Separator Cartridge on a vacuum manifold. Ensure the collection vessel volume is large enough to entirely recover the organic layer.
   Note: Do not connect the manifold to a vacuum source
3. Transfer the biphasic sample on top of the Silia*Prep* Phase Separator Cartridge.
4. After a few seconds (*under gravity*), the water immiscible chlorinated solvent will start to pass through the frit.
5. The proprietary frit used in the Silia*Prep* Phase Separator Cartridge allows the aqueous layer to be left on the column for at least 48 hours without passing through the frit.



Important Advice

- **Process under gravity only - Do not apply vacuum or positive pressure**
  The Silia*Prep* Phase Separator Cartridges are designed to be used under gravity only. The use of a vacuum or positive pressure source can lead to a loss of separation efficiency.
- **Biphasic system required**
  The sample needs to contain water and a water immiscible solvent (*with greater density than water, to form the lower layer*).
  Most common solvents are dichloromethane, chloroform and other chlorinated solvents.
  Try to minimize the presence of water miscible solvent (*i.e. methanol, ethanol or acetone*), which can cause problems in obtaining a truly biphasic system. The phase separator may not work effectively if the two phases are merging.
- **More efficient compound partition**
  To obtain a more efficient compound partition between aqueous and organic layers, a liquid-liquid extraction can be done prior to use the phase separator column.

Silia*Prep*™ Tips

Micro-SPE Cartridges

- **Simple, fast analyte retention & elution with minimal loss**
- **Sorbents directly embedded into inner cartridge wall**
- **High binding capacity**
- **No back-pressure**

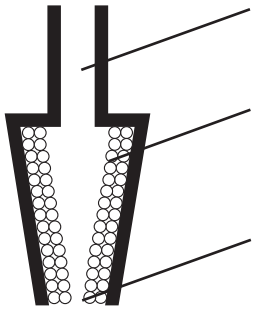
Silia*Prep* Tips for Micro Sample Preparation

Silia*Prep* Tips Micro-SPE Cartridges are designed for micro-purification and micro-extraction of femtomole (*fmol*) to picomole (*pmol*) quantities of analytes prior to the analysis by chromatographic techniques and / or mass spectrometry.

The constant improvement in these techniques of analysis has allowed scientists to decrease the limit of quantification in several applications. This lower limit has pushed SPE manufacturers to design new SPE cartridges accepting smaller volumes of analyte.

These tips are specially designed to achieve extraction and purification of small molecules, peptides, phosphopeptides and proteins. They are packed with our Silia*Bond* functionalized silica gels and specialty phases to cover the broadest spectrum of applications requiring small volume of analytes.

The phases are embedded directly in the inner surface of the tip to provide consistent flow rates. Finally, no glue is used during packing procedures in order to prevent any contamination of the analyte.



A - Flow-Through Channel
Eliminates back-pressure.

B - Sorbent
Sorbent is embedded without any glue or binding polymer.

C - Modified Pipette Tip
Easy to fill and release the sample.

Silia*Prep* Tips Micro-SPE Cartridges Sizes

Silia*Prep* Tips Micro-SPE Cartridges are available in 3 different cartridge formats, based on the binding capacity of each embedded sorbent.

Silia*Prep* Tips Micro-SPE Cartridges Specifications

Tip Volume (µL)	Sample Volume (µL)	Binding Capacity (µg)	Sorbent Weight (µg)	Product Number
1 - 10	0.5 - 10	1	30	-T1
10 - 200	2 - 25	2.5	75	-T2
10 - 200	5 - 50	15	400	-T3

