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Explore United Chemical Technologies wide variety of solid phase extraction products for
Analytical, Clinical Forensic Applications,
Pharmaceutical Applications and Environmental Applications

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CLEAN SCREEN®

Drugs of Abuse Columns

- DAU = Acidic, Basic & Neutral Drugs
- THC = Carboxy THC
- GHB = Gamma-Hydroxybutyrate
- CLEAN-THRU® Tips

See pages 14-17

CLEAN SCREEN® RSV

Reduced Solvent Volume Columns

- DAU = Acidic, Basic & Neutral Drugs
- THC + THCA
- Octadecyl C18
- CLEAN-THRU® Tips

See pages 18-20

XtrackT®

High-Flow Gravity Columns

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Solid Phase Extraction Columns

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- Covalent

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STYRE SCREEN™

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- Silica
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- Copolymeric
- Covalent
- Hydrophobic
- Hydrophilic

UCT Product Guide

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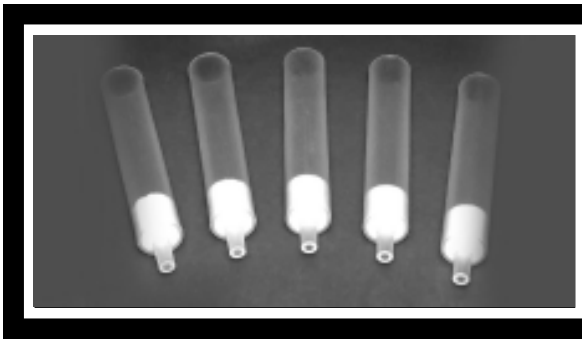
Biotage® Compatible Columns

ULTRA FLASH™ II
Flashmaster® Compatible Columns

RediSep™
ISCO Compatible Columns



PHARMA-SIL™

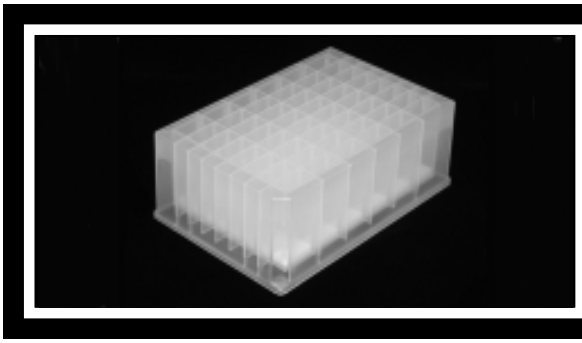
- Functionalized Phases
- Flangeless 4.5 mL columns
- Used in pharmaceutical applications

96 Deep Well Plate

- Up to a 2mL sample volume per well

- Compatible with Robotic and Liquid Handling technologies including:

• Advanced Chemtech	• Gilson	• Sagian	• Zinser
• Beckman	• Hamilton	• Tecan	• Zymark
• Bohdan	• Packard	• Tomtec	

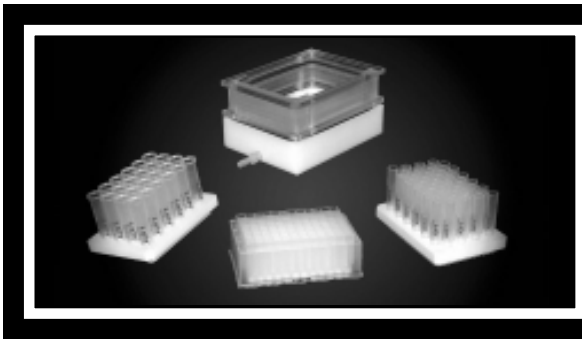


48 Deep Well Plate

- Up to a 5mL sample volume per well

- Compatible with Robotic and Liquid Handling technologies including:

• Advanced Chemtech	• Gilson	• Sagian	• Zinser
• Beckman	• Hamilton	• Tecan	• Zymark
• Bohdan	• Packard	• Tomtec	



Universal Vacuum Manifold

- 24 Well Plate with manifold system
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- The Total Solution-
  (All three plates with manifold system)

UCT Product Guide

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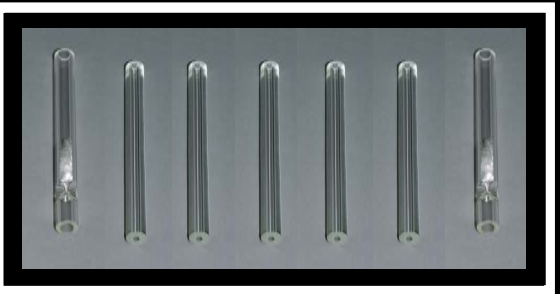
SELECTRA-SIL® Derivatizing Reagents

- Silylation Reagents
- Acylation Reagents
- Alkylation Reagents
- Specialized Reagents



GC LINERS

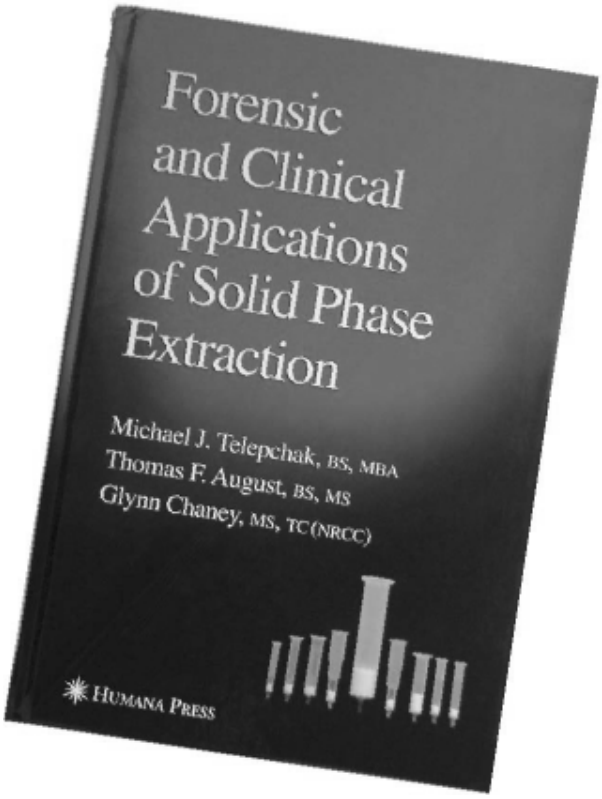
- 2mm or 4mm Straight Splitless
- 4mm Straight Splitless
- 4mm Straight Recessed Gooseneck
- 4mm Splitless Gooseneck
- 4mm Straight Splitless Open Top Unilner
- 3mm Straight Splitless

Reservoirs and Frits

- Polypropylene Reservoirs
- Glass Reservoirs
- Flangeless Reservoirs
- Polypropylene Frits
- Stainless Steel Frits
- Teflon Frits

First of its kind in the field of forensic and clinical toxicology!

The recently published **Forensic and Clinical Applications of Solid Phase Extraction** by Michael J. Telepchak, Thomas August and Glynn Chaney, has been met with enthusiasm by those in the SPE field, and has been recommended as a valuable laboratory reference. Dr. Terry Danielson, Ph.D., who reviewed the book for the American Society of Crime Laboratory Directors, calls attention to the "extensive details of many currently available SPE separation procedures," and describes the book as a convenient compendium of SPE technology, and is relevant to the development, implementation and practice of modern SPE appropriate to students, and experienced practitioners."

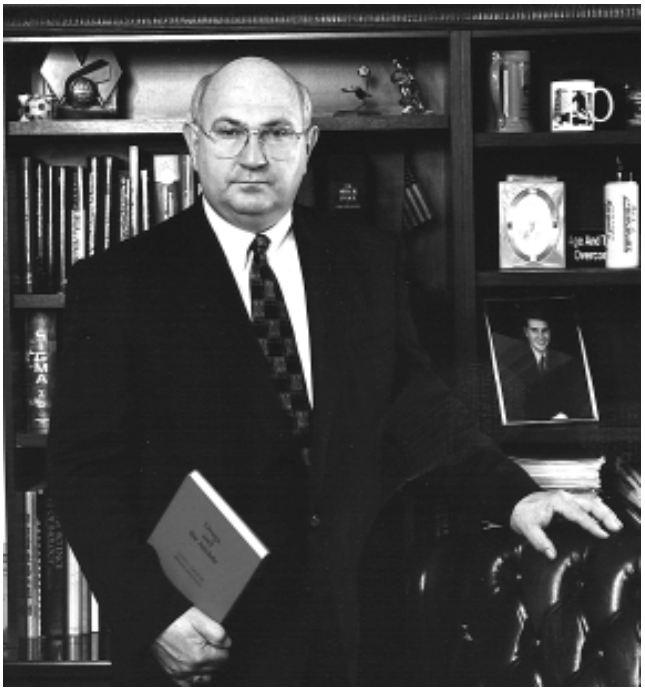


In the Canadian Society of Forensic Science Journal, Dr. Karen Woodall, Ph.D., of the Toronto Centre of Forensic Sciences, calls the book "a 'must read' for anyone interested in SPE, especially helpful in resolving the day-to-day problems that can occur when using [SPE] and gives some excellent examples of how to deal with some of these occurrences such as recovery variability, contamination, flow, and nonextraction problems." To read these reviews in their entirety, or to order a copy of the book, please visit our website, www.unitedchem.com.

UNITED CHEMICAL TECHNOLOGIES, INC.

Michael J. Telepchak

President and CEO
United Chemical Technologies, Inc.



From our modest beginnings in Horsham, PA in 1986, United Chemical Technologies, Inc. has evolved into a major competitor in the field of silica based solid phase extraction technology. With the acquisition of the specialty chemical branch of Huls America (formerly Petrarch®) in October 1993, UCT continues its rapid economic growth. UCT is internationally recognized as a major supplier of specialty chemicals including silicones and silanes. Our expertise in silane manufacturing allows greater control of the chemical processes involved in producing our high quality bonded phases.

UCT manufactures a wide range of highly reproducible columns which allow the chromatographer a consistent extraction technique. Already respected in the drug testing industry for dependable service, competitive pricing, innovative technology and reproducible products, we are increasing our services to the pharmaceutical, environmental, biotechnology and agricultural industries.

United Chemical Technologies, Inc. is pleased to bring you this comprehensive catalog containing our complete product line of bonded silica sorbents, including information regarding product properties, chemical configurations and technical applications. In 1996, we began introducing new lines related to our bonded silica products including silica in borosilicate glass membranes, 96 well plates, a complete line of low solvent usage SPE columns and bulk sorbents for preparative chromatography. These products are available under the trademark WORLDWIDE MONITORING®.

On the chemical side, we have introduced silylating reagents and other chemicals related to derivatizing agents.

The information presented here is made possible by the efforts of many people within the company who continue to provide our valued customers with the highest quality products and services available on the market today.

We appreciate your support over the years and look forward to your business. It is our promise to completely satisfy you by providing the best products, technical support and service which companies both demand and deserve in today's marketplace.

United Chemical Technologies, Inc.

Corporate Headquarters
Bristol, Pennsylvania

- Chemical Manufacturing
- QC Laboratories
- R & D Laboratories

In 1986, our synthetic polymer group introduced two new concepts into bonded phase extraction technology - copolymeric phases and reproducibility.

For years, extraction chemists have been excited by the power and diverse applicability of bonded phase extraction, only to be disappointed by the lot to lot variability of products they received. Our polymerization methods have made this problem a thing of the past.

In constant pursuit of a better product, we acquired our raw materials supplier in 1993. This added greater depth to our knowledge of the manufacturing process for SPE silicas. We are now vertically integrated to better serve the chromatography market.

We did not stop, however. We have now introduced our chemistries into a variety of products including bonded silica membranes, 48/96 well plates, GC liners, derivatizing agents, flash chromatography columns and pre-packed polymeric columns.

A significant effort has been put into learning and developing the polymeric silicon chemistries related to silica gel and its surface modified polymers. Our company's product line has grown to include over 35 different bonded phases used regularly by extraction chemists as well as a variety of other chromatographic products.

We feel that once you choose our products and support, you will understand why we are so well respected by our customers. We feel the results will speak for themselves and that we can work together to fulfill your needs. We offer a solution to your extraction problems. After all, isn't that what you're looking for in solid phase extraction technology?

Manufacturing Facilities
Lewistown, Pennsylvania

- SPE Assembly
- Sorbent Manufacturing
- QC Laboratories

Customer Service

Customer Support:

Our sales staff will service all orders from 8:00 am to 5:00 pm EST, Monday through Friday. After hours, voice mail / fax will be available for messages and orders. We will gladly return your calls as soon as possible on the next business day.

Minimum Orders:

We welcome all orders; therefore, we do not have a minimum order requirement.

Delivery:

Normal processing is within 24 hours after receipt of an order. Unless special shipping requests have been made, our trained staff will send all orders UPS ground or Fed Ex ground. The appropriate shipping charges (freight, insurance costs) will be added to the invoice unless otherwise instructed by the customer.

Special Pricing:

We offer special pricing for volume purchases and standing orders. These discounts apply to solid phase extraction column purchases only. Please call a sales representative for more information on special pricing qualifications.

Placing an Order:

Telephone Orders: 717-247-0896 or 800-541-0559

Fax Orders: 717-247-0109

E-mail Orders: customerservice@unitedchem.com

Mail Orders: United Chemical Technologies, Inc.
MCIDC Plaza Bldg 10,
6395 State Route 103 N.
Lewistown, PA 17044

Technical Support:

Telephone: 215-781-9255 or 800-385-3153

Fax: 215-785-1226

E-mail : info@unitedchem.com

Mail: United Chemical Technologies, Inc.
2731 Bartram Road, Bristol, PA 19007

When ordering, please include your purchase order number, complete “Ship To” and “Bill To” addresses, catalog number, quantity and description of product(s). Also, include your name, phone number, or e-mail address where we can contact you if we have any questions concerning your order.

Return Policy:

Our sales staff will handle all returns. Before returning merchandise, please call to obtain a return authorization number from a sales representative. We will need to know the reason for the return, date of purchase, purchase order number and invoice number in order to issue a return authorization number.

Warranty:

All products manufactured by United Chemcial Technologies, Inc. are guaranteed against defects in materials and workmanship for a period of 90 days from shipment. United Chemical Technologies, Inc. will replace any items that prove to be defective during this time period. The exclusive remedy requires the end user to first advise United Chemical Technologies, Inc. of the defective product by phone or in writing. Secondly, the defective product must be returned within 30 days after proper approval from our customer service department. All returns must indicate the purchase order number, the lot number and the shipping date. United Chemcial Technologies, Inc. total liability is limited to the replacement cost of UCT products. This warranty does not apply to damage resulting from misuse or damage caused during shipping.

United Chemical Technologies Functionalized Silica-Based Phases

Reverse Phase (Hydrophobic)

SORBENT	SORBENT CODE	STRUCTURE
C2 ethyl	C02	$-SiCH_2CH_3$
C3 propyl	C03	$-Si-(CH_2)_2CH_3$
C4 n-butyl	Cn4	$-Si-(CH_2)_3CH_3$
Ci4 isobutyl	Ci4	$-Si-CH_2CH(CH_3)_2$
Ct4 tertiary butyl	Ct4	$-Si-C(CH_3)_3$
C5 pentyl	C05	$-Si-(CH_2)_4CH_3$
C6 hexyl	C06	$-Si-(CH_2)_5CH_3$
C7 heptyl	C07	$-Si-(CH_2)_6CH_3$
C8 octyl	C08	$-Si-(CH_2)_7CH_3$
C10 decyl	C10	$-Si-(CH_2)_9CH_3$
C12 dodecyl	C12	$-Si-(CH_2)_{11}CH_3$
C18 octadecyl	C18	$-Si-(CH_2)_{17}CH_3$
C20 eicosyl	C20	$-Si-(CH_2)_{19}CH_3$
C30 tricontyl	C30	$-Si-(CH_2)_{29}CH_3$
Cyclohexyl	CYH1	-Si–⬡
Phenyl	PHY1	-Si–⬢

Normal Phase (Hydrophilic)

Silica	SIL1	-SiOH
Diol	DOL1	$-Si-(CH_2)_3OCH_2CHOHCH_2OH$
Cyanopropyl	CNP1	$-Si-(CH_2)_3CN$
Florisil®	FLS	
Alumina, Acidic	ALA	
Alumina, Neutral	ALN	
Alumina, Basic	ALB	
Carbon	CARB	

Ion Exchange

Anion			pka
Aminopropyl (1° amine)	NAX1	$-Si-(CH_2)_3NH_2$	9.8
N-2 Aminoethyl (1° & 2° amine)	PSA1	$-Si-(CH_2)_3NH(CH_2)_2NH_2$	10.1, 10.9
Diethylamino (3° amine)	DAX1	$-Si-(CH_2)_3N(CH_2CH_3)_2$	10.6
Quaternary Amine Chloride	QAX1	$-Si-(CH_2)_3N^+(CH_3)_3$ Cl^-	always charged
Quaternary Amine Hydroxide	CHQAX1	$-Si-(CH_2)_3N^+(CH_3)_3$ $CH_3CO_2^-$	always charged
Quaternary Amine Acetate	CAQAX1	$-Si-(CH_2)_3N^+(CH_3)_3$ OH^-	always charged
Quaternary Amine Formate	CFQAX1	$-Si-(CH_2)_3N^+(CH_3)_3$ CHO_2^-	always charged
Polyimine	PAX	$-Si-(CH_2)_3$-R-$[NHCH_2CH_2]_X$	

Cation			
Carboxylic Acid	CCX1	$-Si-CH_2COOH$	4.8
Propylsulfonic Acid	PCX1	$-Si-(CH_2)_3SO_3H$	<1
Benzenesulfonic Acid	BCX1	$-Si-(CH_2)_2$–⬡–SO_3H	always charged
Benzenesulfonic Acid High Load	BCXHL1	$-Si-(CH_2)_2$–⬡–SO_3H	always charged
Triacetic Acid	TAX	$-Si-(CH_2)_3NH-(CH_2)_2N(CH_2COOH)_2$ with CH_2COOH	

Copolymeric (Multifunctional Phases)

Aminopropyl + C8	NAX2	$-Si-(CH_2)_3NH_2$ & $-Si-(CH_2)_7CH_3$
Quaternary Amine + C8	QAX2	$-Si-(CH_2)_3N^+(CH_3)_3$ & $-Si-(CH_2)_7CH_3$
Carboxylic Acid + C8	CCX2	$-Si-CH_2COOH$ & $-Si-(CH_2)_7CH_3$
Propylsulfonic Acid + C8	PCX2	$-Si-(CH_2)_3SO_3H$ & $-Si-(CH_2)_7CH_3$
Benzenesulfonic Acid + C8	BCX2	$-Si-(CH_2)_2$–⬡–SO_3H & $-Si-(CH_2)_7CH_3$
Cyanopropyl + C8	CNP2	$-Si-(CH_2)_3CN$ & $-Si-(CH_2)_7CH_3$
Cyclohexyl + C8	CYH2	-Si–⬡ & $-Si-(CH_2)_7CH_3$

Covalent Phases

Epoxy	EPX	$-Si-(CH_2)_3 - O - CH_2 - CH - CH_2$ (O)
Aldehydic	ALD	$-Si-(CH_2)_4CHO$
Isocyanate	ICN	$-Si-(CH_2)_3NCO$
Thiopropyl	THX	$-Si-(CH_2)_3SH$

United Chemical Technologies Functionalized Silica-Based Phases

Reverse Phase (Hydrophobic)

SORBENT	% ORGANIC	EXCHANGE (meq/g)
C2 ethyl	6.60	
C3 propyl	7.60	
C4 n-butyl	8.50	
Ci4 isobutyl	8.80	
Ct4 tertiary butyl	8.50	
C5 pentyl	9.50	
C6 hexyl	11.00	
C7 heptyl	not tested	
C8 octyl	11.10	
C10 decyl	15.70	
C12 dodecyl	not tested	
C18 octadecyl	21.70	
C20 eicosyl	24.30	
C30 tricontyl	26.00	
Cyclohexyl	11.60	
Phenyl	11.00	

Normal Phase (Hydrophilic)

Silica	N/A	N/A
Diol	8.00	N/A
Cyanopropyl	6.90	N/A
Florisil®	N/A	N/A
Alumina, Acidic	N/A	N/A
Alumina, Neutral	N/A	N/A
Alumina, Basic	N/A	N/A
Carbon	N/A	N/A

Ion Exchange

Anion

Aminopropyl (1° amine)	6.65	0.310
N-2 Aminoethyl (1° & 2° amine)	9.70	0.320
Diethylamino (3° amine)	8.40	0.280
Quaternary Amine Chloride	8.40	0.250
Quaternary Amine Hydroxide	8.40	0.250
Quaternary Amine Acetate	8.40	0.250
Quaternary Amine Formate	8.40	0.250
Polyimine	13.5	0.250

Cation

Carboxylic Acid	9.10	0.170
Propylsulfonic Acid	7.10	0.180
Benzenesulfonic Acid	11.00	0.320
Benzenesulfonic Acid High Load	15.00	0.650
Triacetic Acid	7.61	Anion 0.17 / Cation .06

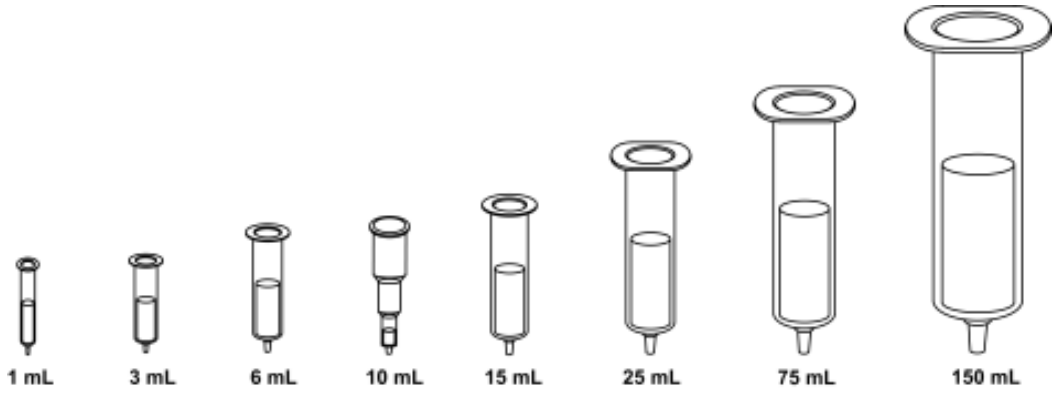
Copolymeric (Multifunctional Phases)

Aminopropyl + C8	12.3	0.163
Quaternary Amine + C8	13.60	0.160
Carboxylic Acid + C8	12.50	0.105
Propylsulfonic Acid + C8	14.62	0.114
Benzenesulfonic Acid + C8	12.30	0.072
Cyanopropyl + C8	14.60	0.163
Cyclohexyl + C8	N/A	N/A

Covalent Phases

Epoxy	N/A	N/A
Aldehydic	N/A	N/A
Isocyanate	7.1	N/A
Thiopropyl	6.50	N/A

Reservoirs for Bonded Phase Extractions



Chemistries are offered on these particles sizes...

Small Particle (5-20 µm)
Intermediate Particle (25-40 µm)
Standard Particle (40-60 µm)*
Large Particle (125-210 µm)

and are available in the following formats

Stated Volume (mL)	Tube Configuration	Bed Diameter (mm)	Sorbent Mass (mg)
1	Cylindrical	5.5	50-200
3	Cylindrical	8.5	50-1000
6	Cylindrical	12.5	200-2000
10	Expanded	8.5	50-1000
15	Cylindrical	15.5	500-2000
25	Cylindrical	20	500-5000
75	Cylindrical	27.5	1000-10000
150	Cylindrical	38.0	10000-70000

*All phases are manufactured with 40-60 µm silica unless otherwise indicated.

Use of bonded phases for sample preparation

Conditioning, Solvation (Wetting)

Columns are shipped dry, but those with hydrophobic character need to be solvated in order to interact efficiently and reproducibly with aqueous matrices. Sample capacity is severely reduced on a dry column.

At low vacuum (- 3 in. Hg) add 1.5 ml of methanol or acetonitrile per 100 mg of sorbent to the sample preparation column. Release the vacuum or begin flushing immediately upon completion. The more air which passes through the column before sample loading, the less solvated the sorbent will be.

Apply deionized or distilled water to remove excess solvent which will interfere with hydrophobic binding. Use 1 ml H_2O per 100 mg sorbent. Momentary high vacuum (5 to 8 in. Hg) may be necessary to restart flow. At 2.5 in. Hg the column will resist air displacement (vacuum may be left on without drying the sorbent). If the sorbent is accidentally dried, resolvate and reflush.

When using ion exchange columns, apply 1ml of buffer to the column after flushing to ensure that the sorbent pH is optimal for the sorbent analyte interaction desired. Where ion exchange interactions are involved, follow guidelines concerning pKa, pH and ionic binding. Use the same vacuum guidelines as described for flushing.

Sample Preparation and Application

Retention mechanisms may be hydrophobic, polar, or ionic. Add internal standard to the sample if quantitation is desired. Optimize sample application by removing particulates if necessary (centrifugation or filtering) and/or diluting viscous matrices with water or buffer to ensure proper pH for desired interactions. The analyte and sorbent should be uncharged for optimum hydrophobic retention. On ion exchange sorbents, analytes must be oppositely charged to the sorbent [anions (-) on anion exchange sorbents (+); cations (+) on cation exchange sorbents (-)]. During sample application, the analyte binds by displacing a counterion on the sorbent.

Apply sample at a rate of 1ml/min. Again, a momentary increase in vacuum may be needed to initiate sample flow.

Washing the Sorbent and Eluting

Ideal washing removes as many interferences as possible while retaining the analyte(s). Ideal elution recovers 100% of the analyte while leaving behind interferences. Make certain your column is dry when changing between aqueous solutions and organic solvents.

Hydrophobic and Polar Analytes

The best approach towards using these types of sorbents is to search for a solvent mixture which will wash the most interferences from the sorbent without loss of analyte. Note that wash pH may greatly affect cleanup and/or recovery. Keep analyte and sorbent pKa in mind if applicable. Elute with the strongest organic solvent, or by raising the percentage of organic, possibly in combination with a pH change to disrupt binding.

Ion Exchange

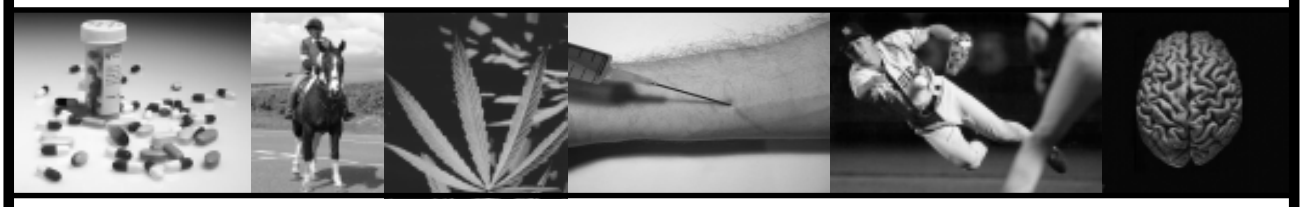
Ionic bonds are strong enough to allow the analyte to remain bound while interferences are washed away with high percentages (up to 100%) of polar or nonpolar organic solvents. The pH will also affect sample cleanup. Adjust the solution 2 pH units from the pKa of the analyte or sorbent. This will fully ionize or neutralize the target functional group. Elute with aqueous buffers containing a stronger counterion than your analyte (classic ion exchange) or by changing pH to disrupt the ionic attraction. Make sure the elution solvent has enough organic character to overcome any adsorption to the packing material.

Copolymeric Exchange

For ionically bound analytes, use washes of high organic strength to remove interferences retained by hydrophobic (solvent strength dependent) interactions. If your analyte is also capable of hydrophobic binding, remove polar interferences ionically similar to your analyte by using aqueous or weak aqueous/organic washes while disrupting ionic (pH and ionic strength dependent) binding. Elute by simultaneously disrupting ionic and hydrophobic interactions.

CLEAN SCREEN®

Copolymeric Bonded Phases for Drug Abuse Testing



Analytical demand for more efficient, robust and clean extraction of drugs from biological matrices led to the development of WORLDWIDE MONITORING® CLEAN SCREEN® sorbents. Since 1986, CLEAN SCREEN® has led the industry with dependable and reproducible solid phase extraction products and applications. CLEAN SCREEN® phases are true copolymeric sorbents that contain hydrophobic and ion exchange functional groups uniquely polymerized to a silica substrate. The design and quality of CLEAN SCREEN® provides superior sample clean up, recovery and reproducibility.

Mixed mode separations allow maximum selectivity for extraction of acids, neutrals and bases. This selectivity makes CLEAN SCREEN® ideal for both screening and confirmation analysis for virtually all drug categories. CLEAN SCREEN® DAU and THC columns are used extensively by forensic and clinical chemists including:

- Post mortem Investigations
- Criminal Investigations
- Urine Drug Testing
- Athletic Drug Testing
- Racing Laboratories
- Therapeutic Drug Monitoring
- Medical Drug Screening

Note:
If performing extractions out of viscous matrices such as tissue or horse urine, turn to our XtrackT® section where high-flow/gravity flow columns are found. The DAU CLEAN SCREEN® sorbent is available in this larger particle size.

Mechanism of CLEAN SCREEN®

When a sample is loaded onto the column at pH 6, many carboxylic acid functionalities present in the sample are ionized. This creates a repulsion between the column and many sample borne interferences, thereby reducing the likelihood of their adsorbing onto the column. At this pH, ibuprofen & barbiturates are not ionized and are hydrophobically adsorbed onto the column (figure 1). At the same time, drugs with amine functionalities such as cocaine and phencyclidine adsorb onto the column via both hydrophobic and ionic attraction (figure 1).

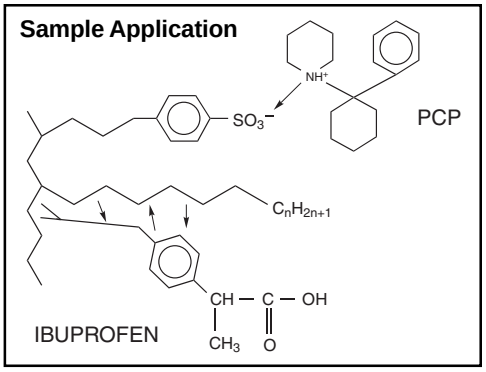


figure 1

The column can then be washed with water or weak aqueous buffers at or below pH 6 without risking loss of the analytes. After drying the column, it is possible to elute the hydrophobically bound analytes using solvents of minimal polarity such as methylene chloride or a hexane/ethyl acetate mixture (figure 2). Cationic analytes will remain bound to the column. Many compounds of intermediate polarity and potential interferences will also remain on the column. The majority of these potential interferences can be removed by using a methanol wash.

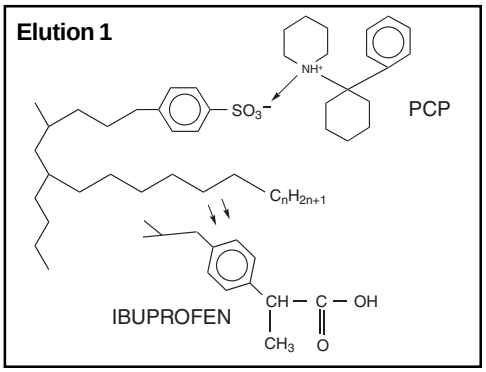


figure 2

Cationic analytes bound to the column can be eluted after another drying step. The drying steps are necessary to remove water which would have prevented the water-immiscible elution solvents from optimally interacting with the analytes (Figure 3).

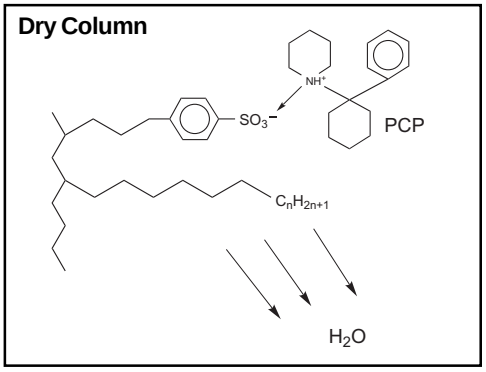


figure 3

To elute the cationic analytes, an organic solution with a high pH (between 11 & 12) should be used. A methylene chloride-isopropanol-ammonium hydroxide mixture will simultaneously disrupt these ionic interactions and successfully elute the desired compound (Figure 4).

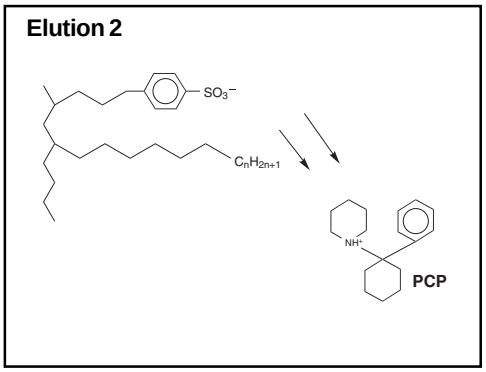
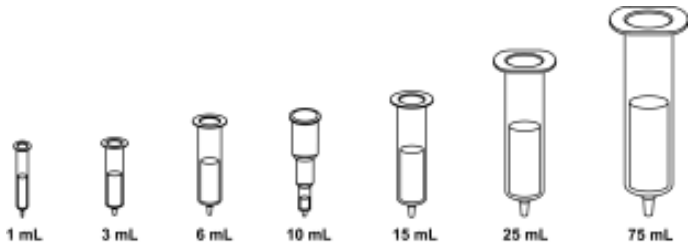


figure 4

CLEAN SCREEN®
Copolymeric Bonded Phases for Drug Abuse Testing



Chemistries are offered on these particle sizes.

Small Particle (5-20 µm)
Intermediate Particle (25-40 µm)
Standard Particle (40-60 µm)
Large Particle (125-210 µm)

DAU

Part Number without Clean-Thru® Tips	Part Number with Clean-Thru® Tips	Sorbent Amount/ Tube Volume	Unit per Pack
CSDAU131	CCDAU131	130mg/1mL	100
CSDAU133	CCDAU133	130mg/3mL	50
CSDAU203	CCDAU203	200mg/3mL	50
CSDAU303	CCDAU303	300mg/3mL	50
CSDAU503	CCDAU503	500mg/3mL	50
CSDAU206	CCDAU206	200mg/6mL	50
CSDAU506	CCDAU506	500mg/6mL	50
CSDAU1M6	CCDAU1M6	1g/6mL	30
ZSDAU005	ZCDAU005	50mg/10mL	50
ZSDAU013	ZCDAU013	130mg/10mL	50
ZSDAU020	ZCDAU020	200mg/10mL	50
CSDAU515	CCDAU515	500mg/15mL	50

% Organic Loading: 12.30 **Exchange Capacity (meq/g):** 0.072

CLEAN SCREEN® DAU column is copolymerized on a rigid, purified silica gel support. The two functional groups include a reverse phase, and an ion exchanger, benzenesulfonic acid. This column is commonly used for analyzing a wide range of drugs of abuse, including acidic, basic & neutral drugs.

Application: Dual functionality for weak bases and hydrophobic compounds.

THC

Part Number without Clean-Thru® Tips	Part Number with Clean-Thru® Tips	Sorbent Amount/ Tube Volume	Unit per Pack
CSTHC131	CCTHC131	130mg/1mL	100
CSTHC203	CCTHC203	200mg/3mL	50
CSTHC303	CCTHC303	300mg/3mL	50
CSTHC503	CCTHC503	500mg/3mL	50
CSTHC206	CCTHC206	200mg/6mL	50
CSTHC506	CCTHC506	500mg/6mL	50
CSTHC1M6	CCTHC1M6	1g/6mL	30
ZSTHC013	ZCTHC013	130mg/10mL	50
ZSTHC020	ZCTHC020	200mg/10mL	50
CSTHC515	CCTHC515	500mg/15mL	50

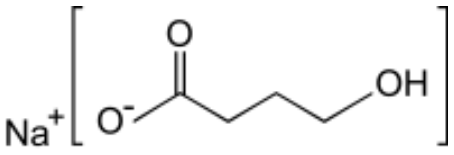
% Organic Loading: 12.3 **Exchange Capacity (meq/g):** 0.163

CLEAN SCREEN® THC column is copolymerized on a rigid, purified silica gel support. The two functional groups include a reverse phase, and an ion exchanger, quaternary amine. This column is commonly used for analyzing THC and its metabolites.

Application: Dual functionality for strong acids and hydrophobic compounds.

GHB

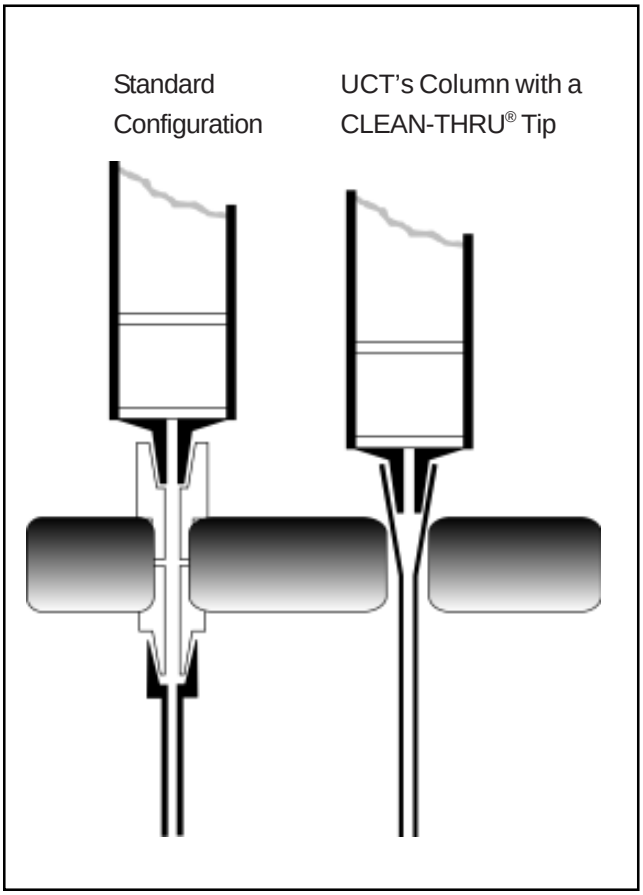
Part Number	Sorbent Amount/ Tube Volume	Unit per Pack
CSGHB203	200mg/3mL	50
ZSGHB020	200mg/10mL	50
ZCGHB020	200mg/10mL	50



The small polar nature of the molecule and the lack of a UV chromatophore complicate the chromatographic and spectrophotometric analysis of GHB. Chemically, GHB is unstable and readily forms Gamma-butyrolactone when heated in acid conditions. Most analytical methods are based upon the interconversion to the lactone and chemical derivatization to form the TMS derivative.

CLEAN-THRU® Tips

CLEAN-THRU® tips provides the first solid phase extraction cartridge system that eliminates sample carry over from the vacuum manifold lid. The technology was pioneered by our research scientists & consists of one of our SPE columns with a disposable tip that attaches to the end of each column. Columns available in the CLEAN-THRU® configuration are found in the CLEAN SCREEN® sections. This system was designed in order to meet the strict requirements that the Substance Abuse and Mental Health Services Administration certification has placed on laboratories to address the problem of cross contamination between samples. CLEAN-THRU® tips provide a completely disposable system that eliminates any contact between the sample, wash solvents and the extraction apparatus. The continuous passage of the sample through the system provides a direct, accurate route to waste or collection vessels. As each extraction is completed, the column and tip are discarded as a unit. CLEAN-THRU® eliminates your concerns about sample residue remaining in the extraction system.

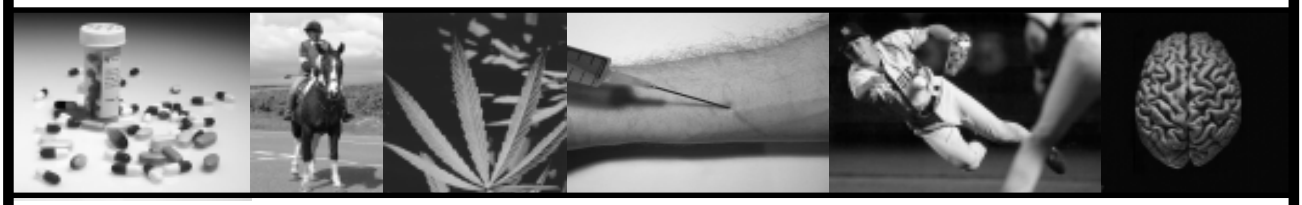


CLEAN-THRU® tips

Part Number	Description	Unit per bag
CLTTP050	TIP	50

CLEAN SCREEN® - RSV

Reduced Solvent Volume Extraction Columns



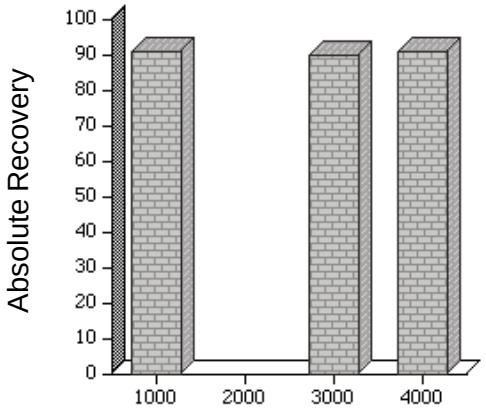
Reduced Solvent Volume extraction columns are micro bed packed columns which offer the advantages of disc technology yet maintain the proven track record of our conventional SPE columns. Reduced Solvent Volume columns use 75% less solvent than traditional packed columns. Less solvent means faster extractions, higher throughput and less waste disposal which translates into significant savings in both time and money. Results demonstrate that therapeutic and abused drugs in urine and blood matrices can be extracted with cleanliness, high recoveries and consistent reproducibility by using the Reduced Solvent Volume extraction column.

RSV columns are available in 1 mL, 3 mL and 10 mL configurations. These columns can be used with vacuum manifolds or positive pressure, as well as conventional automated extraction equipment.

Advantages of CLEAN SCREEN® RSV:

- **75% Reduction in total liquid volumes**
  - Lower cost per extraction
  - Faster extraction times
  - Less disposal cost
  - Increased automated throughput
- **50% Reduction in eluate volume**
  - Faster dry down times
  - Reduced exposure to organic solvents
- **Superior flow characteristics**
  - Less flow restriction from matrix proteins or particulates
  - More reliable for automated processing
- **High capacity**
  - Greater linear range

Capacity

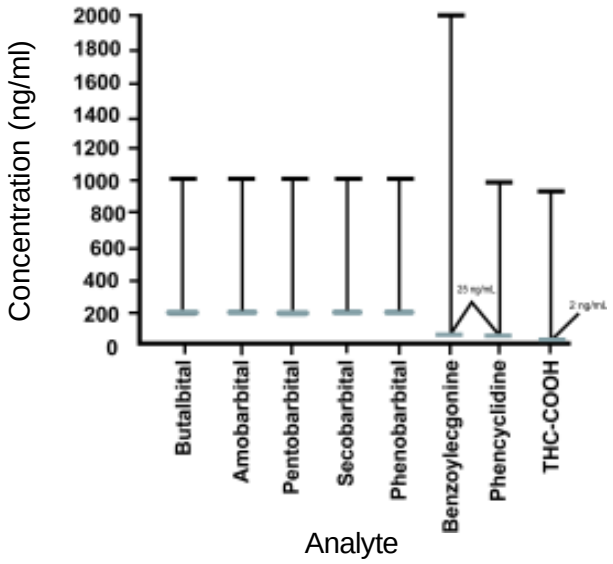


THC-COOH Standards (ng/mL)
in spiked urine

91% (n=4) for 1000 ng/ml
90% (n=2) for 3000 ng/ml
91% (n=4) for 4000 ng/ml

No analyte breakthrough at 1000 ng/ml and less than 0.2% analyte breakthrough at 3000 and 4000 ng/ml levels.

Recovery



Linear Ranges Exhibiting
Greater than
85% Recoveries in Urine

Highest Concentration Tested
Lowest Concentration Tested

Solvent Reduction

Analyte	Solvent Usage Reduced Solvent Volume SPE columns	Solvent Usage Traditional Packed columns	% Solvent Reduction
Barbiturates	4.25 mL	18 mL	76%
Benzoylecgonine	4.65 mL	19 mL	76%
THC-COOH	4.85 mL	16.4 mL	73%
Phencyclidine	5.15 mL	19 mL	70%

CLEAN SCREEN® - RSV
Reduced Solvent Volume Extraction Columns

Chemistries are offered on these particle sizes.

Small Particle (5-20 µm)
Intermediate Particle (25-40 µm)
Standard Particle (40-60 µm)
Large Particle (125-210 µm)

Copolymeric Extraction for all Drug Classes

Part Number With Clean-Thru® Tips	Part Number Without Clean-Thru® Tips	Sorbent Amount/ Tube Volume	Unit per Pack
CSDAUA51	CCDAUA51	50mg/1mL	100
CSDAUA83	CCDAUA83	80mg/3mL	50
ZSDAUA08	ZCDAUA08	80mg/10mL	50

CLEAN SCREEN® DAU
column is copolymerized on a rigid, purified silica gel support. The two functional groups include a reverse phase, and an ion exchanger, benzenesulfonic acid. This column is commonly used for analyzing a wide range of drugs of abuse, including acidic, basic and neutral drugs.