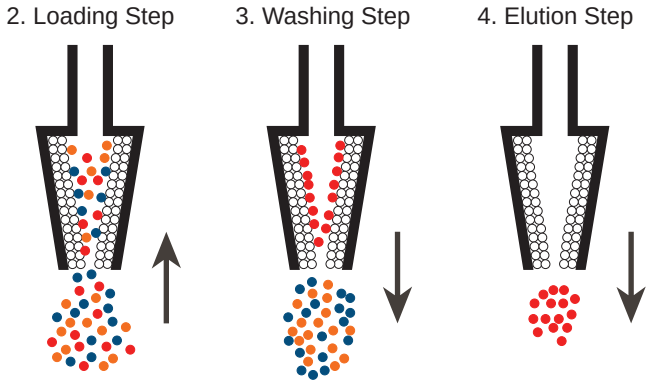
Silia*Prep* Tips Micro-SPE Cartridges are sold in box of 96.

www.greyhoundchrom.com Email: sales@greyhoundchrom.com Tel: +44 (0) 151 649 4000

Silia*Prep* Tips General Experimental Procedure

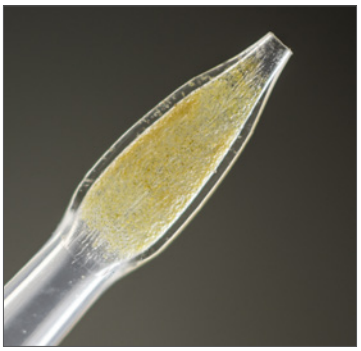
The following lines present the general experimental procedure for the purification and enrichment of small molecules, peptides and proteins using Silia*Prep* Tips Micro-SPE Cartridges.

1. **Conditionning Step**:
   Attach the Silia*Prep* Tips to a micropipette.
   Aspirate / expel the elution solution 5 times and the binding solution 3 times.
2. **Loading Step**:
   Aspirate / expel the sample 20 to 50 times to allow compounds to adsorb onto the sorbent.
3. **Washing Step**:
   Aspirate / expel the binding solution 10 times and discard the expelled solution each time.
4. **Elution Step**:
   Aspirate / expel the elution solution 10 times and collect the expelled solution in a suitable clean tube. Repeat with a fresh portion of elution solution if you want to be sure to collect all of the adsorbed compounds.
   Note: repeat 3 - 5 times for carbon black sorbent



Silia*Prep* Tips Micro-SPE Application

Micro-Extraction of Dextromethorphan from Plasma	
CARTRIDGE	Silia*PrepX* Tips C18 10 µL/30 µg Part Number: SPET-C18-T1
SAMPLE PRETREATMENT	8 µL of plasma sample was mixed with 2 µL of internal standard (*Dextromethorphan-d3 at 10 ng/mL in Methanol*)
CONDITIONNING STEP	8 µL of Methanol (*10 aspirate / expel*)
EQUILIBRATION STEP	8 µL of water (*10 aspirate / expel*)
LOADING STEP	Plasma sample (*30 aspirate / expel*)
WASHING STEP	8 µL of water (*10 aspirate / expel*) then 8 µL of 25 % Methanol in water (*10 aspirate / expel*)
ELUTION STEP	8 µL of Acetonitrile (*30 aspirate / expel*)
FURTHER TREATMENT	Quantification by LDTD/MS/MS (*collaboration with Phytronix*)
RECOVERY	at 10 ng/mL
	Dextromethorphan 86 %
	Dextromethorphan d-3 80 %



SiliaPrep Tips Sorbent Selection Guide

SiliaPrep Tips Sorbent Selection Guide			
Molecule	**Application**	**Analyte**	**Sorbent**
Small Molecules	Desalting	All	C18; Carbon Black
	Protein removal	All	C18; HILIC
	Metal scavenging	All	Cysteine; DMT; Imidazole; PSA; TAAcOH; TAAcONa; Thiol; Thiourea; Triamine
	Enrichment	Hydrophobic	C18; HLB; DVB; Carbon Black; HILIC
		Hydrophilic	Silica; Cyano; Carbon Black; HILIC
		Neutral	C18; HLB; DVB; Carbon Black; HILIC; Cyano
		Cationic	SCX; WCX; Polymeric SCX & WCX
		Anionic	SAX; NH_2; Polymeric SAX & WAX
		Fluorinated Compounds	Fluoro
Peptides	Desalting	All	C4; C8; C18; Carbon Black; HILIC
	SDS removal	All	SDS Removal
	Enrichment	Glycopeptide	Carbon Black; HILIC; TiO_2
		Phosphopeptide	TiO_2; ZrO_2; TiO_2/ZrO_2; SAX; NH_2; Polymeric SAX & WAX
		Other peptide	SAX; NH_2; SCX; WCX; Polymeric SAX, WAX, SCX & WCX
Proteins	SDS removal	All	SDS Removal
	Tryptic digestion	All	Trypsin
	Enrichment	Phosphoprotein	TiO_2 ; ZrO_2; TiO_2 / ZrO_2; SAX; NH_2; Polymeric SAX & WAX
		Other protein	SAX; NH_2; SCX; WCX; Polymeric SAX, WAX, SCX & WCX
Oligo-saccharides	Desalting	All	Carbon Black
	Enrichment	Sulfated glycan	SAX; XSAX
		Sialo-glycan	SAX; XSAX
		Other oligosaccharide	Carbon Black; HILIC; TiO_2

SiliaPrep XL Tips for Bigger Volumes

For bigger volumes, we also offer SiliaPrep XL Tips Micro-SPE Cartridges, in 3 different formats.
Please note these tips are top loading instead of by aspiration.

SiliaPrep XL Tips Micro-SPE Cartridges Specifications				
Tip Volume (µL)	**Sample Volume (µL)**	**Binding Capacity (µg)**	**Sorbent Weight (mg)**	**Product Number**
1 - 10	1 - 10	400	4	-T1
10 - 200	2 - 25	1,000	10	-T2
100 - 1,000	20 - 1,000	5,000	50	-T3

SiliaPrep XL Tips Micro-SPE Cartridges T1 and T2 are sold in box of 96, T3 in box of 20.