Specific for THC & THCA Extraction

Part Number With Clean-Thru® Tips	Part Number Without Clean-Thru® Tips	Sorbent Amount/ Tube Volume	Unit per Pack
CSTHCA51	CCTHCA51	50mg/1mL	100
CSTHCA83	CCTHCA83	80mg/3mL	50
ZSTHCA08	ZCTHCA08	80mg/10mL	50

CLEAN SCREEN® THC
column is copolymerized on a rigid, purified silica gel support. The two functional groups include a reverse phase, and an ion exchanger, quaternary amine. This column is commonly used for analyzing THC and its metabolites.

CLEAN-UP® - RSV
Reduced Solvent Volume Extraction Columns

C18, Octadecyl Tri-Functional

Part Number Endcapped	Part Number Unendcapped	Sorbent Amount/ Tube Volume	Unit per Pack
CEC18A051	CUC18A051	50mg/1mL	100
CEC18A083	CUC18A083	80mg/3mL	50
CEC18A08Z	CUC18A08Z	80mg/10mL	50

% Organic Loading: 21.70

Application:
Removes hydrophobic impurities, de-salting and purification of hydrophobic compounds.

XtrackT®

High-Flow Bonded Phases

Viscous sample matrices are frequently resistant to flow through standard solid phase columns. Increased particle size enhances flow characteristics allowing ease of sample application and analysis. XtrackT® columns are designed to give uniform flow for even the most viscous samples including equine urine, post mortem blood and tissues, meconium, amniotic fluid, milk, etc.

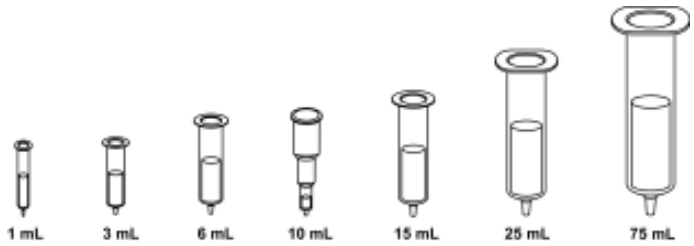
XtrackT® also functions as a gravity flow column for most blood and urine samples. A single column provides extraction for a broad spectrum of compounds with selective elution of acid neutrals, steroids and bases. XtrackT® yields very clean extractions and excellent recoveries without need for additional liquid clean up steps. XtrackT® is available in hydrophobic, hydrophilic, ion exchange, as well as copolymeric phases, including the CLEAN SCREEN® DAU sorbent. XtrackT® is recommended for any chemist challenged by viscous sample matrices, or those desiring gravity flow capacity.

Upon request, we can also provide any of our CLEAN-UP® sorbents in this large particle size.

Advantages of XtrackT® :

- resists plugging
- improved flow of all sample types
- gravity flow of most samples
- broad spectrum extractions
- very clean extractions
- high recoveries
- reproducible

XtrackT®
High-Flow Bonded Phases



Chemistries are offered on these particle sizes.

Large Particle

Large Particle (125-210 µm)

Gravity-Flow CLEAN SCREEN® DAU columns

Part Number With Clean-Thru® Tips	Part Number Without Clean-Thru® Tips	Sorbent Amount/ Tube Volume	Unit per Pack
XRDAH203	XCDAH203	200mg/3mL	50
XRDAH303	XCDAH303	300mg/3mL	50
XRDAH503	XCDAH503	500mg/3mL	50
XRDAH206	XCDAH206	200g/6mL	50
XRDAH506	XCDAH506	500g/6mL	50
XRDAH013	XCDAH013	130mg/10mL	50
XRDAH20Z	XCDAH20Z	200mg/10mL	50
XRDAH50Z	XCDAH50Z	500mg/10mL	50
XRDAH515	XCDAH515	500mg/15mL	50
XRDAHM06	XCDAHM06	1g/6mL	30
XRDAHM15	XCDAHM15	1g/15mL	30

CLEAN SCREEN® DAU column is copolymerized on a rigid, purified silica gel support. The two functional groups include a reverse phase, and an ion exchanger, benzenesulfonic acid. This column is commonly used for analyzing a wide range of drugs of abuse, including acidic, basic & neutral drugs.

High-Flow CLEAN-UP® Carboxylic Acid cation exchange columns

Part Number With Clean-Thru® Tips	Part Number Without Clean-Thru® Tips	Sorbent Amount/ Tube Volume	Unit per Pack
XRCCH203	XCCCH203	200mg/3mL	50
XRCCH303	XCCCH303	300mg/3mL	50
XRCCH503	XCCCH503	500mg/3mL	50
XRCCH206	XCCCH206	200g/6mL	50
XRCCH506	XCCCH506	500g/6mL	50
XRCCH20Z	XCCCH20Z	200mg/10mL	50
XRCCH50Z	XCCCH50Z	500mg/10mL	50
XRCCH515	XCCCH515	500mg/15mL	50
XRCCHM06	XCCCHM06	1g/6mL	30
XRCCHM15	XCCCHM15	1g/15mL	30

% Organic Loading: 9.10

Application:
Scavenger for strong amines with quats.

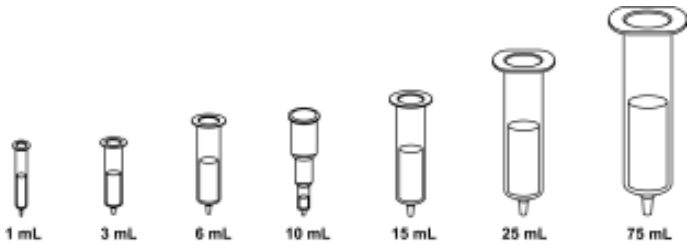
High-Flow CLEAN-UP® Aminoethyl Anion exchange columns

Part Number With Clean-Thru® Tips	Part Number Without Clean-Thru® Tips	Sorbent Amount/ Tube Volume	Unit per Pack
XRPSH203	XCPSH203	200mg/3mL	50
XRPSH303	XCPSH303	300mg/3mL	50
XRPSH503	XCPSH503	500mg/3mL	50
XRPSH206	XCPSH206	200g/6mL	50
XRPSH506	XCPSH506	500g/6mL	50
XRPSH20Z	XCPSH20Z	200mg/10mL	50
XRPSH50Z	XCPSH50Z	500mg/10mL	50
XRPSH515	XCPSH515	500mg/15mL	50
XRPSHM06	XCPSHM06	1g/6mL	30
XRPSHM15	XCPSHM15	1g/15mL	30

% Organic Loading: 9.70

Application:
Scavenger for acids, cyclic compounds, cholesterols, and other liquid type and compounds.

XtrackT®
High-Flow Bonded Phases



Chemistries are offered on these particle sizes.

Large Particle

Large Particle (125-210 µm)

High-Flow CLEAN-UP® Endcapped C18 Hydrophobic columns

Part Number With Clean-Thru® Tips	Part Number Without Clean-Thru® Tips	Sorbent Amount/ Tube Volume	Unit per Pack
XRODH203	XCODH203	200mg/3mL	50
XRODH303	XCODH303	300mg/3mL	50
XRODH503	XCODH503	500mg/3mL	50
XRODH206	XCODH206	200g/6mL	50
XRODH506	XCODH506	500g/6mL	50
XRODH20Z	XCODH20Z	200mg/10mL	50
XRODH50Z	XCODH50Z	500mg/10mL	50
XRODH515	XCODH515	500mg/15mL	50
XRODHM06	XCODHM06	1g/6mL	30
XRODHM15	XCODHM15	1g/15mL	30

% Organic Loading: 21.70

Application:
Removes hydrophobic impurities, de-salting and purification of hydrophobic compounds.

High-Flow BCX - Benzenesulfonic Acid

Part Number With Clean-Thru® Tips	Part Number Without Clean-Thru® Tips	Sorbent Amount/ Tube Volume	Unit per Pack
XRBCH203	XCBCH203	200mg/3mL	50
XRBCH303	XCBCH303	300mg/3mL	50
XRBCH503	XCBCH503	500mg/3mL	50
XRBCH206	XCBCH206	200g/6mL	50
XRBCH506	XCBCH506	500g/6mL	50
XRBCH20Z	XCBCH20Z	200mg/10mL	50
XRBCH50Z	XCBCH50Z	500mg/10mL	50
XRBCH515	XCBCH515	500mg/15mL	50
XRBCHM06	XCBCHM06	1g/6mL	30
XRBCHM15	XCBCHM15	1g/15mL	30

% Organic Loading: 11.00

Application:
Scavenger for amines, alcohols and other nucleophiles.

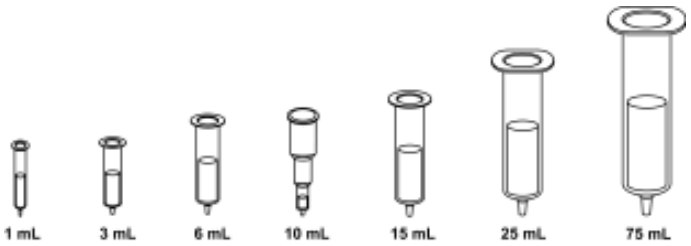
High-Flow QAX - Quaternary Amine

Part Number With Clean-Thru® Tips	Part Number Without Clean-Thru® Tips	Sorbent Amount/ Tube Volume	Unit per Pack
XRQAX203	XCQAX203	200mg/3mL	50
XRQAX303	XCQAX303	300mg/3mL	50
XRQAX503	XCQAX503	500mg/3mL	50
XRQAX206	XCQAX206	200g/6mL	50
XRQAX506	XCQAX506	500g/6mL	50
XRQAX20Z	XCQAX20Z	200mg/10mL	50
XRQAX50Z	XCQAX50Z	500mg/10mL	50
XRQAX515	XCQAX515	500mg/15mL	50
XRQAXM06	XCQAXM06	1g/6mL	30
XRQAXM15	XCQAXM15	1g/15mL	30

% Organic Loading: 6.60

Application:
Removes large or more hydrophobic compounds.

XtrackT®
High-Flow Bonded Phases



Chemistries are offered on these particle sizes.

Large Particle

Large Particle (125-210 µm)

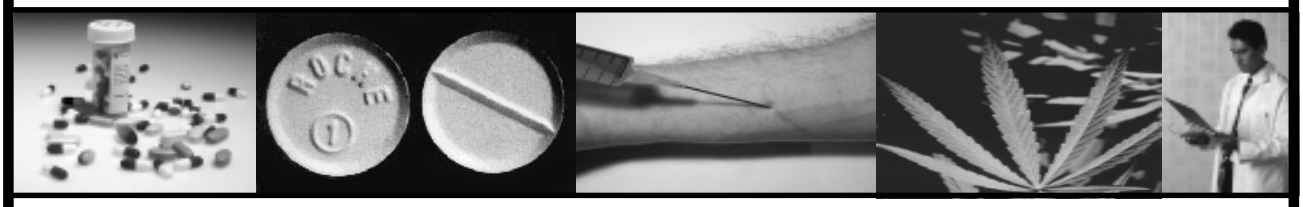
High-Flow CLEAN-UP® Propylsulfonic Acid cation exchange columns

Part Number With Clean-Thru® Tips	Part Number Without Clean-Thru® Tips	Sorbent Amount/ Tube Volume	Unit per Pack
XRPCH203	XCPCH203	200mg/3mL	50
XRPCH303	XCPCH303	300mg/3mL	50
XRPCH503	XCPCH503	500mg/3mL	50
XRPCH206	XCPCH206	200g/6mL	50
XRPCH506	XCPCH506	500g/6mL	50
XRPCH20Z	XCPCH20Z	200mg/10mL	50
XRPCH50Z	XCPCH50Z	500mg/10mL	50
XRPCH515	XCPCH515	500mg/15mL	50
XRPCHM06	XCPCHM06	1g/6mL	30
XRPCHM15	XCPCHM15	1g/15mL	30

% Organic Loading: 9.70

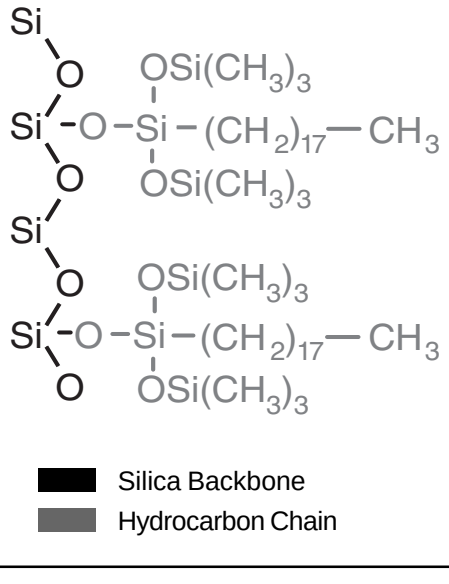
Application:
Scavenger for amines, alcohols and other nucleophiles.

CLEAN-UP®
Hydrophobic Extraction Columns



This sorbent is composed of a silica backbone bonded with hydrocarbon chains. It is used to extract compounds which exhibit non-polar or neutral characteristics out of complex matrices. The C18 phase is the most widely used for non-polar interactions because of its nonselective nature; C18 will extract a large number of compounds with differing chemical properties. To enchance selectivity, UCT offers a wide range of hydrophobic sorbents, from C2 to C20. Multiple chain configurations are available for some sorbents. Endcapped or unendcapped sorbents are available for all chain lengths.

Example of a Hydrophobic Phase



Analytes*	**Washes**	**Elutions**
alkanes	aqueous,	non-polar
alkenes	usually with	to
aromatics	some polar	polar organic
neutral compounds	organic solvent	

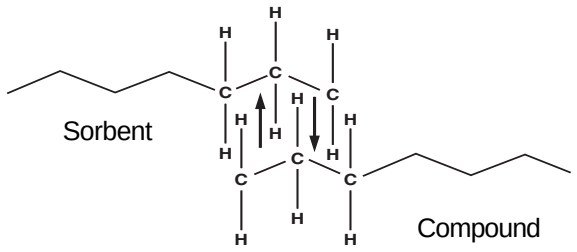
*typical compounds which can be extracted using hydrophobic columns

CLEAN-UP®
Hydrophobic Extraction Columns

Mechanism of Hydrophobic Bonding

Compounds are retained by non-polar interactions from polar solvents or matrix environments. They are bound by dispersion forces / van der Waals forces. Elution, or disruption of the non-polar interactions is achieved by solvents or solvent mixtures with sufficient non-polar character. Some polar solvents, such as acetonitrile have enough non-polar characteristics to disrupt non-polar binding to cause elution of a compound from the sorbent. Methanol can be used as well, although it should be noted that it will take off both polar & non-polar analytes of interest & interferences.

Example of Hydrophobic Bonding

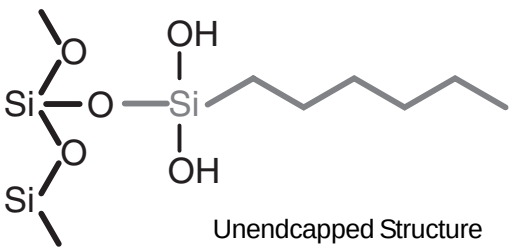


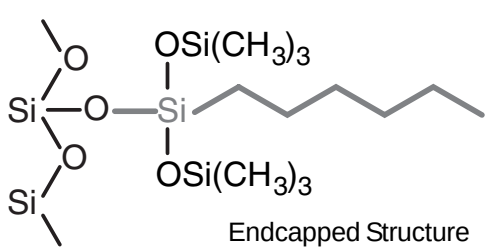
Hydrophobic Sorbents & Structures

Sorbent	Structure
C2 ethyl	$-SiCH_2CH_3$
C3 propyl	$-Si-(CH_2)_2CH_3$
C4 n-butyl	$-Si-(CH_2)_3CH_3$
Ci4 isobutyl	$-Si-CH_2CH(CH_3)_2$
Ct4 tertiary butyl	$-Si-C(CH_3)_3$
C5 pentyl	$-Si-(CH_2)_4CH_3$
C6 hexyl	$-Si-(CH_2)_5CH_3$
C7 heptyl	$-Si-(CH_2)_6CH_3$
C8 octyl	$-Si-(CH_2)_7CH_3$
C10 decyl	$-Si-(CH_2)_9CH_3$
C12 dodecyl	$-Si-(CH_2)_{11}CH_3$
C18 octadecyl	$-Si-(CH_2)_{17}CH_3$
C20 eicosyl	$-Si-(CH_2)_{19}CH_3$
C30 tricontyl	$-Si-(CH_2)_{29}CH_3$
Cyclohexyl	-Si-⬡
Phenyl	-Si-⬢

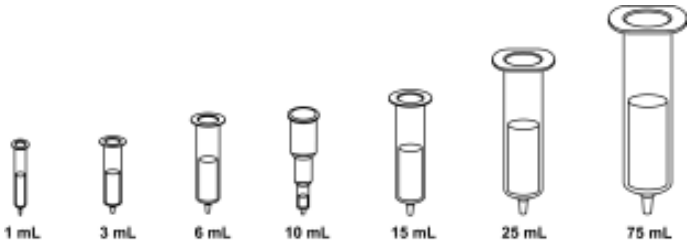
Unendcapped vs. Endcapped

Bonded phases are manufactured by the reaction of organosilanes with activated silica. During the polymerization reaction of carbon chains to the silica backbone, a very stable silyl ether linkage forms. Our unendcapped columns allow hydroxyl sites to remain, thus making these columns slightly hydrophilic. In order to decrease this slight polarity, these hydroxyl sites are deactivated. Proprietary bonding techniques ensure that these sites are 100% reacted, leading to a complete endcapping. Because there are no hydroxyl sites left, our endcapped columns are more hydrophobic than our unendcapped columns.





CLEAN-UP®
Hydrophobic Extraction Columns



Chemistries are offered on these particle sizes.

Small Particle (5-20 µm)
Intermediate Particle (25-40 µm)
Standard Particle (40-60 µm)
Large Particle (125-210 µm)

C2, Ethyl

Part Number Endcapped	Part Number Unendcapped	Sorbent Amount/ Tube Volume	Unit per Pack
CEC021L1	CUC021L1	50mg/1mL	100
CEC02111	CUC02111	100mg/1mL	100
CEC02113	CUC02113	100mg/3mL	50
CEC02123	CUC02123	200mg/3mL	50
CEC02153	CUC02153	500mg/3mL	50
CEC02156	CUC02156	500mg/6mL	50
CEC0211Z	CUC0211Z	100mg/10mL	50
CEC0212Z	CUC0212Z	200mg/10mL	50
CEC0215Z	CUC0215Z	500mg/10mL	50
CEC021M6	CUC021M6	1g/6mL	30
CEC0212M15	CUC0212M15	2g/15mL	20
CEC0215M25	CUC0215M25	5g/25mL	20
CEC02110M75	CUC02110M75	10g/75mL	10

% Organic Loading: 6.60

Application:
Removes large or more hydrophobic compounds.

Cn3, Propyl

Part Number Endcapped	Part Number Unendcapped	Sorbent Amount/ Tube Volume	Unit per Pack
CECn31L1	CUCn31L1	50mg/1mL	100
CECn3111	CUCn3111	100mg/1mL	100
CECn3113	CUCn3113	100mg/3mL	50
CECn3123	CUCn3123	200mg/3mL	50
CECn3153	CUCn3153	500mg/3mL	50
CECn3156	CUCn3156	500mg/6mL	50
CECn311Z	CUCn311Z	100mg/10mL	50
CECn312Z	CUC1812Z	200mg/10mL	50
CECn315Z	CUCn315Z	500mg/10mL	50
CECn31M6	CUCn31M6	1g/6mL	30
CECn312M15	CUCn312M15	2g/15mL	20
CECn315M25	CUCn315M25	5g/25mL	20
CECn3110M75	CUCn3110M75	10g/75mL	10

% Organic Loading: 7.60

Application:
Removes large or more hydrophobic compounds.

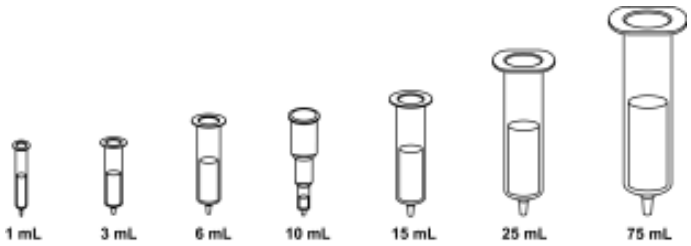
Cn4, n-Butyl

Part Number Endcapped	Part Number Unendcapped	Sorbent Amount/ Tube Volume	Unit per Pack
CECn41L1	CUCn41L1	50mg/1mL	100
CECn4111	CUCn4111	100mg/1mL	100
CECn4113	CUCn4113	100mg/3mL	50
CECn4123	CUCn4123	200mg/3mL	50
CECn4153	CUCn4153	500mg/3mL	50
CECn4156	CUCn4156	500mg/6mL	50
CECn411Z	CUCn411Z	100mg/10mL	50
CECn412Z	CUCn412Z	200mg/10mL	50
CECn415Z	CUCn415Z	500mg/10mL	50
CECn41M6	CUCn41M6	1g/6mL	30
CECn412M15	CUCn412M15	2g/15mL	20
CECn415M25	CUCn415M25	5g/25mL	20
CECn4110M75	CUCn4110M75	10g/75mL	10

% Organic Loading: 8.50

Application:
Removes large or more hydrophobic compounds.

CLEAN-UP®
Hydrophobic Extraction Columns



Chemistries are offered on these particle sizes.

Small Particle (5-20 µm)
Intermediate Particle (25-40 µm)
Standard Particle (40-60 µm)
Large Particle (125-210 µm)

Ci4, Isobutyl

Part Number Endcapped	Part Number Unendcapped	Sorbent Amount/ Tube Volume	Unit per Pack
CECi41L1	CUCi41L1	50mg/1mL	100
CECi4111	CUCi4111	100mg/1mL	100
CECi4113	CUCi4113	100mg/3mL	50
CECi4123	CUCi4123	200mg/3mL	50
CECi4153	CUCi4153	500mg/3mL	50
CECi4156	CUCi4156	500mg/6mL	50
CECi411Z	CUCi411Z	100mg/10mL	50
CECi412Z	CUCi412Z	200mg/10mL	50
CECi415Z	CUCi415Z	500mg/10mL	50
CECi41M6	CUCi41M6	1g/6mL	30
CECi412M15	CUCi412M15	2g/15mL	20
CECi415M25	CUCi415M25	5g/25mL	20
CECi4110M75	CUCi4110M75	10g/75mL	10

% Organic Loading: 8.80

Application:
Removes large or more hydrophobic compounds.

Ct4, Tertiary Butyl

Part Number Endcapped	Part Number Unendcapped	Sorbent Amount/ Tube Volume	Unit per Pack
CECt41L1	CUCt41L1	50mg/1mL	100
CECt4111	CUCt4111	100mg/1mL	100
CECt4113	CUCt4113	100mg/3mL	50
CECt4123	CUCt4123	200mg/3mL	50
CECt4153	CUCt4153	500mg/3mL	50
CECt4156	CUCt4156	500mg/6mL	50
CECt411Z	CUCt411Z	100mg/10mL	50
CECt412Z	CUCt412Z	200mg/10mL	50
CECt415Z	CUCt415Z	500mg/10mL	50
CECt41M6	CUCt41M6	1g/6mL	30
CECt412M15	CUCt412M15	2g/15mL	20
CECt415M25	CUCt415M25	5g/25mL	20
CECt4110M75	CUCt4110M75	10g/75mL	10

% Organic Loading: 8.50

Application:
Removes large or more hydrophobic compounds.

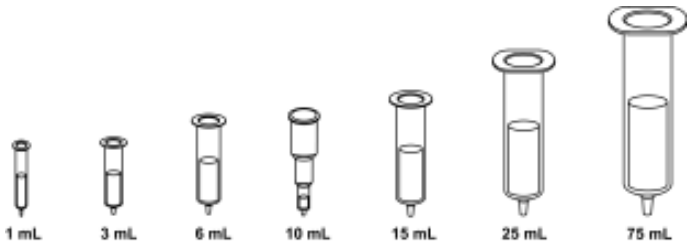
C5, Pentyl

Part Number Endcapped	Part Number Unendcapped	Sorbent Amount/ Tube Volume	Unit per Pack
CEC051L1	CUC051L1	50mg/1mL	100
CEC05111	CUC05111	100mg/1mL	100
CEC05113	CUC05113	100mg/3mL	50
CEC05123	CUC05123	200mg/3mL	50
CEC05153	CUC05153	500mg/3mL	50
CEC05156	CUC05156	500mg/6mL	50
CEC0511Z	CUC0511Z	100mg/10mL	50
CEC0512Z	CUC0512Z	200mg/10mL	50
CEC0515Z	CUC0515Z	500mg/10mL	50
CEC051M6	CUC051M6	1g/6mL	30
CEC0512M15	CUC0512M15	2g/15mL	20
CEC0515M25	CUC0515M25	5g/25mL	20
CEC05110M75	CUC05110M75	10g/75mL	10

% Organic Loading: 9.50

Application:
Removes large or more hydrophobic compounds.

CLEAN-UP®
Hydrophobic Extraction Columns



Chemistries are offered on these particle sizes.

Small Particle (5-20 µm)
Intermediate Particle (25-40 µm)
Standard Particle (40-60 µm)
Large Particle (125-210 µm)

C6, Hexyl

Part Number Endcapped	Part Number Unendcapped	Sorbent Amount/ Tube Volume	Unit per Pack
CEC061L1	CUC061L1	50mg/1mL	100
CEC06111	CUC06111	100mg/1mL	100
CEC06113	CUC06113	100mg/3mL	50
CEC06123	CUC06123	200mg/3mL	50
CEC06153	CUC06153	500mg/3mL	50
CEC06156	CUC06156	500mg/6mL	50
CEC0611Z	CUC0611Z	100mg/10mL	50
CEC0612Z	CUC0612Z	200mg/10mL	50
CEC0615Z	CUC0615Z	500mg/10mL	50
CEC061M6	CUC061M6	1g/6mL	30
CEC0612M15	CUC0612M15	2g/15mL	20
CEC0615M25	CUC0615M25	5g/25mL	20
CEC06110M75	CUC06110M75	10g/75mL	10

% Organic Loading: 9.50

Application:
Removes large or more hydrophobic compounds.

C7, Hexyl

Part Number Endcapped	Part Number Unendcapped	Sorbent Amount/ Tube Volume	Unit per Pack
CEC071L1	CUC071L1	50mg/1mL	100
CEC07111	CUC07111	100mg/1mL	100
CEC07113	CUC07113	100mg/3mL	50
CEC07123	CUC07123	200mg/3mL	50
CEC07153	CUC07153	500mg/3mL	50
CEC07156	CUC07156	500mg/6mL	50
CEC0711Z	CUC0711Z	100mg/10mL	50
CEC0712Z	CUC0712Z	200mg/10mL	50
CEC0715Z	CUC0715Z	500mg/10mL	50
CEC071M6	CUC071M6	1g/6mL	30
CEC0712M15	CUC0712M15	2g/15mL	20
CEC0715M25	CUC0715M25	5g/25mL	20
CEC07110M75	CUC07110M75	10g/75mL	10

% Organic Loading: 15.70

Application:
Removes large or more hydrophobic compounds.

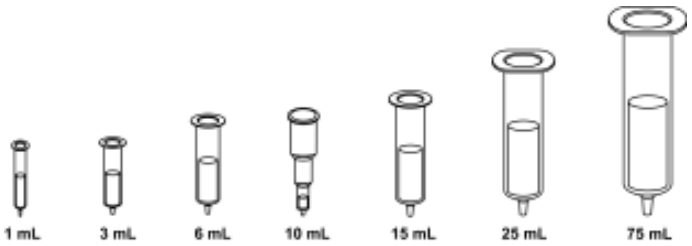
C8, Octyl

Part Number Endcapped	Part Number Unendcapped	Sorbent Amount/ Tube Volume	Unit per Pack
CEC081L1	CUC081L1	50mg/1mL	100
CEC08111	CUC08111	100mg/1mL	100
CEC08113	CUC08113	100mg/3mL	50
CEC08123	CUC08123	200mg/3mL	50
CEC08153	CUC08153	500mg/3mL	50
CEC08156	CUC08156	500mg/6mL	50
CEC0811Z	CUC0811Z	100mg/10mL	50
CEC0812Z	CUC0812Z	200mg/10mL	50
CEC0815Z	CUC0815Z	500mg/10mL	50
CEC081M6	CUC081M6	1g/6mL	30
CEC0812M15	CUC0812M15	2g/15mL	20
CEC0815M25	CUC0815M25	5g/25mL	20
CEC08110M75	CUC08110M75	10g/75mL	10

% Organic Loading: 15.70

Application:
Removes large or more hydrophobic compounds.

CLEAN-UP®
Hydrophobic Extraction Columns



Chemistries are offered on these particle sizes.

Small Particle (5-20 µm)
Intermediate Particle (25-40 µm)
Standard Particle (40-60 µm)
Large Particle (125-210 µm)

C10, nDecyl

Part Number Endcapped	Part Number Unendcapped	Sorbent Amount/ Tube Volume	Unit per Pack
CEC101L1	CUC101L1	50mg/1mL	100
CEC10111	CUC10111	100mg/1mL	100
CEC10113	CUC10113	100mg/3mL	50
CEC10123	CUC10123	200mg/3mL	50
CEC10153	CUC10153	500mg/3mL	50
CEC10156	CUC10156	500mg/6mL	50
CEC1011Z	CUC1011Z	100mg/10mL	50
CEC1012Z	CUC1012Z	200mg/10mL	50
CEC1015Z	CUC1015Z	500mg/10mL	50
CEC101M6	CUC101M6	1g/6mL	30
CEC1012M15	CUC1012M15	2g/15mL	20
CEC1015M25	CUC1015M25	5g/25mL	20
CEC10110M75	CUC10110M75	10g/75mL	10

% Organic Loading: 15.70

Application:
Removes large or more hydrophobic compounds.

C12, nDodecyl

Part Number Endcapped	Part Number Unendcapped	Sorbent Amount/ Tube Volume	Unit per Pack
CEC121L1	CUC121L1	50mg/1mL	100
CEC12111	CUC12111	100mg/1mL	100
CEC12113	CUC12113	100mg/3mL	50
CEC12123	CUC12123	200mg/3mL	50
CEC12153	CUC12153	500mg/3mL	50
CEC12156	CUC12156	500mg/6mL	50
CEC1211Z	CUC1211Z	100mg/10mL	50
CEC1212Z	CUC1212Z	200mg/10mL	50
CEC1215Z	CUC1215Z	500mg/10mL	50
CEC121M6	CUC121M6	1g/6mL	30
CEC1212M15	CUC1212M15	2g/15mL	20
CEC1215M25	CUC1215M25	5g/25mL	20
CEC12110M75	CUC12110M75	10g/75mL	10

% Organic Loading: 7.60

Application:
Removes large or more hydrophobic compounds.

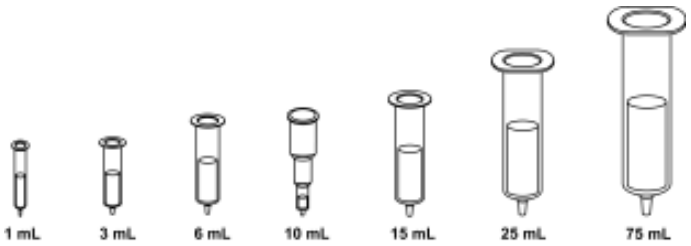
C18, Octadecyl

Part Number Endcapped	Part Number Unendcapped	Sorbent Amount/ Tube Volume	Unit per Pack
CEC181L1	CUC181L1	50mg/1ml	100
CEC18111	CUC18111	100mg/1ml	100
CEC18113	CUC18113	100mg/3ml	50
CEC18123	CUC18123	200mg/3ml	50
CEC18153	CUC18153	500mg/3ml	50
CEC18156	CUC18156	500mg/6ml	50
CEC1811Z	CUC1811Z	100mg/10ml	50
CEC1812Z	CUC1812Z	200mg/10ml	50
CEC1815Z	CUC1815Z	500mg/10ml	50
CEC181M6	CUC181M6	1g/6ml	30
CEC1812M15	CUC1812M15	2g/15ml	20
CEC1815M25	CUC1815M25	5g/25ml	20
CEC18110M375	CUC18110M75	10g/75ml	10

% Organic Loading: 8.50

Application:
Removes large or more hydrophobic compounds.

CLEAN-UP®
Hydrophobic Extraction Columns



Chemistries are offered on these particle sizes.

Small Particle (5-20 µm)
Intermediate Particle (25-40 µm)
Standard Particle (40-60 µm)
Large Particle (125-210 µm)

C20, Eicosyl

Part Number Endcapped	Part Number Unendcapped	Sorbent Amount/ Tube Volume	Unit per Pack
CEC201L1	CUC201L1	50mg/1mL	100
CEC20111	CUC20111	100mg/1mL	100
CEC20113	CUC20113	100mg/3mL	50
CEC20123	CUC20123	200mg/3mL	50
CEC20153	CUC20153	500mg/3mL	50
CEC20156	CUC20156	500mg/6mL	50
CEC2011Z	CUC2011Z	100mg/10mL	50
CEC2012Z	CUC2012Z	200mg/10mL	50
CEC2015Z	CUC2015Z	500mg/10mL	50
CEC201M6	CUC201M6	1g/6mL	30
CEC2012M15	CUC2012M15	2g/15mL	20
CEC2015M25	CUC2015M25	5g/25mL	20
CEC20110M75	CUC20110M75	10g/75mL	10

% Organic Loading: 24.30

Application:
Removes smallest or least hydrophobic compounds.

C30, Tricontyl

Part Number Endcapped	Part Number Unendcapped	Sorbent Amount/ Tube Volume	Unit per Pack
CEC301L1	CUC301L1	50mg/1mL	100
CEC30111	CUC30111	100mg/1mL	100
CEC30113	CUC30113	100mg/3mL	50
CEC30123	CUC30123	200mg/3mL	50
CEC30153	CUC30153	500mg/3mL	50
CEC30156	CUC30156	500mg/6mL	50
CEC3011Z	CUC3011Z	100mg/10mL	50
CEC3012Z	CUC3012Z	200mg/10mL	50
CEC3015Z	CUC3015Z	500mg/10mL	50
CEC301M6	CUC301M6	1g/6mL	30
CEC3012M15	CUC3012M15	2g/15mL	20
CEC3015M25	CUC3015M25	5g/25mL	20
CEC30110M75	CUC30110M75	10g/75mL	10

% Organic Loading: 26.00

Application:
Removes smallest or least hydrophobic compounds.

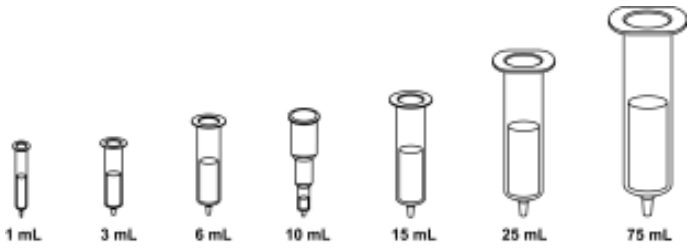
Cyclohexyl

Part Number Endcapped	Part Number Unendcapped	Sorbent Amount/ Tube Volume	Unit per Pack
CECYH1L1	CUCYH1L1	50mg/1mL	100
CECYH111	CUCYH111	100mg/1mL	100
CECYH113	CUCYH113	100mg/3mL	50
CECYH123	CUCYH123	200mg/3mL	50
CECYH153	CUCYH153	500mg/3mL	50
CECYH156	CUCYH156	500mg/6mL	50
CECYH11Z	CUCYH11Z	100mg/10mL	50
CECYH12Z	CUCYH12Z	200mg/10mL	50
CECYH15Z	CUCYH15Z	500mg/10mL	50
CECYH1M6	CUCYH1M6	1g/6mL	30
CECYH12M15	CUCYH12M15	2g/15mL	20
CECYH15M25	CUCYH15M25	5g/25mL	20
CECYH110M75	CUCYH110M75	10g/75mL	10

% Organic Loading: 11.60

Application:
Scavenger for phenolic compounds.

CLEAN-UP®
Hydrophobic Extraction Columns



Chemistries are offered on these particle sizes.

Small Particle (5-20 µm)
Intermediate Particle (25-40 µm)
Standard Particle (40-60 µm)
Large Particle (125-210 µm)

Phenyl

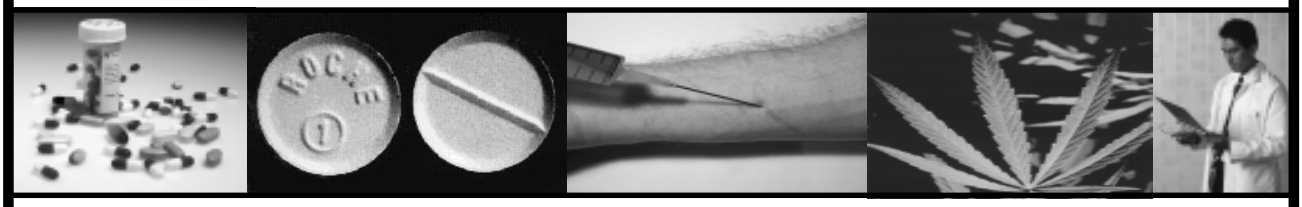
Part Number Endcapped	Part Number Unendcapped	Sorbent Amount/ Tube Volume	Unit per Pack
CEPHY1L1	CUPHY1L1	50mg/1mL	100
CEPHY111	CUPHY111	100mg/1mL	100
CEPHY123	CUPHY123	200mg/3mL	50
CEPHY153	CUPHY153	500mg/3mL	50
CEPHY156	CUPHY156	500mg/6mL	50
CEPHY11Z	CUPHY11Z	100mg/10mL	50
CEPHY12Z	CUPHY12Z	200mg/10mL	50
CEPHY15Z	CUPHY15Z	500mg/10mL	50
CEPHY1M6	CUPHY1M6	1g/6mL	30
CEPHY12M15	CUPHY12M15	2g/15mL	20
CEPHY15M25	CUPHY15M25	5g/25mL	20
CEPHY110M75	CUPHY110M75	10g/75mL	10

% Organic Loading: 11.00

Application:
Scavenger for polar compounds.

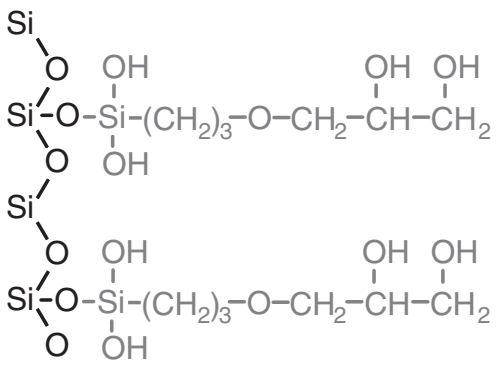
CLEAN-UP®

Hydrophilic Normal Phase Columns



This sorbent is composed of a silica backbone bonded with carbon chains containing polar functional groups. Groups which will possess such polarity include amines, hydroxyls and carbonyls.

Example of a Hydrophilic Phase



Analytes*	**Washes**	**Elutions**
R-OH, R-SH	non-polar organic	polar organic
R-NH2,	solvents	solvent
R2-NH,	ie: hexane/ethyl acetate (80:20)	usually with
R3-N	methylene chloride	some aqueous

*typical compounds which can be extracted using hydrophilic columns

CLEAN-UP®
Hydrophilic Normal Phase Columns

Mechanism of Hydrophilic Bonding

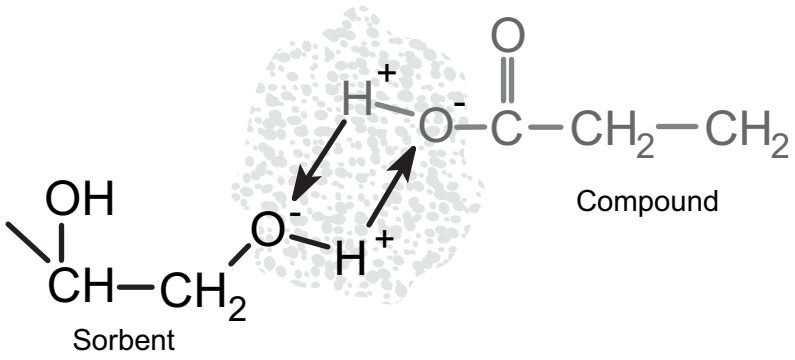
Compounds are retained on hydrophilic sorbents through polar interactions including hydrogen bonding, pi-pi or dipole-dipole interaction. These types of interactions occur when a distribution of electrons between individual atoms in functional groups is unequal, causing negative and positive polarity. Compounds typically extracted on a hydrophilic column include analytes which have polar groups, including amines, hydroxyls and carbonyls. Elution is performed by strong polar solvents.

Hydrophilic Sorbents & Structures

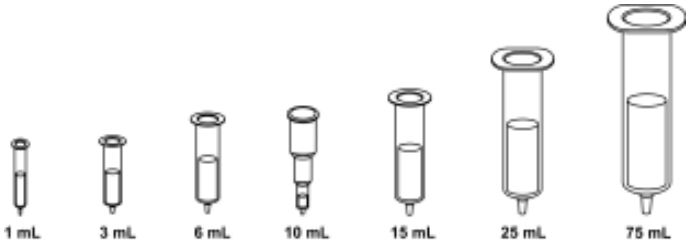
Sorbent	Structure
Silica	-SiOH
Diol	$-Si-(CH_2)_3OCH_3CHOHCH_2OH$
Cyanopropyl	$-Si-(CH_2)_3CN$

Note: If un-ionized, ion exchange sorbents can be used as hydrophilic (polar) sorbents.

Example of Hydrophilic Bonding



CLEAN-UP®
Hydrophilic Extraction Columns



Chemistries are offered on these particle sizes.

Small Particle (5-20 µm)
Intermediate Particle (25-40 µm)
Standard Particle (40-60 µm)
Large Particle (125-210 µm)

Unbonded Silica (Acid Washed)

Part Number	Sorbent Amount/ Tube Volume	Unit per Pack
CUSIL1L1	50mg/1mL	100
CUSIL111	100mg/1mL	100
CUSIL123	200mg/3mL	50
CUSIL153	500mg/3mL	50
CUSIL156	500mg/6mL	50
CUSIL11Z	100mg/10mL	50
CUSIL12Z	200mg/10mL	50
CUSIL15Z	500mg/10mL	50
CUSIL1M6	1g/6mL	30
CUSIL12M15	2g/15mL	20
CUSIL15M25	5g/25mL	20
CUSIL110M75	10g/75mL	10

% Organic Loading: N/A

Application:
Removes hydrophilic (polar) impurities, purification of hydrophilic (polar) compounds.

High-Surface Activity Silica "Pharma-Sil™"

Part Number	Sorbent Amount/ Tube Volume	Unit per Pack
PHSIL1L1	50mg/1mL	100
PHSIL111	100mg/1mL	100
PHSIL123	200mg/3mL	50
PHSIL153	500mg/3mL	50
PHSIL156	500mg/6mL	50
PHSIL11Z	100mg/10mL	50
PHSIL12Z	200mg/10mL	50
PHSIL15Z	500mg/10mL	50
PHSIL1M6	1g/6mL	30
PHSIL12M15	2g/15mL	20
PHSIL15M25	5g/25mL	20
PHSIL110M75	10g/75mL	10

% Organic Loading: N/A

Application:
Removes hydrophilic (polar) impurities, purification of hydrophilic (polar) compounds.

Florisil®

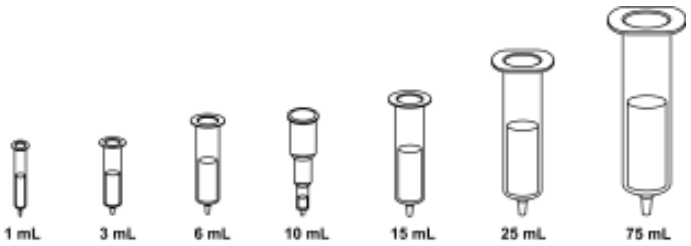
Part Number	Sorbent Amount/ Tube Volume	Unit per Pack
CUFLS1L1	50mg/1mL	100
CUFLS111	100mg/1mL	100
CUFLS123	200mg/3mL	50
CUFLS153	500mg/3mL	50
CUFLS156	500mg/6mL	50
CUFLS11Z	100mg/10mL	50
CUFLS12Z	200mg/10mL	50
CUFLS15Z	500mg/10mL	50
CUFLS1M6	1g/6mL	30
CUFLS12M15	2g/15mL	20
CUFLS15M25	5g/25mL	20
CUFLS110M75	10g/75mL	10

% Organic Loading: N/A

Application:
Removes polar type compounds.

Florisil® products are manufactured by U.S. Silica, Co.