Silia*Prep* Tips Sorbent Descriptions & Ordering Information

Silia*Prep* Tips Sorbent Descriptions and Ordering Information				
Silia*Prep* Tips Sorbent	Description	Product Number		
		10 µL / 30 µg	200 µL / 75 µg	200 µL / 400 µg
C18	Highest hydrophobic character sorbent. Mainly used for small peptides and small molecules purification & enrichment or protein / peptide desalting analysis.	SPET-C18-T1	SPET-C18-T2	SPET-C18-T3
C8	Mid-level hydrophobic sorbent. Mainly used for sample treatment of proteins and peptides requiring a lower hydrophobic capacity, and protein / peptide desalting analysis.	SPET-C8-T1	SPET-C8-T2	SPET-C8-T3
C4	Lowest hydrophobic character sorbent. Mainly used for protein purification & enrichment or protein / peptide desalting analysis.	SPET-C4-T1	SPET-C4-T2	SPET-C4-T3
HLB	Polymeric sorbent with an hydrophilic-lipophilic balance. Mainly used for hydrophobic and neutral molecules enrichment.	SPET-HLB-T1	SPET-HLB-T2	SPET-HLB-T3
DVB	Higly hydrophobic polymeric sorbent. Mainly used for hydrophobic and neutral molecules enrichment.	SPET-DVB-T1	SPET-DVB-T2	SPET-DVB-T3
Carbon Black	Hydrophilic and hydrophobic character. Mainly used for purification of oligosaccharides and other macromolecules containing sugar functions, or protein / peptide desalting.	SPET-CB-T1	SPET-CB-T2	SPET-CB-T3
HILIC	Moderatly polar sorbent. Mainly used for proteins removal, peptides desalting, small molecules enrichment and detergent removal (*broad spectrum of detergents*).	SPET-HI-T1	SPET-HI-T2	SPET-HI-T3
Cyano (*CN*)	Both polar and hydrophobic character. Mainly used for hydrophilic and neutral molecules enrichment.	SPET-CN-T1	SPET-CN-T2	SPET-CN-T3
Silica	Most polar sorbent. Mainly used for hydrophilic molecules enrichment.	SPET-SI-T1	SPET-SI-T2	SPET-SI-T3
SAX	Strong anion exchanger sorbent. Mainly used for weak acids enrichment.	SPET-SAX-T1	SPET-SAX-T2	SPET-SAX-T3
NH_2 (*WAX*)	Weak anion exchanger sorbent. Mainly used for strong acids enrichment (*phosphopeptides and phosphoproteins*).	SPET-NH2-T1	SPET-NH2-T2	SPET-NH2-T3
SCX	Strong cation exchanger sorbent. Mainly used for weak bases enrichment.	SPET-SCX-T1	SPET-SCX-T2	SPET-SCX-T3
WCX	Weak cation exchanger sorbent. Mainly used for strong bases enrichment.	SPET-WCX-T1	SPET-WCX-T2	SPET-WCX-T3
SAX Polymeric	Polymeric sorbent functionalized by a strong anion exchanger. Mainly used for weak acids enrichment.	SPET-XSAX-T1	SPET-XSAX-T2	SPET-XSAX-T3
WAX Polymeric	Polymeric sorbent functionalized by a weak anion exchanger. Mainly used for strong acids enrichment (*phosphopeptides and phosphoproteins*).	SPET-XWAX-T1	SPET-XWAX-T2	SPET-XWAX-T3
SCX Polymeric	Polymeric sorbent functionalized by a strong cation exchanger. Mainly used for weak bases enrichment.	SPET-XSCX-T1	SPET-XSCX-T2	SPET-XSCX-T3
WCX Polymeric	Polymeric sorbent functionalized by a weak cation exchanger. Mainly used for strong bases enrichment.	SPET-XWCX-T1	SPET-XWCX-T2	SPET-XWCX-T3
TiO_2	High selectivity for multiple phosphorylated peptides. Mainly used for phosphopeptide enrichment and phospholipid removal.	SPET-TI-T1	SPET-TI-T2	SPET-TI-T3
ZrO_2	High selectivity for mono-phosphorylated peptides. Mainly used for phosphopeptide enrichment and phospholipid removal.	SPET-ZR-T1	SPET-ZR-T2	SPET-ZR-T3
TiO_2 / ZrO_2	Excellent alternative for the enrichment of a broad spectrum of phosphopeptides (*litterature suggests only 30 % overlap in phosphopeptides isolated by TiO_2 versus ZrO_2*) and phospholipid removal.	SPET-TIZR-T1	SPET-TIZR-T2	SPET-TIZR-T3
SDS Removal	Used to remove SDS from peptides and proteins.	SPET-SDS-T1	SPET-SDS-T2	SPET-SDS-T3
Trypsin	Used to cleave proteins and peptides at the C-terminal side, with minimal protease contaminants.	SPET-TRYP-T1	SPET-TRYP-T2	SPET-TRYP-T3
Fluoro	Fluorinated sorbent. Mainly used for fluorine containing molecules enrichment.	SPET-FL-T1	SPET-FL-T2	SPET-FL-T3
Metal Scavengers	Mainly used to lower the residual metal concentration of various metal complexes (*Pd, Pt, Rh, Ru, Ni, Sn, etc*). Choice of 9 metal scavenging sorbents: Cysteine, DMT, Imidazole, Diamine, TAAcOH, TAAcONa, Thiol, Thiourea and Triamine.	SPET-CYS-T1 SPET-DMT-T1 SPET-IMIDAZ-T1 SPET-PSA-T1 SPET-TAACOH-T1 SPET-TAACONA-T1 SPET-THIOL-T1 SPET-THIOUREA-T1 SPET-TRINH2-T1	SPET-CYS-T2 SPET-DMT-T2 SPET-IMIDAZ-T2 SPET-PSA-T2 SPET-TAACOH-T2 SPET-TAACONA-T2 SPET-THIOL-T2 SPET-THIOUREA-T2 SPET-TRINH2-T2	SPET-CYS-T3 SPET-DMT-T3 SPET-IMIDAZ-T3 SPET-PSA-T3 SPET-TAACOH-T3 SPET-TAACONA-T3 SPET-THIOL-T3 SPET-THIOUREA-T3 SPET-TRINH2-T3