CLEAN-UP®
Hydrophilic Extraction Columns



Chemistries are offered on these particle sizes.

Small Particle (5-20 µm)
Intermediate Particle (25-40 µm)
Standard Particle (40-60 µm)
Large Particle (125-210 µm)

Alumina, Acidic

Part Number	Sorbent Amount/ Tube Volume	Unit per Pack
CUALA1L1	50mg/1mL	100
CUALA111	100mg/1mL	100
CUALA123	200mg/3mL	50
CUALA153	500mg/3mL	50
CUALA156	500mg/6mL	50
CUALA11Z	100mg/10mL	50
CUALA12Z	200mg/10mL	50
CUALA15Z	500mg/10mL	50
CUALA1M6	1g/6mL	30
CUALA12M15	2g/15mL	20
CUALA15M25	5g/25mL	20
CUALA110M75	10g/75mL	10

% Organic Loading: N/A

Application:
Removes polar type compounds.

Alumina, Basic

Part Number	Sorbent Amount/ Tube Volume	Unit per Pack
CUALB1L1	50mg/1mL	100
CUALB111	100mg/1mL	100
CUALB123	200mg/3mL	50
CUALB153	500mg/3mL	50
CUALB156	500mg/6mL	50
CUALB11Z	100mg/10mL	50
CUALB12Z	200mg/10mL	50
CUALB15Z	500mg/10mL	50
CUALB1M6	1g/6mL	30
CUALB12M15	2g/15mL	20
CUALB15M25	5g/25mL	20
CUALB110M75	10g/75mL	10

% Organic Loading: N/A

Application:
Removes polar type compounds.

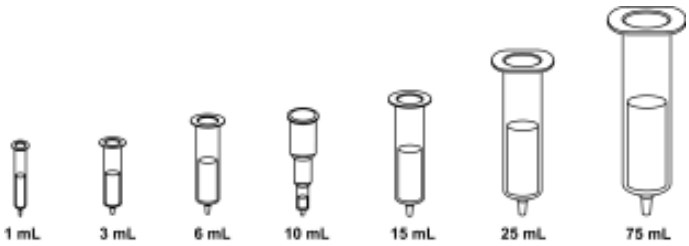
Alumina, Neutral

Part Number	Sorbent Amount/ Tube Volume	Unit per Pack
CUALN1L1	50mg/1mL	100
CUALN111	100mg/1mL	100
CUALN123	200mg/3mL	50
CUALN153	500mg/3mL	50
CUALN156	500mg/6mL	50
CUALN11Z	100mg/10mL	50
CUALN12Z	200mg/10mL	50
CUALN15Z	500mg/10mL	50
CUALN1M6	1g/6mL	30
CUALN12M15	2g/15mL	20
CUALN15M25	5g/25mL	20
CUALN110M75	10g/75mL	10

% Organic Loading: N/A

Application:
Removes polar type compounds.

CLEAN-UP®
Hydrophilic Extraction Columns



Chemistries are offered on these particle sizes.

Small Particle (5-20 µm)
Intermediate Particle (25-40 µm)
Standard Particle (40-60 µm)
Large Particle (125-210 µm)

CN, Cyanopropyl

Part Number Endcapped	Part Number Unendcapped	Sorbent Amount/ Tube Volume	Unit per Pack
CECNP1L1	CUCNP1L1	50mg/1mL	100
CECNP111	CUCNP111	100mg/1mL	100
CECNP123	CUCNP123	200mg/3mL	50
CECNP153	CUCNP153	500mg/3mL	50
CECNP156	CUCNP156	500mg/6mL	50
CECNP11Z	CUCNP11Z	100mg/10mL	50
CECNP12Z	CUCNP12Z	200mg/10mL	50
CECNP15Z	CUCNP15Z	500mg/10mL	50
CECNP1M6	CUCNP1M6	1g/6mL	30
CECNP12M15	CUCNP12M15	2g/15mL	20
CECNP15M25	CUCNP15M25	5g/25mL	20
CECNP110M75	CUCNP110M75	10g/75mL	10

% Organic Loading: 6.90

Application:
Removes steroid type compounds.

Diol

Part Number	Sorbent Amount/ Tube Volume	Unit per Pack
CUDOL1L1	50mg/1mL	100
CUDOL111	100mg/1mL	100
CUDOL123	200mg/3mL	50
CUDOL153	500mg/3mL	50
CUDOL156	500mg/6mL	50
CUDOL11Z	100mg/10mL	50
CUDOL12Z	200mg/10mL	50
CUDOL15Z	500mg/10mL	50
CUDOL1M6	1g/6mL	30
CUDOL12M15	2g/15mL	20
CUDOL15M25	5g/25mL	20
CUDOL110M75	10g/75mL	10

% Organic Loading: 8.00

Application:
Removes hydrophilic (polar) impurities, purification of hydrophilic (polar) compounds.

Carbon-Graphitized non-porous, 120/400 mesh

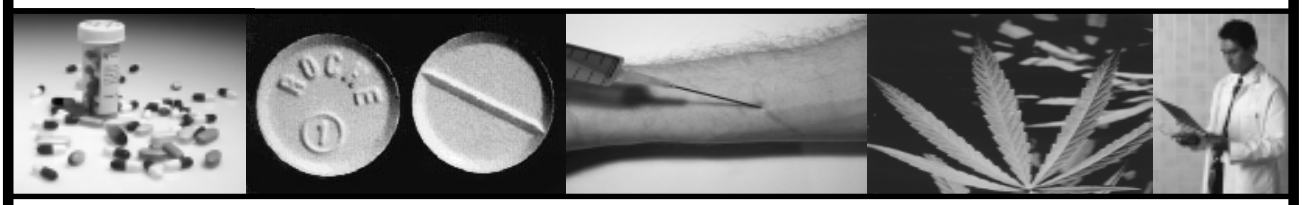
Part Number	Sorbent Amount/ Tube Volume	Unit per Pack
CUCARB1L1	50mg/1mL	100
CUCARB111	100mg/1mL	100
CUCARB123	200mg/3mL	50
CUCARB153	500mg/3mL	50
CUCARB156	500mg/6mL	50
CUCARB11Z	100mg/10mL	50
CUCARB12Z	200mg/10mL	50
CUCARB15Z	500mg/10mL	50
CUCARB1M6	1g/6mL	30
CUCARB1M15	1g/15mL	20
CUCARB12M15	2g/15mL	20

CLEAN-UP Carbon

Application:
Carbon supports have been used to isolate extremely polar organic compounds. They work by a hydrophobic mechanism with a high surface area and ion exchange. This interaction can happen in a wide range of polar and non-polar solvents.

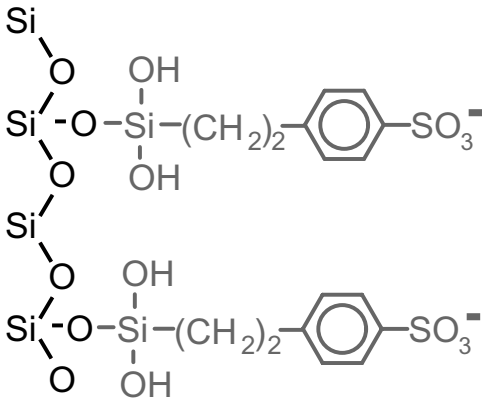
CLEAN-UP®

Ion Exchange Extraction Columns

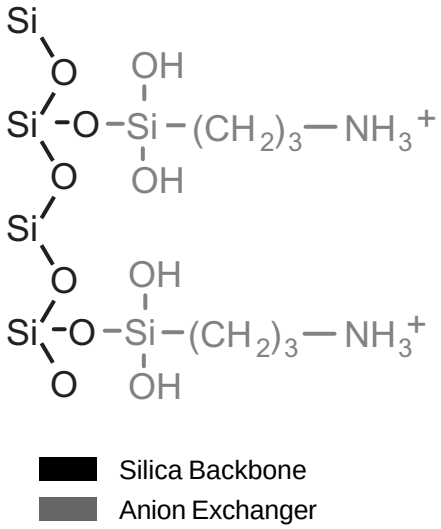


This sorbent is composed of a silica backbone bonded with a carbon chain terminated by a negatively or positively charged functional group.
Ion exchange interactions occur between a sorbent that carries a charge and a compound of opposite charge.

Example of a Cation Exchange Phase



Example of a Anion Exhange Phase



This electrostatic interaction is reversible by neutralizing the sorbent and /or analyte. Ion exchange bonds can also be disrupted by introduction of a "counter ion" to compete with the analyte for binding sites on the sorbent.

Analytes	**Washes**	**Elutions**
Anions Cations	Organic solvent or aqueous buffer at pH that allows the ion to remain charged AND/OR at a low ionic strength AND/OR at a weak concentration.	Organic solvent or aqueous buffer at pH that would neutralize the ion AND/OR at a high ionic strength AND/OR at a strong concentration.

Mechanism
of
Ion Exchange Bonding

Compounds are retained on the sorbent through ionic bonds. Therefore, it is essential that the sorbent and the analyte to be extracted are charged. Generally, the number of molecules with charged cationic groups increases at pH values below the molecules pKa value. The number of molecules with charged anionic groups decreases at pH values below the molecule's pKa value. To ensure 99% or more ionization, the pH should be at least two pH units below the pKa of the cation and two pH units above the pKa of the anion. Elution occurs by using a solvent to raise the pH above the pKa of the cationic group or to lower the pH below the pKa of the anion to disrupt retention. At this point, the sorbent or compound will be neutralized.

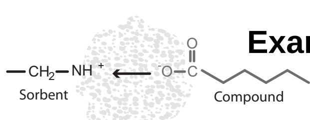
Ion Exchange Sorbents & Structure

Sorbent	Structure		pKa
Anion Exchangers			
Aminopropyl (1º amine)	$-Si-(CH_2)_3NH_3^+$		9.8
N-2 Aminoethyl (1º & 2º amine)	$-Si-(CH_2)_3NH_2^+(CH_2)_2NH_3^+$		10.1, 10.9
Diethylamino (3º amine)	$-Si-(CH_2)_3NH^+(CH_2CH_3)_2$		10.6
Quaternary Amine Chloride	$-Si-(CH_2)_3N^+(CH_3)_3$	Cl^-	always charged
Quaternary Amine Hydroxide	$-Si-(CH_2)_3N^+(CH_3)_3$	$CH_3CO_2^-$	always charged
Quaternary Amine Acetate	$-Si-(CH_2)_3N^+(CH_3)_3$	OH^-	always charged
Quaternary Amine Formate	$-Si-(CH_2)_3N^+(CH_3)_3$	CHO_2^-	always charged
Polyimine	$-Si-(CH_2)_3R-[NHCH_2CH_2]_X$		
Cation Exchangers			
Carboxylic Acid	$-Si-CH_2COOH$		4.8
Propylsulfonic Acid	$-Si-(CH_2)_3SO_3H$		<1
Benzenesulfonic Acid	$-Si-(CH_2)_2$ –⌬– SO_3H		always charged
Benzenesulfonic Acid High-Load	$-Si-(CH_2)_2$ –⌬– SO_3H		always charged
Triacetic Acid	$-Si-(CH_2)_3NH-(CH_2)-N(CH_2COOH)_2$ | CH_2COOH		

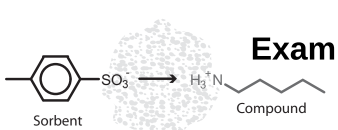
NOTE: In an un-ionized state, these sorbents are hydrophilic (polar) sorbents.

Note: Neutralization can occur on either the sorbent or the analyte of interest. Either will disrupt the bond of the desired compound.

Example of Anion Exchange Binding



Example of Cation Exchange Binding



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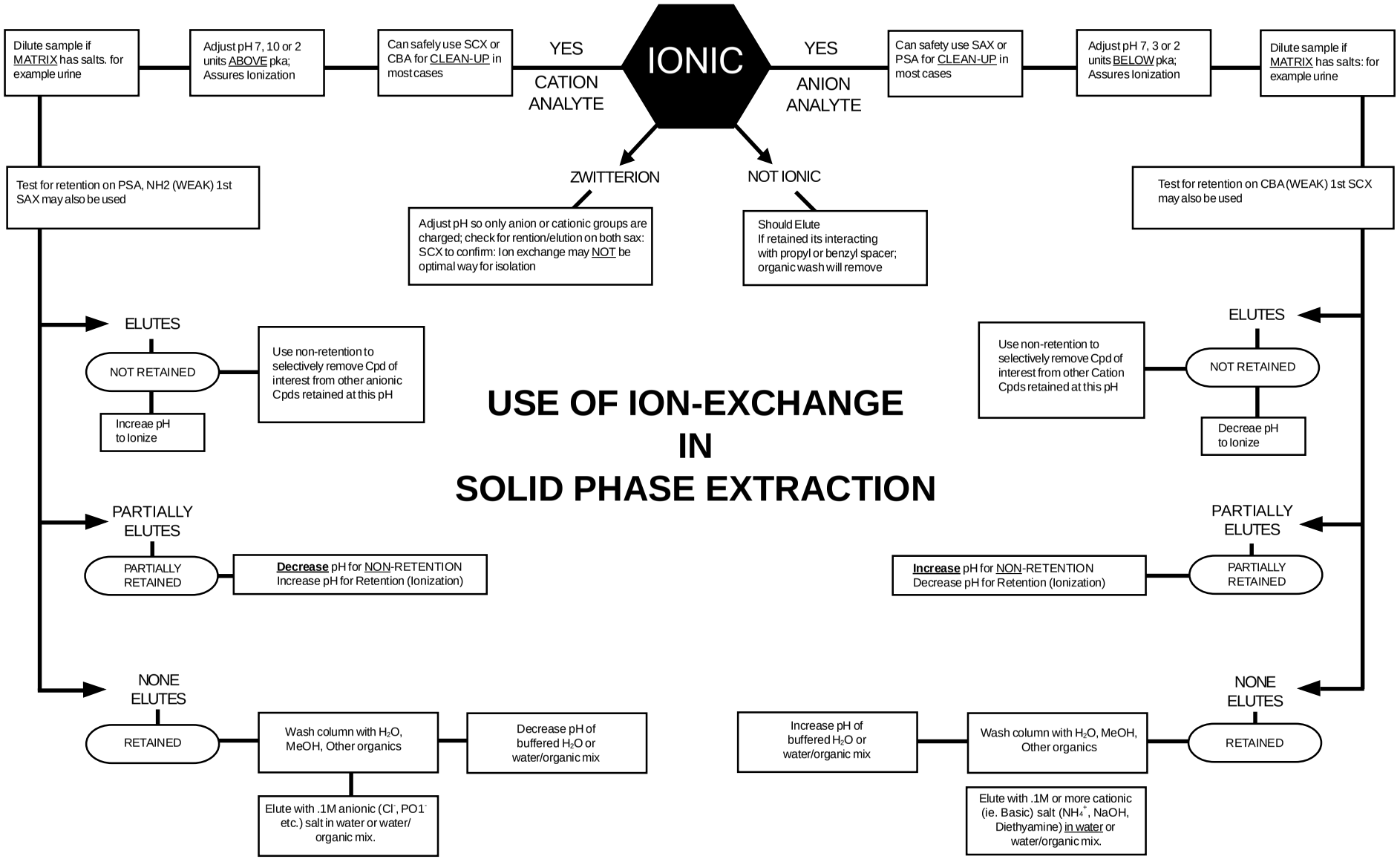
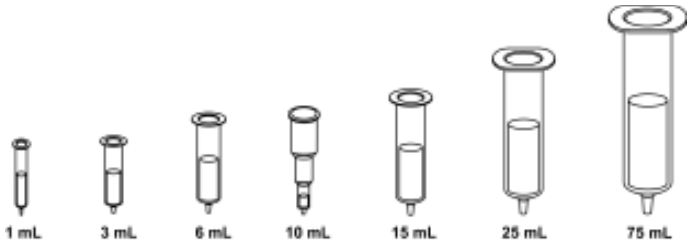
USE OF ION-EXCHANGE IN SOLID PHASE EXTRACTION



CLEAN-UP®
Anion Extraction Columns



Chemistries are offered on these particle sizes.

Small Particle (5-20 µm)
Intermediate Particle (25-40 µm)
Standard Particle (40-60 µm)
Large Particle (125-210 µm)

Aminopropyl

Part Number	Sorbent Amount/ Tube Volume	Unit per Pack
CUNAX1L1	50mg/1mL	100
CUNAX111	100mg/1mL	100
CUNAX123	200mg/3mL	50
CUNAX153	500mg/3mL	50
CUNAX156	500mg/6mL	50
CUNAX11Z	100mg/10mL	50
CUNAX12Z	200mg/10mL	50
CUNAX15Z	500mg/10mL	50
CUNAX1M6	1g/6mL	30
CUNAX12M15	2g/15mL	20
CUNAX15M25	5g/25mL	20
CUNAX110M75	10g/75mL	10

% Organic Loading: 6.65

Exchange Capacity (meq/g): 0.310

Application:
Scavenger for acids, cyclic compounds, cholesterols, and other lipid type and compounds.

PSA (N-2 Aminoethyl)

Part Number	Sorbent Amount/ Tube Volume	Unit per Pack
CUPSA1L1	50mg/1mL	100
CUPSA111	100mg/1mL	100
CUPSA123	200mg/3mL	50
CUPSA153	500mg/3mL	50
CUPSA156	500mg/6mL	50
CUPSA11Z	100mg/10mL	50
CUPSA12Z	200mg/10mL	50
CUPSA15Z	500mg/10mL	50
CUPSA1M6	1g/6mL	30
CUPSA12M15	2g/15mL	20
CUPSA15M25	5g/25mL	20
CUPSA110M75	10g/75mL	10

% Organic Loading: 9.70

Exchange Capacity (meq/g): 0.320

Application:
Scavenger for acids, cyclic compounds, cholesterols, and other lipid type and compounds.

Diethylamino

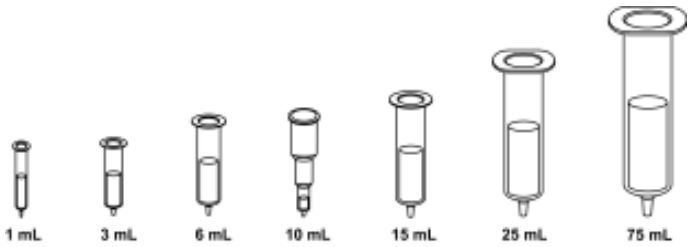
Part Number	Sorbent Amount/ Tube Volume	Unit per Pack
CUDAX1L1	50mg/1mL	100
CUDAX111	100mg/1mL	100
CUDAX123	200mg/3mL	50
CUDAX153	500mg/3mL	50
CUDAX156	500mg/6mL	50
CUDAX11Z	100mg/10mL	50
CUDAX12Z	200mg/10mL	50
CUDAX15Z	500mg/10mL	50
CUDAX1M6	1g/6mL	30
CUDAX12M15	2g/15mL	20
CUDAX15M25	5g/25mL	20
CUDAX110M75	10g/75mL	10

% Organic Loading: 8.40

Exchange Capacity (meq/g): 0.280

Application:
Scavenger for acids, cyclic compounds, cholesterols, and other lipid type and compounds.

CLEAN-UP®
Anion Extraction Columns



Chemistries are offered on these particle sizes.

Small Particle (5-20 µm)
Intermediate Particle (25-40 µm)
Standard Particle (40-60 µm)
Large Particle (125-210 µm)

Quaternary Amine with Chloride counter ion

Part Number	Sorbent Amount/ Tube Volume	Unit per Pack
CUQAX1L1	50mg/1mL	100
CUQAX111	100mg/1mL	100
CUQAX123	200mg/3mL	50
CUQAX153	500mg/3mL	50
CUQAX156	500mg/6mL	50
CUQAX11Z	100mg/10mL	50
CUQAX12Z	200mg/10mL	50
CUQAX15Z	500mg/10mL	50
CUQAX1M6	1g/6mL	30
CUQAX12M15	2g/15mL	20
CUQAX15M25	5g/25mL	20
CUQAX110M75	10g/75mL	10

% Organic Loading: 8.40

Exchange Capacity (meq/g): 0.250

Application:
Scavenger for acids and sulfonyl chlorides, isocyanates and weak electrophiles.

Quaternary Amine with Acetate counter ion

Part Number	Sorbent Amount/ Tube Volume	Unit per Pack
CAQAX1L1	50mg/1mL	100
CAQAX111	100mg/1mL	100
CAQAX123	200mg/3mL	50
CAQAX153	500mg/3mL	50
CAQAX156	500mg/6mL	50
CAQAX11Z	100mg/10mL	50
CAQAX12Z	200mg/10mL	50
CAQAX15Z	500mg/10mL	50
CAQAX1M6	1g/6mL	30
CAQAX12M15	2g/15mL	20
CAQAX15M25	5g/25mL	20
CAQAX110M75	10g/75mL	10

% Organic Loading: 8.40

Exchange Capacity (meq/g): 0.250

Application:
Scavenger for acids and sulfonyl chlorides, isocyanates and weak electrophiles. Useful when charge on ion being removed is weaker than the acetate counter ion.

Quaternary Amine with Hydroxide counter ion

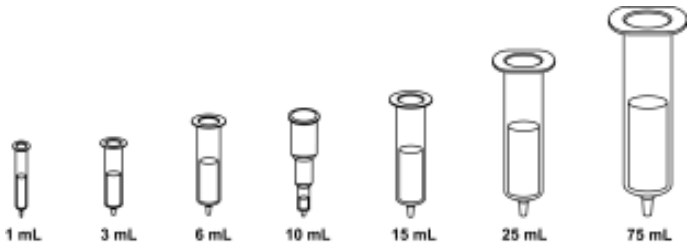
Part Number	Sorbent Amount/ Tube Volume	Unit per Pack
CHQAX1L1	50mg/1mL	100
CHQAX111	100mg/1mL	100
CHQAX123	200mg/3mL	50
CHQAX153	500mg/3mL	50
CHQAX156	500mg/6mL	50
CHQAX11Z	100mg/10mL	50
CHQAX12Z	200mg/10mL	50
CHQAX15Z	500mg/10mL	50
CHQAX1M6	1g/6mL	30
CHQAX12M15	2g/15mL	20
CHQAX15M25	5g/25mL	20
CHQAX110M75	10g/75mL	10

% Organic Loading: 8.40

Exchange Capacity (meq/g): 0.250

Application:
Scavenger for acids and sulfonyl chlorides, isocyanates and weak electrophiles. Useful when charge on ion being removed is weaker than the hydroxide counter ion.

CLEAN-UP®
Anion Extraction Columns



Chemistries are offered on these particle sizes.

Small Particle (5-20 µm)
Intermediate Particle (25-40 µm)
Standard Particle (40-60 µm)
Large Particle (125-210 µm)

Quaternary Amine with Formate counter ion

Part Number	Sorbent Amount/ Tube Volume	Unit per Pack
CFQAX1L1	50mg/1mL	100
CFQAX111	100mg/1mL	100
CFQAX123	200mg/3mL	50
CFQAX153	500mg/3mL	50
CFQAX156	500mg/6mL	50
CFQAX11Z	100mg/10mL	50
CFQAX12Z	200mg/10mL	50
CFQAX15Z	500mg/10mL	50
CFQAX1M6	1g/6mL	30
CFQAX12M15	2g/15mL	20
CFQAX15M25	5g/25mL	20
CFQAX110M75	10g/75mL	10

% Organic Loading: 8.40

Exchange Capacity (meq/g): 0.250

Application:
Scavenger for acids and sulfonyl chlorides, isocyanates and weak electrophiles. Useful when charge on ion being removed is weaker than the formate counter ion.

Polyimine

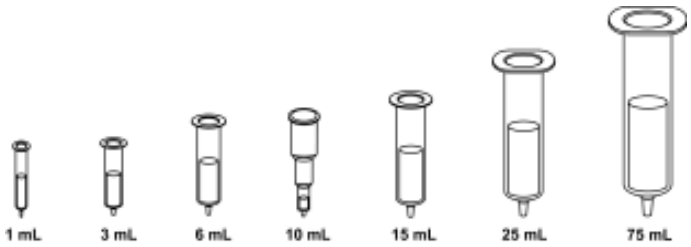
Part Number	Sorbent Amount/ Tube Volume	Unit per Pack
CUPAX1L1	50mg/1mL	100
CUPAX111	100mg/1mL	100
CUPAX123	200mg/3mL	50
CUPAX153	500mg/3mL	50
CUPAX156	500mg/6mL	50
CUPAX11Z	100mg/10mL	50
CUPAX12Z	200mg/10mL	50
CUPAX15Z	500mg/10mL	50
CUPAX1M6	1g/6mL	30
CUPAX12M15	2g/15mL	20
CUPAX15M25	5g/25mL	20
CUPAX110M75	10g/75mL	10

% Organic Loading: 13.5

Exchange Capacity (meq/g): 0.88

Application:
Scavenger for acids and sulfonyl chlorides, isocyanates and other electrophiles.

CLEAN-UP®
Cation Extraction Columns



Chemistries are offered on these particle sizes.

Small Particle (5-20 µm)
Intermediate Particle (25-40 µm)
Standard Particle (40-60 µm)
Large Particle (125-210 µm)

Carboxylic Acid

Part Number	Sorbent Amount/ Tube Volume	Unit per Pack
CUCCX1L1	50mg/1mL	100
CUCCX111	100mg/1mL	100
CUCCX123	200mg/3mL	50
CUCCX153	500mg/3mL	50
CUCCX156	500mg/6mL	50
CUCCX11Z	100mg/10mL	50
CUCCX12Z	200mg/10mL	50
CUCCX15Z	500mg/10mL	50
CUCCX1M6	1g/6mL	30
CUCCX12M15	2g/15mL	20
CUCCX15M25	5g/25mL	20
CUCCX110M75	10g/75mL	10

% Organic Loading: 9.10

Exchange Capacity (meq/g): 0.170

Application:
Scavenger for strong amines with quats.

Propylsulfonic Acid

Part Number	Sorbent Amount/ Tube Volume	Unit per Pack
CUPCX1L1	50mg/1mL	100
CUPCX111	100mg/1mL	100
CUPCX123	200mg/3mL	50
CUPCX153	500mg/3mL	50
CUPCX156	500mg/6mL	50
CUPCX11Z	100mg/10mL	50
CUPCX12Z	200mg/10mL	50
CUPCX15Z	500mg/10mL	50
CUPCX1M6	1g/6mL	30
CUPCX12M15	2g/15mL	20
CUPCX15M25	5g/25mL	20
CUPCX110M75	10g/75mL	10

% Organic Loading: 7.10

Exchange Capacity (meq/g): 0.180

Application:
Scavenger for amines, alcohols and other nucleophiles.

Triacetic Acid

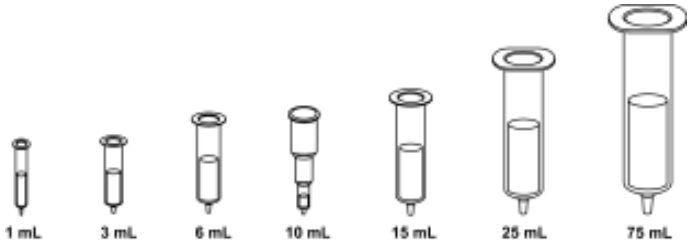
Part Number	Sorbent Amount/ Tube Volume	Unit per Pack
CUTAX1L1	50mg/1mL	100
CUTAX111	100mg/1mL	100
CUTAX123	200mg/3mL	50
CUTAX153	500mg/3mL	50
CUTAX156	500mg/6mL	50
CUTAX11Z	100mg/10mL	50
CUTAX12Z	200mg/10mL	50
CUTAX15Z	500mg/10mL	50
CUTAX1M6	1g/6mL	30
CUTAX12M15	2g/15mL	20
CUTAX15M25	5g/25mL	20
CUTAX110M75	10g/75mL	10

% Organic Loading: 7.61

Exchange Capacity: **Anion:** 0.17
Cation: 0.06

Application:
Chelator for metal ions.
i.e. tin
palladium
copper
ruthinium
chromium
nickel

CLEAN-UP®
Cation Extraction Columns



Chemistries are offered on these particle sizes.

Small Particle (5-20 µm)
Intermediate Particle (25-40 µm)
Standard Particle (40-60 µm)
Large Particle (125-210 µm)

Benzenesulfonic Acid

Part Number	Sorbent Amount/ Tube Volume	Unit per Pack
CUBCX1L1	50mg/1mL	100
CUBCX111	100mg/1mL	100
CUBCX123	200mg/3mL	50
CUBCX153	500mg/3mL	50
CUBCX156	500mg/6mL	50
CUBCX11Z	100mg/10mL	50
CUBCX12Z	200mg/10mL	50
CUBCX15Z	500mg/10mL	50
CUBCX1M6	1g/6mL	30
CUBCX12M15	2g/15mL	20
CUBCX15M25	5g/25mL	20
CUBCX110M75	10g/75mL	10

% Organic Loading: 11.00

Exchange Capacity (meq/g): 0.320

Application:
Scavenger for amines, alcohols and other nucleophiles.

Benzenesulfonic Acid - HIGH LOAD

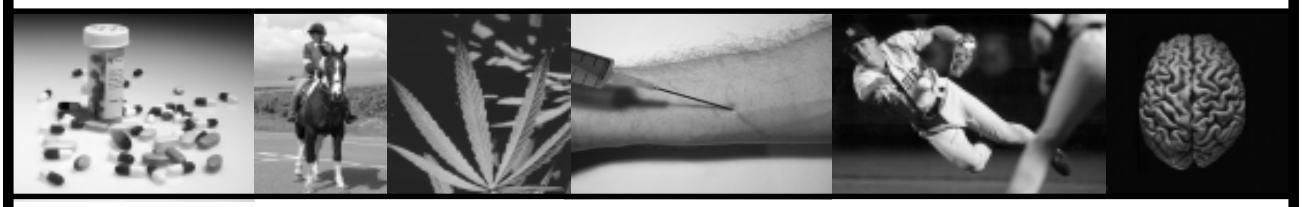
Part Number	Sorbent Amount/ Tube Volume	Unit per Pack
CUBCX1H1L1	50mg/1mL	100
CUBCX1HL11	100mg/1mL	100
CUBCX1HL23	200mg/3mL	50
CUBCX1HL53	500mg/3mL	50
CUBCX1HL56	500mg/6mL	50
CUBCX1HL1Z	100mg/10mL	50
CUBCX1HL2Z	200mg/10mL	50
CUBCX1HL5Z	500mg/10mL	50
CUBCX1HLM6	1g/6mL	30
CUBCX1HL2M15	2g/15mL	20
CUBCX1HL5M25	5g/25mL	20
CUBCX1HL10M75	10g/75mL	10

% Organic Loading: 11.00

Exchange Capacity (meq/g): 0.650

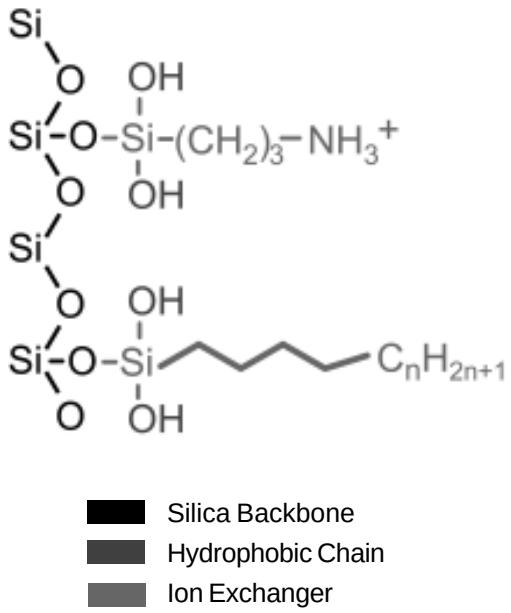
Application:
Scavenger for amines, alcohols and other nucleophiles.

CLEAN-UP®
Copolymeric Extraction Columns
(Ion Exchange with Hydrophobic Character)



This sorbent is composed of a silica backbone with two types of functional chains attached - an ion exchanger or polar chain and a hydrophobic carbon chain. Our copolymeric phases are produced in a way to allow for equal parts of each functional group to attach to the silica backbone. This copolymerization technique yields reproducible bonded phases and unique copolymeric chemistries which allow the controlled use of mixed mode separation mechanisms. The advantage of this type of dual chemistry is beneficial especially when one is looking for both a neutral & charged compound. This is common when a neutral parent drug metabolizes & becomes a charged compound.

Example of a Copolymeric Phase



Analytes*

Cations/Anions
Alkanes
Alkenes
Aromatics

Washes

1) Aqueous to disrupt hydrophilic interactions.

2) Methanol to disrupt residual hydrophobic and hydrophilic interferences.

Elutions

1) Organic, possibly with some aqueous to elute hydrophobically bound analytes.

2) Aqueous buffer with a pH that would neutralize ionically bound analytes or an aqueous with high ionic strength or a solvent with a counter ion that would bind to sorbent.

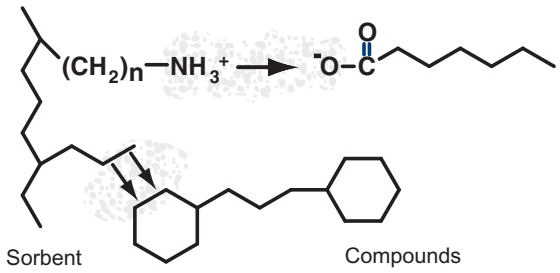
*Typical compounds which can be extracted using copolymeric columns

Copolymeric Sorbents & Structures

Sorbent	Structure*	pKa
Benzenesulfonic Acid (BCX2) strong cation exchange column	-Si-$(CH_2)_2$–⬡– SO_3H	always charged
Propylsulfonic Acid (PCX2) strong cation exchange column	-Si-$(CH_2)_3$ SO_3H	< 1
Carboxylic Acid (CCX2) weak cation exchange column	-Si-$(CH_2)_2$ COOH	4.8
Quaternary amine (QAX2) strong anion exchange column	-Si-$(CH_2)_3$ $N^+(CH_3)_3$	always charged
Aminopropyl (NAX2) weak anion exchange column	-Si-$(CH_2)_3$ NH_3^+	9.8
Cyanopropyl (CNP2) hydrophilic exchange column	-Si-$(CH_2)_3$CN	
Cyclohexyl (CYH2) hydrophobic exchange column	-Si-(CH_2)–⬡	

*Each copolymeric sorbent also contains a carbon chain approximately equal to a C8 chain

Example of Copolymeric Bonding



Mechanism of Copolymeric Bonding

Using a sample composed of a theoretical neutral parent drug and its charged (acidic) metabolite, it is applied at a pH of 6 (figure 1). At this pH, many amine groups are positively charged. Since the column is also positively charged, compounds with this chemistry (cations) are repelled. Depending on the pKa of the metabolite, carboxylic acid groups may be negatively charged, allowing the metabolite to bond to the positively charged sorbent. Since the column also possesses a hydrophobic chain, the neutral parent drug also bonds to the column.

Water or a weak aqueous buffer (pH6) washes away hydrophilically bound interferences (figure 2). The column is then dried, careful to free the column of any residual aqueous phase that would interfere with elution.

Sample Application

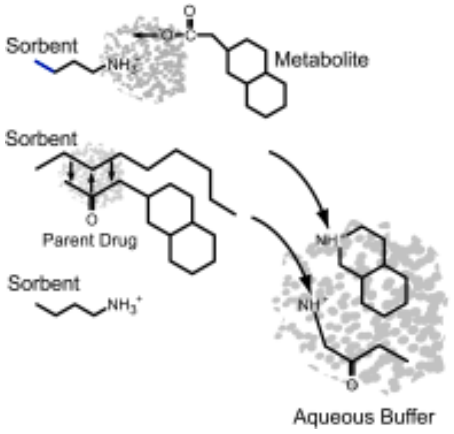


figure 1

Column Wash

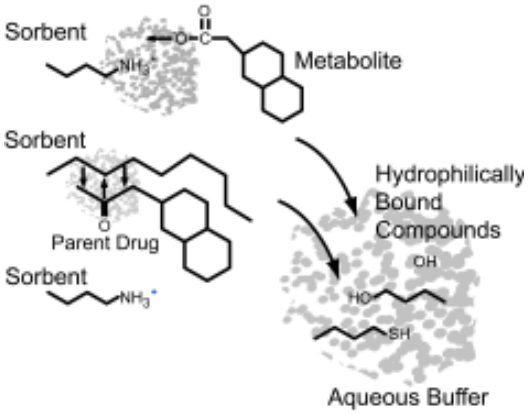


figure 2

Elution 1

The hydrophobically bound neutral parent drug is eluted with a solvent of minimal polarity, such as hexane/ethyl acetate - 80:20.

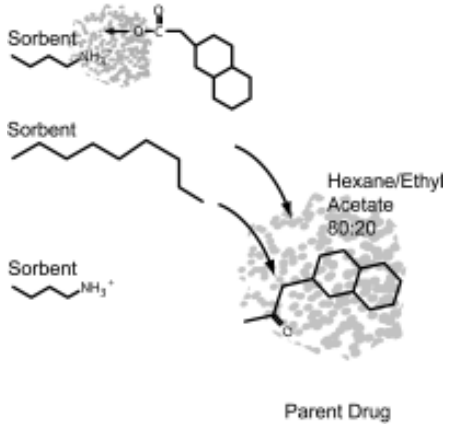


figure 3

Elution 2

The final elution employs an acid to neutralize the charge of acidic analytes. Ionic interaction is released, and analytes are eluted in an appropriate solvent mixture.

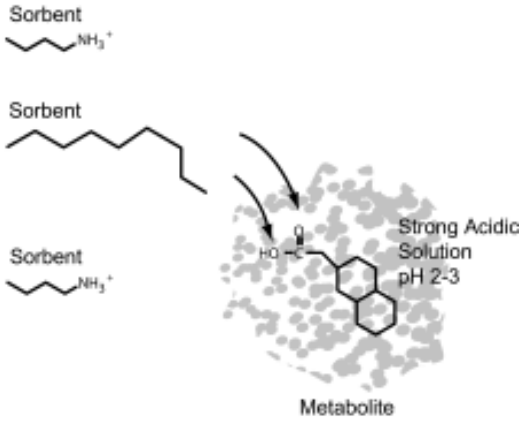


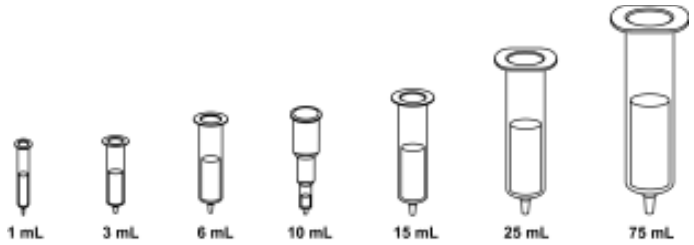
figure 4

	Anion Exchange Sorbent		Cation Exchange Sorbent	
	Goal	**pH**	**Goal**	**pH**
WASH	To promote bonding between sorbent and analyte	> analyte pKa or < sorbent pKa	To promote bonding between sorbent and analyte	< analyte pKa or > sorbent pKa
Elution	To disrupt bonding between sorbent and analyte	< analyte pKa or > sorbent pKa	To disrupt bonding between sorbent and analyte	> analyte pKa or < sorbent pKa

Percent of Compound in Ionic State

Functionality	Ionization	pH units away from pKa				
		2 < pKa	**1 < pKa**	**at pKa**	**1 > pKa**	**2 > pKa**
Acid	Anionic (-)	1	9	50	91	99
Base	Cationic (+)	99	91	50	9	1

CLEAN-UP®
Copolymeric Extraction Columns



Chemistries are offered on these particle sizes.

Small Particle (5-20 µm)
Intermediate Particle (25-40 µm)
Standard Particle (40-60 µm)
Large Particle (125-210 µm)

Hydrophobic plus Cyclohexyl

Part Number	Sorbent Amount/ Tube Volume	Unit per Pack
CUCYH2L1	50mg/1mL	100
CUCYH211	100mg/1mL	100
CUCYH223	200mg/3mL	50
CUCYH253	500mg/3mL	50
CUCYH256	500mg/6mL	50
CUCYH21Z	100mg/10mL	50
CUCYH22Z	200mg/10mL	50
CUCYH25Z	500mg/10mL	50
CUCYH2M6	1g/6mL	30
CUCYH22M15	2g/15mL	20
CUCYH25M25	5g/25mL	20
CUCYH210M75	10g/75mL	10

% Organic Loading: N/A

Exchange Capacity (meq/g): N/A

Application:
Dual functionality for phenols and hydrophobic compounds.

Hydrophobic plus Cyanopropyl

Part Number	Sorbent Amount/ Tube Volume	Unit per Pack
CUCNP2L1	50mg/1mL	100
CUCNP211	100mg/1mL	100
CUCNP223	200mg/3mL	50
CUCNP253	500mg/3mL	50
CUCNP256	500mg/6mL	50
CUCNP21Z	100mg/10mL	50
CUCNP22Z	200mg/10mL	50
CUCNP25Z	500mg/10mL	50
CUCNP2M6	1g/6mL	30
CUCNP22M15	2g/15mL	20
CUCNP25M25	5g/25mL	20
CUCNP210M75	10g/75mL	10

% Organic Loading: 14.60

Exchange Capacity (meq/g): 0.163

Application:
Dual functionality for polar and hydrophobic compounds.

Hydrophobic plus Propylsulfonic Acid

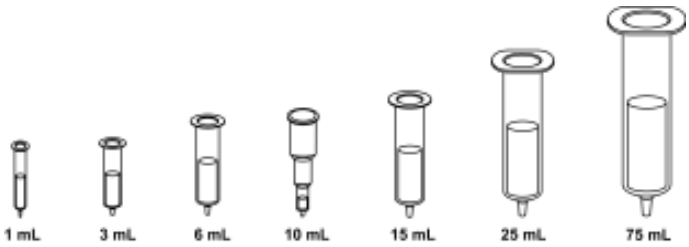
Part Number	Sorbent Amount/ Tube Volume	Unit per Pack
CUPCX2L1	50mg/1mL	100
CUPCX211	100mg/1mL	100
CUPCX223	200mg/3mL	50
CUPCX253	500mg/3mL	50
CUPCX256	500mg/6mL	50
CUPCX21Z	100mg/10mL	50
CUPCX22Z	200mg/10mL	50
CUPCX25Z	500mg/10mL	50
CUPCX2M6	1g/6mL	30
CUPCX22M15	2g/15mL	20
CUPCX25M25	5g/25mL	20
CUPCX210M75	10g/75mL	10

% Organic Loading: 14.62

Exchange Capacity (meq/g): 0.114

Application:
Dual functionality for weak bases and hydrophobic compounds.

CLEAN-UP®
Copolymeric Extraction Columns



Chemistries are offered on these particle sizes.

Small Particle (5-20 µm)
Intermediate Particle (25-40 µm)
Standard Particle (40-60 µm)
Large Particle (125-210 µm)

Hydrophobic plus Carboxylic Acid

Part Number	Sorbent Amount/ Tube Volume	Unit per Pack
CUCCX2L1	50mg/1mL	100
CUCCX211	100mg/1mL	100
CUCCX223	200mg/3mL	50
CUCCX253	500mg/3mL	50
CUCCX256	500mg/6mL	50
CUCCX21Z	100mg/10mL	50
CUCCX22Z	200mg/10mL	50
CUCCX25Z	500mg/10mL	50
CUCCX2M6	1g/6mL	30
CUCCX22M15	2g/15mL	20
CUCCX25M25	5g/25mL	20
CUCCX210M75	10g/75mL	10

% Organic Loading: 12.50

Exchange Capacity (meq/g): 0.105

Application:
Dual functionality for strong base and hydrophobic compounds.

Hydrophobic plus Benzenesulfonic Acid

Part Number	Sorbent Amount/ Tube Volume	Unit per Pack
CUBCX2L1	50mg/1mL	100
CUBCX211	100mg/1mL	100
CUBCX223	200mg/3mL	50
CUBCX253	500mg/3mL	50
CUBCX256	500mg/6mL	50
CUBCX21Z	100mg/10mL	50
CUBCX22Z	200mg/10mL	50
CUBCX25Z	500mg/10mL	50
CUBCX2M6	1g/6mL	30
CUBCX22M15	2g/15mL	20
CUBCX25M25	5g/25mL	20
CUBCX210M75	10g/75mL	10

% Organic Loading: 12.30

Exchange Capacity (meq/g): 0.072

Application:
Dual functionality for weak base and hydrophobic compounds.