Note: Add "XL" after "SPET" for ordering Silia*Prep* XL Tips. For example SPETXL-C18-T1.

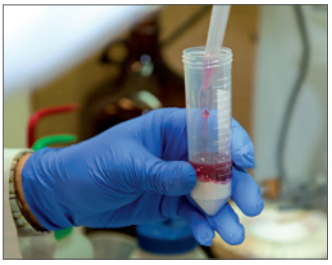
SiliaQuick™ & SiliaFast™

Sample Preparation & Pesticide Analysis

Two comprehensive solutions available from SiliCycle to simplify your sample prep and analysis: SiliaQuick™ QuEChERS and SiliaFast™ FaPEx®.

If you are frustrated with time and expenses of your sample prep & cleanup procedures, we have simple, economical, highly performant new alternatives to share with you!

SiliaQuick™ QuEChERS



The QuEChERS technique was developed in 2003 by USDA (*United States Department of Agriculture*) scientists to simplify and accelerate the analysis of pesticides in various fruit and vegetable samples. The name QuEChERS is formed by an acronym of the properties that are observed with this technique: ***Qu***ick, ***E***asy, ***Ch***eap, ***E***ffective, ***R***ugged and ***S***afe.

Initially popularized for the detection and analysis of traces of pesticides in a high throughput environment, scientists have expanded the use of this method to the analysis of a vast array of herbicides, fungicides, antibiotics, drugs and any other compounds present in a myriad of food, beverage, animal and human matrices.

The QuEChERS technique can be summarized as a three-step methodology, starting with a **Liquid Extraction**, followed by a dispersive **Solid-Phase Extraction** clean-up and completed by a **LC or GC Analysis**.

In comparison to traditional sample preparation analysis – a combination of Liquid-Liquid Extraction & Solid-Phase Extraction – the QuEChERS methodology is about 6 times faster, uses 6 - 9 times less solvent, is a safer, greener, much less costly technique, and requires no additional and cumbersome apparatus (*funnels, rotary evaporators, etc.*).

SiliaFast™ FaPEx® AVAILABLE SOON!

One of the fastest extraction / clean-up approaches for pesticide residue analysis

FaPEx stands for "***Fa****st* ***P****esticide* ***Ex****traction*" and may be considered as "*QuEChERS made even easier*".

This 1-step extraction method preceding LC/MS/MS or GC/MS/MS analysis will ensure you:

- **Extraction of thousands of pesticides simultaneously**
- **Reduction by at least 60 % of labor cost**
- **Up to 120 X faster than existing methods**
- **Less operating equipment, less organic solvents and waste than QuEChERS**
- **Impressive versatility**
- **High reliability**

SiliaFast FaPEx Portfolio

Cartridge	Name	Matrices
	SiliaFast™ **FaPEx-gen**	General matrices and all forms
	SiliaFast™ ***FaPEx-chl***	Matrices based on Chlorophyll
	SiliaFast™ **FaPEx-cer**	Cereal, rice and grains
	SiliaFast™ **FaPEx-dry**	Tea and dried herbs

Want to learn more?

Contact us: **sampleprep@silicycle.com**

Silia*Quick* QuEChERS Portfolio

Step 1: Liquid Extraction

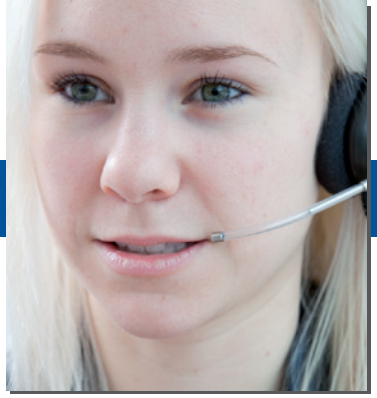
Silia*Quick* QuEChERS Liquid Extraction Step		
Original Method	Buffered Methods	
	AOAC 2007.01 Method	EN 15662 Method
10 g Sample	15 g Sample	10 g Sample
4 g $MgSO_4$; 1.5 g NaCl	6 g $MgSO_4$; 1.5 g NaOAc	4 g $MgSO_4$; 1 g NaCl ; 1 g SCTD ; 0.5 g SCDS
PN: **QE-0001-100P** (*packets only*) PN: **QE-0001-100K** (*packets & tubes*)	PN: **QE-0002-100P** (*packets only*) PN: **QE-0002-100K** (*packets & tubes*)	PN: **QE-0003-100P** (*packets only*) PN: **QE-0003-100K** (*packets & tubes*)

Step 2: dSPE (*dispersive Solid Phase Extraction*)

Silia*Quick* QuEChERS dSPE Step					
Cap Color for 2 mL tubes	Matrix	2 mL tubes for small extract volumes		15 mL tubes for large extract volumes	
		AOAC 2007.01	EN 15662	AOAC 2007.01	EN 15662
Clear	**General matrices** • Apples • Bananas • Broccoli • ...	150 mg $MgSO_4$ 50 mg PSA PN: **QD-1000-2T**	150 mg $MgSO_4$ 25 mg PSA PN: **QD-1001-2T**	1200 mg $MgSO_4$ 400 mg PSA PN: **QD-2000-15T**	900 mg $MgSO_4$ 150 mg PSA PN: **QD-2001-15T**
Pink	**Pigmented matrices** • Lettuces • Peppers • Strawberries • ...	150 mg $MgSO_4$ 50 mg PSA 50 mg GCB PN: **QD-1002-2T**	150 mg $MgSO_4$ 25 mg PSA 2.5 mg GCB PN: **QD-1003-2T**	1200 mg $MgSO_4$ 400 mg PSA 400 mg GCB PN: **QD-2002-15T**	900 mg $MgSO_4$ 150 mg PSA 15 mg GCB PN: **QD-2003-15T**
Green	**Highly pigmented matrices** • Urine • Avocados • Coffee • ...	150 mg $MgSO_4$ 50 mg PSA 50 mg GCB 50 mg C18 PN: **QD-1004-2T**	150 mg $MgSO_4$ 25 mg PSA 7.5 mg GCB PN: **QD-1005-2T**	1200 mg $MgSO_4$ 400 mg PSA 400 mg GCB 400 mg C18 PN: **QD-2004-15T**	900 mg $MgSO_4$ 150 mg PSA 45 mg GCB PN: **QD-2005-15T**
Blue	**Fatty and waxed matrices** • Milk • Shrimps • Blood • Liver • ...	150 mg $MgSO_4$ 50 mg PSA 50 mg C18 PN: **QD-1006-2T**	150 mg $MgSO_4$ 25 mg PSA 25 mg C18 PN: **QD-1007-2T**	1200 mg $MgSO_4$ 400 mg PSA 400 mg C18 PN: **QD-2006-15T**	900 mg $MgSO_4$ 150 mg PSA 150 mg C18 PN: **QD-2007-15T**