Octadecyl plus Benzenesulfonic Acid

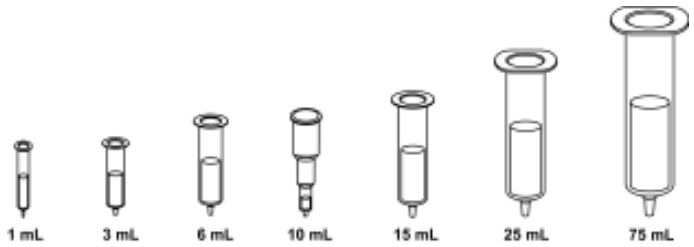
Part Number	Sorbent Amount/ Tube Volume	Unit per Pack
CUBCX3L1	50mg/1mL	100
CUBCX311	100mg/1mL	100
CUBCX323	200mg/3mL	50
CUBCX353	500mg/3mL	50
CUBCX356	500mg/6mL	50
CUBCX31Z	100mg/10mL	50
CUBCX32Z	200mg/10mL	50
CUBCX35Z	500mg/10mL	50
CUBCX3M6	1g/6mL	30
CUBCX32M15	2g/15mL	20
CUBCX35M25	5g/25mL	20
CUBCX310M75	10g/75mL	10

% Organic Loading: 12.30

Exchange Capacity (meq/g): N/A

Application:
Dual functionality for weak base and hydrophobic compounds.

CLEAN-UP®
Copolymeric Extraction Columns



Chemistries are offered on these particle sizes.

Small Particle (5-20 µm)
Intermediate Particle (25-40 µm)
Standard Particle (40-60 µm)
Large Particle (125-210 µm)

Hydrophobic plus N-2 Aminoethyl

Part Number	Sorbent Amount/ Tube Volume	Unit per Pack
CUPSA2L1	50mg/1mL	100
CUPSA211	100mg/1mL	100
CUPSA223	200mg/3mL	50
CUPSA253	500mg/3mL	50
CUPSA256	500mg/6mL	50
CUPSA21Z	100mg/10mL	50
CUPSA22Z	200mg/10mL	50
CUPSA25Z	500mg/10mL	50
CUPSA2M6	1g/6mL	30
CUPSA22M15	2g/15mL	20
CUPSA25M25	5g/25mL	20
CUPSA210M75	10g/75mL	10

% Organic Loading: 9.70

Exchange Capacity (meq/g): N/A

Application:
Scavenger for acids, cyclic compounds, cholesterols, and other liquid type and compounds.

Octadecyl plus N-2 Aminoethyl

Part Number	Sorbent Amount/ Tube Volume	Unit per Pack
CUPSA3L1	50mg/1mL	100
CUPSA311	100mg/1mL	100
CUPSA323	200mg/3mL	50
CUPSA353	500mg/3mL	50
CUPSA356	500mg/6mL	50
CUPSA31Z	100mg/10mL	50
CUPSA32Z	200mg/10mL	50
CUPSA35Z	500mg/10mL	50
CUPSA3M6	1g/6mL	30
CUPSA32M15	2g/15mL	20
CUPSA35M25	5g/25mL	20
CUPSA310M75	10g/75mL	10

% Organic Loading: 9.70

Exchange Capacity (meq/g): N/A

Application:
Scavenger for acids, cyclic compounds, cholesterols, and other liquid type and compounds.

Hydrophobic plus Quaternary Amine

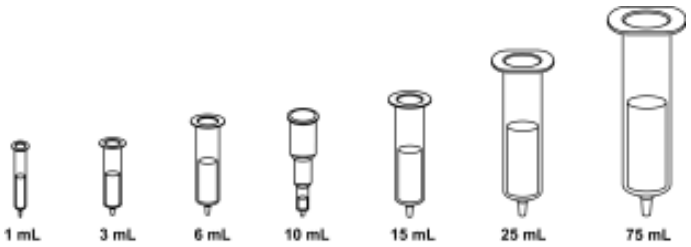
Part Number	Sorbent Amount/ Tube Volume	Unit per Pack
CUQAX2L1	50mg/1mL	100
CUQAX211	100mg/1mL	100
CUQAX223	200mg/3mL	50
CUQAX253	500mg/3mL	50
CUQAX256	500mg/6mL	50
CUQAX21Z	100mg/10mL	50
CUQAX22Z	200mg/10mL	50
CUQAX25Z	500mg/10mL	50
CUQAX2M6	1g/6mL	30
CUQAX22M15	2g/15mL	20
CUQAX25M25	5g/25mL	20
CUQAX210M75	10g/75mL	10

% Organic Loading: 13.60

Exchange Capacity (meq/g): 0.160

Application:
Dual functionality for weak acids and hydrophobic compounds.

CLEAN-UP®
Copolymeric Extraction Columns



Chemistries are offered on these particle sizes.

Small Particle (5-20 µm)
Intermediate Particle (25-40 µm)
Standard Particle (40-60 µm)
Large Particle (125-210 µm)

Hydrophobic plus Aminopropyl

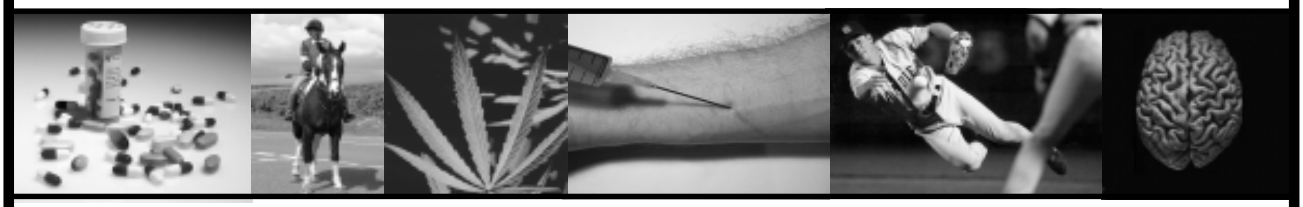
Part Number	Sorbent Amount/ Tube Volume	Unit per Pack
CUNAX2L1	50mg/1mL	100
CUNAX211	100mg/1mL	100
CUNAX223	200mg/3mL	50
CUNAX253	500mg/3mL	50
CUNAX256	500mg/6mL	50
CUNAX21Z	100mg/10mL	50
CUNAX22Z	200mg/10mL	50
CUNAX25Z	500mg/10mL	50
CUNAX2M6	1g/6mL	30
CUNAX22M15	2g/15mL	20
CUNAX25M25	5g/25mL	20
CUNAX210M75	10g/75mL	10

% Organic Loading: 12.3

Exchange Capacity (meq/g): 0.163

Application:
Dual functionality for strong acids and hydrophobic compounds.

CLEAN-UP®
Covalent Phase Columns



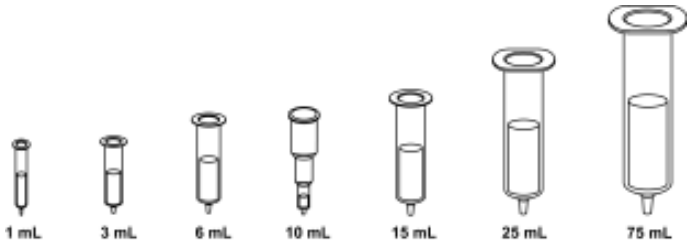
Covalent

Covalent sorbent has aldehyde functional groups that are bound to the silica backbone by a hydrocarbon chain. The aldehyde group will react selectively with compounds containing a primary amine. A formal bond is created between the stationary support and the primary amine containing material.

Mechanism of Covalent Bonding

The primary amine in the sample performs a nucleophilic attack on the aldehyde functional group attached to the support. This results in a Schiff base, with the amine immobilized on the stationary support. This chemistry can be utilized to bind proteins, such as antibodies, to the support allowing highly specific extractions.

CLEAN-UP®
Covalent Extraction Columns



Chemistries are offered on these particle sizes.

Small Particle (5-20 µm)
Intermediate Particle (25-40 µm)
Standard Particle (40-60 µm)
Large Particle (125-210 µm)

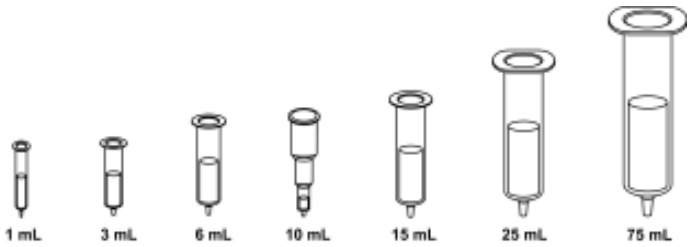
Aldehyde

Part Number	Sorbent Amount/ Tube Volume	Unit per Pack
CUALD1L1	50mg/1mL	100
CUALD111	100mg/1mL	100
CUALD123	200mg/3mL	50
CUALD153	500mg/3mL	50
CUALD156	500mg/6mL	50
CUALD11Z	100mg/10mL	50
CUALD12Z	200mg/10mL	50
CUALD15Z	500mg/10mL	50
CUALD1M6	1g/6mL	30
CUALD12M15	2g/15mL	20
CUALD15M25	5g/25mL	20
CUALD110M75	10g/75mL	10

% Organic Loading: N/A

Application:
Scavenger for primary amines, hydrazines, reducing agents and other nucleophiles. Covalent bonding for proteins, enzymes and other bioactive molecules.

CLEAN-UP®
Covalent Extraction Columns



Chemistries are offered on these particle sizes.

Small Particle (5-20 µm)
Intermediate Particle (25-40 µm)
Standard Particle (40-60 µm)
Large Particle (125-210 µm)

Epoxy

Part Number	Sorbent Amount/ Tube Volume	Unit per Pack
CUEPX1L1	50mg/1mL	100
CUEPX111	100mg/1mL	100
CUEPX123	200mg/3mL	50
CUEPX153	500mg/3mL	50
CUEPX156	500mg/6mL	50
CUEPX11Z	100mg/10mL	50
CUEPX12Z	200mg/10mL	50
CUEPX15Z	500mg/10mL	50
CUEPX1M6	1g/6mL	30
CUEPX12M15	2g/15mL	20
CUEPX15M25	5g/25mL	20
CUEPX110M75	10g/75mL	10

% Organic Loading: N/A

Application:
Covalent bond formation with proteins amines and other nucleophiles.

Isocyanate

Part Number	Sorbent Amount/ Tube Volume	Unit per Pack
CUICN1L1	50mg/1mL	100
CUICN111	100mg/1mL	100
CUICN123	200mg/3mL	50
CUICN153	500mg/3mL	50
CUICN156	500mg/6mL	50
CUICN11Z	100mg/10mL	50
CUICN12Z	200mg/10mL	50
CUICN15Z	500mg/10mL	50
CUICN1M6	1g/6mL	30
CUICN12M15	2g/15mL	20
CUICN15M25	5g/25mL	20
CUICN110M75	10g/75mL	10

% Organic Loading: 7.1

Application:
Scavenger for amines, alkoxides and other nucleophiles.

Thiopropyl

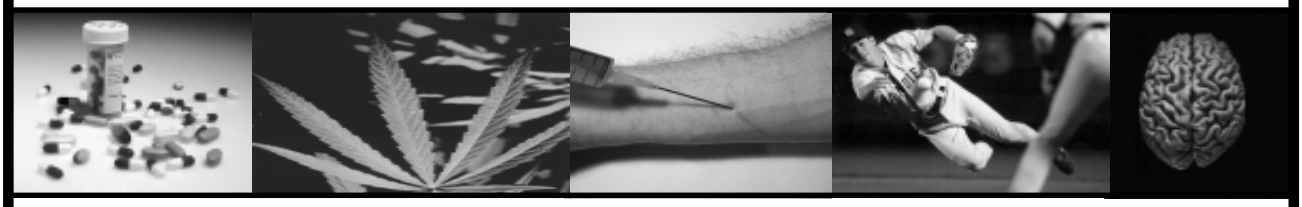
Part Number	Sorbent Amount/ Tube Volume	Unit per Pack
CUTHX1L1	50mg/1mL	100
CUTHX111	100mg/1mL	100
CUTHX123	200mg/3mL	50
CUTHX153	500mg/3mL	50
CUTHX156	500mg/6mL	50
CUTHX11Z	100mg/10mL	50
CUTHX12Z	200mg/10mL	50
CUTHX15Z	500mg/10mL	50
CUTHX1M6	1g/6mL	30
CUTHX12M15	2g/15mL	20
CUTHX15M25	5g/25mL	20
CUTHX110M75	10g/75mL	10

% Organic Loading: 6.50

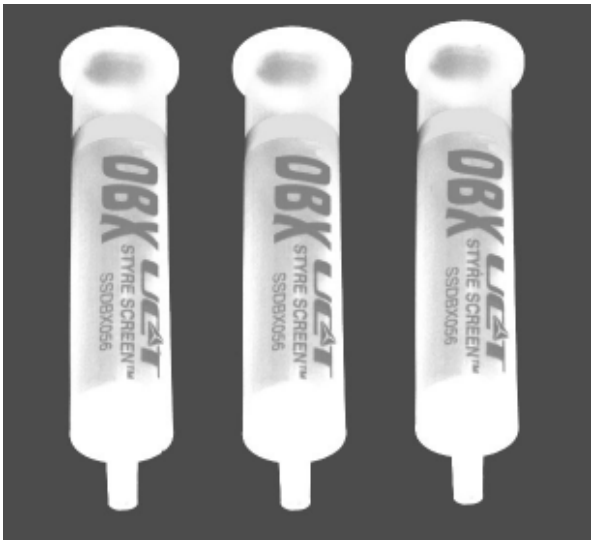
Application:
Scavenger for alkylating agents, alcohols and amines.

STYRE SCREEN™

Polymeric Resin Columns



Advantages of STYRE SCREEN™ DBX:



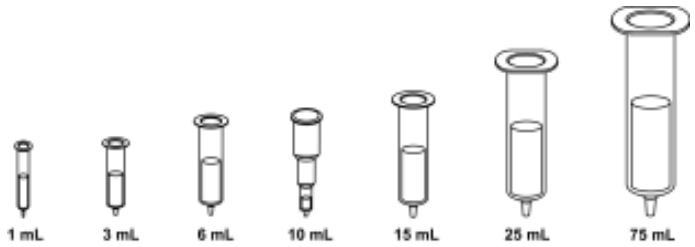
- No conditioning steps
- Copolymer allows for extraction of acids, neutrals and bases
- High and reproducible recoveries
- Clean extractions
- Highly cross-linked styrene/divinylbenzene polymer
- Reduction in sorbent mass
- Faster flow rates
- pH stable (1 to 14)
- Reduction in solvent use
- High sorbent capacity
- Methods for NIDA/SAMHSA 5 Drugs

Introduction to STYRE SCREEN™ DBX Extraction Columns

DBX extraction columns contain an ultra clean, highly cross-linked styrene and divinylbenzene copolymer sorbent that is functionalized with both a reverse phase, hydrophobic component and a strong cation exchanger. High and reproducible recoveries for acidic, neutral and basic compounds are achievable with a single column. The DBX particles have an average particle size of 30 microns and a very high analyte capacity making them ideal for standard solid phase extraction applications. The increased analyte capacity means that less sorbent bed mass is needed which results in faster flow rates and less solvent use. Higher throughput and less solvent waste disposal translate into significant savings in both time and money. In addition, no conditioning steps are required for most drugs of abuse applications.

- Available in 1 mL, 3 mL and 6 mL reservoirs.
- Can be used with vacuum or positive pressure manifolds, as well as conventional automated extraction equipment.

STYRE SCREEN™
Polymeric Resins for Solid Phase Extraction Columns



Chemistries are offered on this particle size.

Particle Size (20-60µm)
Pore Size (100A)
Surface Area (200m2/g)

DBX - Benzenesulfonic Acid + C18

Part Number	Sorbent Amount/ Tube Volume	Unit per Pack
SSDBX031	30mg/1mL	100
SSDBX033	30mg/3mL	50
SSDBX056	50mg/6mL	50

% Organic Loading: 12.30

Application:
Dual functionality for weak acids and hydrophobic compounds.

DVB - Polystyrene Divinylbenzene

Part Number	Sorbent Amount/ Tube Volume	Unit per Pack
SSDVX031	30mg/1mL	100
SSDVX033	30mg/3mL	50
SSDVX056	50mg/6mL	50

% Organic Loading: N/A

Application:
N/A

BCX - Reverse Phase

Part Number	Sorbent Amount/ Tube Volume	Unit per Pack
SSBCX031	30mg/1mL	100
SSBCX033	30mg/3mL	50
SSBCX056	50mg/6mL	50

% Organic Loading: 11.00

Application:
Scavenger for amines, alcohols and other nucleophiles.

C18 - Reverse Phase

Part Number	Sorbent Amount/ Tube Volume	Unit per Pack
SSC18031	30mg/1mL	100
SSC18033	30mg/3mL	50
SSC18056	50mg/6mL	50

% Organic Loading: 21.70

Application:
Removes hydrophobic impurities, de-salting and purification of hydrophobic compounds.

QAX - Quaternary Amine

Part Number	Sorbent Amount/ Tube Volume	Unit per Pack
SSQAX031	30mg/1mL	100
SSQAX033	30mg/3mL	50
SSQAX056	50mg/6mL	50

% Organic Loading: 6.60

Application:
Removes large or more hydrophobic compounds.

Method Development Kits
Solid Phase Extraction Columns

UCT understands that the optimum sorbent for any given separation cannot always be chosen empirically and also that the cost of purchasing individual sorbents for screening purposes can be prohibitive. We offer the following kits at prices designed to reduce the cost of assay development.

UCT's suggested approach to method development:

- Define the problem or objective
- Characterize the analyte(s) and matrix
- Select a Method Development Kit
- Evaluate extraction performance of columns in kit
- Select best column - optimize method

Method Development Kits
Solid Phase Extraction Columns

Non-Polar Phases, Endcapped

Part Number: MDK-NPE-I • Total Number of tubes: 140 • 14 packages / 10 each

CEC02111	CEC06111	CEC18111
CECN3111	CEC07111	CEC20111
CECn4111	CEC08111	CECYH111
CECi4111	CEC12111	CEPHY111
CECt4111		

This kit contains ten 100 mg/1 ml tubes of each of fourteen non-polar phases which include the end-capped hydrophobic phases, for C2, C3, C4, Ci4 (isobutyl), Ct4 (tertbutyl), C6, C7, C8, C10, C12, C18, C20, along with cyclohexyl (CYH), and phenyl (PHY) phases.

Polar Phases

Part Number: MDK-PU-I • Total Number of tubes: 80 • 8 packages / 10 each

CEC02111	CUDOL111	CUPSA111
CUCNP111	CUSIL111	CUDAX111
CECNP111	CUNAX111	

This kit contains ten 100 mg/1 ml tubes of each of eight phases with polar characteristics, including C2, cyanopropyl (CNP), diol (DOL), silica (SIL), primary amine (aminopropyl; NAX), secondary amine (aminoethyl; PSA), tertiary amine (diethylamino; DAX).

Environmental Phases

Part Number: MDK-ENV-111 • Total Number of tubes: 50 • 10 packages / 5 each

EUC18123	EUQAX123	EUALB123
EUDAU123	EUALN123	EUBCX123
EUSIL123	EUALA123	EUCARB23
EUFLS123		

This kit contains five 200 mg/3 mL tubes of each of ten phases. It includes a non-polar functionality with an effective chain length of a C18, CSDAU, Silica, Florisil®, QAX, Alumina-N, Alumina-A, Alumina-B, BCX, and Carbon.

Method Development Kits
Solid Phase Extraction Columns

(Copolymeric) Polar and Ion Exchange Phases

Part Number: MDK-PU/1EX-11 • Total Number of tubes: 60 • 6 packages / 10 each

CUCNP211	CUCCX211
CUNAX211	CUPCX211
CUQAX211	CUBCX211

This kit contains ten 100 mg/1 ml tubes of each of six mixed mode phases containing a non-polar and polar or ion exchange functionality. The non-polar functionality in each case has an effective chain length of a C8. The polar or ion exchange functionality of each phase consists of one of the following: cyanopropyl (CNP2), primary amine (aminopropyl; NAX2), quaternary amine (QAX2), carboxylic acid (CCX2), propylsulfonic acid (PCX2), and benzenesulfonic acid (BCX2).

Ion Exchange Phases

Part Number: MDK-IEX-I • Total Number of tubes: 70 • 7 packages / 10 each

CUNAX111	CUCCX111
CUPSA111	CUPCX111
CUDAX111	CUBCX111
CUQAX111	

This kit contains ten 100 mg/1 mL tubes of each of seven ion exchange phases including primary amine (aminopropyl; NAX), secondary amine (aminoethyl; PSA), tertiary amine (diethylamino; DAX), quaternary amine (QAX), carboxylic acid (CCX), propylsulfonic acid (PCX), and benzenesulfonic acid (BCX) phases.

Toxicology Phases

Part Number: MDK-TOX-111 • Total Number of tubes: 40 • 8 packages / 5 each

CSDAU203	CEC02123
CSTHC203	CEC08123
CUSIL123	CEC18123
CECNP123	CUC18123

This kit contains five 200 mg/3 ml tubes of each of eight phases. The two standard phases used for drugs of abuse testing are CSDAU and CSTHC. Other phases commonly used in toxicology are the polar and non-polar phases. The polar phases are unbonded silica and cyanopropyl (CNP); the non-polar phases are endcapped, C2, C8, and both endcapped and unendcapped C18.

Pharmaceutical Phases

Part Number: MDK-PHM-111 • Total Number of tubes: 40 • 8 packages / 5 each

CEC08123	CEC18123
CUBCX123	CUCCX123
CUNAX223	CUQAX123
CEC02123	CUCNP123

This kit contains five 200 mg/3 ml tubes of each of eight phases that are most often selected for pharmaceutical applications. Two copolymeric phases having the dual functionalities of non-polar C8 and either benzenesulfonic acid (BCX) or aminopropyl (NAX). The remaining columns are polymeric phases which include three endcapped, hydrophobic phases (C2, C8, C18), two ion exchange phases (CCX, QAX), and one polar phase (CNP).

SELECTRASORB™
Bulk Sorbents Packing Material

Copolymeric Bonded Phases for Drug Abuse Testing

Description	Part Number	Sizes
CSDAU		
	CSDAU00X	10g
	CSDAU00C	100g
	CSDAU00K	1kg
CSTHC		
	CSTHC00X	10g
	CSTHC00C	100g
	CSTHC00K	1kg

Covalent

Description	Part Number	Sizes
ALDEHYDE		
	CUALD00X	10g
	CUALD00C	100g
	CUALD00K	1kg
EPOXY		
	CUEPX00X	10g
	CUEPX00C	100g
	CUEPX00K	1kg
ISOCYANATE		
	CUICN00X	10g
	CUICN00C	100g
	CUICN00K	1kg
THIOPROPYL		
	CUTHX00X	10g
	CUTHX00C	100g
	CUTHX00K	1kg

Hydrophobic

Description	Part Number Endcapped	Part Number Unendcapped	Sizes
C2, ETHYL			
	CEC0200X	CUC0200X	10g
	CEC0200C	CUC0200C	100g
	CEC0200K	CUC0200K	1kg
C3, PROPYL			
	CECn300X	CUCn300X	10g
	CECn300C	CUCn300C	100g
	CECn300K	CUCn300K	1kg
C4, n-BUTYL			
	CECn400X	CUCn400X	10g
	CECn400C	CUCn400C	100g
	CECn400K	CUCn400K	1kg
Ci4, ISOBUTYL			
	CECi400X	CUCi400X	10g
	CECi400C	CUCi400C	100g
	CECi400K	CUCi400K	1kg
Ct4, TERTIARY BUTYL			
	CECt400X	CUCt400X	10g
	CECt400C	CUCt400C	100g
	CECt400K	CUCt400K	1kg
C5, PENTYL			
	CEC0500X	CUC0500X	10g
	CEC0500C	CUC0500C	100g
	CEC0500K	CUC0500K	1kg
C6, HEXYL			
	CEC0600X	CUC0600X	10g
	CEC0600C	CUC0600C	100g
	CEC0600K	CUC0600K	1kg
C7, HEPTYL			
	CEC0700X	CUC0700X	10g
	CEC0700C	CUC0700C	100g
	CEC0700K	CUC0700K	1kg

Description	Part Number Endcapped	Part Number Unendcapped	Sizes
C8, OCTYL			
	CEC0800X	CUC0800X	10g
	CEC0800C	CUC0800C	100g
	CEC0800K	CUC0800K	1kg
C10, nDECYL			
	CEC1000X	CUC1000X	10g
	CEC1000C	CUC1000C	100g
	CEC1000K	CUC1000K	1kg
C12, nDODECYL			
	CEC1200X	CUC1200X	10g
	CEC1200C	CUC1200C	100g
	CEC1200K	CUC1200K	1kg
C18, OCTADECYL Tri-Functional			
	CEC1800X		10g
	CEC1800C		100g
	CEC1800K		1kg
C18, OCTADECYL Di-Functional			
	CEC18B00X		10g
	CEC18B00C		100g
	CEC18B00K		1kg
C20, EICOSYL			
	CEC2000X	CUC2000X	10g
	CEC2000C	CUC2000C	100g
	CEC2000K	CUC2000K	1kg
C30, TRICONTYL			
	CEC3000X	CUC3000X	10g
	CEC3000C	CUC3000C	100g
	CEC3000K	CUC3000K	1kg
CYCLOHEXYL			
	CECYH00X	CUCYH00X	10g
	CECYH00C	CUCYH00C	100g
	CECYH00K	CUCYH00K	1kg
PHENYL			
	CEPHY00X	CUPHY00X	10g
	CEPHY00C	CUPHY00C	100g
	CEPHY00K	CUPHY00K	1kg

SELECTRASORB™ Bulk Sorbents

Hydrophilic

Description	Part Number Endcapped	Part Number Unendcapped	Sizes
CN,CYANOPROPYL			
	CECNP00X	CUCNP00X	10g
	CECNP00C	CUCNP00C	100g
	CECNP00K	CUCNP00K	1kg
UNBONDED SILICA SG3			
40-63 µm		CUSIL00X	10g
		CUSIL00C	100g
		CUSIL00K	1kg
PHARMA-SIL™			
High Surface Activity Silica, SG2			
40-63 µm		PHSIL00X	10g
		PHSIL00C	100g
		PHSIL00K	1kg
DIOL			
		CUDOL00X	10g
		CUDOL00C	100g
		CUDOL00K	1kg
FLORISIL			
		CUFLS00X	10g
		CUFLS00C	100g
		CUFLS00K	1kg
ALUMINA, ACIDIC			
		CUALA00X	10g
		CUALA00C	100g
		CUALA00K	1kg
ALUMINA, BASIC			
		CUALB00X	10g
		CUALB00C	100g
		CUALB00K	1kg
ALUMINA, NEUTRAL			
		CUALN00X	10g
		CUALN00C	100g
		CUALN00K	1kg

Copolymeric

Description	Part Number	Sizes
CYANOPROPYL + C18		
	CUCNP20X	10g
	CUCNP20C	100g
	CUCNP20K	1kg
BENZENESULFONIC ACID + C18		
	CUBCX20X	10g
	CUBCX20C	100g
	CUBCX20K	1kg
PROPYLSULFONIC ACID + C18		
	CUPCX20X	10g
	CUPCX20C	100g
	CUPCX20K	1kg
CARBOXYLIC ACID + C18		
	CUCCX20X	10g
	CUCCX20C	100g
	CUCCX20K	1kg
QUATERNARY ACID + C18		
	CUQAX20X	10g
	CUQAX20C	100g
	CUQAX20K	1kg
AMINOPROPYL + C18		
	CUNAX20X	10g
	CUNAX20C	100g
	CUNAX20K	1kg
CYCLOHEXYL + C8		
	CUCYH20X	10g
	CUCYH20C	100g
	CUCYH20K	1kg

SELECTRASORB™ Bulk Sorbents

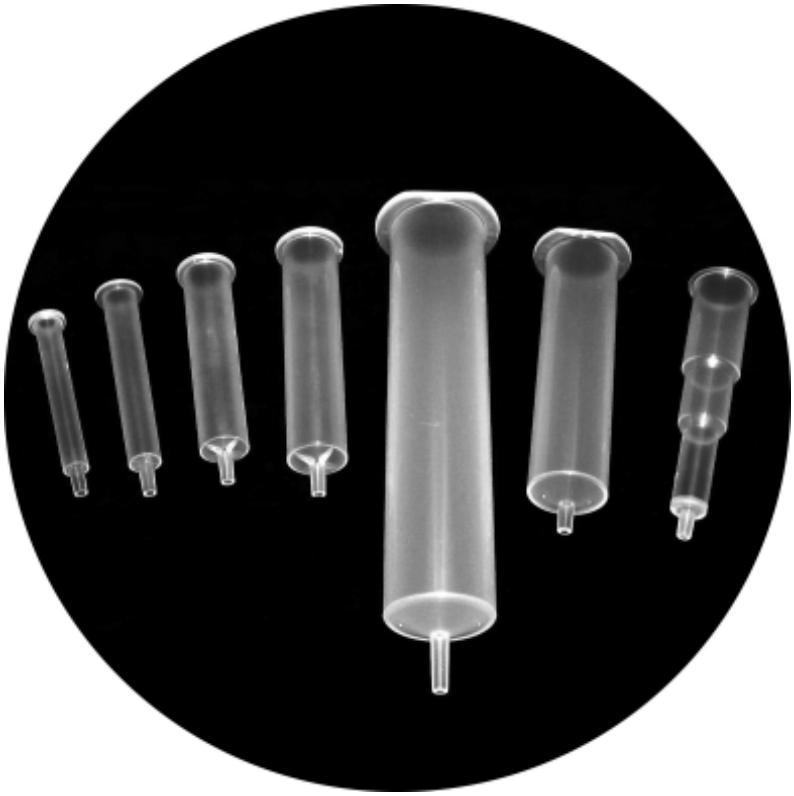
Ion Exchange (ANION)

Description	Part Number	Sizes
N-2 AMINOETHYL		
	CUPSA00X	10g
	CUPSA00C	100g
	CUPSA00K	1kg
AMINOPROPYL		
	CUNAX00X	10g
	CUNAX00C	100g
	CUNAX00K	1kg
DIETHYLAMINO		
	CUDAX00X	10g
	CUDAX00C	100g
	CUDAX00K	1kg
QUATERNARY AMINE with CHLORIDE COUNTER ION		
	CUQAX00X	10g
	CUQAX00C	100g
	CUQAX00K	1kg
QUATERNARY AMINE with ACETATE COUNTER ION		
	CAQAX00X	10g
	CAQAX00C	100g
	CAQAX00K	1kg
QUATERNARY AMINE with HYDROXIDE COUNTER ION		
	CHQAX00X	10g
	CHQAX00C	100g
	CHQAX00K	1kg
QUATERNARY AMINE with FORMATE COUNTER ION		
	CFQAX00X	10g
	CFQAX00C	100g
	CFQAX00K	1kg
POLYIMINE		
	CUPAX00X	10g
	CUPAX00C	100g
	CUPAX00K	1kg

Ion Exchange (CATION)

Description	Part Number	Sizes
CARBOXYLIC ACID		
	CUCCX00X	10g
	CUCCX00C	100g
	CUCCX00K	1kg
PROPYLSULFONIC ACID		
	CUPCX00X	10g
	CUPCX00C	100g
	CUPCX00K	1kg
BENZENESULFONIC ACID		
	CUBCX00X	10g
	CUBCX00C	100g
	CUBCX00K	1kg
BENZENESULFONIC ACID (HIGH LOAD)		
	CUBCX1HL00X	10g
	CUBCX1HL00C	100g
	CUBCX1HL00K	1kg
TRI-ACETIC ACID		
	CUTAX00X	10g
	CUTAX00C	100g
	CUTAX00K	1kg

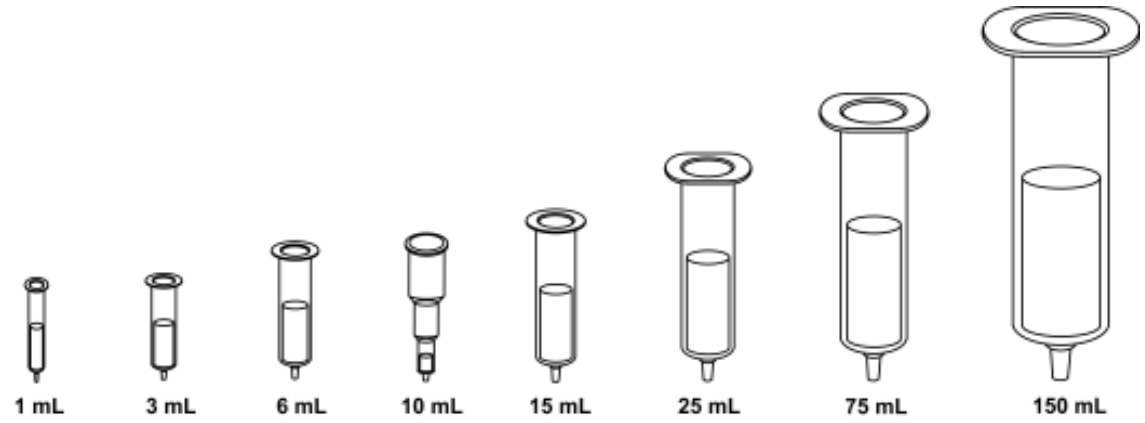
Reservoirs - Frits - SPE Accessors



Empty Polypropylene Reserviors

Part Number	Description	
Empty Reservoirs	**Standard Configuration**	**Units**
RFV0001P	1 mL capacity	50
RFV0004P	4 mL capacity	50
RFV0008P	8 mL capacity	50
RFV0010P	10 mL capacity	50
RFV0015P	15 mL capacity	50
RFV0025P	25 mL capacity	50
RFV0075P	75 mL capacity	20
RFV0150P	150 mL capacity	8

Reservoirs



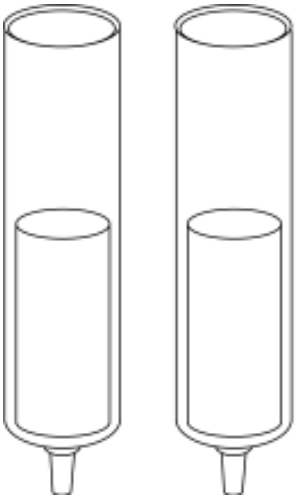
Fritted Polypropylene Reserviors

Part Number Fritted Reservoirs 1 Frit, 10 Micron Porosity	Part Number Fritted Reservoirs 2 Frits, 10 Micron Porosity	Description Standard Configuration	Units
RFV01F1P	RFV02F1P	1 mL capacity	50
RFV01F4P	RFV02F8P	4 mL capacity	50
RFV01F8P	RFV02F8P	8 mL capacity	50
RFV01F10P	RFV2F10P	10 mL capacity	50
RFV01F15P	RFV2F15P	15 mL capacity	50
RFV01F25P	RFV2F25P	25 mL capacity	50
RFV01F75P	RFV2F75P	75 mL capacity	20

Part Number Fritted Reservoirs 1 Frit, 20 Micron Porosity	Part Number Fritted Reservoirs 2 Frits, 20 Micron Porosity	Description Standard Configuration	Units
RFT01F1P	RFT02F1P	1 mL capacity	50
RFT01F4P	RFT02F8P	4 mL capacity	50
RFT01F8P	RFT02F8P	8 mL capacity	50
RFT01F10P	RFT2F10P	10 mL capacity	50
RFT01F15P	RFT2F15P	15 mL capacity	50
RFT01F25P	RFT2F25P	25 mL capacity	50
RFT01F75P	RFT2F75P	75 mL capacity	20

Reservoirs

Flangeless Reservoirs



Part Number	Description	Units
RFT00R3P	Empty Flangeless Tube 4 mL capacity	50
RFT01FR3P	Empty Flangeless Tube Frit Only (Filter Tube) 4 mL capacity	50

Glass Reservoirs

Part Number	Tube Volume	Frit Description	Tube Description	Units
RFV0008G	6 mL	No Frits	Empty Glass Tube	30
RFV01F8G	6 mL	1 Tefton Frit inserted	Glass Tube	30
FR10081T	6 mL	Tefton Frit Only	None	60
RFV0004G	3 mL	No Frits	Empty Glass Tube	30
RF01F4G	3 mL	1 Tefton frit inserted	Glass Tube	30
FR10041T	3 mL	Tefton Frit Only	None	60

Frits

Stainless Steel Frits

Part Number 20 Micron Porosity (1/8" thickness)	Description Standard Configuration	Units
FT15011S	1 mL capacity	100
FT15041S	4 mL capacity	100
FT15081S	8 mL capacity	100
FT15151S	10 mL capacity	100

Porous Polypropylene Frits

Part Number 10 Micron Porosity (1/16" thickness)	Description Standard Configuration	Units
FR10011P	1 mL capacity	100
FR10041P	4 mL capacity	100
FR10081P	8 mL capacity	100
FR10101P	10 mL capacity	100
FR10151P	15 mL capacity	100
FR10251P	25 mL capacity	100
FR10751P	75 mL capacity	100

Part Number 20 Micron Porosity (1/16" thickness)	Description Standard Configuration	Units
FR20011P	1 mL capacity	100
FR20041P	4 mL capacity	100
FR20081P	8 mL capacity	100
FR20101P	10 mL capacity	100
FR20151P	15 mL capacity	100
FR20251P	25 mL capacity	100
FR20751P	75 mL capacity	100

Part Number 20 Micron Porosity (1/8" thickness)	Description Standard Configuration	Units
FT20011P	1 mL capacity	100
FT20041P	4 mL capacity	100
FT20081P	8 mL capacity	100
FT20101P	10 mL capacity	100
FT20151P	15 mL capacity	100
FT20251P	25 mL capacity	100
FT20751P	75 mL capacity	100

Teflon Frits

Part Number	Tube Volume	Frit and Tube	Units
FR10081T	6 mL capacity	Teflon & None	60
FR10041T	3 mL capacity	Teflon & None	60

Solid Phase Extraction Accessories

item	Quantity	Part Number

Stopcock Valves

Quantity	Part Number
12	VMF02131
16	VMF02116
24	STCK24

Solvent resistant, reusable luer fitted valves to be used in conjunction with a vacuum manifold. Provides individual flow control to each SPE reservoir.

Adapters 15 AD0000AS

Adapter cap has a tapered fit for 1, 3 and 6mL size reservoirs with a standard luer fitting on top. These adapters are ideal when a sample volume exceeds the capacity of the SPE column or when sequential extractions are desired.

Male Luer caps 50 LUER50

Fits a standard luer, for all reservoir sizes.

CLEAN-THRU® Tips 50 CLTTP050

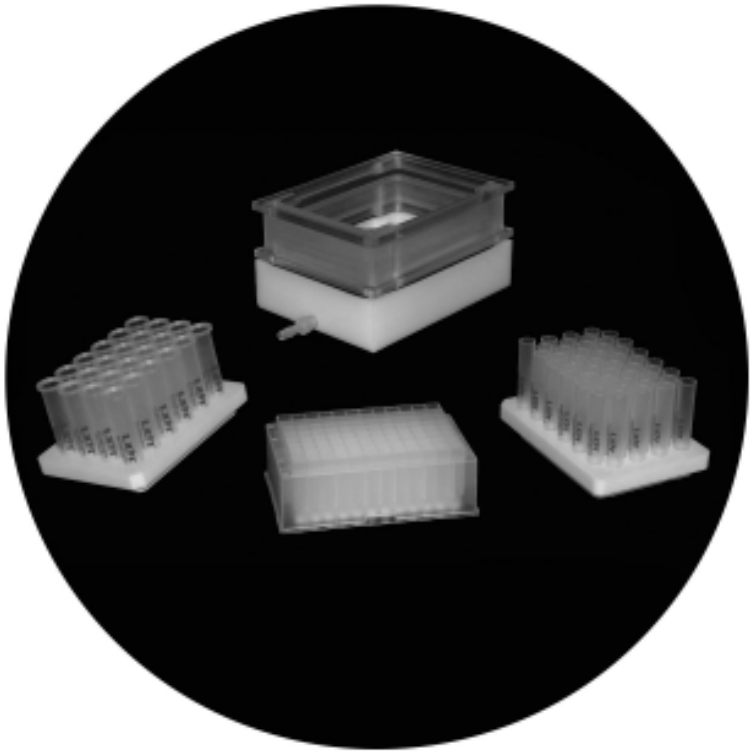
Eliminates sample carry over from the vacuum manifold lid. Tips connect to the luer tip on the SPE reservoir and are passed through the manifold, directly into the waste or collection vessel. They provide a completely disposable system that eliminates any contact between the sample, or wash solvents and the extraction apparatus. As each extraction is completed, the column and tip are discarded as a unit. This system was designed in order to meet the strict requirements of the Substance Abuse and Mental Health Services Administration

Flange Caps

Inlet Caps plug the top of SPE tubes.

Part Number	Cap Volume	Quantity
CR00011P	1 mL	50
CR00013P	3 mL	50
CR00018P	6 mL	50
CR00015P	15 mL	50
CR00025P	25 mL	50

Universal Vacuum Manifold

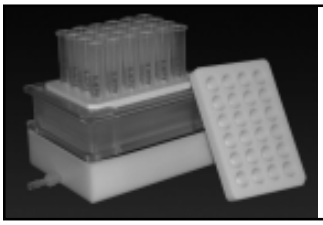


The Total Solution

Part Number: VMFUVWP

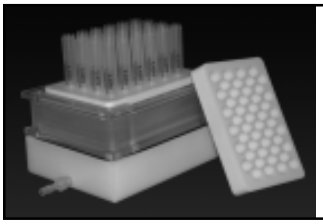
- Complete Universal Vacuum Manifold with 24 well plate, 48 well plate, 96 deep well plate and manifold system.

Universal Manifold and Accessories



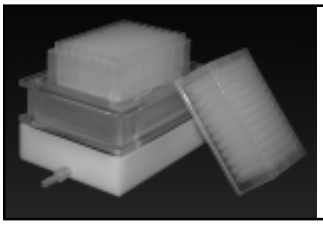
24 Well Plate - with Manifold System
Part Number: VMF24WP

- Extraction plate can accomodate (24) 6 mL SPE columns.
- UCT SPE columns can be packed in 500 mg,1 and 2 gram formats.
- Collect samples directly into microplate or analytical vials.



48 Well Plate - with Manifold System
Part Number: VMF48WP

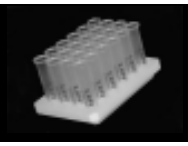
- Extraction plate can accomodate (48) 4.5 mL SPE columns in a staggered array.
- Elute samples directly into 12 x 75 mm test tube or 2 mL analytical vials.



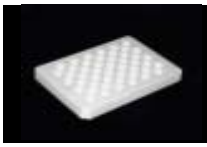
96 Deep Well Plate - with Manifold System
Part Number: VMF96WP

- Accommodates standard 96 deep well plate 2 mL wells.
- Collect directly into microplate.

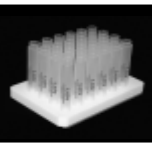
Description	Part Number	Unit
Empty 96 deep well plate with frits inserted	WOR961FR	1
Empty 96 deep well plate without frits	WOR960FR	1
Loose 96 deep well plate frits	FR10961P	1



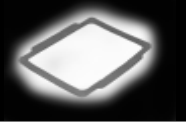
Description: 24 Well Extraction Plate
Part Number: VMF24EP
Unit: 1



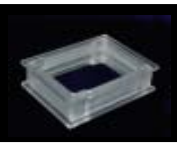
Description: 48 Well Collection Plate
Part Number: VMF48CP
Unit: 1



Description: 48 Well Extraction Plate
Part Number: VMF48EP
Unit: 1

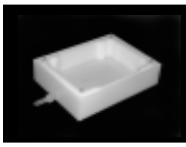


Description: **Neoprene Gasket**
Part Number: VMFUVNG
Unit: 1



Description: **Manifold Top**
Part Number: VMFUVMT
Unit: 1

Description: **EPDM Gasket**
Part Number: VMFUVEG
Unit: 1



Description: **Manifold Base**
Part Number: VMFUVMB
Unit: 1

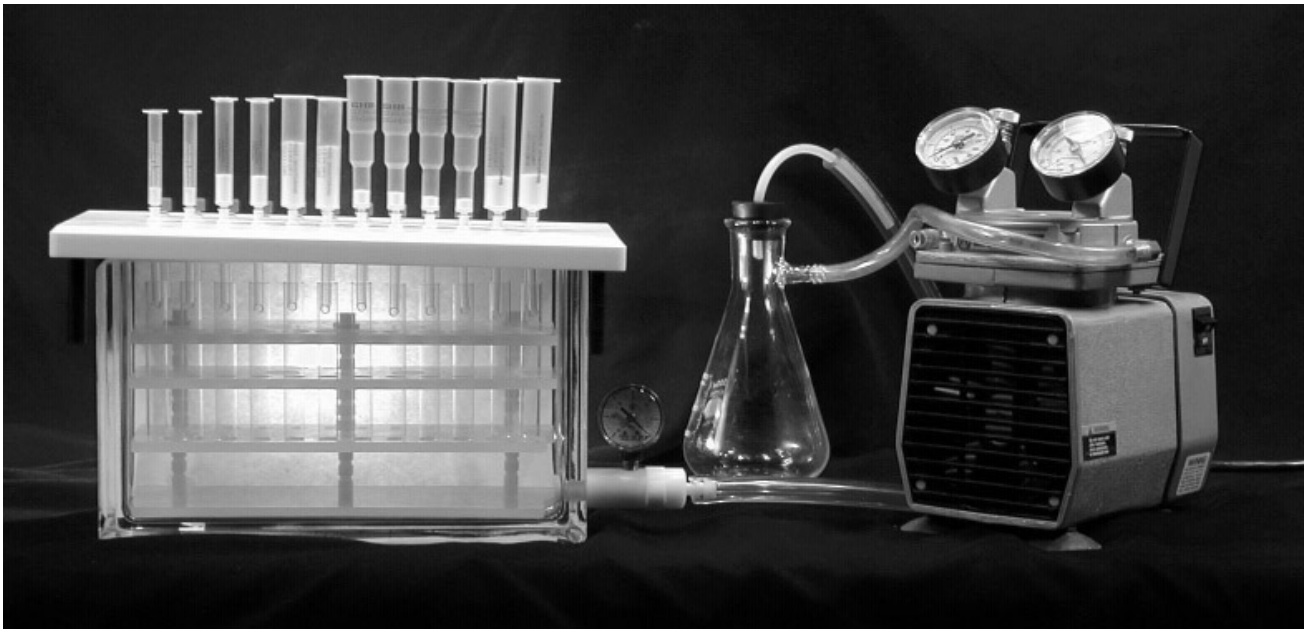
Description: **Spicket**
Part Number: VMFUVST
Unit: 1

Description: **Spacer 1/2''**
Part Number: VMFUV05SP
Unit: 1

Description: **Spacer 1''**
Part Number: VMFUV10SP
Unit: 1

Description: **Collection Plate Riser**
Part Number: VMFUVR1
Unit: 1

Vacuum Manifold Processing Systems



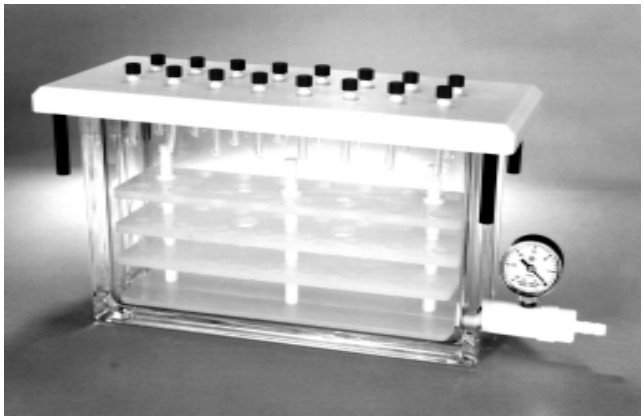
United Chemical Technologies, Inc. vacuum manifold system consists of a rigid Corian® lid which resists warping with extended use. The lid is outfitted with bulkhead luer fittings to allow for sample to elute directly into disposable test tubes. The lid is available with 16 or 24 positions, consisting of two parallel rows and corner leg supports to prevent damage to the luers and tips when the lid is not being used. The vacuum chamber is a glass block designed to allow for visible inspection of the extraction process and ease when cleaning. The block is equipped with a vacuum control valve for optimizing sample flow rate during the extraction process.

A vacuum gauge and bleed valve allows for easy monitoring of the vacuum process. Polypropylene racks are provided according to the number of positions on the manifold lid and are highly resistant to chemical degradation and abuse. The test tube racks provided allow the use of 12-13 mm or 16 mm disposable test tubes.

CLEAN-THRU® tips are available with our CLEAN SCREEN®, XtrackT® and RSV columns to provide a cross-contamination free system when using a vacuum manifold lid for multiple batches. The CLEAN-THRU® tips are placed on the end of each column and inserted directly through the lid opening on the top without the use of any luer fittings. Once the column has been used, the column and tip are disposed of properly as a unit. These manifold systems are durable and chemically resistant units designed to provide years of trouble-free extractions.

Corian® is a registered trademark of Dupont.

Vacuum Manifold Processing Systems



16 - Position System
Part Number: VMF016GL

24 - Position System
Part Number: VMF024GL

NOTE: A Complete Vacuum Manifold System includes a glass block, Corian® manifold lid, a cover gasket, a vacuum gauge and valve assembly, teflon tips (16 or 24), an adjustable collection rack, bulkhead luer fittings and plugs (16 or 24)

Vacuum Manifold Accessories

Description	Units	Part Number 16 Position System	Part Number 24 Position System
1) Glass Block	1	VMF06123	VMF04123
2) Manifold Lid	1	VMF06120	VMF04120
3) Gasket	2	VMF06121	VMF04121
4) Collection Rack	1	VMF06125	VMF04125

Description	Units	Part Number
5) Vacuum Gauge & Valve Assembly	1	VMF02122
6) Teflon Tips	12	VMF020TT
7) Retaining Clips for Collection Rack	12	VMF02129
8) Bulkhead Luer Fittings	12	MF21BFN
9) Manifold Lid Legs	4	VMF02120-1
10) Luer Plugs	12	VMF21PLN
11) Luer Caps	50	LUER50
12) Clean-Thru® Tips	50	CLTTP050
13) Manifold Safety Tray	1	VMF02072
14) Adapters	15	AD0000AS
- Connects any size reservoir onto a 1mL, 3mL, 6mL or 15mL column.		
15) Stopcock:	16	VMF02116
	24	VMFSTCK24
16) Vacuum Pump	1	PMPV192A
- 1/8 hp, 115 volts, 4.2 amps, 60 Hz		

SELECTRA-SIL®
Derivatizing Reagents and GC Liners

These reagents are manufactured by
UCT to exact standards of purity and consistency.

Benefits of Derivatization:

- Improved chromatographic resolution - increased volatility - reduced intermolecular hydrogen bonding - separation of structurally similar compounds.
- Improved mass spectral characteristics - produces higher mass fragments - greater S/N (signal to noise ratio) - more unique masses- increased abundance/sensitivity of molecular ions.
- Improved thermal stability of some compounds - reduces thermal degradation - allows higher temperatures to speed analysis.
- Increased instrument and lab productivity - fewer reinjections or repeats due to peak tailing - high confidence in analyte identification and quantitation - easy to perform - inert by-products of derivatization will not degrade capillary column performance.

Product Recommendations:

Derivatizing reagents are sold bottled in airtight septum vials blanketed with nitrogen to maintain their activity. Contact with moisture can greatly reduce reactivity. **Protect from air and moisture**. Keep bottle tightly sealed when not in use.

It is critical that pipettes, glassware, vials, etc. be free of water or alcohol before derivatization.

SELECTRA-SIL® Silylation Reagents

Silyl derivatives are the most widely used chemical derivatization reagents, especially for gas chromatography. Silyl derivatization requires an "Active" hydrogen as seen in acids, alcohols, thiols, amines, amides, enolizable ketones and aldehydes to be replaced by a trimethysilyl group or tertiary butyl dimethylsily.

BSTFA

N,O-bis(Trimethylsilyl)trifluoroacetamide

Part Number	Quantity	Units per pack
SBSTFA-0-1	1 gm vial	10
SBSTFA-0-10	10 gm vial	1
SBSTFA-0-25	25 gm vial	1
SBSTFA-0-100	100 gm vial	1

- Trimethylsilyl donor strength equal to BSA.
- Reacts with the same classes of compounds as BSA producing the same derivatives.
- Increased volatility of the reaction by-products over the non-fluorinated derivatives of BSA.

BSTFA w/1% TMCS

N,O-bis(Trimethylsilyl)trifluoroacetamide w/1% Trimethylchlorosilane

Part Number	Quantity	Units per pack
SBSTFA-1-1	1 gm vial	10
SBSTFA-1-10	10 gm vial	1
SBSTFA-1-25	25 gm vial	1
SBSTFA-1-100	100 gm vial	1

- Trimethylsilyl donor strength equal to BSA.
- Reacts with the same classes of compounds as BSA producing the same derivatives.
- TMCS (Trimethylchlorosilane) added to derivatize amides, many secondary amines and hindered hydroxyls that are not reactive to BSTFA alone.
- Increased volatility of the reaction by-products over the non-fluorinated derivatives of BSA.

BSTFA w/10% TMCS

N,O-bis(Trimethylsilyl)trifluoroacetamide w/10% Trimethylchlorosilane

Part Number	Quantity	Units per pack
SBSTFA-10-1	1 gm vial	10
SBSTFA-10-10	10 gm vial	1
SBSTFA-10-25	25 gm vial	1
SBSTFA-10-100	100 gm vial	1

- Trimethylsilyl donor strength equal to BSA.
- Reacts with the same classes of compounds as BSA producing the same derivatives.
- TMCS (Trimethylchlorosilane) added to derivatize amides, many secondary amines and hindered hydroxyls that are not reactive to BSTFA alone.
- Increased volatility of the reaction by-products over the non-fluorinated derivatives of BSA.

MSTFA

N-Methyl-N-trimethylsilytrifluoroacetamide

Part Number	Quantity	Units per pack
SMSTFA-0-1	1 gm vial	10
SMSTFA-0-10	10 gm vial	1
SMSTFA-0-25	25 gm vial	1
SMSTFA-0-100	100 gm vial	1

- A trimethylsilyl adduct with donor strength equal to BSA and BSTFA.
- Most volatile of the TMS derivatives often elutes at the solvent front of the GC.

MSTFA w/1% TMCS

N-Methyl-N-trimethylsilytrifluoroacetamide w/1% trimethylchlorosilane

Part Number	Quantity	Units per pack
SMSTFA-1-1	1 gm vial	10
SMSTFA-1-10	10 gm vial	1
SMSTFA-1-25	25 gm vial	1
SMSTFA-1-100	100 gm vial	1

- A trimethylsilyl adduct with donor strength equal to BSA and BSTFA.
- Most volatile of the TMS derivatives often elutes at the solvent front of the GC.
- Addition of TMCS aids in the derivatization of amides, secondary amines and hindered Hydroxy groups.

SELECTRA-SIL® Silylation Reagents

MTBSTFA

N-Methyl-N-(tert-butyldimethylsilyl) trifluoroacetamide

Part Number	Quantity	Units per pack
SMTBSTFA-0-1	1 gm vial	10
SMTBSTFA-0-10	10 gm vial	1
SMTBSTFA-0-25	25 gm vial	1
SMTBSTFA-0-100	100 gm vial	1

- Derivatizes hydroxyl, carboxyl, thiol and primary and secondary amines.
- Derivatizes are more stable than TMS derivatizes to hydrolysis.
- Reaction by-products are neutral and volatile.

MTBSTFA w/1% TBDMCS

N-Methyl-N-(tert-butyldimethylsilyl) trifluoroacetamide
w/ 1% tert-butyldimethylchlorosilane

Part Number	Quantity	Units per pack
SMTBSTFA-1-1	1 gm vial	10
SMTBSTFA-1-10	10 gm vial	1
SMTBSTFA-1-25	25 gm vial	1
SMTBSTFA-1-100	100 gm vial	1

- Derivatizes hydroxyl, carboxyl, thiol and primary and secondary amines.
- Addition of TBDMCS (tertiary butyl-dimethylchlorosilane) increases the silylation ability of this reagent to derivatize hindered alcohols and amines.
- Derivatizes are more stable than TMS derivatizes to hydrolysis.
- Reaction by-products are neutral and volatile.

MTBSTFA w/10% TBDMCS

N-Methyl-N-(tert-butyldimethylsilyl) trifluoroacetamide

Part Number	Quantity	Units per pack
SMTBSTFA-10-1	1 gm vial	10
SMTBSTFA-10-10	10 gm vial	1
SMTBSTFA-10-25	25 gm vial	1
SMTBSTFA-10-100	100 gm vial	1

- Derivatizes hydroxyl, carboxyl, thiol and primary and secondary amines.
- Addition of TBDMCS (tertiary butyl-dimethylchlorosilane) increases the silylation ability of this reagent to derivatize hindered alcohols and amines.
- Derivatizes are more stable than TMS derivatizes to hydrolysis.
- Reaction by-products are neutral and volatile.

TMCS

Trimethylchlorosilane

Part Number	Quantity	Units per pack
STMCS-0-1	1 gm vial	10
STMCS-0-10	10 gm vial	1
STMCS-0-25	25 gm vial	1
STMCS-0-100	100 gm vial	1

- Catalysts used to increase the reactivity of other silylation reagents.
- Used to form trimethysilyl esters of organic acids.

SELECTRA-SIL®
Solvents for Derivatizing Reagents

Solvent	Part Number	Size	Units
Acetonitrile (ACN)	SACN-0-50	50 mL vial	1
Dimethylformamide (DMF)	SDMF-0-50	50 mL vial	1
Dimethyl Sulfoxide (DMSO)	SDMS0-0-50	50 mL vial	1
Pyridine	SPYR-0-50	50 mL vial	1
Tetrahydrofuran (THF)	STHF-0-50	50 mL vial	1

SELECTRA-SIL® Alkylation Reagents

Silyl derivatives are the most widely used chemical derivatization reagents, especially for gas chromatography. Silyl derivatization requires an "Active" hydrogen as seen in acids, alcohols, thiols, amines, amides, enolizable ketones and aldehydes to be replaced by a trimethysilyl group or tertiary butyl dimethylsily.

TMPAH

0.2M Trimethylanilium hydroxide in Methanol

Part Number	Quantity	Units per pack
STMPAH-0-1	1 gm vial	10
STMPAH-0-10	10 gm vial	1
STMPAH-0-25	25 gm vial	1
STMPAH-0-100	100 gm vial	1

- Used for the methylation of barbiturates, sedatives, xanthines,and alkaloids by GC.
- The derivatization of these compounds often can be done in the injector of the GC.

4 CB

4-Carbethoxyhexafluorobutyrl Chloride

Part Number	Quantity	Units per pack
S4CB-0-1	1 gm vial	10
S4CB-0-10	10 gm vial	1
S4CB-0-25	25 gm vial	1

- Peptides + Propionic anhydride converts N-termini and Lysines to propyl amides. This results in a decrease in net charge of the peptides and increased hydrophobicity.

SELECTRA-SIL® Specialized Reagents

PFPOH

Pentafluoropropanol

Part Number	Quantity	Units per pack
SPFPOH-0-1	1 gm vial	10
SPFPOH-0-10	10 gm vial	1
SPFPOH-0-25	25 gm vial	1
SPFPOH-0-100	100 gm vial	1

- Used in combination with the acid anhydrides to add more fluorine atoms to the parent molecule.
- This reaction is especially used for carboxylic acids.
- The addition of fluorine atoms into the molecule greatly adds to the sensitivity of certain detectors (i. e. ECD, MS).

HFIP

Hexafluoro-2-propanol

Part Number	Quantity	Units per pack
SHFIP-0-1	1 gm vial	10
SHFIP-0-10	10 gm vial	1
SHFIP-0-25	25 gm vial	1
SHFIP-0-100	100 gm vial	1

- Used in combination with the acid anhydrides to add more fluorine atoms to the parent molecule.
- This reaction is especially used for carboxylic acids.
- The addition of fluorine atoms into the molecule greatly adds to the sensitivity of certain detectors (i. e. ECD, MS).

SELECTRA-SIL® Acylation Reagents

Silyl derivatives are the most widely used chemical derivatization reagents, especially for gas chromatography. Silyl derivatization requires an "Active" hydrogen as seen in acids, alcohols, thiols, amines, amides, enolizable ketones and aldehydes to be replaced by a trimethysilyl group or tertiary butyl dimethylsily.

MBTFA

N-methyl-bis-trifluoroacetamide

Part Number	Quantity	Units per pack
SMBTFA-0-1	1 gm vial	10
SMBTFA-0-10	10 gm vial	1
SMBTFA-0-25	25 gm vial	1
SMBTFA-0-100	100 gm vial	1

- This reacts with primary and secondary amines, hydroxyl and thiol groups under mild, nonacidic conditions.
- Produces very volatile derivatives of carbohydrates.
- Can be used to selectively acylate amines in the presence of hydroxyl and carboxyl groups that have been protected by silylation.

TFAA

Trifluoroacetic acid anhydride

Part Number	Quantity	Units per pack
STFAA-0-1	1 gm vial	10
STFAA-0-10	10 gm vial	1
STFAA-0-25	25 gm vial	1
STFAA-0-100	100 gm vial	1

- React readily with alcohols, phenols and amines producing stable volatile derivatives for TCD, FID, ECD and other detectors. Most reactive of all the perfluoroacid anhydrides and frequently used to identify methamphetamine.

PFAA

Pentafluoropropionic acid anhydride

Part Number	Quantity	Units per pack
SPFAA-0-1	1 gm vial	10
SPFAA-0-10	10 gm vial	1
SPFAA-0-25	25 gm vial	1
SPFAA-0-100	100 gm vial	1

- React readily with alcohols, phenols and amines producing stable volatile derivatives for TCD, FID. Commonly used in the determination of Benzoylecgonine and Opiates.
- Acidic by-products of this reaction must be removed before the derivative can be injected onto the GC.

HFAA

Heptafluorobutyric acid anhydride

Part Number	Quantity	Units per pack
SHFAA-0-1	1 gm vial	10
SHFAA-0-10	10 gm vial	1
SHFAA-0-25	25 gm vial	1
SHFAA-0-100	100 gm vial	1

- React readily with alcohols, phenols and amines producing stable volatile derivatives for TCD, FID,ECD and other detectors.
- Used in the determination of Amphetamines and Phencyclidine.
- It is suggested that amine bases (such as triethylamine) be used to react with the acidic by-products of these to drive the reaction to completion.

TFAI - N-Trifluoroacetylimidazole

Part Number	Quantity	Units per pack
STFA1-0-1	1 gm vial	10
STFA1-0-5	5 gm vial	1

- React readily with alcohols, phenols and amines producing stable volatile derivatives for TCD, FID, ECD and other detectors.
- Offer considerable advantages over the anhydrides for the preparation of perfluoroacyl derivatives; the reactions are smooth, quatitative and produce no acid byproducts.
- Principal byproduct is imidazole (relatively inert).

PIA

Propionic Anhydride

Part Number	Quantity	Units per pack
SPIA-0-1	1 gm vial	10
SPIA-0-10	10 gm vial	1
SPIA-0-25	25 gm vial	1

GC Liners

Deactivated using a proprietary silane, these inlet liners are the highest quality available on the market.

Description	Instrument	Part Number	Quantity
 2mm Straight Splitless 2.0mm ID x 6.5mm OD x 78.5mm	Agilent / Finnigan	**GCL2MM** **GCL2MM-5** **GCL2MM-25**	**1 Pack** **5 Pack** **25 Pack**
 2mm Straight Splitless with Deactivated Glass Wool 2.0mm ID x 6.5mm OD x 78.5mm	Agilent / Finnigan	**GCL2MMGW** **GCL2MMGW-5** **GCL2MMGW-25**	**1 Pack** **5 Pack** **25 Pack**
 4mm Straight Splitless 4.0mm ID x 6.5mm OD x 78.5mm	Agilent / Finnigan	**GCL4MM** **GCL4MM-5** **GCL4MM-25**	**1 Pack** **5 Pack** **25 Pack**
 4mm Straight Splitless with Deactivated Glass Wool 4.0mm ID x 6.5mm OD x 78.5mm	Agilent / Finnigan	**GCL4MMGW** **GCL4MMGW -5** **GCL4MMGW -25**	**1 Pack** **5 Pack** **25 Pack**
 4mm Splitless Recessed Gooseneck 4.0mm ID x 6.5mm OD x 78.5mm	Agilent / Finnigan	**GCLRG4MM** **GCLRG4MM-5** **GCLRG4MM-25**	**1 Pack** **5 Pack** **25 Pack**
 4mm Splitless Recessed Gooseneck with Deactived Glass Wool 4.0mm ID x 6.5mm OD x 78.5mm	Agilent / Finnigan	**GCLRG4MMGW** **GCLRG4MMGW-5** **GCLRG4MMGW-25**	**1 Pack** **5 Pack** **25 Pack**
 4mm Splitless Gooseneck 4.0mm ID x 6.5mm OD x 78.5mm	Agilent / Finnigan	**GCLGN4MM** **GCLGN4MM-5** **GCLGN4MM-25**	**1 Pack** **5 Pack** **25 Pack**
 4mm Splitless Gooseneck with Deactived Glass Wool 4.0mm ID x 6.5mm OD x 78.5mm	Agilent / Finnigan	**GCLGN4MMGW** **GCLGN4MMGW-5** **GCLGN4MMGW-25**	**1 Pack** **5 Pack** **25 Pack**
 4mm Straight Splitless Open Top Uniliner 4.0mm ID x 6.2mm OD x 92.1mm	Perkin-Elmer	**GCLUN4MM** **GCLUN4MM-5** **GCLUN4MM-25**	**1 Pack** **5 Pack** **25 Pack**
 4mm Straight Splitless Open Top Uniliner with Deactived Glass Wool 4.0mm ID x 6.2mm OD x 92.1mm	Perkin-Elmer	**GCLUN4MMGW** **GCLUN4MMGW-5** **GCLUN4MMGW-25**	**1 Pack** **5 Pack** **25 Pack**
 3mm Straight Splitless 3.0mm ID x 8.0mm OD x 105mm	Thermo Quest / CE instruments	**GCL3MM** **GCL3MM-5** **GCL3MM-25**	**1 Pack** **5 Pack** **25 Pack**

Don't see your liner?

Please tell your sales representative, we would be happy to supply it!

CLEAN SCREEN®
Urine & Oral Fluid Assays For Drug of Abuse Screening

Advantages of the CLEAN SCREEN®
Multiple Analyte Reagents (MAR)

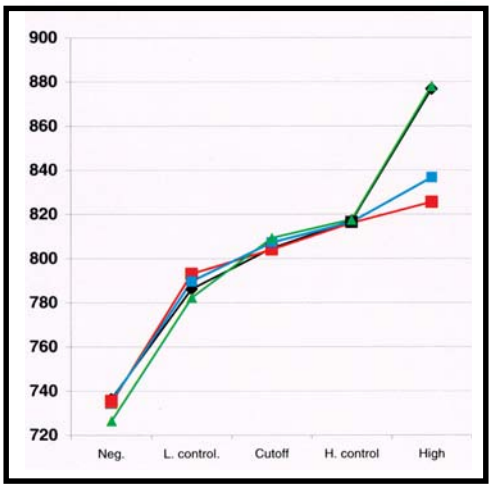
Screen 8 drugs with 3 panels

- Save time & Money
- Reagents work on most existing systems
- Better than average stability
- Increased capacity
- Totally computer driven
- Linearity curves are semi-quantitative to aid in MS confirmation

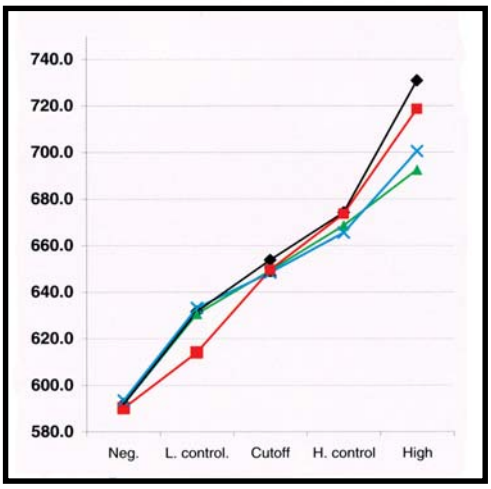
New Urine Multiple Analyte Assays:

1. CAMP (Cocaine-Amphetamines-Morphine-Phencyclidine 4-in-1 assay)
2. BMBP (Benzodiazepines-Methadone-Barbiturates-Propoxyphene 4-in-1 assay)

These assays are designed to screen out negative samples.
The higher the sample volume the more you save on time and cost.



CAMP 4-in-1 Assay



BMBP 4-in-1 Assay

Urine Assay Sensitivity

Cocaine Metabolite:	4 ng/mL
Amphetamines:	30 ng/mL
Phencyclidine:	1 ng/mL
Benzodiazepines:	15 ng/mL
Methadone metabolite	15 ng/mL
Methadone:	15 ng/mL
Propoxyphene:	7.5 ng/mL
Alcohol:	linear up to 600 mg/dL
THC:	5 ng/mL
Opiates:	15 ng/mL
Barbiturates:	25 ng/mL
Ecstasy:	25 ng/mL

Individual Urine Analyte Assays:

Cocaine
Opiates
Cannabinoids
Amphetamines
Phencyclidine
Barbiturates
Methadone
Methadone metabolite
Propoxyphene
Ethyl Alcohol
Cotinine
Benzodiazepines
Ecstasy
Oxycodone

Oral Fluid EIA* Assay Sensitivity

Cocaine Metabolite:	2 ng/mL
Amphetamines:	3 ng/mL
Methamphetamine:	3 ng/mL
Alcohol:	1.56 mg/dL
Phencyclidine:	1 ng/mL
Opiates:	5 ng/mL
Ecstasy:	3 ng/mL

*Patent pending

Application:

Chemistry analyzers with 340 nm light source can be used to perform the assays. Chemistry parameters for most commercial analyzers are available.
(Special modification for Hitachi series analyzers for oral fluid specimens is available.)

Homogeneous Urine EIA

Catalog No.	Product Name	Quantity
New Multiple Analyte Assays		
UCT0510	**CAMP EIA Kit (500 tests/kit)**	**500 tests/kit**
UCT0511	**CAMP EIA Kit (5000 tests/kit)**	**5000 tests/kit**
UCT0610	**BMBP EIA Kit (500 tests/kit)**	**500 tests/kit**
UCT0611	**BMBP EIA Kit (5000 tests/kit)**	**5000 tests/kit**
Urine EIA		
UCT0010	Phencyclidine EIA Kit	500 tests/kit
UCT0011	Phencyclidine EIA Kit	5000 tests/kit
UCT0020	Opiate EIA Kit	500 tests/kit
UCT0021	Opiate EIA Kit	5000 tests/kit
UCT0030	Cocaine EIA Kit	500 tests/kit
UCT0031	Cocaine EIA Kit	5000 tests/kit
UCT0040	Amphetamine EIA Kit	500 tests/kit
UCT0041	Amphetamine EIA Kit	5000 tests/kit
UCT0070	THC EIA Kit	500 tests/kit
UCT0071	THC EIA Kit	5000 tests/kit
UCT0110	Methadone EIA Kit	500 tests/kit
UCT0111	Methadone EIA Kit	5000 tests/kit
UCT0120	Propoxyphene EIA Kit	500 tests/kit
UCT0121	Propoxyphene EIA Kit	5000 tests/kit
UCT0130	Benzodiazepine EIA Kit	500 tests/kit
UCT0131	Benzodiazepine EIA Kit	5000 tests/kit
UCT0140	Barbiturate EIA Kit	500 tests/kit
UCT0141	Barbiturate EIA Kit	5000 tests/kit
UCT0160	Ecstasy EIA Kit	500 tests/kit
UCT0161	Ecstasy EIA Kit	5000 tests/kit
UCT0190	Methadone Metabolite EIA Kit	500 tests/kit
UCT0191	Methadone Metabolite EIA Kit	5000 tests/kit
UCT0220	Ethyl Alcohol EIA Kit	500 tests/kit
UCT0221	Ethyl Alcohol EIA Kit	5000 tests/kit
UCT0230	Cotinine EIA Kit	500 tests/kit
UCT0231	Cotinine EIA Kit	5000 tests/kit
UCT0300	Oxycodone EIA Kit	500 tests/kit
UCT0301	Oxycodone EIA Kit	5000 tests/kit
Urine Calibrators & Controls		
UCT0001	Universal Negative Cal./Control	5mL
UCT0012	Phencyclidine Cal./Control (PCP 12.5 ng/mL)	5mL
UCT0013	Phencyclidine Cal./Control (PCP 25 ng/mL)	5mL
UCT0014	Phencyclidine Cal./Control (PCP 50 ng/mL)	5mL
UCT0015	Phencyclidine Cal./Control (PCP 100 ng/mL)	5mL
UCT0017	Phencyclidine Cal./Control (PCP 18 ng/mL)	5mL
UCT0018	Phencyclidine Cal./Control (PCP 32 ng/mL)	5mL
UCT0022	Opiate Cal./Control (Morphine 150 ng/mL)	5mL
UCT0023	Opiate Cal./Control (Morphine 300 ng/mL)	5mL
UCT0024	Opiate Cal./Control (Morphine 600 ng/mL)	5mL
UCT0025	Opiate Cal./Control (Morphine 1000 ng/mL)	5mL
UCT0027	Opiate Cal./Control (Morphine 225 ng/mL)	5mL
UCT0028	Opiate Cal./Control (Morphine 375 ng/mL)	5mL
UCT0032	Cocaine Cal./Control (BE 150 ng/mL)	5mL
UCT0033	Cocaine Cal./Control (BE 300 ng/mL)	5mL
UCT0034	Cocaine Cal./Control (BE 1000 ng/mL)	5mL
UCT0035	Cocaine Cal./Control (BE 3000 ng/mL)	5mL
UCT0037	Cocaine Cal./Control (BE 225 ng/mL)	5mL
UCT0038	Cocaine Cal./Control (BE 375 ng/mL)	5mL
UCT0042	Amphetamine Cal./Control (Methamphetamine 500 ng/mL)	5mL
UCT0043	Amphetamine Cal./Control (Methamphetamine 1000 ng/mL)	5mL
UCT0044	Amphetamine Cal./Control (Methamphetamine 1500 ng/mL)5mL	
UCT0045	Amphetamine Cal./Control (Methamphetamine 2000 ng/mL)	5mL
UCT0047	Amphetamine Cal./Control (Methamphetamine 750 ng/mL)	5mL
UCT0048	Amphetamine Cal./Control (Methamphetamine 1250 ng/mL)	5mL

Homogeneous Urine EIA

Catalog No.	Product Name	Quantity
Urine Calibrators & Controls		
UCT0073	THC Cal./Control (–)-Δ^9-THC 20 ng/mL)	5mL
UCT0074	THC Cal./Control (–)-Δ^9-THC 30 ng/mL)	5mL
UCT0075	THC Cal./Control (–)-Δ^9-THC 50 ng/mL)	5mL
UCT0076	THC Cal./Control (–)-Δ^9-THC 75 ng/mL	5mL
UCT0077	THC Cal./Control (–)-Δ^9-THC 100 ng/mL)	5mL
UCT0078	THC Cal./Control (–)-Δ^9-THC 150 ng/mL)	5mL
UCT0079	THC Cal./Control (–)-Δ^9-THC 200 ng/mL)	5mL
UCT0007	THC Cal./Control (–)-Δ^9-THC 37.5 ng/mL)	5mL
UCT0008	THC Cal./Control (–)-Δ^9-THC 62.5 ng/mL)	5mL
UCT0009	THC Cal./Control (–)-Δ^9-THC 125 ng/mL)	5mL
UCT0112	Methadone Cal./Control (Methadone 150 ng/mL)	5mL
UCT0113	Methadone Cal./Control (Methadone 300 ng/mL)	5mL
UCT0114	Methadone Cal./Control (Methadone 600 ng/mL)	5mL
UCT0115	Methadone Cal./Control (Methadone 1000 ng/mL)	5mL
UCT0117	Methadone Cal./Control (Methadone 225 ng/mL)	5mL
UCT0118	Methadone Cal./Control (Methadone 375 ng/mL)	5mL
UCT0122	Propoxyphene Cal./Control (Propoxyphene 150 ng/mL)	5mL
UCT0123	Propoxyphene Cal./Control (Propoxyphene 300 ng/mL)	5mL
UCT0124	Propoxyphene Cal./Control (Propoxyphene 600 ng/mL)	5mL
UCT0125	Propoxyphene Cal./Control (Propoxyphene 1000 ng/mL)	5mL
UCT0127	Propoxyphene Cal./Control (Propoxyphene 225 ng/mL)	5mL
UCT0128	Propoxyphene Cal./Control (Propoxyphene 375 ng/mL)	5mL
UCT0132	Benzodiazepine Cal./Control (Oxazepam 100 ng/mL)	5mL
UCT0133	Benzodiazepine Cal./Control (Oxazepam 200 ng/mL)	5mL
UCT0134	Benzodiazepine Cal./Control (Oxazepam 300 ng/mL)	5mL
UCT0135	Benzodiazepine Cal./Control (Oxazepam 1000 ng/mL)	5mL
UCT0136	Benzodiazepine Cal./Control (Oxazepam 400 ng/mL)	5mL
UCT0142	Barbiturate Cal./Control (Secobarbital 100 ng/mL)	5mL
UCT0143	Barbiturate Cal./Control (Secobarbital 200 ng/mL)	5mL
UCT0144	Barbiturate Cal./Control (Secobarbital 300 ng/mL)	5mL
UCT0145	Barbiturate Cal./Control (Secobarbital 1000 ng/mL)	5mL
UCT0146	Barbiturate Cal./Control (Secobarbital 400 ng/mL)	5mL
UCT0162	Ecstasy Cal./Control (MDMA 250 ng/mL)	5mL
UCT0163	Ecstasy Cal./Control (MDMA 500 ng/mL)	5mL
UCT0164	Ecstasy Cal./Control (MDMA 750 ng/mL)	5mL
UCT0165	Ecstasy Cal./Control (MDMA 1000 ng/mL)	5mL
UCT0167	Ecstasy Cal./Control (MDMA 375 ng/mL)	5mL
UCT0168	Ecstasy Cal./Control (MDMA 625 ng/mL)	5mL
UCT0192	Methadone Metabolite Cal./Control (EDDP 150 ng/mL)	5mL
UCT0193	Methadone Metabolite Cal./Control (EDDP 300 ng/mL)	5mL
UCT0194	Methadone Metabolite Cal./Control (EDDP 600 ng/mL)	5mL
UCT0195	Methadone Metabolite Cal./Control (EDDP 1000 ng/mL)	5mL
UCT0197	Methadone Metabolite Cal./Control (EDDP 225 ng/mL)	5mL
UCT0198	Methadone Metabolite Cal./Control (EDDP 375 ng/mL)	5mL
UCT0223	Ethyl Alcohol Assay Cal./Control (100 ng/mL)	5mL
UCT0224	Ethyl Alcohol Assay Cal./Control (50 ng/mL)	5mL
UCT0225	Ethyl Alcohol Assay Cal./Control (300 ng/mL)	5mL
UCT0232	Cotinine Assay Cal./Control (Cotinine 250 ng/mL)	5mL
UCT0233	Cotinine Assay Cal./Control (Cotinine 500 ng/mL)	5mL
UCT0234	Cotinine Assay Cal./Control (Cotinine 1000 ng/mL)	5mL
UCT0235	Cotinine Assay Cal./Control (Cotinine 2000 ng/mL)	5mL
UCT0238	Cotinine Assay Cal./Control (Cotinine 750 ng/mL)	5mL
UCT0242	Oxycodone Assay Cal./Control (Oxycodone 75ng/mL)	5mL
UCT0243	Oxycodone Assay Cal./Control (Oxycodone 100ng/mL)	5mL
UCT0244	Oxycodone Assay Cal./Control (Oxycodone 125ng/mL)	5mL
UCT0245	Oxycodone Assay Cal./Control (Oxycodone 225ng/mL)	5mL
UCT0246	Oxycodone Assay Cal./Control (Oxycodone 300 ng/mL)	5mL
UCT0247	Oxycodone Assay Cal./Control (Oxycodone 375 ng/mL)	5mL
UCT0248	Oxycodone Assay Cal./Control (Oxycodone 500ng/mL)	5mL
UCT0249	Oxycodone Assay Cal./Control (Oxycodone 800 ng/mL)	5mL

Homogeneous Oral Fluid EIA

Catalog No.	Product Name	Quantity
UCTOFC001	Sarstedt Collectors	100 pieces
UCTS0000	Oral Fluid EIA Saliva Buffer	Liter
UCTS0001	Oral Fluid Negative Calibrator, 0ng/mL	5mL
UCTS0002	THC Recover Buffer	Liter
UCTS0010	Oral Fluid PCP EIA Kit	500 tests/kit
UCTS0011	Oral Fluid PCP EIA Kit	5000 tests/kit
UCTS0013	PCP Cutoff Calibrator, 5 ng/mL	5mL
UCTS0015	PCP High Calibrator, 25 ng/mL	5mL
UCTS0017	PCP Level 1 Control, 3 ng/mL	5mL
UCTS0018	PCP Level 2 Control, 10 ng/mL	5mL
UCTS0020	Oral Fluid Opiate EIA Kit	500 tests/kit
UCTS0021	Oral Fluid Opiate EIA Kit	5000 tests/kit
UCTS0023	Opiate Cutoff Calibrator, 20 ng/mL	5mL
UCTS0025	Opiate High Calibrator, 50 ng/mL	5mL
UCTS0027	Opiate Level 1 Control, 10 ng/mL	5mL
UCTS0028	Opiate Level 2 Control, 30 ng/mL	5mL
UCTS0030	Oral Fluid Cocaine Metabolite EIA Kit	500 tests/kit
UCTS0031	Oral Fluid Cocaine Metabolite EIA Kit	5000 tests/kit
UCTS0033	Cocaine Cutoff Calibrator, 10 ng/mL	5mL
UCTS0035	Cocaine High Calibrator, 50 ng/mL	5mL
UCTS0037	Cocaine Level 1 Control, 5 ng/mL	5mL
UCTS0038	Cocaine Level 2 Control, 20 ng/mL	5mL
UCTS0040	Oral Fluid Amphetamine EIA Kit	500 tests/kit
UCTS0041	Oral Fluid Amphetamine EIA Kit	5000 tests/kit
UCTS0043	Amphetamine Cutoff Calibrator, 25 ng/mL	5mL
UCTS0045	Amphetamine High Calibrator, 50 ng/mL	5mL
UCTS0047	Amphetamine Level 1 Control, 15 ng/mL	5mL
UCTS0048	Amphetamine Level 2 Control, 35 ng/mL	5mL
UCTS0050	Oral Fluid Methamphetamine EIA Kit	500 tests/kit
UCTS0051	Oral Fluid Methamphetamine EIA Kit	5000 tests/kit
UCTS0053	Methamphetamine Cutoff Calibrator, 25 ng/mL	5mL
UCTS0055	Methamphetamine High Calibrator, 50 ng/mL	5mL
UCTS0057	Methamphetamine Level 1 Control, 15 ng/mL	5mL
UCTS0058	Methamphetamine Level 2 Control, 35 ng/mL	5mL
UCTS0070	Oral Fluid THC EIA Kit	500 tests/kit
UCTS0071	Oral Fluid THC EIA Kit	5000 tests/kit
UCTS0073	THC Cutoff Calibrator, 10 ng/mL	5mL
UCTS0075	THC High Calibrator, 25 ng/mL	5mL
UCTS0077	THC Level 1 Control, 5 ng/mL	5mL
UCTS0078	THC Level 2 Control, 15 ng/mL	5mL
UCTS0110	Oral Fluid Methadone EIA Kit	500 tests/kit
UCTS0111	Oral Fluid Methadone EIA Kit	5000 tests/kit
UCTS0113	Methadone Cutoff Calibrator, 20 ng/mL	5mL
UCTS0115	Methadone High Calibrator, 50 ng/mL	5mL
UCTS0117	Methadone Level 1 Control, 10 ng/mL	5mL
UCTS0118	Methadone Level 2 Control, 30 ng/mL	5mL

Homogeneous Oral Fluid EIA

Catalog No.	Product Name	Quantity
UCTS0120	Oral Fluid Propoxyphene EIA Kit	500 tests/kit
UCTS0121	Oral Fluid Propoxyphene EIA Kit	5000 tests/kit
UCTS0123	Propoxyphene Cutoff Calibrator, 20 ng/mL	5mL
UCTS0125	Propoxyphene High Calibrator, 50 ng/mL	5mL
UCTS0127	Propoxyphene Level 1 Control, 10 ng/mL	5mL
UCTS0128	Propoxyphene Level 2 Control, 30 ng/mL	5mL
UCTS0130	Oral Fluid Benzodiazepine EIA Kit	500 tests/kit
UCTS0131	Oral Fluid Benzodiazepine EIA Kit	5000 tests/kit
UCTS0133	Benzodiazepine Cutoff Calibrator, 20 ng/mL	5mL
UCTS0135	Benzodiazepine High Calibrator, 50 ng/mL	5mL
UCTS0137	Benzodiazepine Level 1 Control, 10 ng/mL	5mL
UCTS0138	Benzodiazepine Level 2 Control, 30 ng/mL	5mL
UCTS0140	Oral Fluid Barbituate EIA Kit	500 tests/kit
UCTS0141	Oral Fluid Barbituate EIA Kit	5000 tests/kit
UCTS0143	Barbiturate Cutoff Calibrator, 20 ng/mL	5mL
UCTS0145	Barbiturate High Calibrator, 50 ng/mL	5mL
UCTS0147	Barbiturate Level 1 Control, 10 ng/mL	5mL
UCTS0148	Barbiturate Level 2 Control, 30 ng/mL	5mL
UCTS0160	Oral Fluid Ecstasy EIA Kit	500 tests/kit
UCTS0161	Oral Fluid Ecstasy EIA Kit	5000 tests/kit
UCTS0163	Ecstasy Cutoff Calibrator, 25 ng/mL	5mL
UCTS0165	Ecstasy High Calibrator, 50 ng/mL	5mL
UCTS0167	Ecstasy Level 1 Control, 15 ng/mL	5mL
UCTS0168	Ecstasy Level 2 Control, 35 ng/mL	5mL
UCTS0190	Oral Fluid Methadone Metabolite EIA Kit	500 tests/kit
UCTS0191	Oral Fluid Methadone Metabolite EIA Kit	5000 tests/kit
UCTS0193	Methadone Metabolite Cutoff Calibrator, 20 ng/mL	5mL
UCTS0195	Methadone Metabolite High Calibrator, 50 ng/mL	5mL
UCTS0197	Methadone Metabolite Level 1 Control, 10 ng/mL	5mL
UCTS0198	Methadone Metabolite Level 2 Control, 30 ng/mL	5mL
UCTS0220	Oral Fluid Ethyl Alcohol Enzymatic Assay Kit	500 tests/kit
UCTS0221	Oral Fluid Ethyl Alcohol Enzymatic Assay Kit	5000 tests/kit
UCTS0223	Ethanol, Calibrator/Control, 50 ng/mL	5mL
UCTS0226	Ethanol, Calibrator/Control, 25 ng/mL	5mL
UCTS0230	Cotinine Assay	500 tests/kit
UCTS0231	Cotinine Assay	5000 tests/kit
UCTS0233	Cotinine Cutoff Calibrator, 25 ng/mL	5mL
UCTS0235	Cotinine High Calibrator, 75 ng/mL	5mL
UCTS0237	Cotinine Level 1 Control, 10 ng/mL	5mL
UCTS0238	Cotinine Level 2 Control, 50 ng/mL	5mL
UCTS0240	Oxycodone Assay	500 tests/kit
UCTS0241	Oxycodone Assay	5000 tests/kit
UCTS0243	Oxycodone Cutoff Calibrator, 20 ng/mL	5mL
UCTS0245	Oxycodone High Calibrator, 50 ng/mL	5mL
UCTS0247	Oxycodone Level 1 Control, 10 ng/mL	5mL
UCTS0248	Oxycodone Level 2 Control, 30 ng/mL	5mL

Important Information for Oral Fluid Assays

Oral fluid sample preparation:

1. Collect saliva.
2. Centrifuge the sample, measure volume of sample.
3. Split the sample into 2 aliquots, label with ID number.
   3a. For all drugs except THC.
   Mix equal volumes of oral fluid and buffer for screening analysis.
   3b. Reserve undiluted portion for confirmation analysis.

4. **THC**
   4a. If a Starstedt collector was used, apply a volume of THC buffer equal to the sample volume to the pad.
   4b. Centrifuge and collect.
   4c. The sample is used without dilution.

Assay procedure:

1. Sample volume: 40 – 50 µL (use 45 µL).
   2. R1 (antibody) reagent: 150 µL.
   3. R2 (Enzyme) reagent: 75 µL.
   4. Assay with the same parameters as urine testing.

Calibration:

1. Qualitative assay: use cutoff calibrator.
   2. Semi-quantitative assay: use 3 calibrators and 2 controls.

The ANALETTE™

Versatile Random Access Chemistry Analyzer From PRECISION SYSTEMS™

General

The ANALETTE is applicable for all the standard chemistry tests including: general and special chemistries, therapeutic drugs, drugs of abuse, proteins, profiles, etc., for which reagent systems have been developed.

Commonly specified tests are pre-programmed, and additional tests or substitute procedures are easily added.

The ANALETTE alarms when there is low volume in the sample or reagent container, and flags values outside the normal limits, as well as “panic” values.

The ANALETTE™ Rated highest testing rate per instrument cost!

- 30 wavelengths: 340 to 740 nm
- Concave holographic grating, diode array spectrophotometer
- Hemoglobin, lipemia, and bilirubin interference minimized[1,2]
- Artificial blood interference minimized[3]
- Fast and flexible, one-hour walk-away
- Open chemistry system under PC control[4]
- Commonly specified tests pre-programmed
- Automatic level detection for samples and reagents
- Automatic dilution of the sample as required
- Automatic additional dilution and test re-run, if needed
- 42 or 72 specimens run with one loading
- STAT sample tested any time during a run
- Bar codes for accuracy, control and organization
- Built-in diagnostics
- Up to 32 reagents on board
- Up to 300 test per hour with ISE module

Based on technology developed by Precision Systems – the company that pioneered precision titrators, electronic lab calibrators traceable to NIST, and osmometers with thermoelectric cooling and non-interacting calibration.