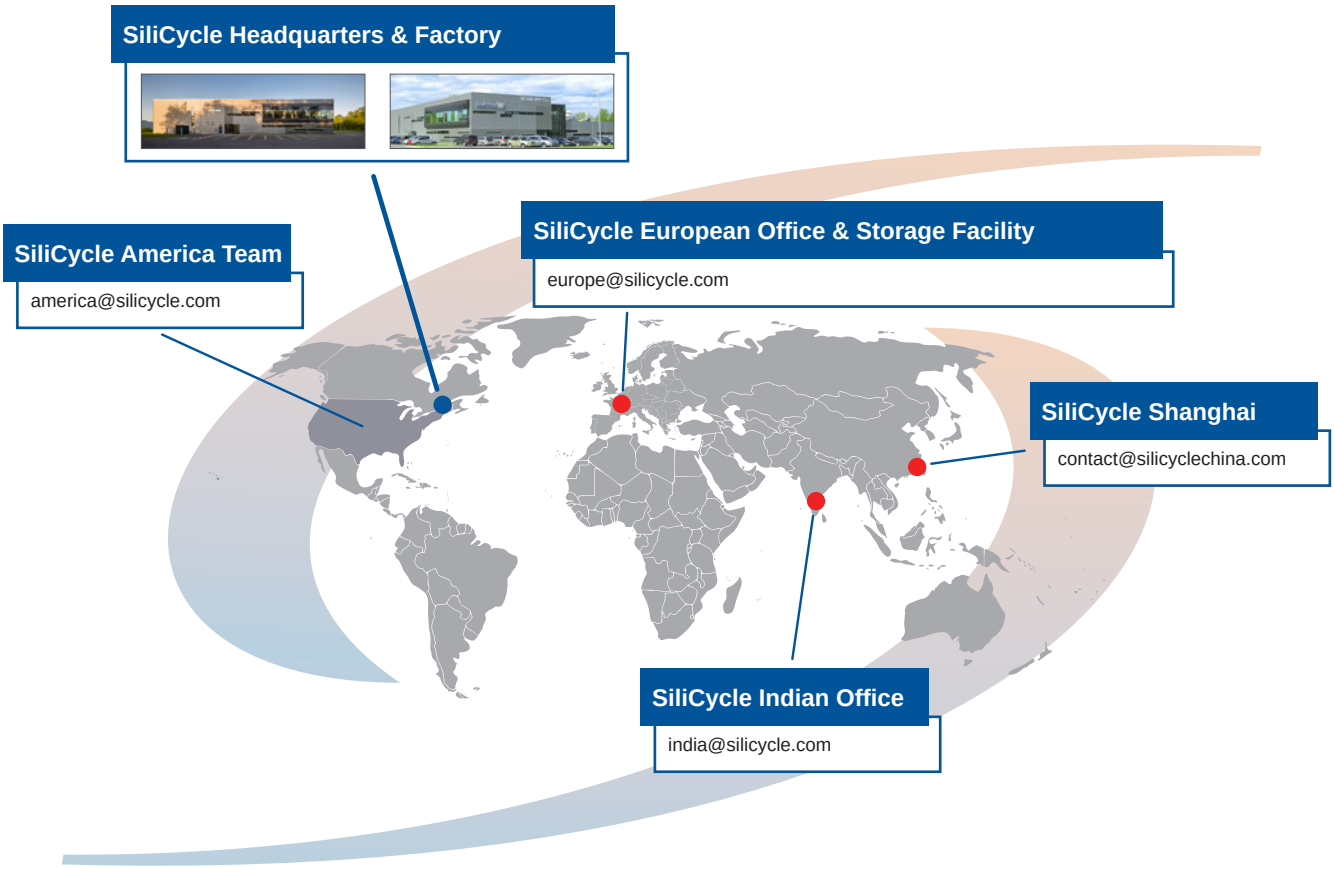
Bulk Sorbents Available for Your Own Recipe Creation