Manufactured in the USA. Patented and Pat. Pend.

References

1. Denney, J., Infrared Detection in Routine Clinical Chemistry Automation, © 1993

2. Denney, J., Why Does Traditional Chromatic Interference Correction Fail?, © 1996

3. Papp, R., et al, Effects of Two Different Blood Substitutes on Analytical Results Using Synermed® Reagents, Clinical Chemistry Program and Abstracts, June 1999, Vol. 45, No. S6, p. A2

4. Haden, B. and Heath, W.J., Clinical Evaluation of a Random Access Bench Top Chemistry Analyzer. Clinical Chemistry Program and Abstracts, July 2000, Vol. 46, No. 6, p.A151

The ANALETTE™ Specifications

SAMPLE TYPES: Aqueous, serum, plasma, urine, oral fluid
SIZES: 1 to 100µL in 0.05µL increments, 3 to 20µL typical

CONTAINERS: 0.5mL cups, 0.7mL tubes, or 13 x 75mm tubes

PREDILUTION: Up to 1:150

STAT: STAT samples any time; 2 STAT positions, more, if required

REAGENT TRAY CAPACITY: 24-28mL bottles, or 14-28mL bottles plus 5-200mL bottles, or up to 24-5mL and/or 10mL bottles (with optional adapters) assorted with 28mL bottles plus 8 cups

PUMP CAPACITY: 170µL to 900µL in 0.5µL increments

PACKAGING: 5, 10, 25-28mL bottles, 1, 2, or 3 reagent per test

ASSAY TYPES: Absorbance chemistries: endpoint, zero order and first order kinetics; Na, K, Cl with ISE module

CHEMISTRIES: Open system. Up to 32 on board at a time; up to 150 can be held in memory

THROUGHPUT: Up to 180 tests per hour / Up to 300 tests per hour with ISE module (2 or 3 reagent test are slower)

WALK-AWAY TIME: Approximately 1 hour

SPECTROPHOTOMETER: 30 wavelengths from 340nm to 740nm, Band pass 10nm

OPTICAL CUVETTE: 14 cuvettes per segment, up to 10 segments per ring for up to 140 tests; 7mm light path

BLANKS: Serum and / or Reagents

DATA ENTRY: Bar Code, sample ID, assay selection, panel selection and scheduling. Full keyboard may be used for sample demographics.

QUALITY CONTROL: Using 3 control per assay, 60-day rolling FIFO Levey-Jennings

CALIBRATION: 1, 2, up to 6 cal points with curve fit, or by calibration factor

INSTRUMENT WARM-UP: < 30 minutes from turn-on; 5-7 minutes from stand-by

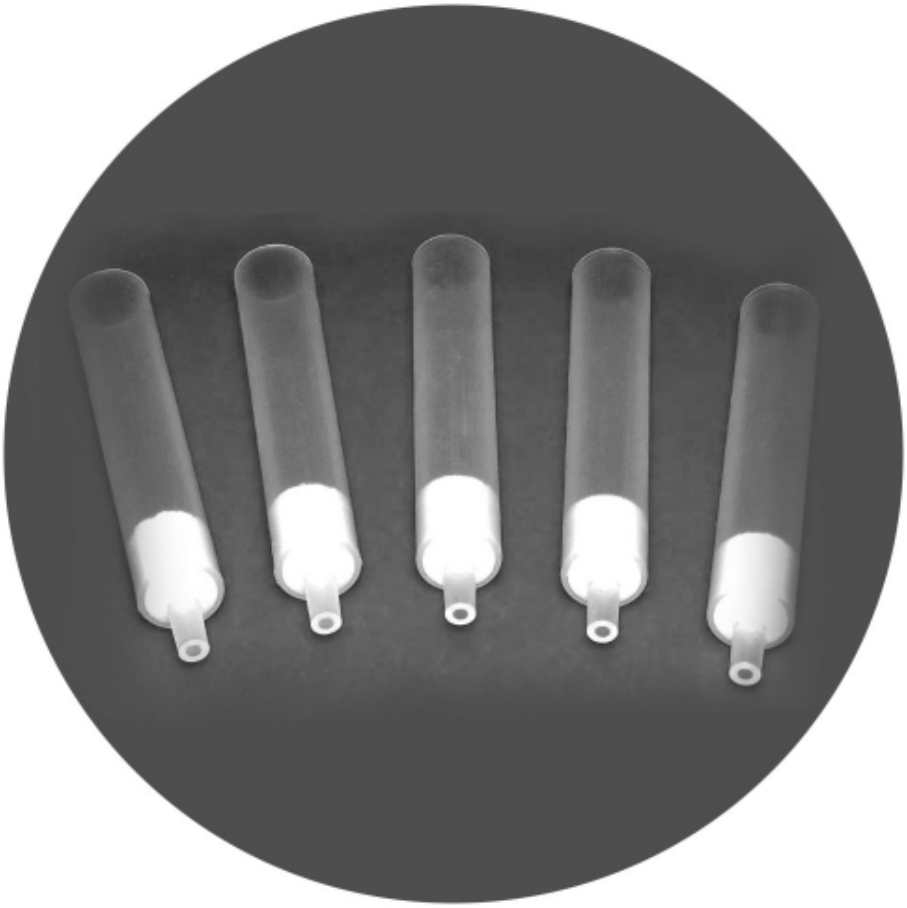
TEMPERATURE: 37°C ±1°C temperature control of assay; probe preheats reagents; metal “bath” preheats curvettes

POWER SUPPLY: Requires dedicated line of 115v ± 15v60Hz or 150v ± 12v60c or 230v ± 25v50/60Hz (selected on Purchase Order)

WEIGHT: 80 pounds (37Kg) plus computer, monitor, keyboard and printer

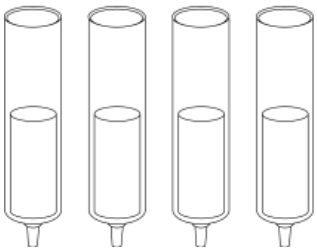
DIMENSIONS: 12” (31cm) H X 27 ½” (70cm)W x 24” (61cm) D

PHARMA-SIL™
Functionalized Phases



All of our chemistries are available on high surface area silica. Our high surface area phases are specifically designed with pharmaceutical applications in mind. The wide array of phases are packed into 4.5 mL flangeless columns which are compatible with the Mettler Toledo Bohdan® Miniblock™.

PHARMA-SIL™
Functionalized Phases in Flangeless 4.5 mL columns



Chemistries are offered on these particle sizes.

Standard Particle (40-60 µm)

Aldehyde (ALD)

Part Number	Milligrams per columns	Units per bag
CUALD1LR3	50	50
CUALD11R3	100	50
CUALD13R3	300	50
CUALD15R3	500	50
CUALD1MR3	1000	50

% Organic Loading: N/A

Application: Scavenger for primary amines, hydrazines, reducing agents and other nucleophiles. Covalent bonding for proteins, enzymes and other bioactive molecules.

Aminopropyl (NAX)

Part Number	Milligrams per columns	Units per bag
CUNAX1LR3	50	50
CUNAX11R3	100	50
CUNAX13R3	300	50
CUNAX15R3	500	50
CUNAX1MR3	1000	50

% Organic Loading: 6.65

Application: Scavenger for acids, cyclic compounds, cholesterols, and other liquid type compounds.

Benzenesulfonic Acid (BCX / SCX)

Part Number	Milligrams per columns	Units per bag
CUBCX1LR3	50	50
CUBCX11R3	100	50
CUBCX13R3	300	50
CUBCX15R3	500	50
CUBCX1MR3	1000	50

% Organic Loading: 11.00

Application: Scavenger for amines, alcohols and other compounds.

Benzenesulfonic Acid, High-Load (BCXHL)

Part Number	Milligrams per columns	Units per bag
CUBCX1HLLR3	50	50
CUBCX1HL1R3	100	50
CUBCX1HL3R3	300	50
CUBCX1HL5R3	500	50
CUBCX1HLMR3	1000	50

% Organic Loading: 8.50

Application: Scavenger for amines, alcohols and other compounds.

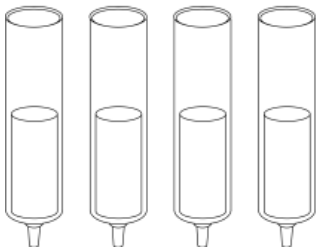
Benzenesulfonic Acid, High-Load and Quaternary Amine

Part Number	Milligrams per columns	Units per bag
CUMBQSP905	250/250	50

% Organic Loading: 7.60

Application:
Removes large or more hydrophobic compounds.

PHARMA-SIL™
Functionalized Phases in Flangeless 4.5 mL columns



Chemistries are offered on these particle sizes.

Standard Particle (40-60 µm)

Hydrophobic Plus Quaternary Amine

Part Number	Milligrams per columns	Units per bag
CUQAX2LR3	50	50
CUQAX21R3	100	50
CUQAX23R3	300	50
CUQAX25R3	500	50
CUQAX2MR3	1000	50

% Organic Loading: 13.60

Application: Dual functionality for weak acids and hydrophobic compounds.

Isocyanate (ICN)

Part Number	Milligrams per columns	Units per bag
CUICN1LR3	50	50
CUICN11R3	100	50
CUICN13R3	300	50
CUICN15R3	500	50
CUICN1MR3	1000	50

% Organic Loading: 7.1

Application: Scavenger for amines, alkoxides and other nucleophiles.

C8, Octyl (C8)

Part Number	Milligrams per columns	Units per bag
CEC081LR3	50	50
CEC0811R3	100	50
CEC0813R3	300	50
CEC0815R3	500	50
CEC081MR3	1000	50

% Organic Loading: 11.1

Application: Removes large or more hydrophobic compounds.

C18, Octadecyl (C18)

Part Number	Milligrams per columns	Units per bag
CEC181LR3	50	50
CEC1811R3	100	50
CEC1813R3	300	50
CEC1815R3	500	50
CEC181MR3	1000	50

% Organic Loading: 21.70

Application: Removes hydrophobic impurities, de-salting and purification of hydrophobic compounds.

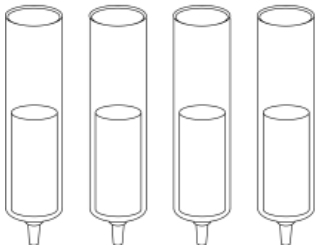
Polyimine (PAX)

Part Number	Milligrams per columns	Units per bag
CUPAX1LR3	50	50
CUPAX11R3	100	50
CUPAX13R3	300	50
CUPAX15R3	500	50
CUPAX1MR3	1000	50

% Organic Loading: 13.5

Application: Scavenger for acids and sulfonyl chlorides, isocyanates and other electrophiles.

PHARMA-SIL™
Functionalized Phases in Flangeless 4.5 mL columns



Chemistries are offered on these particle sizes.

Standard Particle (40-60 µm)

Quaternary Amine with Acetate Counter ion

Part Number	Milligrams per columns	Units per bag
CAQAX1LR3	50	50
CAQAX11R3	100	50
CAQAX13R3	300	50
CAQAX15R3	500	50
CAQAX1MR3	1000	50

% Organic Loading: 9.50

Application: Scavenger for acids and sulfonyl chlorides, isocyanates and weak electrophiles. Useful when charge on ion being removed is stronger than the acetate counter ion.

Quaternary Amine with Chloride Counter ion

Part Number	Milligrams per columns	Units per bag
CUQAX1LR3	50	50
CUQAX11R3	100	50
CUQAX13R3	300	50
CUQAX15R3	500	50
CUQAX1MR3	1000	50

% Organic Loading: 9.50

Application: Scavenger for acids and sulfonyl chlorides, isocyanates and weak electrophiles. Useful when charge on ion being removed is stronger than the chloride counter ion.

Quaternary Amine with Formate Counter ion

Part Number	Milligrams per columns	Units per bag
CFQAX1LR3	50	50
CFQAX11R3	100	50
CFQAX13R3	300	50
CFQAX15R3	500	50
CFQAX1MR3	1000	50

% Organic Loading: 9.50

Application: Scavenger for acids and sulfonyl chlorides, isocyanates and weak electrophiles. Useful when charge on ion being removed is stronger than the formate counter ion.

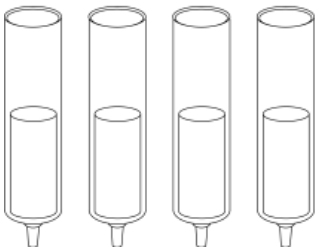
Quaternary Amine with Hydroxide Counter ion

Part Number	Milligrams per columns	Units per bag
CHQAX1LR3	50	50
CHQAX11R3	100	50
CHQAX13R3	300	50
CHQAX15R3	500	50
CHQAX1MR3	1000	50

% Organic Loading: 9.50

Application: Scavenger for acids and sulfonyl chlorides, isocyanates and weak electrophiles. Useful when charge on ion being removed is stronger than the hydroxide counter ion.

PHARMA-SIL™
Functionalized Phases in Flangeless 4.5 mL columns



Chemistries are offered on these particle sizes.

Standard Particle (40-60 µm)

Thiopropyl (THX)

Part Number	Milligrams per columns	Units per bag
CUTHX1LR3	50	50
CUTHX11R3	100	50
CUTHX13R3	300	50
CUTHX15R3	500	50
CUTHX1MR3	1000	50

% Organic Loading: 6.50

Application: Scavenger for alkylating agents, alcohols and amines.

Triacetic Acid (NAX)

Part Number	Milligrams per columns	Units per bag
CUTAX1LR3	50	50
CUTAX11R3	100	50
CUTAX13R3	300	50
CUTAX15R3	500	50
CUTAX1MR3	1000	50

% Organic Loading: 7.61

Application:
Chelator for metal ions.
i.e. tin, palladium, copper, ruthinium, chromium and nickel

PHARMA-SIL™ Unbonded Silica

Part Number	Milligrams per columns	Units per bag
PHSIL1LR3	50	50
PHSIL11R3	100	50
PHSIL13R3	300	50
PHSIL15R3	500	50
PHSIL1MR3	1000	50

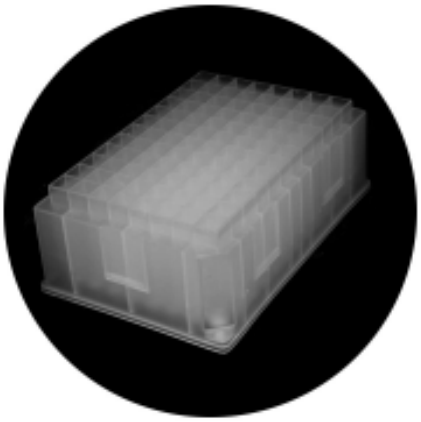
% Organic Loading: N/A

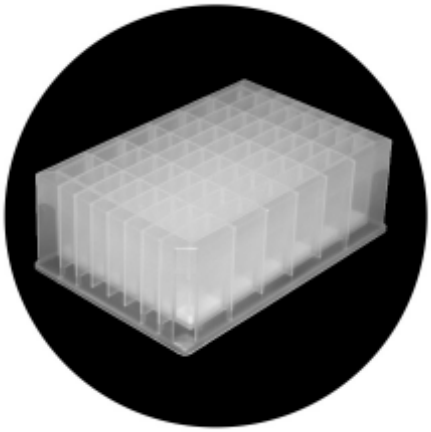
Application: Removes hydrophilic (polar) impurities, purification of hydrophilic (polar) compounds.

Flangeless Reservoirs

Part Number	Description	Units
RFV00R3P	Empty Flangeless Tube 4 mL capacity	50
RFT1FR3P	Empty Flangeless Tube (Filter Tube) 20µm Porous polyethylene • 1 Frit 1/8 Only 4 mL capacity	50
RFV1FR3P	Empty Flangeless Tube (Filter Tube) 20µm Porous polyethylene • 1 Frit 1/16 Only 4 mL capacity	50

96 and 48 Deep Well Plates





IDEAL FOR ALL SPE APPLICATIONS

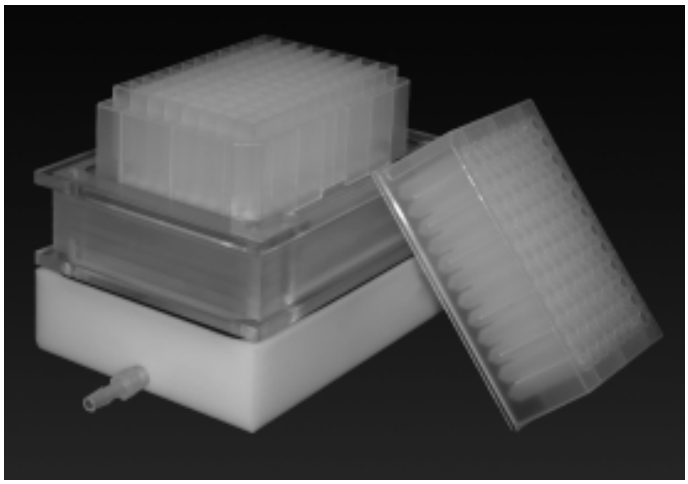
AND

HIGH THROUGH PUT SCREENING

Our 96 Deep Well Plates are made from solvent resistant, low extractable polypropylene. Standard frits are polyethylene with 20µ pores. Different pore size or frit material is available upon request.

Our 48 Deep Well Plates are made from solvent resistant, low extractable polypropylene. Standard frits are polyethylene with 20µm pores.

96 Deep Well Plates



96 Deep Well Filter Plates	Description	Part Number
	Empty 96 deep well plate with frits inserted	WOR961FR
	Empty 96 deep well plate without frits	WOR960FR
	Loose 96 deep well plate round frits	FR10961P

Reverse Phase (Hydrophobic)

Sorbent	Part Numbers	Sorbent Amount per Well, mg
Endcapped C18		
	WORCEC18105	50
	WORCEC1811	100
	WORCEC1812	200
	WORCEC1813	300
Endcapped C8		
	WORCEC08105	50
	WORCEC0811	100
	WORCEC0812	200
	WORCEC0813	300
Endcapped C4		
	WORCEC04105	50
	WORCEC0411	100
	WORCEC0412	200
	WORCEC0413	300

Sorbent	Part Numbers	Sorbent Amount per Well, mg
Endcapped C2		
	WORCEC02105	50
	WORCEC0211	100
	WORCEC0212	200
	WORCEC0213	300
Cyclohexyl		
	WORCYH105	50
	WORCYH11	100
	WORCYH12	200
	WORCYH13	300
Phenyl		
	WORPHY105	50
	WORPHY11	100
	WORPHY12	200
	WORPHY13	300

96 Deep Well Plates

Normal Phase (Hydrophilic)

Sorbent	Part Numbers	Sorbent Amount per Well, mg
Silica		
	WORSIL105	50
	WORSIL11	100
	WORSIL12	200
	WORSIL13	300
Diol		
	WORDOL105	50
	WORDOL11	100
	WORDOL12	200
	WORDOL13	300
Cyanopropyl		
	WORCNP105	50
	WORCNP11	100
	WORCNP12	200
	WORCNP13	300
Florisil® 60-100 mesh		
	WORFLS05	50
	WORFLS11	100
	WORFLS12	200
	WORFLS13	300
Florisil® 100-200 mesh, Grade A		
	WORFLSA05	50
	WORFLSA1	100
	WORFLSA2	200
	WORFLSA3	300
Alumina, Acidic		
	WORALA05	50
	WORALA1	100
	WORALA2	200
	WORALA3	300
Alumina, Neutral		
	WORALN05	50
	WORALN1	100
	WORALN2	200
	WORALN3	300
Alumina, Basic		
	WORALB05	50
	WORALB1	100
	WORALB2	200
	WORALB3	300

Ion Exchange (ANION)

Sorbent	Part Numbers	Sorbent Amount per Well, mg
Aminopropyl		
	WORNAX105	50
	WORNAX11	100
	WORNAX12	200
	WORNAX13	300
PSA (N-2 Aminoethyl)		
	WORPSA105	50
	WORPSA11	100
	WORPSA12	200
	WORPSA13	300
Diethylamino		
	WORDAX105	50
	WORDAX11	100
	WORDAX12	200
	WORDAX13	300
Quaternary Amine		
	WORQAX105	50
	WORQAX11	100
	WORQAX12	200
	WORQAX13	300
Polyimine		
	WORPAX105	50
	WORPAX11	100
	WORPAX12	200
	WORPAX13	300

Ion Exchange (CATION)

Benzenesulfonic Acid		
	WORBCX105	50
	WORBCX11	100
	WORBCX12	200
	WORBCX13	300
Benzenesulfonic Acid High Load		
	WORBCX1HL105	50
	WORBCX1HL11	100
	WORBCX1HL12	200
	WORBCX1HL13	300
Carboxylic Acid		
	WORCCX105	50
	WORCCX11	100
	WORCCX12	200
	WORCCX13	300
Propylsulfonic Acid		
	WORPCX105	50
	WORPCX11	100
	WORPCX12	200
	WORPCX13	300
Tri-Acetic Acid		
	WORTAX105	50
	WORTAX11	100
	WORTAX12	200
	WORTAX13	300

96 Deep Well Plates

Copolymeric (Multifunctional Phases)

Sorbent	Part Numbers	Sorbent Amount per Well, mg
Aminopropyl + C8		
	WORNAX205	50
	WORNAX21	100
	WORNAX22	200
	WORNAX23	300
Quaternary Amine + C8		
	WORQAX205	50
	WORQAX21	100
	WORQAX22	200
	WORQAX23	300
Carboxylic Acid + C8		
	WORCCX205	50
	WORCCX21	100
	WORCCX22	200
	WORCCX23	300
Propylsulfonic Acid + C8		
	WORPCX205	50
	WORPCX21	100
	WORPCX22	200
	WORPCX23	300
Benzenesulfonic Acid + C8		
	WORBCX205	50
	WORBCX21	100
	WORBCX22	200
	WORBCX23	300
Cyanopropyl + C8		
	WORCNP205	50
	WORCNP21	100
	WORCNP22	200
	WORCNP23	300
Cyclohexyl + C8		
	WORCYH205	50
	WORCYH21	100
	WORCYH22	200
	WORCYH23	300
Diol + C18		
	WORDOL305	50
	WORDOL31	100
	WORDOL32	200
	WORDOL33	300

Covalent Phases

Sorbent	Part Numbers	Sorbent Amount per Well, mg
Aldehyde		
	WORALD105	50
	WORALD11	100
	WORALD12	200
	WORALD13	300
Epoxy		
	WOREPX105	50
	WOREPX11	100
	WOREPX12	200
	WOREPX13	300
Isocyanate		
	WORICN105	50
	WORICN11	100
	WORICN12	200
	WORICN13	300
Thiopropyl		
	WORTHX105	50
	WORTHX11	100
	WORTHX12	200
	WORTHX13	300

Polymeric Resin

Sorbent	Part Numbers	Sorbent Amount per Well, mg
DBX Benzenesulfonic Acid + C8		
	WORDBX405	50
	WORDBX41	100
	WORDBX42	200
	WORDBX43	300
DVB Polystyrene Divinylbenzene		
	WORDVB405	50
	WORDVB41	100
	WORDVB42	200
	WORDVB43	300
C18 Reverse Phase C18		
	WORC18405	50
	WORC1841	100
	WORC1842	200
	WORC1843	300
BCX Benzenesulfonic Acid		
	WORBCX405	50
	WORBCX41	100
	WORBCX42	200
	WORBCX43	300
QAX Quaternary Amine		
	WORQAX405	50
	WORQAX41	100
	WORQAX42	200
	WORQAX43	300

48 Deep Well Plates

- Over 40 different sorbent chemistries
- Method development formats
- Custom packing and manufacturing
- Competitive pricing
- Full service technical support
- Satisfaction guaranteed

IDEAL FOR ALL SPE APPLICATIONS AND HIGH THROUGH PUT SCREENING

- Up to a 5mL sample volume per well
- Compatible with Robotic and Liquid Handling technologies including: Advanced Chemtech, Beckman, Bohdan, Gilson, Hamilton, Packard, Sagian, Tecan, Tomtec, Zinser, Zymark

	Description	Part Number
48 Deep Well Filter Plates	Empty 48 deep well plate with frits inserted	WIM481F
	Loose 48 deep well plate frits	FR10481P

Reverse Phase (Hydrophobic)

Sorbent	Part Numbers	Sorbent Amount per Well, mg
Endcapped C18		
	WIMCEC1811	100
	WIMCEC1813	300
	WIMCEC1815	500
	WIMCEC181M	1000
Endcapped C8		
	WIMCEC0811	100
	WIMCEC0813	300
	WIMCEC0815	500
	WIMCEC081M	1000
Endcapped C4		
	WIMCEC0411	100
	WIMCEC0413	300
	WIMCEC0415	500
	WIMCEC041M	1000

Sorbent	Part Numbers	Sorbent Amount per Well, mg
Endcapped C2		
	WIMCEC0211	100
	WIMCEC0213	300
	WIMCEC0215	500
	WIMCEC021M	1000
Cyclohexyl		
	WIMCYH11	100
	WIMCYH13	300
	WIMCYH15	500
	WIMCYH1M	1000
Phenyl		
	WIMPHY11	100
	WIMPHY13	300
	WIMPHY15	500
	WIMPHY1M	1000

48 Deep Well Plates

Normal Phase (Hydrophilic)

Sorbent	Part Numbers	Sorbent Amount per Well, mg
Silica		
	WIMSIL11	100
	WIMSIL13	300
	WIMSIL15	500
	WIMSIL1M	1000
Diol		
	WIMDOL11	100
	WIMDOL13	300
	WIMDOL15	500
	WIMDOL1M	1000
Cyanopropyl		
	WIMCYN11	100
	WIMCYN13	300
	WIMCYN15	500
	WIMCYN1M	1000
Florisil® 60-100 mesh		
	WIMFLS11	100
	WIMFLS13	300
	WIMFLS15	500
	WIMFLS1M	1000
Florisil® 100-200 mesh, Grade A		
	WIMFLSA1	100
	WIMFLSA3	300
	WIMFLSA5	500
	WIMFLSAM	1000
Alumina, Acidic		
	WIMALA1	100
	WIMALA3	300
	WIMALA5	500
	WIMALAM	1000
Alumina, Neutral		
	WIMALN1	100
	WIMALN3	300
	WIMALN5	500
	WIMALNM	1000
Alumina, Basic		
	WIMALB1	100
	WIMALB3	300
	WIMALB5	500
	WIMALBM	1000

Ion Exchange (ANION)

Sorbent	Part Numbers	Sorbent Amount per Well, mg
Aminopropyl		
	WIMNAX11	100
	WIMNAX13	300
	WIMNAX15	500
	WIMNAX1M	1000
PSA (N-2 Aminoethyl)		
	WIMPSA11	100
	WIMPSA13	300
	WIMPSA15	500
	WIMPSA1M	1000
Diethylamino		
	WIMDAX11	100
	WIMDAX13	300
	WIMDAX15	500
	WIMDAX1M	1000
Quaternary Amine		
	WIMQAX11	100
	WIMQAX13	300
	WIMQAX15	500
	WIMQAX1M	1000
Polyimine		
	WIMPAX11	100
	WIMPAX13	300
	WIMPAX15	500
	WIMPAX1M	1000

Ion Exchange (CATION)

Sorbent	Part Numbers	Sorbent Amount per Well, mg
Benzenesulfonic Acid		
	WIMBCX11	100
	WIMBCX13	300
	WIMBCX15	500
	WIMBCX1M	1000
Benzenesulfonic Acid High Load		
	WIMBCXH1L11	100
	WIMBCXH1L13	300
	WIMBCXH1L15	500
	WIMBCXH1L1M	1000
Carboxylic Acid		
	WIMCCX11	100
	WIMCCX13	300
	WIMCCX15	500
	WIMCCX1M	1000
Propylsulfonic Acid		
	WIMPCX11	100
	WIMPCX13	300
	WIMPCX15	500
	WIMPCX1M	1000
Tri-Acetic Acid		
	WIMTAX11	100
	WIMTAX13	300
	WIMTAX15	500
	WIMTAX1M	1000

48 Deep Well Plates

Copolymeric (Multifunctional Phases)

Sorbent	Part Numbers	Sorbent Amount per Well, mg
Aminopropyl + C8		
	WIMNAX21	100
	WIMNAX23	300
	WIMNAX25	500
	WIMNAX2M	1000
Quaternary Amine + C8		
	WIMQAX21	100
	WIMQAX23	300
	WIMQAX25	500
	WIMQAX2M	1000
Carboxylic Acid + C8		
	WIMCCX21	100
	WIMCCX23	300
	WIMCCX25	500
	WIMCCX2M	1000
Propylsulfonic Acid + C8		
	WIMPCX21	100
	WIMPCX23	300
	WIMPCX25	500
	WIMPCX2M	1000
Benzenesulfonic Acid + C8		
	WIMBCX21	100
	WIMBCX23	300
	WIMBCX25	500
	WIMBCX2M	1000
Cyanopropyl + C8		
	WIMCNP21	100
	WIMCNP23	300
	WIMCNP25	500
	WIMCNP2M	1000
Cyclohexyl + C8		
	WIMCYH21	100
	WIMCYH23	300
	WIMCYH25	500
	WIMCYH2M	1000
Diol + C18		
	WIMDOL31	100
	WIMDOL33	300
	WIMDOL35	500
	WIMDOL3M	1000

Covalent Phases

Sorbent	Part Numbers	Sorbent Amount per Well, mg
Aldehyde		
	WIMALD1	100
	WIMALD3	300
	WIMALD5	500
	WIMALD1M	1000
Epoxy		
	WIMEPX1	100
	WIMEPX3	300
	WIMEPX5	500
	WIMEPX1M	1000
Isocyanate		
	WIMICN1	100
	WIMICN3	300
	WIMICN12	500
	WIMICN1M	1000
Thiopropyl		
	WIMTHX1	100
	WIMTHX3	300
	WIMTHX5	500
	WIMTHX1M	1000

Polymeric Resin

Sorbent	Part Numbers	Amount Sorbent per Well, mg
DBX Benzenesulfonic Acid + C8		
	WIMDBX41	100
	WIMDBX43	300
	WIMDBX45	500
	WIMDBX4M	1000
DVB Polystyrene Divinylbenzene		
	WIMDVB41	100
	WIMDVB43	300
	WIMDVB45	500
	WIMDVB4M	1000
C18 Reverse Phase C18		
	WIMC1841	100
	WIMC1843	300
	WIMC1845	500
	WIMC184M	1000
BCX Benzenesulfonic Acid		
	WIMBCX41	100
	WIMBCX43	300
	WIMBCX45	500
	WIMBCX4M	1000
QAX Quaternary Amine		
	WIMQAX41	100
	WIMQAX43	300
	WIMQAX45	500
	WIMQAX4M	1000

FLASH CHROMATOGRAPHY COLUMNS

Compatible with common Flash Systems including Biotage®, Flashmaster® and RediSep™*

- Ensures high yield separations
- Observe reproducible results
- Guaranteed not to leak
- Optimized performance

*Biotage is a trademark of Dyax Corporation

*Flashmaster is a trademark of Argonaut Corporation

*RediSep is a trademark of ISCO Corporation

ULTRA FLASH™ I
Flash Chromatography Columns

Compatible with Biotage®

Silica

Part Number	Size	Silica Bed Weight	Quantity per package
FUSIL12S-20	12S	4g	20
FUSIL12S-100	12S	4g	100
FUSIL12M-20	12M	8g	20
FUSIL12M-100	12M	8g	100
FUSIL40S-12	40S	40g	12
FUSIL40S-100	40S	40g	144
FUSIL40M-12	40M	90g	12
FUSIL40M-100	40M	90g	144
FUSIL40L-12	40L	120g	12
FUSIL65M-6	65M	300g	6

C18

Part Number	Size	Silica Bed Weight	Quantity per package
FEC1812S-20	12S	4g	20
FEC1812S-100	12S	4g	100
FEC1812M-20	12M	8g	20
FEC1812M-100	12M	8g	100
FEC1840S-12	40S	40g	12
FEC1840S-100	40S	40g	144
FEC1840M-12	40M	90g	12
FEC1840M-100	40M	90g	144
FEC1840L-12	40L	120g	12
FEC1865M-6	65M	300g	6

ULTRA FLASH™ II
Flash Chromatography Columns

Compatible with Flashmaster®

Silica

Part Number	Size	Silica Bed Weight	Quantity per package
MUSIL12M15	15mL	2g	20
MUSIL15M25	25mL	5g	20
MUSIL110M25	25mL	10g	20
MUSIL110M75	75mL	10g	16
MUSIL120M75	75mL	20g	16
MUSIL125M150	150mL	25g	8
MUSIL150M150	150mL	50g	8
MUSIL170M150	150mL	70g	8

C18

Part Number	Size	Silica Bed Weight	Quantity per package
MEC1812M15	15mL	2g	20
MEC1815M25	25mL	5g	20
MEC18110M25	25mL	10g	20
MEC18110M75	75mL	10g	16
MEC18120M75	75mL	20g	16
MEC18125M150	150mL	25g	8
MEC18150M150	150mL	50g	8
MEC18170M150	150mL	75g	8

Flash Chromatography Columns

ISCO® RediSep™ Compatible Columns

C18

Part Number	Sorbent Amount	Quantity per package
IEC18-4	4g	20
IEC18-12	12g	20
IEC18-40	40g	15

BCX

Part Number	Sorbent Amount	Quantity per package
IUBCX-4	4g	20
IUBCX-12	12g	20
IUBCX-40	40g	15

Silica

Part Number	Sorbent Amount	Quantity per package
IUSIL-4	4g	20
IUSIL-12	12g	20
IUSIL-40	40g	15

Aminopropyl

Part Number	Sorbent Amount	Quantity per package
IUNAX-4	4g	20
IUNAX-12	12g	20
IUNAX-40	40g	15

Triacetic Acid

Part Number	Sorbent Amount	Quantity per package
IUTAX-4	4g	20
IUTAX-12	12g	20
IUTAX-40	40g	15

PHARMA-SIL™

Pharma-Sil™ is a high surface area silica designed to be used in pharmaceutical applications. The advantage of Pharma-Sil™ is a higher capacity with greater retention of compounds.

Description	Part Number	Sizes
UNBONDED SILICA, SG2 **Particle Size: 40-60 µm** **Surface Area: 515 - 535 m2/g**	PHSIL00X	10g
	PHSIL00C	100g
	PHSIL00K	1kg

High Activity, High Purity Pharmaceutical Purification

Description	Part Number Endcapped	Part Number Unendcapped	Sizes
AMINOPROPYL	N/A	CUNAXHSA00X	10g
	N/A	CUNAXHSA00C	100g
	N/A	CUNAXHSA00K	1kg
BENZENESULFONIC ACID	N/A	CUBCXHSA00X	10g
	N/A	CUBCXHSA00C	100g
	N/A	CUBCXHSA00K	1kg
BENZENESULFONIC ACID (High Load)			
	N/A	CUBCXHLHSA00X	10g
	N/A	CUBCXHLHSA00C	100g
	N/A	CUBCXHLHSA00K	1kg
C8, OCTYL	CEC08HSA00X	CUC08HSA00X	10g
	CEC08HSA00C	CUC08HSA00C	100g
	CEC08HSA00K	CUC08HSA00K	1kg
ISOCYANATE	N/A	CUICNHSA00X	10g
	N/A	CUICNHSA00C	100g
	N/A	CUICNHSA00K	1kg
POLYIMINE	N/A	CUPAXHSA00X	10g
	N/A	CUPAXHSA00C	100g
	N/A	CUPAXHSA00K	1kg
QUATERNARY AMINE CHLORIDE COUNTER ION	N/A	CUQAXHSA00X	10g
	N/A	CUQAXHSA00C	100g
	N/A	CUQAXHSA00K	1kg
QUATERNARY AMINE ACETATE COUNTER ION	N/A	CAQAXHSA00X	10g
	N/A	CAQAXHSA00C	100g
	N/A	CAQAXHSA00K	1kg
QUATERNARY AMINE HYDROXIDE COUNTER ION	N/A	CHQAXHSA00X	10g
	N/A	CHQAXHSA00C	100g
	N/A	CHQAXHSA00K	1kg
QUATERNARY AMINE + OCTADECYL	N/A	CUQAXHSA30X	10g
	N/A	CUQAXHSA30C	100g
	N/A	CUQAXHSA30K	1kg
THIOPROPYL	N/A	CUTHXHSA00X	10g
	N/A	CUTHXHSA00C	100g
	N/A	CUTHXHSA00K	1kg
TRIACETIC ACID	N/A	CUTAXHSA00X	10g
	N/A	CUTAXHSA00C	100g
	N/A	CUTAXHSA00K	1kg
ACID WASHED UNBONDED SILICA	N/A	CUSILHSA00X	10g
	N/A	CUSILHSA00C	100g
	N/A	CUSILHSA00K	1kg

NEW
ENVIRO-CLEAN® Products

- **Oil & Grease Universal Cartridges**
- **QuEChERS Method Dispersive SPE Tubes**
- **Disk Manifold**
- **Specialty Cartridges**
- **ENVIRO-CLEAN® Bulk Products**

ENVIRO-CLEAN®
Universal Cartridges

Compatible with the Horizon SPE-DEX® 4790 Automated Extraction System

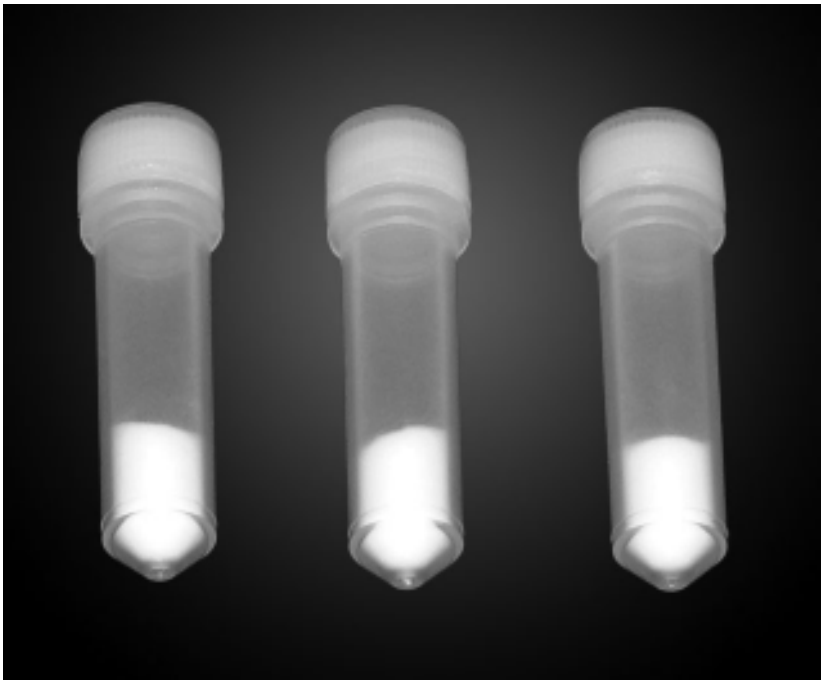
SPE-DEX® is a registered trademark of Horizon Technology, Inc.

The Enviro-Clean® Universal Cartridge is the choice of modern contract labs. This inexpensive, easy to use cartridge provides consistent extractions with clean blanks. Built in flow control allows for consistent flow rates. Enviro-Clean® sorbents UCT polypropylene, and PTFE frits offer a clean blank with every batch. Designed for the environmental lab, the cartridge is made to handle large volumes of waste water. An optional bottle holder is available for continuous feed from Boston Round and wide mouth bottles.

Product Name	Part Number	Sorbent Amount/ Tube Volume	Units	Description / Application
UNIVERSAL C18	ECUNIC18	1100mg/83mL	8	1100 mg of endcapped C18 for pesticides, PCBs and a large assortment of applications.
UNIVERSAL 525	ECUNI525	1500mg/83mL	8	1500 mg of our special C18 blend. This cartridge is specifically designed for EPA Method 525.
UNIVERSAL PAH	ECUNIPAH	2000mg/83mL	8	2000 mg of C18 specifically designed for PAH extraction.
UNIVERSAL DRO	ECUNIDRO	1500mg/83mL	8	1500 mg of C18 specifically designed for the extraction of diesel range organics and similar compounds.
UNIVERSAL OIL & GREASE	ECUNIOAG	4000mg/83mL	15	4000 mg of large particle C18 with an assortment of PE frit filters. No more liquid/liquid emulsions or clogged disks.
UNIVERSAL 521	ECUNI521	2000mg/83mL	8	2000 mg of our special blend of activated carbon; Specifically designed for EPA Method 521 “Nitro-samines in Drinking Water” and other methods where activated carbon is the sorbent of choice.

The cartridge will fit all standard manifolds and disk manifolds with adapter.

THE DISPERSIVE
Solid Phase Extraction Tube



Designed For Use With The QuEChERS Method*

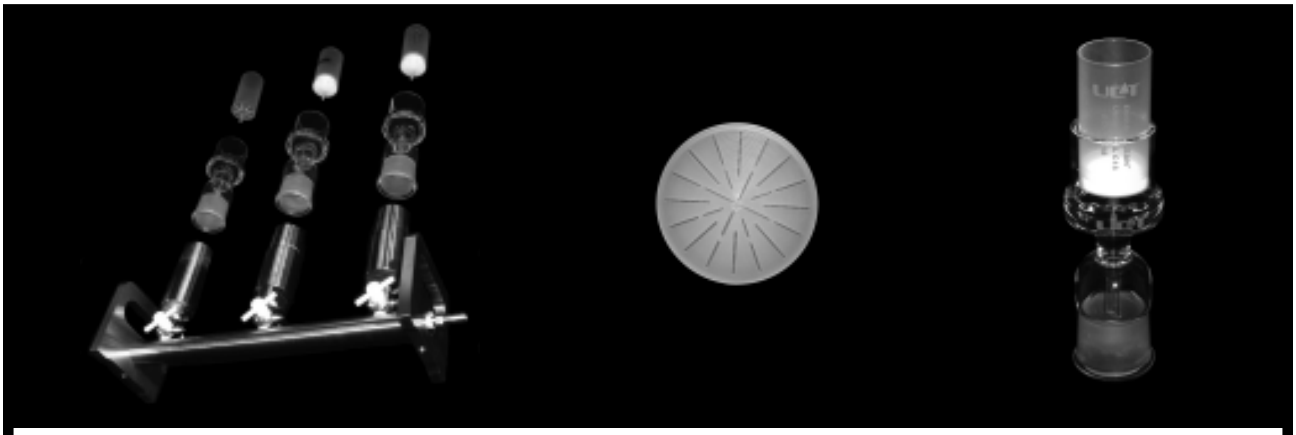
Part Number: **CUMPSC18CT**	Part Number: **CUMPS2CT**
Micro-centrifuge tubes with packing* 100 per package	**Micro-centrifuge tubes with packing* 100 per package**
*Each 2mL micro-centrifuge tube contains 150mg Anhydrous Magnesium Sulfate, 50mg PSA (N-2 Aminoethyl) and 50mg endcapped C-18.	*Each 2mL micro-centrifuge tube contains 150mg Anhydrous Magnesium Sulfate and 50mg PSA (N-2 Aminoethyl).
Custom packing available upon request.	**Custom packing available upon request.**

* Quick, Easy, Cheap, Effective, Rugged and Safe Approach for Determining Pesticide Residues Developed at the USDA-ARS Eastern Regional Research Center, Wyndmoor, PA

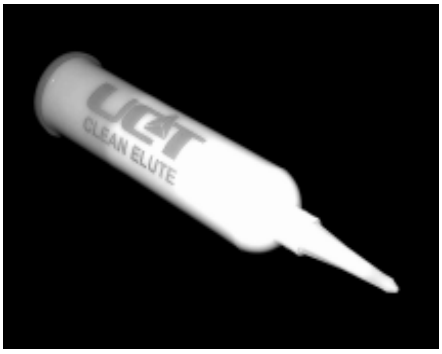
Disk Manifold

- Fits 90mm Glassware on Each Station
- Available in 1, 3 or 6 Stations
- Adapters for SPE Cartridges are Available
- KEL-F Screen is Standard

Disk Manifold and Accessories



Part number	Description	Unit
ECUCTVAC147	1 station manifold assembly (47mm). Includes: 1 station manifold, KEL-F screen, funnel, base, Clamp	1
ECUCTVAC190	1 station manifold assembly (90mm). Includes: 1 station manifold, KEL-F screen, funnel, base, Clamp	1
ECUCTVAC347	3 station manifold assembly (47mm). Includes: 3 station manifold, KEL-F screen, funnel, base, Clamp	1
ECUCTVAC390	3 station manifold assembly (90mm). Includes: 3 station manifold, KEL-F screen, funnel, base, Clamp	1
ECUCTVAC647	6 station manifold assembly (47mm). Includes: 6 station manifold, KEL-F screen, funnel, base, Clamp	1
ECUCTVAC690	6 station manifold assembly (90mm). Includes: 6 station manifold, KEL-F screen, funnel, base, Clamp	1
ECUCTVAC1	1 station manifold	1
ECUCTVAC3	3 station manifold	1
ECUCTVAC6	6 station manifold	1
ECCG1420	47mm aluminum clamp	1
ECUC0502	90mm aluminum clamp	1
ECQSB47	47mm support base	1
ECQFN300	47mm 300ml funnel	1
ECQSB90	90mm support base	1
ECQFN1000	90mm 1000ml funnel	1
ECUCT47	47mm KEL-F screen	1
ECUCT90	90mm KEL-F screen	1
ECUCTADP	cartridge adaptor	1



Specialty Cartridges
For Environmental Extractions and Clean Up

CLEAN ELUTE™

Part Number	Sorbent Amount/ Tube Volume	Unit per Pack
CLEANELUTE	50 mL	108

Description

A diatomaceous earth matrix capable of being used within a pH range of 1-13.

Florisil® PR

Part Number	Sorbent Amount/ Tube Volume	Unit per Pack
EUFLS1M6	1000mg/6 mL	30

Description

Pesticide residue grade Florisil® is the cleanest cartridge on the market. Florisil® is a registered trademark of U.S. Silica.

Florisil® A

Part Number	Sorbent Amount/ Tube Volume	Unit per Pack
EUFLSA1M6	1000mg/6 mL	30

Description

Equivalent to PR grade, but with a smaller particle size. Preferred by many environmental testing labs. Florisil® is a registered trademark of U.S. Silica.

ENVIRO-CLEAN® TPH Silica

Part Number	Sorbent Amount/ Tube Volume	Unit per Pack
ESIHT13M15	3000mg/15 mL	24

Description

(Gravity Flow) Developed for fractionation of MA TPH

ENVIRO-CLEAN® C18

Part Number	Sorbent Amount/ Tube Volume	Unit per Pack
EEC181M6	1000mg/6 mL	30

Description

Optimized for non polar analytes, including pesticides, PCBs, PAHs, and formaldehyde.

ENVIRO-CLEAN® C18 Polar

Part Number	Sorbent Amount/ Tube Volume	Unit per Pack
EUC181M6	1000mg/6 mL	30

Description

For non polar and moderately polar analytes.

Specialty Cartridges
For Environmental Extractions and Clean Up

ENVIRO-CLEAN® C8

Part Number	Sorbent Amount/ Tube Volume	Unit per Pack	Description
EEC081M6	1000mg/6 mL	30	For Diquat, Paraquat, Explosives residues, etc.

ENVIRO-CLEAN® DVB

Part Number	Sorbent Amount/ Tube Volume	Unit per Pack	Description
ECDVB056	50mg/6 mL	50	For Herbicides, Phenols, etc.

ENVIRO-CLEAN® 521

Part Number	Sorbent Amount/ Tube Volume	Unit per Pack	Description
EU52112M15	2000mg/15 mL	30	Activated carbon for EPA Method 521, etc.

ENVIRO-CLEAN®
Bulk Product Guide

Silica Gel

Part Number	Quantity	
ECSIOH00D	500g	100-200 Mesh suitable for cartridge chromatography
ECSIOH03K	3kg	

Copper Granules 99.5%

Part Number	Quantity	
ECCU01K	1kg	30 Mesh
ECCU05K	5kg	
ECCU10K	10kg	

Magnesium Sulfate Anhydrous 99.5%

Part Number	Quantity	
ECMAG00D	500g	Power Reagent, 99.5% min.
ECMAG00DCS	case of 4	

Alumina, Neutral

Part Number	Quantity	
ECALN00D	500g	Activity Super I, Neutral
ECALN01K	1kg	
ECALN03K	3kg	

NaCl

Part Number	Quantity	
ECNACL05K	5kg	ACS Grade
ECNACL10K	10kg	
ECNACL50K	50kg	

Alumina, Basic

Part Number	Quantity	
ECALB00D	500g	Activity Super I, Basic
ECALB01K	1kg	
ECALB03K	3kg	

Ottawa Sand

Part Number	Quantity
ECOTT05K	1kg
ECOTT10K	10kg
ECOTT25K	25kg

Alumina, Acidic

Part Number	Quantity	
ECALA00D	500g	Activity Super I, Acidic
ECALA01K	1kg	
ECALA03K	3kg	

Sodium Sulfate Anhydrous

Part Number	Quantity	
ECSS05K	5kg	ACS Grade Granular 60 Mesh
ECSS10K	10kg	
ECSS50K	50kg	

Florisil®

Part Number	Quantity	
ECFLOR00D	500g	100-200 Mesh
ECFLOR03K	3kg	

Florisil® is a registered trademark of U.S. Silica.

Florisil® PR

Part Number	Quantity
ECFLSR00D	500g
ECFLSR03K	3kg

Florisil® is a registered trademark of U.S. Silica.

ENVIRO-CLEAN®

Polypropylene and Inert Glass Extraction Cartridges

- **Polypropylene columns processed for virtually no extractables**
- **3mL and 6mL glass barrels also available**
- **Fitted with inert Teflon frits in glass tubes**
- **Packed with UCT premium sorbents**

ENVIRO-CLEAN® solid phase extraction columns are designed especially for the isolation and separation of environmental analytes such as pesticides, herbicides, polyaromatic hydrocarbons, polychlorinated biphenyls and other environmentally related compounds.

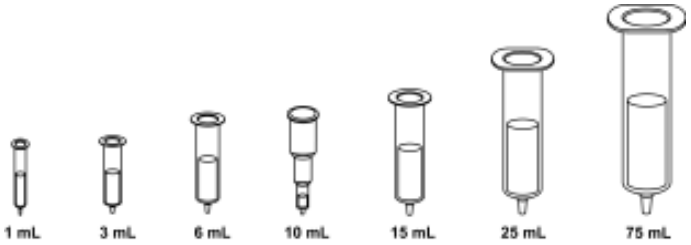
ENVIRO-CLEAN® offers a selection of high quality solid phase extraction columns geared to support the environmental chemist with a very broad range of analytical applications. The most important function of the solid phase extraction column for the environmental chemist is the clean separation of an analyte from a variety of compounds. An important function of the extraction column is that it will concentrate a low level of analyte from large samples for accurate analysis. When evaluating analyte extraction or separation, ENVIRO-CLEAN® offers non-polar, polar, ion-exchange and copolymeric phases for application in the environmental laboratory.

Non-polar phases are often referred to as hydrophobic and function by the interactions of the carbon- hydrogen bond of the analyte and the sorbent. C18 is the most widely used of these phases. EPA approved methods for analyzing organics in drinking water specify the C18 hydrophobic phase. This method requires that large sample volumes (liters) be analyzed which utilizes the compound concentration function of the hydrophobic sorbent.

Polar or hydrophilic phases function by hydrogen bonding, pi-pi and dipole-dipole interaction. Ion exchange interactions occur between the sorbent and the analyte of opposite charge. ENVIRO-CLEAN® sorbents are available in both cation or anion exchangers exhibiting both weak and strong characteristics.

Copolymeric phases offer a new approach to the environmental analyst by providing very clean extracts and high compound recovery. Dual functionalities, hydrophobic plus ion-exchange or polar allow a higher degree of selectivity than was previously possible. Analytes retained by multiple mechanisms can be washed by disrupting only one mechanism. Careful selection of the solvent strength results in a greater removal of chromatographic contamination.

ENVIRO-CLEAN®
Hydrophobic Extraction Cartridges



Chemistries are offered on these particle sizes.

Small Particle (5-20 µm)
Intermediate Particle (25-40 µm)
Standard Particle (40-60 µm)
Large Particle (125-210 µm)

C2, Ethyl

Part Number Unendcapped	Part Number Endcapped	Sorbent Amount/ Tube Volume	Unit per Pack
EUC021L1	EEC021L1	50 mg/1 mL	100
EUC02111	EEC02111	100 mg/1 mL	100
EUC02123	EEC02123	200 mg/3 mL	50
EUC02153	EEC02153	500 mg/3 mL	50
EUC02156	EEC02156	500 mg/6 mL	50
EUC021M6	EEC021M6	1000 mg/6 mL	30
EUC0211Z	EEC0211Z	100 mg/10 mL	50
EUC0212Z	EEC0212Z	200 mg/10 mL	50
EUC0215Z	EEC0215Z	500 mg/10 mL	50
EUC0212M15	EEC0212M15	2000 mg/15 mL	20
EUC0215M25	EEC0215M25	5000 mg/25 mL	20
EUC02110M75	EEC02110M75	10000 mg/75 mL	10

% Organic Loading: 6.60

Application:
Removes large or more hydrophobic compounds.

Cn3, Propyl

Part Number Unendcapped	Part Number Endcapped	Sorbent Amount/ Tube Volume	Unit per Pack
EUCn31L1	EECn31L1	50 mg/1 mL	100
EUCn3111	EECn3111	100 mg/1 mL	100
EUCn3123	EECn3123	200 mg/3 mL	50
EUCn3153	EECn3153	500 mg/3 mL	50
EUCn3156	EECn3156	500 mg/6 mL	50
EUCn31M6	EECn31M6	1000 mg/6 mL	30
EUCn311Z	EECn311Z	100 mg/10 mL	50
EUCn312Z	EECn312Z	200 mg/10 mL	50
EUCn315Z	EECn315Z	500 mg/10 mL	50
EUCn312M15	EECn312M15	2000 mg/15 mL	20
EUCn315M25	EECn315M25	5000 mg/25 mL	20
EUCn3110M75	EECn3110M75	10000 mg/75 mL	10

% Organic Loading: 7.60

Application:
Removes large or more hydrophobic compounds.

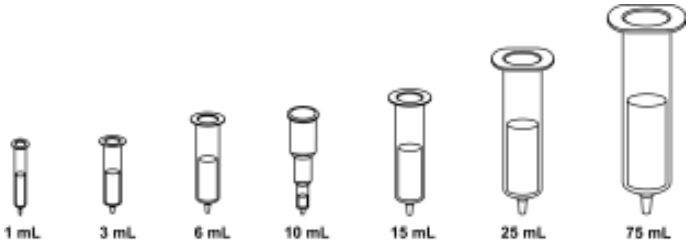
Cn4, n-Butyl

Part Number Unendcapped	Part Number Endcapped	Sorbent Amount/ Tube Volume	Unit per Pack
EUCn41L1	EECn41L1	50 mg/1 mL	100
EUCn4111	EECn4111	100 mg/1 mL	100
EUCn4123	EECn4123	200 mg/3 mL	50
EUCn4153	EECn4153	500 mg/3 mL	50
EUCn4156	EECn4156	500 mg/6 mL	50
EUCn41M6	EECn41M6	1000 mg/6 mL	30
EUCn411Z	EECn411Z	100 mg/10 mL	50
EUCn412Z	EECn412Z	200 mg/10 mL	50
EUCn415Z	EECn415Z	500 mg/10 mL	50
EUCn412M15	EECn412M15	2000 mg/15 mL	20
EUCn415M25	EECn415M25	5000 mg/25 mL	20
EUCn4110M75	EECn4110M75	10000 mg/75 mL	10

% Organic Loading: 8.50

Application:
Removes large or more hydrophobic compounds.

ENVIRO-CLEAN®
Hydrophobic Extraction Cartridges



Chemistries are offered on these particle sizes.

Small Particle (5-20 µm)
Intermediate Particle (25-40 µm)
Standard Particle (40-60 µm)
Large Particle (125-210 µm)

Ci4, Isobutyl

Part Number Unendcapped	Part Number Endcapped	Sorbent Amount/ Tube Volume	Unit per Pack
EUCi41L1	EECi41L1	50 mg/1 mL	100
EUCi4111	EECi4111	100 mg/1 mL	100
EUCi4123	EECi4123	200 mg/3 mL	50
EUCi4153	EECi4153	500 mg/3 mL	50
EUCi4156	EECi4156	500 mg/6 mL	50
EUCi41M6	EECi41M6	1000 mg/6 mL	30
EUCi411Z	EECi411Z	100 mg/10 mL	50
EUCi412Z	EECi412Z	200 mg/10 mL	50
EUCi415Z	EECi415Z	500 mg/10 mL	50
EUCi412M15	EECi412M15	2000 mg/15 mL	20
EUCi415M25	EECi415M25	5000 mg/25 mL	20
EUCi4110M75	EECi4110M75	10000 mg/75 mL	10

% Organic Loading: 8.80

Application:
Removes large or more hydrophobic compounds.

Ct4, Tertiary Butyl

Part Number Unendcapped	Part Number Endcapped	Sorbent Amount/ Tube Volume	Unit per Pack
EUCt41L1	EECt41L1	50 mg/1 mL	100
EUCt4111	EECt4111	100 mg/1 mL	100
EUCt4123	EECt4123	200 mg/3 mL	50
EUCt4153	EECt4153	500 mg/3 mL	50
EUCt4156	EECt4156	500 mg/6 mL	50
EUCt41M6	EECt41M6	1000 mg/6 mL	30
EUCt411Z	EECt411Z	100 mg/10 mL	50
EUCt412Z	EECt412Z	200 mg/10 mL	50
EUCt415Z	EECt4115Z	500 mg/10 mL	50
EUCt412M15	EECt412M15	2000 mg/15 mL	20
EUCt415M25	EECt415M25	5000 mg/25 mL	20
EUCt4110M75	EECt4110M75	10000 mg/75 mL	10

% Organic Loading: 8.50

Application:
Removes large or more hydrophobic compounds.

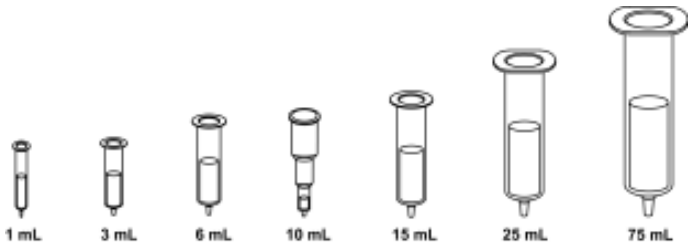
C5, Pentyl

Part Number Unendcapped	Part Number Endcapped	Sorbent Amount/ Tube Volume	Unit per Pack
EUC051L1	EEC051L1	50 mg/1 mL	100
EUC05111	EEC0511	100 mg/1 mL	100
EUC05123	EEC05123	200 mg/3 mL	50
EUC05153	EEC05153	500 mg/3 mL	50
EUC05156	EEC05156	500 mg/6 mL	50
EUC051M6	EEC051M6	1000 mg/6 mL	30
EUC0511Z	EEC0511Z	100 mg/10 mL	50
EUC0512Z	EEC0512Z	200 mg/10 mL	50
EUC0515Z	EEC0515Z	500 mg/10 mL	50
EUC0512M15	EEC0512M15	2000 mg/15 mL	20
EUC0515M25	EEC0515M25	5000 mg/25 mL	20
EUC05110M75	EEC05110M75	10000 mg/75 mL	10

% Organic Loading: 9.50

Application:
Removes large or more hydrophobic compounds.

ENVIRO-CLEAN®
Hydrophobic Extraction Cartridges



Chemistries are offered on these particle sizes.

Small Particle (5-20 µm)
Intermediate Particle (25-40 µm)
Standard Particle (40-60 µm)
Large Particle (125-210 µm)

C6, Hexyl

Part Number Endcapped	Part Number Unendcapped	Sorbent Amount/ Tube Volume	Unit per Pack
EUC061L1	EEC061L1	50 mg/1 mL	100
EUC06111	EEC06111	100 mg/1 mL	100
EUC06123	EEC06123	200 mg/3 mL	50
EUC06153	EEC06153	500 mg/3 mL	50
EUC06156	EEC06156	500 mg/6 mL	50
EUC061M6	EEC061M6	1000 mg/6 mL	30
EUC0611Z	EEC0611Z	100 mg/10 mL	50
EUC0612Z	EEC0612Z	200 mg/10 mL	50
EUC0615Z	EEC0615Z	500 mg/10 mL	50
EUC0612M15	EEC0612M15	2000 mg/15 mL	20
EUC0615M25	EEC0615M25	5000 mg/25 mL	20
EUC06110M75	EEC06110M75	10000 mg/75 mL	10

% Organic Loading: 9.50

Application:
Removes large or more hydrophobic compounds.

C7, Hexyl

Part Number Endcapped	Part Number Unendcapped	Sorbent Amount/ Tube Volume	Unit per Pack
EUC071L1	EEC071L1	50 mg/1 mL	100
EUC07111	EEC07111	100 mg/1 mL	100
EUC07123	EEC07123	200 mg/3 mL	50
EUC07153	EEC07153	500 mg/3 mL	50
EUC07156	EEC07156	500 mg/6 mL	50
EUC071M6	EEC071M6	1000 mg/6 mL	30
EUC0711Z	EEC0711Z	100 mg/10 mL	50
EUC0712Z	EEC0712Z	200 mg/10 mL	50
EUC0715Z	EEC0715Z	500 mg/10 mL	50
EUC0712M15	EEC0712M15	2000 mg/15 mL	20
EUC0715M25	EEC0715M25	5000 mg/25 mL	20
EUC07110M75	EEC07110M75	10000 mg/75 mL	10

% Organic Loading: 15.70

Application:
Removes large or more hydrophobic compounds.

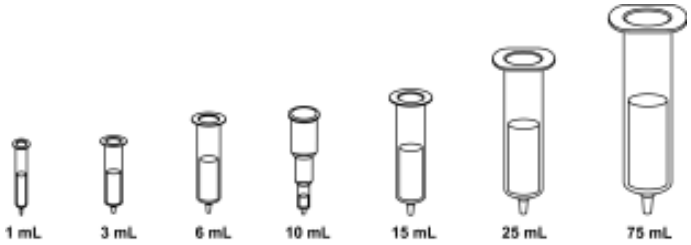
C8, Octyl

Part Number Unendcapped	Part Number Endcapped	Sorbent Amount/ Tube Volume	Unit per Pack
EUC081L1	EEC081L1	50 mg/1 mL	100
EUC08111	EEC08111	100 mg/1 mL	100
EUC08123	EEC08123	200 mg/3 mL	50
EUC08153	EEC08153	500 mg/3 mL	50
EUC08156	EEC08156	500 mg/6 mL	50
EUC081M6	EEC081M6	1000 mg/6 mL	30
EUC0811Z	EEC0811Z	100 mg/10 mL	50
EUC0812Z	EEC0812Z	200 mg/10 mL	50
EUC0815Z	EEC0815Z	500 mg/10 mL	50
EUC0812M15	EEC0812M15	2000 mg/15 mL	20
EUC0815M25	EEC0815M25	5000 mg/25 mL	20
EUC08110M75	EEC08110M75	10000 mg/75 mL	10

% Organic Loading: 15.70

Application:
Removes large or more hydrophobic compounds.

ENVIRO-CLEAN®
Hydrophobic Extraction Cartridges



Chemistries are offered on these particle sizes.

Small Particle (5-20 µm)
Intermediate Particle (25-40 µm)
Standard Particle (40-60 µm)
Large Particle (125-210 µm)

C10, nDecyl

Part Number Unendcapped	Part Number Endcapped	Sorbent Amount/ Tube Volume	Unit per Pack
EUC101L1	EEC101L1	50 mg/1 mL	100
EUC10111	EEC10111	100 mg/1 mL	100
EUC10123	EEC10123	200 mg/3 mL	50
EUC10153	EEC10153	500 mg/3 mL	50
EUC10156	EEC10156	500 mg/6 mL	50
EUC101M6	EEC101M6	1000 mg/6 mL	30
EUC1011Z	EEC1011Z	100 mg/10 mL	50
EUC1012Z	EEC1012Z	200 mg/10 mL	50
EUC1015Z	EEC10115Z	500 mg/10 mL	50
EUC1012M15	EEC1012M15	2000 mg/15 mL	20
EUC1015M25	EEC1015M25	5000 mg/25 mL	20
EUC10110M75	EEC10110M75	10000 mg/75 mL	10

% Organic Loading: 15.70

Application:
Removes large or more hydrophobic compounds.

C12, nDodecyl

Part Number Unendcapped	Part Number Endcapped	Sorbent Amount/ Tube Volume	Unit per Pack
EUC121L1	EEC121L1	50 mg/1 mL	100
EUC12111	EEC12111	100 mg/1 mL	100
EUC12123	EEC12123	200 mg/3 mL	50
EUC12153	EEC12153	500 mg/3 mL	50
EUC12156	EEC12156	500 mg/6 mL	50
EUC121M6	EEC121M6	1000 mg/6 mL	30
EUC1211Z	EEC1211Z	100 mg/10 mL	50
EUC1212Z	EEC1212Z	200 mg/10 mL	50
EUC1215Z	EEC1215Z	500 mg/10 mL	50
EUC1212M15	EEC1212M15	2000 mg/15 mL	20
EUC1215M25	EEC1215M25	5000 mg/25 mL	20
EUC12110M75	EEC12110M75	10000 mg/75 mL	10

% Organic Loading: 7.60

Application:
Removes large or more hydrophobic compounds.

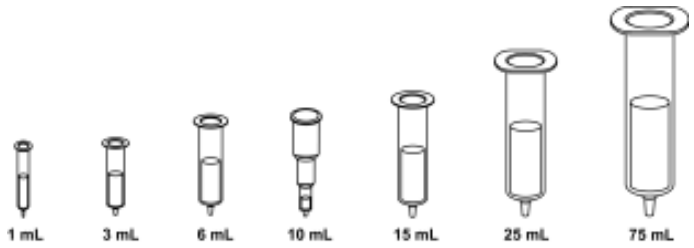
C18, Octadecyl

Part Number Unendcapped	Part Number Endcapped	Sorbent Amount/ Tube Volume	Unit per Pack
EUC18111	EEC18111	100 mg/1 mL	100
EUC18123	EEC18123	200 mg/3 mL	50
EUC18153	EEC18153	500 mg/3 mL	50
EUC18156	EEC18156	500 mg/6 mL	50
EUC181M6	EEC181M6	1000 mg/6 mL	30
EUC1811Z	EEC1811Z	100 mg/10 mL	50
EUC1812Z	EEC1812Z	200 mg/10 mL	50
EUC1815Z	EEC1815Z	500 mg/10 mL	50
EUC1812M15	EEC1812M15	2000 mg/15 mL	20
EUC1815M25	EEC1815M25	5000 mg/25 mL	20
EUC18110M75	EEC18110M75	10000 mg/75 mL	10

% Organic Loading: 8.50

Application:
Removes large or more hydrophobic compounds.

ENVIRO-CLEAN®
Hydrophobic Extraction Cartridges



Chemistries are offered on these particle sizes.

Small Particle (5-20 µm)
Intermediate Particle (25-40 µm)
Standard Particle (40-60 µm)
Large Particle (125-210 µm)

C20, Eicosyl

Part Number Unendcapped	Part Number Endcapped	Sorbent Amount/ Tube Volume	Unit per Pack
EUC201L1	EEC201L1	50 mg/1 mL	100
EUC20111	EEC20111	100 mg/1 mL	100
EUC20123	EEC20123	200 mg/3 mL	50
EUC20153	EEC20153	500 mg/3 mL	50
EUC20156	EEC20156	500 mg/6 mL	50
EUC201M6	EEC201M6	1000 mg/6 mL	30
EUC2011Z	EEC2011Z	100 mg/10 mL	50
EUC2012Z	EEC2012Z	200 mg/10 mL	50
EUC2015Z	EEC2015Z	500 mg/10 mL	50
EUC2012M15	EEC2012M15	2000 mg/15 mL	20
EUC2015M25	EEC2015M25	5000 mg/25 mL	20
EUC20110M75	EEC20110M75	10000 mg/75 mL	10

% Organic Loading: 24.30

Application:
Removes smallest or least hydrophobic compounds.

C30, Tricontyl

Part Number Unendcapped	Part Number Endcapped	Sorbent Amount/ Tube Volume	Unit per Pack
EUC301L1	EEC301L1	50 mg/1 mL	100
EUC30111	EEC30111	100 mg/1 mL	100
EUC30123	EEC30123	200 mg/3 mL	50
EUC30153	EEC30153	500 mg/3 mL	50
EUC30156	EEC30156	500 mg/6 mL	50
EUC301M6	EEC301M6	1000 mg/6 mL	30
EUC3011Z	EEC3011Z	100 mg/10 mL	50
EUC3012Z	EEC3012Z	200 mg/10 mL	50
EUC3015Z	EEC3015Z	500 mg/10 mL	50

% Organic Loading: 26.00

Application:
Removes smallest or least hydrophobic compounds.

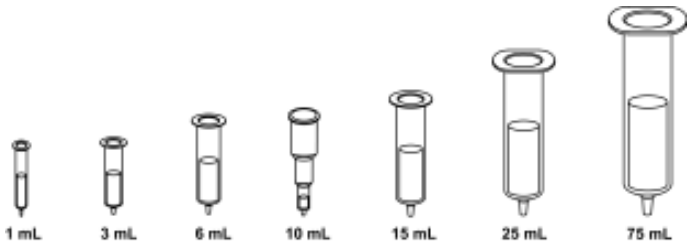
Cyclohexyl

Part Number Unendcapped	Part Number Endcapped	Sorbent Amount/ Tube Volume	Unit per Pack
EUCYH1L1	EECYH1L1	50 mg/1 mL	100
EUCYH111	EECYH111	100 mg/1 mL	100
EUCYH123	EECYH123	200 mg/3 mL	50
EUCYH153	EECYH153	500 mg/3 mL	50
EUCYH156	EECYH156	500 mg/6 mL	50
EUCYH1M6	EECYH1M6	1000 mg/6 mL	30
EUCYH11Z	EECYH11Z	100 mg/10 mL	50
EUCYH12Z	EECYH12Z	200 mg/10 mL	50
EUCYH15Z	EECYH15Z	500 mg/10 mL	50
EUCYH12M15	EECYH12M15	2000 mg/15 mL	20
EUCYH15M25	EECYH15M25	5000 mg/25 mL	20
EUCYH110M75	EECYH110M75	10000 mg/75 mL	10

% Organic Loading: 11.60

Application:
Scavenger for phenolic compounds.

ENVIRO-CLEAN®
Hydrophobic Extraction Cartridges



Chemistries are offered on these particle sizes.

Small Particle (5-20 µm)
Intermediate Particle (25-40 µm)
Standard Particle (40-60 µm)
Large Particle (125-210 µm)

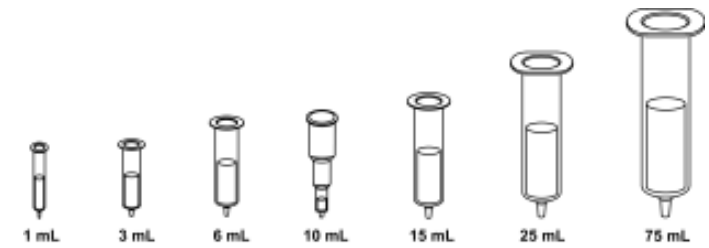
Phenyl

Part Number Unendcapped	Part Number Endcapped	Sorbent Amount/ Tube Volume	Unit per Pack
EUPHY1L1	EEPHY1L1	50mg / 1mL	100
EUPHY111	EEPHY111	100mg / 1mL	100
EUPHY123	EEPHY123	200mg / 3mL	50
EUPHY153	EEPHY153	500mg / 3mL	50
EUPHY156	EEPHY156	500mg / 6mL	50
EUPHY1M6	EEPHY1M6	1g / 6mL	30
EUPHY11Z	EEPHY11Z	100mg / 10mL	50
EUPHY12Z	EEPHY12Z	200mg / 10mL	50
EUPHY15Z	EEPHY15Z	500mg / 10mL	50
EUPHY12M15	EEPHY12M15	2g / 15mL	20
EUPHY15M25	EEPHY15M25	5g / 25mL	20
EUPHY110M75	EEPHY110M75	10g / 75mL	10

% Organic Loading: 11.00

Application:
Scavenger for polar compounds.

ENVIRO-CLEAN®
Hydrophilic Extraction Cartridges



Chemistries are offered on these particle sizes.

Small Particle (5-20 µm)
Intermediate Particle (25-40 µm)
Standard Particle (40-60 µm)
Large Particle (125-210 µm)

Florisil®

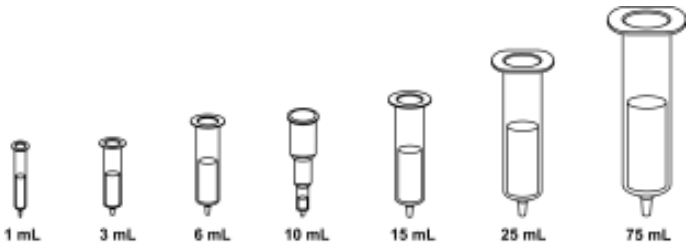
Part Number Unendcapped	Sorbent Amount/ Tube Volume	Unit per Pack
EUFLS1L1	50 mg/1 mL	100
EUFLS111	100 mg/1 mL	100
EUFLS123	200 mg/3 mL	50
EUFLS153	500 mg/3 mL	50
EUFLS156	500 mg/6 mL	50
EUFLS1M6	1000 mg/6 mL	30
EUFLS11Z	100 mg/10 mL	50
EUFLS12Z	200 mg/10 mL	50
EUFLS15Z	500 mg/10 mL	50
EUFLS12M15	2000 mg/15 mL	20
EUFLS15M25	5000 mg/25 mL	20
EUFLS110M75	10000 mg/75 mL	10

% Organic Loading: N/A

Application:
Removes polar type compounds.

Florisil® products are manufactured by U.S. Silica, Co.

ENVIRO-CLEAN®
Hydrophilic Extraction Cartridges



Chemistries are offered on these particle sizes.

Small Particle (5-20 µm)
Intermediate Particle (25-40 µm)
Standard Particle (40-60 µm)
Large Particle (125-210 µm)

Alumina, Acidic

Part Number Unendcapped	Sorbent Amount/ Tube Volume	Unit per Pack
EUALA1L1	50 mg/1 mL	100
EUALA111	100 mg/1 mL	100
EUALA123	200 mg/3 mL	50
EUALA153	500 mg/3 mL	50
EUALA156	500 mg/6 mL	50
EUALA1M6	1000 mg/6 mL	30
EUALA11Z	100 mg/10 mL	50
EUALA12Z	200 mg/10 mL	50
EUALA15Z	500 mg/10 mL	50
EUALA12M15	2000 mg/15 mL	20
EUALA15M25	5000 mg/25 mL	20
EUALA110M75	10000 mg/75 mL	10

% Organic Loading: N/A

Application:
Removes polar type compounds.

Alumina, Basic

Part Number Unendcapped	Sorbent Amount/ Tube Volume	Unit per Pack
EUALB1L1	50 mg/1 mL	100
EUALB111	100 mg/1 mL	100
EUALB123	200 mg/3 mL	50
EUALB153	500 mg/3 mL	50
EUALB156	500 mg/6 mL	50
EUALB1M6	1000 mg/6 mL	30
EUALB11Z	100 mg/10 mL	50
EUALB12Z	200 mg/10 mL	50
EUALB15Z	500 mg/10 mL	50
EUALB12M15	2000 mg/15 mL	20
EUALB15M25	5000 mg/25 mL	20
EUALB110M75	10000 mg/75 mL	10

% Organic Loading: N/A

Application:
Removes polar type compounds.

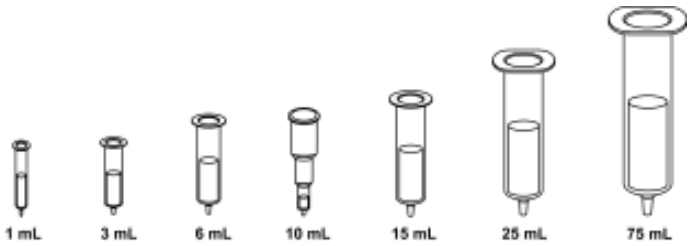
Alumina, Neutral

Part Number Unendcapped	Sorbent Amount/ Tube Volume	Unit per Pack
EUALN1L1	50 mg/1 mL	100
EUALN111	100 mg/1 mL	100
EUALN123	200 mg/3 mL	50
EUALN153	500 mg/3 mL	50
EUALN156	500 mg/6 mL	50
EUALN1M6	1000 mg/6 mL	30
EUALN11Z	100 mg/10 mL	50
EUALN12Z	200 mg/10 mL	50
EUALN15Z	500 mg/10 mL	50
EUALN12M15	2000 mg/15 mL	20
EUALN15M25	5000 mg/25 mL	20
EUALN110M75	10000 mg/75 mL	10

% Organic Loading: N/A

Application:
Removes polar type compounds.

ENVIRO-CLEAN®
Hydrophilic Extraction Cartridges



Chemistries are offered on these particle sizes.

Small Particle (5-20 µm)
Intermediate Particle (25-40 µm)
Standard Particle (40-60 µm)
Large Particle (125-210 µm)

CN, Cyanopropyl

Part Number Unendcapped	Part Number Endcapped	Sorbent Amount/ Tube Volume	Unit per Pack
EUCNP1L1	EECNP1L1	50 mg/1 mL	100
EUCNP111	EECNP111	100 mg/1 mL	100
EUCNP123	EECNP123	200 mg/3 mL	50
EUCNP153	EECNP153	500 mg/3 mL	50
EUCNP156	EECNP156	500 mg/6 mL	50
EUCNP1M6	EECNP1M6	1000 mg/6 mL	30
EUCNP11Z	EECNP11Z	100 mg/10 mL	50
EUCNP12Z	EECNP12Z	200 mg/10 mL	50
EUCNP15Z	EECNP15Z	500 mg/10 mL	50
EUCNP12M15	EECNP12M15	2000 mg/15 mL	20
EUCNP15M25	EECNP15M25	5000 mg/25 mL	20
EUCNP110M75	EECNP110M75	10000 mg/75 mL	10

% Organic Loading: 6.90

Application:
Removes steroid type compounds.

Diol

Part Number Unendcapped	Sorbent Amount/ Tube Volume	Unit per Pack
EUDOL1L1	50mg/1mL	100
EUDOL111	100mg/1mL	100
EUDOL123	200mg/3mL	50
EUDOL153	500mg/3mL	50
EUDOL156	500mg/6mL	50
EUDOL1M6	1g/6mL	30
EUDOL11Z	100mg/10mL	50
EUDOL12Z	200mg/10mL	50
EUDOL15Z	500mg/10mL	50
EUDOL12M15	2g/15mL	20
EUDOL15M25	5g/25mL	20
EUDOL110M75	10g/75mL	10

% Organic Loading: 8.00

Application:
Removes hydrophilic (polar) impurities, purification of hydrophilic (polar) compounds.

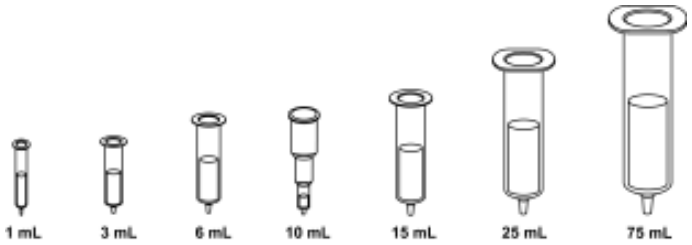
Unbonded Silica (Acid Washed)

Part Number Unendcapped	Sorbent Amount/ Tube Volume	Unit per Pack
EUSIL1L1	50 mg/1 mL	20 x 5
EUSIL111	100 mg/1 mL	20 x 5
EUSIL123	200 mg/3 mL	10 x 5
EUSIL153	500 mg/3 mL	10 x 5
EUSIL156	500 mg/6 mL	10 x 5
EUSIL1M6	1000 mg/6 mL	6 x 5
EUSIL11Z	100 mg/10 mL	10 x 5
EUSIL12Z	200 mg/10 mL	10 x 5
EUSIL15Z	500 mg/10 mL	10 x 5
EUSIL12M15	2000 mg/15 mL	4 x 5
EUSIL15M25	5000 mg/25 mL	4 x 5
EUSIL110M75	10000 mg/75 mL	2 x 5

% Organic Loading: N/A

Application:
Removes hydrophilic (polar) impurities, purification of hydrophilic (polar) compounds.

ENVIRO-CLEAN®
Hydrophilic Extraction Cartridges



Chemistries are offered on these particle sizes.

Small Particle (5-20 µm)
Intermediate Particle (25-40 µm)
Standard Particle (40-60 µm)
Large Particle (125-210 µm)

High-Surface Activity Silica

Part Number Unendcapped	Sorbent Amount/ Tube Volume	Unit per Pack
EHSIL1L1	50 mg/1 mL	20 x 5
EHSIL111	100 mg/1 mL	20 x 5
EHSIL123	200 mg/3 mL	10 x 5
EHSIL153	500 mg/3 mL	10 x 5
EHSIL156	500 mg/6 mL	10 x 5
EHSIL1M6	1000 mg/6 mL	6 x 5
EHSIL11Z	100 mg/10 mL	10 x 5
EHSIL12Z	200 mg/10 mL	10 x 5
EHSIL15Z	500 mg/10 mL	10 x 5
EHSIL12M15	2000 mg/15 mL	4 x 5
EHSIL15M25	5000 mg/25 mL	4 x 5
EHSIL110M75	10000 mg/75 mL	2 x 5

% Organic Loading: N/A

Application:
Removes hydrophilic (polar) impurities, purification of hydrophilic (polar) compounds.

PSA (N-2 Aminoethyl)

Part Number Unendcapped	Sorbent Amount/ Tube Volume	Unit per Pack
EUPSA1L1	50 mg/1 mL	100
EUPSA111	100 mg/1 mL	100
EUPSA123	200 mg/3 mL	50
EUPSA153	500 mg/3 mL	50
EUPSA156	500 mg/6 mL	50
EUPSA1M6	1000 mg/6 mL	30
EUPSA11Z	100 mg/10 mL	50
EUPSA12Z	200 mg/10 mL	50
EUPSA15Z	500 mg/10 mL	50
EUPSA12M15	2000 mg/15 mL	20
EUPSA15M25	5000 mg/25 mL	20
EUPSA110M75	10000 mg/75 mL	10

% Organic Loading: N/A

Application:
Removes hydrophilic (polar) impurities, purification of hydrophilic (polar) compounds.

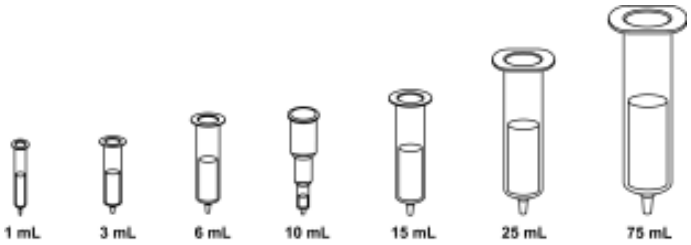
Carbon-Graphitized non-porous, 120/400 mesh

Part Number Unendcapped	Sorbent Amount/ Tube Volume	Unit per Packk
EUCARB1L1	50 mg/1 mL	100
EUCARB111	100 mg/1 mL	100
EUCARB123	200 mg/3 mL	50
EUCARB153	500 mg/3 mL	50
EUCARB126	200 mg/6 mL	50
EUCARB156	500 mg/6 mL	50
EUCARB1M6	1000 mg/6 mL	30
EUCARB11Z	100 mg/10 mL	50
EUCARB12Z	200 mg/10 mL	50
EUCARB15Z	500 mg/10 mL	50
EUCARB1M15	1000 mg/15 mL	20
EUCARB12M15	2000 mg/15 mL	20

CLEAN-UP Carbon

Application:
Carbon supports have been used to isolate extremely polar organic compounds. They work by a hydrophobic mechanism with a high surface area and ion exchange. This interaction can happen in a wide range of polar and non-polar solvents.

ENVIRO-CLEAN®
Anion Extraction Cartridges



Chemistries are offered on these particle sizes.

Small Particle (5-20 µm)
Intermediate Particle (25-40 µm)
Standard Particle (40-60 µm)
Large Particle (125-210 µm)

Diethylamino

Part Number Unendcapped	Sorbent Amount/ Tube Volume	Unit per Pack
EUDAX1L1	50 mg/1 mL	100
EUDAX111	100 mg/1 mL	100
EUDAX123	200 mg/3 mL	50
EUDAX153	500 mg/3 mL	50
EUDAX156	500 mg/6 mL	50
EUDAX1M6	1000 mg/6 mL	30
EUDAX11Z	100 mg/10 mL	50
EUDAX12Z	200 mg/10 mL	50
EUDAX15Z	500 mg/10 mL	50
EUDAX12M15	2000 mg/15 mL	20
EUDAX15M25	5000 mg/25 mL	20
EUDAX110M75	10000 mg/75 mL	10

% Organic Loading: 8.40

Application:
Scavenger for acids, cyclic compounds, cholesterols, and other lipid types and compounds.

Quaternary Amine with Chloride Counter Ion

Part Number Unendcapped	Sorbent Amount/ Tube Volume	Unit per Pack
EUQAX1L1	50 mg/1 mL	100
EUQAX111	100 mg/1 mL	100
EUQAX123	200 mg/3 mL	50
EUQAX153	500 mg/3 mL	50
EUQAX156	500 mg/6 mL	50
EUQAX1M6	1000 mg/6 mL	30
EUQAX11Z	100 mg/10 mL	50
EUQAX12Z	200 mg/10 mL	50
EUQAX15Z	500 mg/10 mL	50
EUQAX12M15	2000 mg/15 mL	20
EUQAX15M25	5000 mg/25 mL	20
EUQAX110M75	10000 mg/75 mL	10

% Organic Loading: 8.40

Application:
Scavenger for acids and sulfonyl chlorides, isocyanates and weak electrophiles.

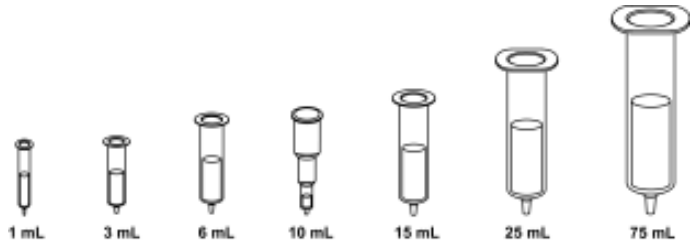
Quaternary Amine with Acetate Counter Ion

Part Number Unendcapped	Sorbent Amount/ Tube Volume	Unit per Pack
EAQAX111	100 mg/1 mL	100
EAQAX123	200 mg/3 mL	50
EAQAX153	500 mg/3 mL	50
EAQAX156	500 mg/6 mL	50
EAQAX1M6	1000 mg/6 mL	30
EAQAX11Z	100 mg/10 mL	50
EAQAX12Z	200 mg/10 mL	50
EAQAX15Z	500 mg/10 mL	50
EAQAX12M15	2000 mg/15 mL	20
EAQAX15M25	5000 mg/25 mL	20
EAQAX110M75	10000 mg/75 mL	10

% Organic Loading: 8.40

Application:
Scavenger for acids and sulfonyl chlorides, isocyanates and weak electrophiles. Useful when charge on ion being removed is weaker than the acetate counter ion.

ENVIRO-CLEAN®
Anion Extraction Cartridges



Chemistries are offered on these particle sizes.

Small Particle (5-20 µm)
Intermediate Particle (25-40 µm)
Standard Particle (40-60 µm)
Large Particle (125-210 µm)

Quaternary Amine with Hydroxide Counter Ion

Part Number Unendcapped	Sorbent Amount/ Tube Volume	Unit per Pack
EHQAX111	100 mg/1 mL	100
EHQAX123	200 mg/3 mL	50
EHQAX153	500 mg/3 mL	50
EHQAX156	500 mg/6 mL	50
EHQAX1M6	1000 mg/6 mL	30
EHQAX11Z	100 mg/10 mL	50
EHQAX12Z	200 mg/10 mL	50
EHQAX15Z	500 mg/10 mL	50
EHQAX12M15	2000 mg/15 mL	20
EHQAX15M25	5000 mg/25 mL	20
EHQAX110M75	10000 mg/75 mL	10

% Organic Loading: 8.40

Application:
Scavenger for acids and sulfonyl chlorides, isocyanates and weak electrophiles. Useful when charge on ion being removed is weaker than the hydroxide counter ion.

Quaternary Amine with Formate Counter Ion

Part Number Unendcapped	Sorbent Amount/ Tube Volume	Unit per Pack
EFQAX1L1	50 mg/1 mL	100
EFQAX111	100 mg/1 mL	100
EFQAX123	200 mg/3 mL	50
EFQAX153	500 mg/3 mL	50
EFQAX156	500 mg/6 mL	50
EFQAX1M6	1000 mg/6 mL	30
EFQAX11Z	100 mg/10 mL	50
EFQAX12Z	200 mg/10 mL	50
EFQAX15Z	500 mg/10 mL	50
EFQAX12M15	2000 mg/15 mL	20
EFQAX15M25	5000 mg/25 mL	20
EFQAX110M75	10000 mg/75 mL	10

% Organic Loading: 8.40

Application:
Scavenger for acids and sulfonyl chlorides, isocyanates and weak electrophiles. Useful when charge on ion being removed is weaker than the formate counter ion.