Bulk Sorbents for QuEChERS			
Product		Product Number	Available Quantities
Silia*Quick*™ Anhydrous Magnesium Sulfate (*$MgSO_4$*)		AUT-0310	• 5 g • 10 g • 25 g • 50 g • 100 g • 250 g • 500 g • 1 kg • 5 kg • 10 kg • 25 kg • and more
Silia*Quick*™ C18		AUT-1313	
Silia*Quick*™ Primary Secondary Amine (*PSA*)	Endcapped	AUT-0312	
	Non-endcapped	AUT-1312	
Silia*Quick*™ Amine		AUT-0412	
Silia*Quick*™ Graphitized Carbon Black (*GCB*)		AUT-0311	



Contact Us

SiliCycle, your worldwide partner



Technical Support

At SiliCycle, we are committed to providing the best technical support possible. Our worldwide Technical Support Group is comprised of a team of highly qualified M. Sc., Ph. D. Chemists and Engineers, Technical Support Professionals and Service Coordinators who are prepared to troubleshoot, answer questions and provide solutions for your service and applications needs.

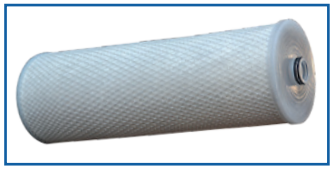
In order to better respond to your technical inquiries, feel free to contact us in three different ways:

E-mail: **support@silicycle.com**

Phone:
- International **+1 418.874.0054**
- USA and Canada **+1 877.745.4292** (*Toll-Free*)

Founded in 1995, SiliCycle® is specialized in the development, manufacturing and commercialization of high value silica-based and specialty products for chromatography, analytical and organic chemistry.

E-PAK®: FLOW CARTRIDGES FOR METAL REMOVAL NEW

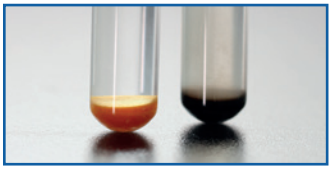


- Eliminates the use of insoluble particulates in reactors
- High adsorption capacity and flow rate
- Various sizes available for easy scale-up from lab to industrial scale

METAL & ORGANIC SCAVENGING

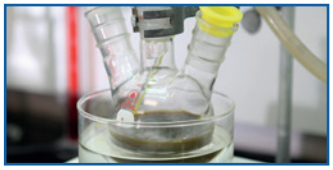
Removal of:
- Metals
- Electrophiles & Nucleophiles
- Potential Genotoxic Impurities (*PGI*)
- Other organic residues

CATALYSIS & SYNTHESIS



- Couplings (*Suzuki, Stille, Heck, ...*)
- Debenzylations & Hydrogenations
- Oxidations
- And Many More Reactions

ACIDS, BASES & REAGENTS



- Acido-basic Reactions
- Amide Couplings
- Reductive Aminations
- Other Reactions

SAMPLE PREPARATION

- SPE & Well Plates
- Micro-SPE Tips
- QuEChERS & FaPEx NEW
- SPE Hardware & Manifold

HIGH PRESSURE CHROMATOGRAPHY

- Bulk Sorbents
- HPLC Columns
- SFC Columns
- Guard Cartridges & Accessories

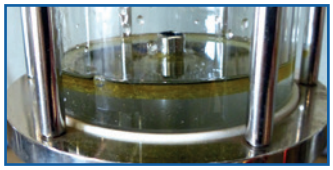
EQUIPMENTS

- Personal Parallel Synthesizer: MiniBlock® & MiniBlock® XT
- Vacuum Manifold

LOW PRESSURE CHROMATOGRAPHY

- Bulk Silica Gels (*Irregular & Spherical*)
- Bonded Phases
- TLC Plates
- Pre-packed Flash Cartridges

EXTRACTION & PURIFICATION NEW



- Extraction & Purification Services
- Essential Oils & Hydrosols
- Purified Natural Extracts
- Extra-Pure Omega-3

R&D SERVICES

- Scavenging Screening
- Method Development & Optimization
- Impurities Identification
- Custom Column Packing

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