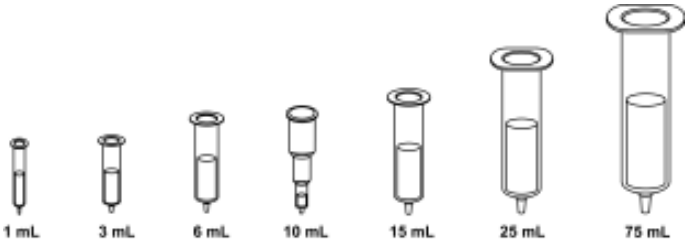
Polyimine

Part Number Unendcapped	Sorbent Amount/ Tube Volume	Unit per Pack
EUPAX11	50 mg/1 mL	100
EUPAX111	100 mg/1 mL	100
EUPAX123	200 mg/3 mL	50
EUPAX153	500 mg/3 mL	50
EUPAX156	500 mg/6 mL	50
EUPAX1M6	1000 mg/6 mL	30
EUPAX11Z	100 mg/10 mL	50
EUPAX12Z	200 mg/10 mL	50
EUPAX15Z	500 mg/10 mL	50
EUPAX12M15	2000 mg/15 mL	20
EUPAX15M25	5000 mg/25 mL	20
EUPAX110M75	10000 mg/75 mL	10

% Organic Loading: 13.5

Application:
Scavenger for acids and sulfonyl chlorides, isocyanates and other electrophiles.

ENVIRO-CLEAN®
Cation Extraction Cartridges



Chemistries are offered on these particle sizes.

Small Particle (5-20 µm)
Intermediate Particle (25-40 µm)
Standard Particle (40-60 µm)
Large Particle (125-210 µm)

Carboxylic Acid

Part Number Unendcapped	Sorbent Amount/ Tube Volume	Unit per Pack
EUCCX1L1	50 mg/1 mL	100
EUCCX111	100 mg/1 mL	100
EUCCX123	200 mg/3 mL	50
EUCCX153	500 mg/3 mL	50
EUCCX156	500 mg/6 mL	50
EUCCX1M6	1000 mg/6 mL	30
EUCCX11Z	100 mg/10 mL	50
EUCCX12Z	200 mg/10 mL	50
EUCCX15Z	500 mg/10 mL	50
EUCCX12M15	2000 mg/15 mL	20
EUCCX15M25	5000 mg/25 mL	20
EUCCX15M275	10000 mg/75 mL	10

% Organic Loading: 9.10

Exchange Capacity (meq/g): 0.170

Application:
Scavenger for strong amines with quats.

Propylsulfonic Acid

Part Number Unendcapped	Sorbent Amount/ Tube Volume	Unit per Pack
EUPCX1L1	50 mg/1 mL	100
EUPCX111	100 mg/1 mL	100
EUPCX123	200 mg/3 mL	50
EUPCX153	500 mg/3 mL	50
EUPCX156	500 mg/6 mL	50
EUPCX1M6	1000 mg/6 mL	30
EUPCX11Z	100 mg/10 mL	50
EUPCX12Z	200 mg/10 mL	50
EUPCX15Z	500 mg/10 mL	50
EUPCX12M15	2000 mg/15 mL	20
EUPCX15M25	5000 mg/25 mL	20
EUPCX110M75	10000 mg/75 mL	10

% Organic Loading: 7.10

Application:
Scavenger for amines, alcohols and other nucleophiles.

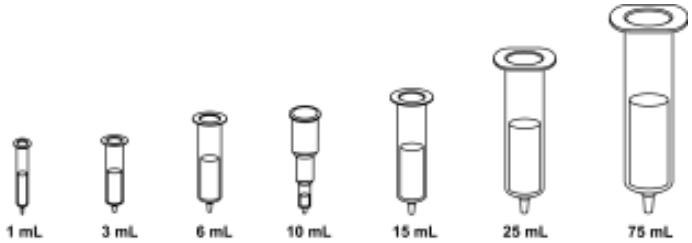
Benzenesulfonic Acid

Part Number Unendcapped	Sorbent Amount/ Tube Volume	Unit per Pack
EUBCX1L1	50 mg/1 mL	100
EUBCX111	100 mg/1 mL	100
EUBCX123	200 mg/3 mL	50
EUBCX153	500 mg/3 mL	50
EUBCX156	500 mg/6 mL	50
EUBCX1M6	1000 mg/6 mL	30
EUBCX11Z	100 mg/10 mL	50
EUBCX12Z	200 mg/10 mL	50
EUBCX15Z	500 mg/10 mL	50
EUBCX12M15	2000 mg/15 mL	20
EUBCX15M25	5000 mg/25 mL	20
EUBCX110M75	10000 mg/75 mL	10

% Organic Loading: 11.00

Application:
Scavenger for amines, alcohols and other nucleophiles.

ENVIRO-CLEAN®
Cation Extraction Cartridges



Chemistries are offered on these particle sizes.

Small Particle (5-20 µm)
Intermediate Particle (25-40 µm)
Standard Particle (40-60 µm)
Large Particle (125-210 µm)

Benzenesulfonic Acid - HIGH LOAD

Part Number Unendcapped	Sorbent Amount/ Tube Volume	Unit per Pack
EUBCX1HL11	100 mg/1 mL	100
EUBCX1HL23	200 mg/3 mL	50
EUBCX1HL53	500 mg/3 mL	50
EUBCX1HL56	500 mg/6 mL	50
EUBCX1HLM6	1000 mg/6 mL	30
EUBCX1HL1Z	100 mg/10 mL	50
EUBCX1HL2Z	200 mg/10 mL	50
EUBCX1HL5Z	500 mg/10 mL	50
EUBCX1HL2M15	2000 mg/15 mL	20
EUBCX1HL5M25	5000 mg/25 mL	20
EUBCX1HL10M75	10000 mg/75 mL	10

% Organic Loading: 11.00

Application:
Scavenger for amines, alcohols and other nucleophiles.

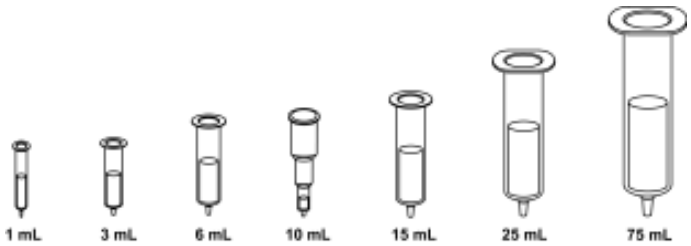
Triacetic Acid

Part Number	Sorbent Amount/ Tube Volume	Unit per Pack
EUTAX1L1	50 mg/1 mL	100
EUTAX111	100 mg/1 mL	100
EUTAX123	200 mg/3 mL	50
EUTAX153	500 mg/3 mL	50
EUTAX156	500 mg/6 mL	50
EUTAX1M6	1000 mg/6 mL	30
EUTAX11Z	100 mg/10 mL	50
EUTAX12Z	200 mg/10 mL	50
EUTAX15Z	500 mg/10 mL	50
EUTAX12M15	2000 mg/15 mL	20
EUTAX15M25	5000 mg/25 mL	20
EUTAX110M75	10000 mg/75 mL	10

% Organic Loading: 7.61

Application:
Chelator for metal ions.
i.e. tin
palladium
copper
ruthinium
chromium
nickel

ENVIRO-CLEAN®
Copolymeric Extraction Cartridges



Chemistries are offered on these particle sizes.

Small Particle (5-20 µm)
Intermediate Particle (25-40 µm)
Standard Particle (40-60 µm)
Large Particle (125-210 µm)

Hydrophobic plus Cyclohexyl

Part Number Unendcapped	Sorbent Amount/ Tube Volume	Unit per Pack
EUCYH211	100 mg/1 mL	100
EUCYH223	200 mg/3 mL	50
EUCYH253	500 mg/3 mL	50
EUCYH256	500 mg/6 mL	50
EUCYH2M6	1000 mg/6 mL	30
EUCYH21Z	100 mg/10 mL	50
EUCYH22Z	200 mg/10 mL	50
EUCYH25Z	500 mg/10 mL	50
EUCYH22M15	2000 mg/15 mL	20
EUCYH25M25	5000 mg/25 mL	20
EUCYH210M75	10000 mg/75 mL	10

% Organic Loading: N/A

Application:
Dual functionality for phenols and hydrophobic compounds.

Hydrophobic plus Cyanopropyl

Part Number Unendcapped	Sorbent Amount/ Tube Volume	Unit per Pack
EUCNP211	100 mg/1 mL	100
EUCNP223	200 mg/3 mL	50
EUCNP253	500 mg/3 mL	50
EUCNP256	500 mg/6 mL	50
EUCNP2M6	1000 mg/6 mL	30
EUCNP21Z	100 mg/10 mL	50
EUCNP22Z	200 mg/10 mL	50
EUCNP25Z	500 mg/10 mL	50
EUCNP22M15	2000 mg/15 mL	20
EUCNP25M25	5000 mg/25 mL	20
EUCNP210M75	10000 mg/75 mL	10

% Organic Loading: 14.60

Application:
Dual functionality for polar and hydrophobic compounds.

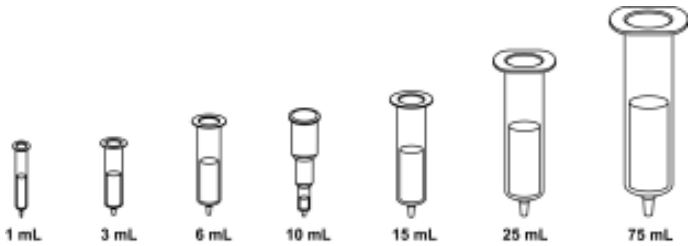
Hydrophobic plus Propylsulfonic Acid

Part Number Unendcapped	Sorbent Amount/ Tube Volume	Unit per Pack
EUPCX2L1	50 mg/1 mL	100
EUPCX211	100 mg/1 mL	100
EUPCX223	200 mg/3 mL	50
EUPCX253	500 mg/3 mL	50
EUPCX256	500 mg/6 mL	50
EUPCX2M6	1000 mg/6 mL	30
EUPCX21Z	100 mg/10 mL	50
EUPCX22Z	200 mg/10 mL	50
EUPCX25Z	500 mg/10 mL	50
EUPCX22M15	2000 mg/15 mL	20
EUPCX25M25	5000 mg/25 mL	20
EUPCX210M75	10000 mg/75 mL	10

% Organic Loading: 14.62

Application:
Dual functionality for weak bases and hydrophobic compounds.

ENVIRO-CLEAN®
Copolymeric Extraction Cartridges



Chemistries are offered on these particle sizes.

Small Particle (5-20 µm)
Intermediate Particle (25-40 µm)
Standard Particle (40-60 µm)
Large Particle (125-210 µm)

Hydrophobic plus Carboxylic Acid

Part Number Unendcapped	Sorbent Amount/ Tube Volume	Unit per Pack
EUCCX2L1	50 mg/1 mL	100
EUCCX211	100 mg/1 mL	100
EUCCX223	200 mg/3 mL	50
EUCCX253	500 mg/3 mL	50
EUCCX256	500 mg/6 mL	50
EUCCX2M6	1000 mg/6 mL	30
EUCCX21Z	100 mg/10 mL	50
EUCCX22Z	200 mg/10 mL	50
EUCCX25Z	500 mg/10 mL	50
EUCCX22M15	2000 mg/15 mL	20
EUCCX25M25	5000 mg/25 mL	20
EUCCX210M75	10000 mg/75 mL	10

% Organic Loading: 12.50

Application:
Dual functionality for strong base and hydrophobic compounds.

Hydrophobic plus Benzenesulfonic Acid

Part Number Unendcapped	Sorbent Amount/ Tube Volume	Unit per Pack
EUBCX2L1	50 mg/1 mL	100
EUBCX211	100 mg/1 mL	100
EUBCX223	200 mg/3 mL	50
EUBCX253	500 mg/3 mL	50
EUBCX256	500 mg/6 mL	50
EUBCX2M6	1000 mg/6 mL	30
EUBCX21Z	100 mg/10 mL	50
EUBCX22Z	200 mg/10 mL	50
EUBCX25Z	500 mg/10 mL	50
EUBCX22M15	2000 mg/15 mL	20
EUBCX25M25	5000 mg/25 mL	20
EUBCX210M75	10000 mg/75 mL	10

% Organic Loading: 12.30

Application:
Dual functionality for weak base and hydrophobic compounds.

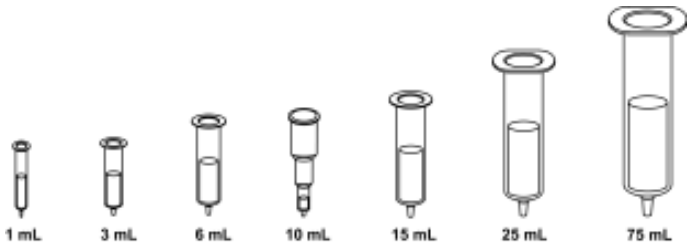
Hydrophobic plus Quaternary Amine

Part Number Unendcapped	Sorbent Amount/ Tube Volume	Unit per Pack
EUQAX2L1	50 mg/1 mL	100
EUQAX211	100 mg/1 mL	100
EUQAX223	200 mg/3 mL	50
EUQAX253	500 mg/3 mL	50
EUQAX256	500 mg/6 mL	50
EUQAX2M6	1000 mg/6 mL	30
EUQAX21Z	100 mg/10 mL	50
EUQAX22Z	200 mg/10 mL	50
EUQAX25Z	500 mg/10 mL	50
EUQAX22M15	2000 mg/15 mL	20
EUQAX25M25	5000 mg/25 mL	20
EUQAX210M75	10000 mg/75 mL	10

% Organic Loading: 13.60

Application:
Dual functionality for weak acids and hydrophobic compounds.

ENVIRO-CLEAN®
Copolymeric Extraction Cartridges



Chemistries are offered on these particle sizes.

Small Particle (5-20 µm)
Intermediate Particle (25-40 µm)
Standard Particle (40-60 µm)
Large Particle (125-210 µm)

Hydrophobic plus Aminopropyl

Part Number Unendcapped	Sorbent Amount/ Tube Volume	Unit per Pack
EUNAX2L1	50 mg/1 mL	100
EUNAX211	100 mg/1 mL	100
EUNAX223	200 mg/3 mL	50
EUNAX253	500 mg/3 mL	50
EUNAX256	500 mg/6 mL	50
EUNAX2M6	1000 mg/6 mL	30
EUNAX21Z	100 mg/10 mL	50
EUNAX22Z	200 mg/10 mL	50
EUNAX25Z	500 mg/10 mL	50
EUNAX22M15	2000 mg/15 mL	20
EUNAX25M25	5000 mg/25 mL	20
EUNAX210M75	10000 mg/75 mL	10

% Organic Loading: 12.3

Application:
Dual functionality for strong acids and hydrophobic compounds.

Aminopropyl

Part Number Unendcapped	Sorbent Amount/ Tube Volume	Unit per Pack
EUNAX1L1	50 mg/1 mL	100
EUNAX111	100 mg/1 mL	100
EUNAX123	200 mg/3 mL	50
EUNAX153	500 mg/3 mL	50
EUNAX156	500 mg/6 mL	50
EUNAX1M6	1000 mg/6 mL	30
EUNAX11Z	100 mg/10 mL	50
EUNAX12Z	200 mg/10 mL	50
EUNAX15Z	500 mg/10 mL	50
EUNAX12M15	2000 mg/15 mL	20
EUNAX15M25	5000 mg/25 mL	10
EUNAX110M75	10000 mg/75 mL	10

% Organic Loading: 21.70

Application:
Removes hydrophobic impurities, de-salting and purification of hydrophobic compounds.

Polymeric Resins for Solid Phase Extraction Cartridges

DBX - Benzenesulfonic Acid + C18

Part Number	Sorbent Amount/ Tube Volume	Unit per Pack
SSDBX031	30mg/1mL	100
SSDBX033	30mg/3mL	50
SSDBX056	50mg/6mL	50

% Organic Loading: 12.30

Application: Dual functionality for weak acids and hydrophobic compounds.

DVB - Polystyrene Divinylbenzene

Part Number	Sorbent Amount/ Tube Volume	Unit per Pack
SSDVB031	30mg/1mL	100
SSDVB033	30mg/3mL	50
SSDVB056	50mg/6mL	50

% Organic Loading: N/A

Application: N/A

BCX-Benzenesulfonic Acid

Part Number	Sorbent Amount/ Tube Volume	Unit per Pack
SSBCX031	30mg/1mL	100
SSBCX033	30mg/3mL	50
SSBCX056	50mg/6mL	50

% Organic Loading: 11.00

Application: Scavenger for amines, alcohols and other nucleophiles.

C18 - Reverse Phase

Part Number	Sorbent Amount/ Tube Volume	Unit per Pack
SSC18031	30mg/1mL	100
SSC18033	30mg/3mL	50
SSC18056	50mg/6mL	50

% Organic Loading: 21.70

Application: Removes hydrophobic impurities, de-salting and purification of hydrophobic compounds.

QAX - Quaternary Amine

Part Number	Sorbent Amount/ Tube Volume	Unit per Pack
SSQAX031	30mg/1mL	100
SSQAX033	30mg/3mL	50
SSQAX056	50mg/6mL	50

% Organic Loading: 6.60

Application: Removes large or more hydrophobic compounds.

ENVIRO-CLEAN®

Inert Glass Syringe Barrels

Comparison of UCT Polypropylene Cartridge to Glass Cartridge by GC-MS

Figure 1. UCT Polypropylene cartridge with 500 mg of silica.

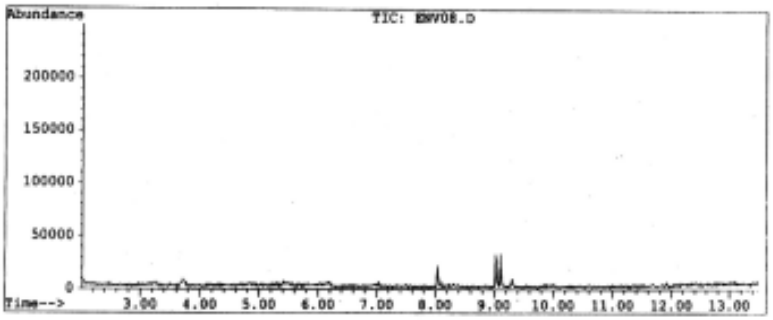
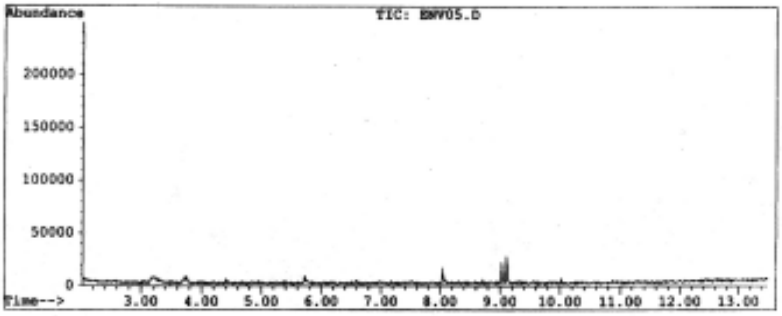
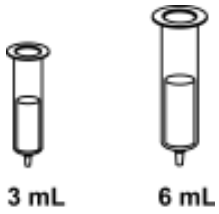


Figure 2. Glass cartridge with 500 mg of silica.



* Four milliliters of methanol passed through each cartridge and collected, then evaporated to dryness and reconstituted with 200 µL of methanol.

ENVIRO-CLEAN® Inert Glass Syringe Barrels
Hydrophobic
Solid Phase Extraction Cartridges



Chemistries are offered on these particle sizes.

Small Particle (5-20 µm)
Intermediate Particle (25-40 µm)
Standard Particle (40-60 µm)
Large Particle (125-210 µm)

C2, Ethyl

Part Number Unendcapped	Part Number Endcapped	Sorbent Amount/ Tube Volume	Unit per Pack
EUC02113G	EEC02113G	100mg/3mL	30
EUC02123G	EEC02123G	200mg/3mL	30
EUC02153G	EEC02153G	500mg/3mL	30
EUC02156G	EEC02156G	500mg/6mL	30
EUC021M6G	EEC021M6G	1000mg/6mL	30

% Organic Loading: 6.60

Application:
Removes large or more hydrophobic compounds.

Cn3, Propyl

Part Number Unendcapped	Part Number Endcapped	Sorbent Amount/ Tube Volume	Unit per Pack
EUCn3113G	EECn3113G	100mg/3mL	30
EUCn3123G	EECn3123G	200mg/3mL	30
EUCn3153G	EECn3153G	500mg/3mL	30
EUCn3156G	EECn3156G	500mg/6mL	30
EUCn31M6G	EECn31M6G	1000mg/6mL	30

% Organic Loading: 7.60

Application:
Removes large or more hydrophobic compounds.

Cn4, n-Butyl

Part Number Unendcapped	Part Number Endcapped	Sorbent Amount/ Tube Volume	Unit per Pack
EUCn4113G	EECn4113G	100mg/3mL	30
EUCn4123G	EECn4123G	200mg/3mL	30
EUCn4153G	EECn4153G	500mg/3mL	30
EUCn4156G	EECn4156G	500mg/6mL	30
EUECn41M6G	EECn41M6G	1000mg/6mL	30

% Organic Loading: 8.50

Application:
Removes large or more hydrophobic compounds.

Ci4, Isobutyl

Part Number Unendcapped	Part Number Endcapped	Sorbent Amount/ Tube Volume	Unit per Pack
EUCi4113G	EECi4113G	100mg/3mL	30
EUCi4123G	EECi4123G	200mg/3mL	30
EUCi4153G	EECi4153G	500mg/3mL	30
EUCi4156G	EECi4156G	500mg/6mL	30
EUCi41M6G	EECi41M6G	1000mg/6mL	30

% Organic Loading: 8.80

Application:
Removes large or more hydrophobic compounds.

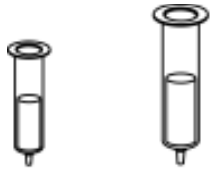
Ct4, Tertiary Butyl

Part Number Unendcapped	Part Number Endcapped	Sorbent Amount/ Tube Volume	Unit per Pack
EUCi4113G	EECi4113G	100mg/3mL	30
EUCi4123G	EECi4123G	200mg/3mL	30
EUCi4153G	EECi4153G	500mg/3mL	30
EUCi4156G	EECi4156G	500mg/6mL	30
EUCi41M6G	EECi41M6G	1000mg/6mL	30

% Organic Loading: 8.50

Application:
Removes large or more hydrophobic compounds.

ENVIRO-CLEAN® Inert Glass Syringe Barrels
Hydrophobic
Solid Phase Extraction Cartridges



Chemistries are offered on these particle sizes.

Small Particle (5-20 µm)
Intermediate Particle (25-40 µm)
Standard Particle (40-60 µm)
Large Particle (125-210 µm)

C5, Pentyl

Part Number Unendcapped	Part Number Endcapped	Sorbent Amount/ Tube Volume	Unit per Pack
EUC05113G	EEC05113G	100mg/3mL	30
EUC05123G	EEC05123G	200mg/3mL	30
EUC05153G	EEC05153G	500mg/3mL	30
EUC05156G	EEC05156G	500mg/6mL	30
EUC051M6G	EEC051M6G	1000mg/6mL	30

% Organic Loading: 9.50

Application:
Removes large or more hydrophobic compounds.

C6, Hexyl

Part Number Unendcapped	Part Number Endcapped	Sorbent Amount/ Tube Volume	Unit per Pack
EUC06113G	EEC06113G	100mg/3mL	30
EUC06123G	EEC06123G	200mg/3mL	30
EUC06153G	EEC06153G	500mg/3mL	30
EUC06156G	EEC06156G	500mg/6mL	30
EUC061M6G	EEC061M6G	1000mg/6mL	30

% Organic Loading: 11.00

Application:
Removes large or more hydrophobic compounds.

C7, Heptyl

Part Number Unendcapped	Part Number Endcapped	Sorbent Amount/ Tube Volume	Unit per Pack
EUC07113G	EEC07113G	100mg/3mL	30
EUC07123G	EEC07123G	200mg/3mL	30
EUC07153G	EEC07153G	500mg/3mL	30
EUC07156G	EEC07156G	500mg/6mL	30
EUC071M6G	EEC071M6G	1000mg/6mL	30

% Organic Loading: N/A

Application:
Removes large or more hydrophobic compounds.

C8, Octyl

Part Number Unendcapped	Part Number Endcapped	Sorbent Amount/ Tube Volume	Unit per Pack
EUC08113G	EEC08113G	100mg/3mL	30
EUC08123G	EEC08123G	200mg/3mL	30
EUC08153G	EEC08153G	500mg/3mL	30
EUC08156G	EEC08156G	500mg/6mL	30
EUC081M6G	EEC081M6G	1000mg/6mL	30

% Organic Loading: 11.10

Application:
Removes large or more hydrophobic compounds.

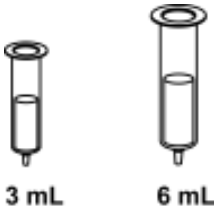
C10, nDecyl

Part Number Unendcapped	Part Number Endcapped	Sorbent Amount/ Tube Volume	Unit per Pack
EUC10113G	EEC10113G	100mg/3mL	30
EUC10123G	EEC10123G	200mg/3mL	30
EUC10153G	EEC10153G	500mg/3mL	30
EUC10156G	EEC10156G	500mg/6mL	30
EUC101M6G	EEC101M6G	1000mg/6mL	30

% Organic Loading: 15.70

Application:
Removes large or more hydrophobic compounds.

ENVIRO-CLEAN® Inert Glass Syringe Barrels
Hydrophobic
Solid Phase Extraction Cartridges



Chemistries are offered on these particle sizes.

Small Particle (5-20 µm)
Intermediate Particle (25-40 µm)
Standard Particle (40-60 µm)
Large Particle (125-210 µm)

C12, nDodecyl

Part Number Unendcapped	Part Number Endcapped	Sorbent Amount/ Tube Volume	Unit per Pack
EUC12113G	EEC12113G	100mg/3mL	30
EUC12123G	EEC12123G	200mg/3mL	30
EUC12153G	EEC12153G	500mg/3mL	30
EUC12156G	EEC12156G	500mg/6mL	30
EUC121M6G	EEC121M6G	1000mg/6mL	30

% Organic Loading: 15.70

Application:
Removes large or more hydrophobic compounds.

C18, Octadecyl

Part Number Unendcapped	Part Number Endcapped	Sorbent Amount/ Tube Volume	Unit per Pack
EUC18113G	EEC18113G	100mg/3mL	30
EUC18123G	EEC18123G	200mg/3mL	30
EUC18153G	EEC18153G	500mg/3mL	30
EUC18156G	EEC18156G	500mg/6mL	30
EUC181M6G	EEC181M6G	1000mg/6mL	30

% Organic Loading: 21.70

Application:
Removes hydrophobic impurities, de-salting and purification of hydrophobic compounds.

C20, Eicosyl

Part Number Unendcapped	Part Number Endcapped	Sorbent Amount/ Tube Volume	Unit per Pack
EUC20113G	EEC20113G	100mg/3mL	30
EUC20123G	EEC20123G	200mg/3mL	30
EUC20153G	EEC20153G	500mg/3mL	30
EUC20156G	EEC20156G	500mg/6mL	30
EUC201M6G	EEC201M6G	1000mg/6mL	30

% Organic Loading: 24.30

Application:
Removes smallest or least hydrophobic compounds.

C30, Tricontyl

Part Number Unendcapped	Part Number Endcapped	Sorbent Amount/ Tube Volume	Unit per Pack
EUC30113G	EEC30113G	100mg/3mL	30
EUC30123G	EEC30123G	200mg/3mL	30
EUC30153G	EEC30153G	500mg/3mL	30
EUC30156G	EEC30156G	500mg/6mL	30
EUC301M6G	EEC301M6G	1000mg/6mL	30

% Organic Loading: 26.00

Application:
Removes large or more hydrophobic compounds.

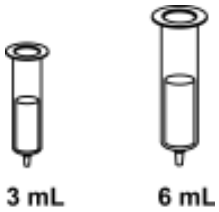
Cyclohexyl

Part Number Unendcapped	Part Number Endcapped	Sorbent Amount/ Tube Volume	Unit per Pack
EUCYH123G	EECYH123G	200mg/3mL	30
EUCYH153G	EECYH153G	500mg/3mL	30
EUCYH156G	EECYH156G	500mg/6mL	30
EUCYH1M6G	EECYH1M6G	1000mg/6mL	30

% Organic Loading: 11.60

Application:
Scavenger for phenolic compounds

ENVIRO-CLEAN® Inert Glass Syringe Barrels
Hydrophobic
Solid Phase Extraction Cartridges



Chemistries are offered on these particle sizes.

Small Particle (5-20 µm)
Intermediate Particle (25-40 µm)
Standard Particle (40-60 µm)
Large Particle (125-210 µm)

Pentyl

Part Number Unendcapped	Part Number Endcapped	Sorbent Amount/ Tube Volume	Unit per Pack
EUPHY123G	EEPHY123G	200mg/3mL	30
EUPHY153G	EEPHY153G	500mg/3mL	30
EUPHY156G	EEPHY156G	500mg/6mL	30
EUPHY1M6G	EEPHY1M6G	1000mg/6mL	30

% Organic Loading: 11.00

Application:
Scavenger for polar compounds

ENVIRO-CLEAN® Inert Glass Syringe Barrels
Hydrophilic
Solid Phase Extraction Columns

Unbonded Silica (Acid Washed)

Part Number	Sorbent Amount/ Tube Volume	Unit per Pack
EUSIL123G	200mg/3mL	30
EUSIL153G	500mg/3mL	30
EUSIL156G	500mg/6mL	30
EUSIL1M6G	1000mg/6mL	30

% Organic Loading: N/A

Application:
Removes hydrophobic (polar) impurities, purification of hydrophilic (polar) compounds.

High-Surface Activity Silica

Part Number	Sorbent Amount/ Tube Volume	Unit per Pack
EHSIL123G	200mg/3mL	30
EHSIL153G	500mg/3mL	30
EHSIL156G	500mg/6mL	30
EHSIL1M6G	1000mg/6mL	30

% Organic Loading: N/A

Application:
Removes hydrophobic (polar) impurities, purification of hydrophilic (polar) compounds.

CN, Cyanopropyl

Part Number Unendcapped	Part Number Endcapped	Sorbent Amount/ Tube Volume	Unit per Pack
EUCNP123G	EECNP123G	200mg/3mL	30
EUCNP153G	EECNP153G	500mg/3mL	30
EUCNP156G	EECNP156G	500mg/6mL	30
EUCNP1M6G	EECNP1M6G	1000mg/6mL	30

% Organic Loading: 6.90

Application:
Removes steroid type compounds.

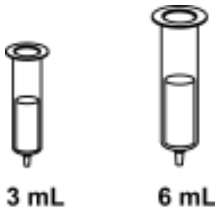
Diol

Part Number	Sorbent Amount/ Tube Volume	Unit per Pack
EUDOL123G	200mg/3mL	30
EUDOL153G	500mg/3mL	30
EUDOL156G	500mg/6mL	30
EUDOL1M6G	1000mg/6mL	30

% Organic Loading: 8.00

Application:
Removes hydrophobic (polar) impurities, purification of hydrophilic (polar) compounds.

ENVIRO-CLEAN® Inert Glass Syringe Barrels
Hydrophilic
Solid Phase Extraction Cartridges



Chemistries are offered on these particle sizes.

Small Particle (5-20 µm)
Intermediate Particle (25-40 µm)
Standard Particle (40-60 µm)
Large Particle (125-210 µm)

Florisil® Grade PR 60-100 mesh / Grade A 100-200 mesh

Part Number	Sorbent Amount/ Tube Volume	Unit per Pack
EUFLS123G	200mg/3mL	30
EUFLS153G	500mg/3mL	30
EUFLS156G	500mg/6mL	30
EUFLS1M6G	1000mg/6mL	30

% Organic Loading: N/A

Application:
Removes polar type compounds.
Florisil products are manufactured by U.S. Silica, Co.

Alumina, Acidic

Part Number	Sorbent Amount/ Tube Volume	Unit per Pack
EUALA123G	200mg/3mL	30
EUALA153G	500mg/3mL	30
EUALA156G	500mg/6mL	30
EUALA1M6G	1000mg/6mL	30

% Organic Loading: N/A

Application:
Removes polar type compounds.

Alumina, Basic

Part Number	Sorbent Amount/ Tube Volume	Unit per Pack
EUALB123G	200mg/3mL	30
EUALB153G	500mg/3mL	30
EUALB156G	500mg/6mL	30
EUALB1M6G	1000mg/6mL	30

% Organic Loading: N/A

Application:
Removes polar type compounds.

Alumina, Neutral

Part Number	Sorbent Amount/ Tube Volume	Unit per Pack
EUALN123G	200mg/3mL	30
EUALN153G	500mg/3mL	30
EUALN156G	500mg/6mL	30
EUALN1M6G	1000mg/6mL	30

% Organic Loading: N/A

Application:
Removes polar type compounds.

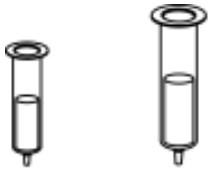
Carbon - Graphitized

Part Number	Sorbent Amount/ Tube Volume	Unit per Pack
EUCARB123G	200mg/3mL	30
EUCARB153G	500mg/3mL	30
EUCARB156G	500mg/6mL	30
EUCARB1M6G	1000mg/6mL	30

Carbon-Graphitized non-porous, 120 / 400 mesh

Carbon supports have been used to isolate extremely polar organic compounds. They work by a hydrophobic mechanism with a high surface area and ion exchange. These interactions can happen in a wide range of polar and non-polar solvents.

ENVIRO-CLEAN® Inert Glass Syringe Barrels
Ion Exchange (Anion)
Solid Phase Extraction Cartridges



Chemistries are offered on these particle sizes.

Small Particle (5-20 µm)
Intermediate Particle (25-40 µm)
Standard Particle (40-60 µm)
Large Particle (125-210 µm)

PSA (N-2 Aminoethyl)

Part Number Unendcapped	Sorbent Amount/ Tube Volume	Unit per Pack
EUPSA123G	200mg/3mL	30
EUPSA153G	500mg/3mL	30
EUPSA156G	500mg/6mL	30
EUPSA1M6G	1000mg/6mL	30

% Organic Loading: 9.70

Application:
Scavenger for acids, cyclic compounds, and other lipid type compounds.

Aminopropyl

Part Number Unendcapped	Sorbent Amount/ Tube Volume	Unit per Pack
EUNAX123G	200mg/3mL	30
EUNAX153G	500mg/3mL	30
EUNAX156G	500mg/6mL	30
EUNAX1M6G	1000mg/6mL	30

% Organic Loading: 6.65

Application:
Scavenger for acids, cyclic compounds, and other lipid type compounds.

Diethylamino

Part Number Unendcapped	Sorbent Amount/ Tube Volume	Unit per Pack
EUDAX123G	200mg/3mL	30
EUDAX153G	500mg/3mL	30
EUDAX156G	500mg/6mL	30
EUDAX1M6G	1000mg/6mL	30

% Organic Loading: 8.40

Application:
Scavenger for acids, cyclic compounds, and other lipid type compounds.

Polyimine

Part Number Unendcapped	Sorbent Amount/ Tube Volume	Unit per Pack
EUPAX123G	200mg/3mL	30
EUPAX153G	500mg/3mL	30
EUPAX156G	500mg/6mL	30
EUPAX1M6G	1000mg/6mL	30

% Organic Loading: 13.5

Application:
Scavenger for acids and sulfonyl chlorides, isocyanates and other electrophiles.

Quaternary Amine with Chloride counter ion

Part Number Unendcapped	Sorbent Amount/ Tube Volume	Unit per Pack
ECQAX123G	200mg/3mL	30
ECQAX153G	500mg/3mL	30
ECQAX156G	500mg/6mL	30
ECQAX1M6G	1000mg/6mL	30

% Organic Loading: 8.40

Application:
Scavenger for acids and sulfonyl chlorides, isocyanates and weak electrophiles.

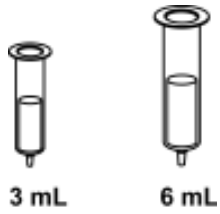
Quaternary Amine with Acetate counter ion

Part Number Unendcapped	Sorbent Amount/ Tube Volume	Unit per Pack
EAQAX123G	200mg/3mL	30
EAQAX153G	500mg/3mL	30
EAQAX156G	500mg/6mL	30
EAQAX1M6G	1000mg/6mL	30

% Organic Loading: 8.40

Application: Scavenger for acids and sulfonyl chlorides, isocyanates and weak electrophiles. Useful when charge on ion being removed is weaker than the acetate counter ion.

ENVIRO-CLEAN® Inert Glass Syringe Barrels
Ion Exchange (Anion)
Solid Phase Extraction Cartridges



Chemistries are offered on these particle sizes.

Small Particle (5-20 µm)
Intermediate Particle (25-40 µm)
Standard Particle (40-60 µm)
Large Particle (125-210 µm)

Quaternary Amine with Hydroxide counter ion

Part Number Unendcapped	Sorbent Amount/ Tube Volume	Unit per Pack
EHQAX123G	200mg/3mL	30
EHQAX153G	500mg/3mL	30
EHQAX156G	500mg/6mL	30
EHQAX1M6G	1000mg/6mL	30

% Organic Loading: 8.40

Application: Scavenger for acids and sulfonyl chlorides, isocyanates and weak electrophiles. Useful when charge on ion being removed is weaker than the hydroxide counter ion.

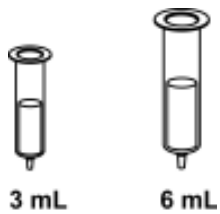
Quaternary Amine with Formate counter ion

Part Number Unendcapped	Sorbent Amount/ Tube Volume	Unit per Pack
EFQAX123G	200mg/3mL	30
EFQAX153G	500mg/3mL	30
EFQAX156G	500mg/6mL	30
EFQAX1M6G	1000mg/6mL	30

% Organic Loading: 8.40

Application: Scavenger for acids and sulfonyl chlorides, isocyanates and weak electrophiles. Useful when charge on ion being removed is weaker than the formate counter ion.

ENVIRO-CLEAN® Inert Glass Syringe Barrels
Ion Exchange (Cation)
Solid Phase Extraction Cartridges



Chemistries are offered on these particle sizes.

Small Particle (5-20 µm)
Intermediate Particle (25-40 µm)
Standard Particle (40-60 µm)
Large Particle (125-210 µm)

Carboxylic Acid

Part Number Unendcapped	Sorbent Amount/ Tube Volume	Unit per Pack
EUCCX123G	200mg/3mL	30
EUCCX153G	500mg/3mL	30
EUCCX156G	500mg/6mL	30
EUCCX1M6G	1000mg/6mL	30

% Organic Loading: 9.10

Application:
Scavenger for strong amines with quats.

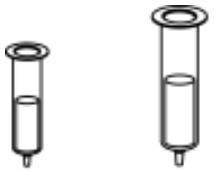
Propylsulfonic Acid

Part Number Unendcapped	Sorbent Amount/ Tube Volume	Unit per Pack
EUPCX123G	200mg/3mL	30
EUPCX153G	500mg/3mL	30
EUPCX156G	500mg/6mL	30
EUPCX1M6G	1000mg/6mL	30

% Organic Loading: 7.10

Application:
Scavenger for amines, alcohols and other nucleophiles.

ENVIRO-CLEAN® Inert Glass Syringe Barrels
Ion Exchange (Cation)
Solid Phase Extraction Cartridges



Chemistries are offered on these particle sizes.

Small Particle (5-20 µm)
Intermediate Particle (25-40 µm)
Standard Particle (40-60 µm)
Large Particle (125-210 µm)

Benzenesulfonic Acid

Part Number Unendcapped	Sorbent Amount/ Tube Volume	Unit per Pack
EUBCX123G	200mg/3mL	30
EUBCX153G	500mg/3mL	30
EUBCX156G	500mg/6mL	30
EUBCX1M6G	1000mg/6mL	30

% Organic Loading: 21.70

Application:
Scavenger for amines, alcohols and other nucleophiles.

Benzenesulfonic Acid High Load

Part Number Unendcapped	Sorbent Amount/ Tube Volume	Unit per Pack
EUBCX1HL123G	200mg/3mL	30
EUBCX1HL153G	500mg/3mL	30
EUBCX1HL156G	500mg/6mL	30
EUBCX1HL1M6G	1000mg/6mL	30

% Organic Loading: 21.70

Application:
Scavenger for amines, alcohols and other nucleophiles.

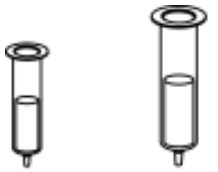
Triacetic Acid

Part Number Unendcapped	Sorbent Amount/ Tube Volume	Unit per Pack
EUTAX123G	200mg/3mL	30
EUTAX153G	500mg/3mL	30
EUTAX156G	500mg/6mL	30
EUTAX1M6G	1000mg/6mL	30

% Organic Loading: 7.61

Application: Chelator for metal ions.
i.e. Tin, Copper, Nickel, Palladium, Chromium, Ruthinium

ENVIRO-CLEAN® Inert Glass Syringe Barrels
Copolymeric Solid Phase Extraction Cartridges



Chemistries are offered on these particle sizes.

Small Particle (5-20 µm)
Intermediate Particle (25-40 µm)
Standard Particle (40-60 µm)
Large Particle (125-210 µm)

Hydrophobic Plus Benzensulfonic Acid

Part Number Unendcapped	Sorbent Amount/ Tube Volume	Unit per Pack
EUBCX223G	200mg/3mL	30
EUBCX253G	500mg/3mL	30
EUBCX256G	500mg/6mL	30
EUBCX2M6G	1000mg/6mL	30

% Organic Loading: 12.30

Application:
Dual functionality for polar and hydrophobic compounds.

Hydrophobic Plus Carboxylic Acid

Part Number Unendcapped	Sorbent Amount/ Tube Volume	Unit per Pack
EUCCX223G	200mg/3mL	30
EUCCX253G	500mg/3mL	30
EUCCX256G	500mg/6mL	30
EUCCX2M6G	1000mg/6mL	30

% Organic Loading: 12.50

Application:
Dual functionality for polar and hydrophobic compounds.

Hydrophobic Plus Propylsulfonic Acid

Part Number Unendcapped	Sorbent Amount/ Tube Volume	Unit per Pack
EUPCX223G	200mg/3mL	30
EUPCX253G	500mg/3mL	30
EUPCX256G	500mg/6mL	30
EUPCX2M6G	1000mg/6mL	30

% Organic Loading: 12.50

Application:
Dual functionality for polar and hydrophobic compounds.

Hydrophobic Plus Quaternary Amine

Part Number Unendcapped	Sorbent Amount/ Tube Volume	Unit per Pack
EUQAX223G	200mg/3mL	30
EUQAX253G	500mg/3mL	30
EUQAX256G	500mg/6mL	30
EUQAX2M6G	1000mg/6mL	30

% Organic Loading: 13.60

Application:
Dual functionality for polar and hydrophobic compounds.

Hydrophobic Plus Cyanopropyl

Part Number Unendcapped	Sorbent Amount/ Tube Volume	Unit per Pack
EUCNP223G	200mg/3mL	30
EUCNP253G	500mg/3mL	30
EUCNP256G	500mg/6mL	30
EUCNP2M6G	1000mg/6mL	30

% Organic Loading: 14.60

Application:
Dual functionality for polar and hydrophobic compounds.

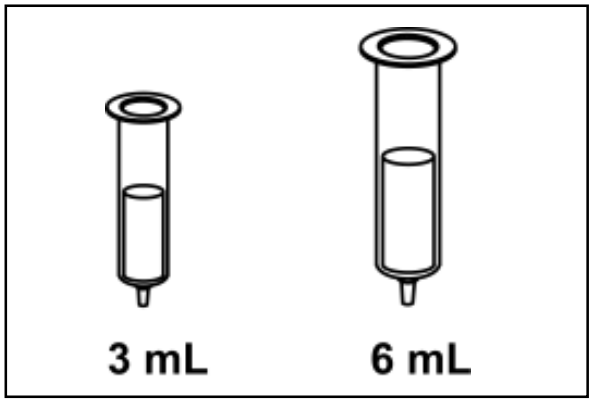
Hydrophobic Plus Cyclohexyl

Part Number Unendcapped	Sorbent Amount/ Tube Volume	Unit per Pack
EUCYH223G	200mg/3mL	30
EUCYH253G	500mg/3mL	30
EUCYH256G	500mg/6mL	30
EUCYH2M6G	1000mg/6mL	30

% Organic Loading: N/A

Application:
Dual functionality for polar and hydrophobic compounds.

Inert Glass Syringe Barrels
Cartridges and Frits



Glass Cartridges

Part Number	Cartridge Description	Frit Description	Cartridge Volume	Quantity
GLS008P	Empty Glass Cartridges	None	6 mL	25
RFV004G	Glass Cartridges	1 Tefton frit inserted	6 mL	25
GLS004P	Empty Glass Cartridges	None	3 mL	25
RFV01F4G	Glass Cartridges	1 Tefton frit inserted	3 mL	25

Tefton Frits

Part Number	Cartridge Description	Frit Description	Cartridge Volume	Quantity
FR10081T	None	Tefton frit 10 porosity	6 mL	25
FR10041T	None	Tefton frit 10 porosity	3 mL	25