

## 第五章 固相萃取

# 固相萃取柱 / Solid-Phase Extraction Columns

固相萃取(Solid-Phase Extraction,缩写 SPE)为近年发展起来一种微量样品处理技术,主要用于样品的分离、纯化和浓缩。使用 SPE 能避免液-液萃取所带来比如不完全的相分离、较低的定量分析回收率、使用易碎的玻璃器皿和产生大量的有机废液等许多问题。与液-液萃取相比, SPE 采用高效、高选择性的固定相,固相萃取更有效,容易达到定量萃取,快速和自动化,具有能显著减少溶剂用量,减少样品预处理过程,加快了样品处理速度,消除某些干扰杂质等优点。



SPE 可用于气相色谱(GC)、高效液相色谱(HPLC)、红外光谱(IR)、质谱(MS)、核磁共振(NMR)、紫外-可见光谱(UV/VIS)和原子吸收(AAS)等各种分析方法的样品预处理。SPE 在较复杂的有机化合物分析方面有着广阔的发展前景。

英诺色谱代理的美国 United Chemical Technologies (UCT)公司是硅基固相萃取技术的市场领先者,其制造的宽范围的高度可再生柱,让色谱工作者得到稳定的萃取技术。

UCT 公司标志性的成就是深入研究和开发与硅胶及其表面修饰聚合物有关的聚合硅化学。其 Worldwide Monitoring® 固相萃取(SPE)产品已经渗透到包括用于药品检验、制药工业、环境保护、农业和生物科技市场等领域。

Worldwide Monitoring® 产品包括固相萃取(SPE)产品,液相色谱产品和散装固相吸附剂粉末。Worldwide Monitoring® 键合硅胶也被用在样品制备和大容量制备色谱。大范围的孔径尺寸和颗粒尺寸的吸附剂可以有效地满足大多数分离需求。

作为固相萃取产品的专业生产厂家,UCT 公司从各种填装好的 SPE 柱到散装吸附剂,以及其它固相萃取装置和配件等产品种类是最为齐全的。



我们所有的键合相都得到检验以确保其再现性和性能。仔细检查颗粒尺寸分布、孔直径和装置确保恒定的柱流速。全面检查吸附剂以满足高质量的要求。我们相信,我们产品的再现性是无人匹敌的。

## — CLEAN SCREEN®

用于滥用药物检验的共聚键合相。

用于最大灵敏度的萃取酸、碱和中性物质。

我们的独特共聚吸附剂,在药物检验中具有上乘表现。反相和离子交换官能团共聚在硅胶基体表面上,以提供高灵敏度和再现性。CLEAN SCREEN® DAU 和 THC 柱被法院和临床化学家广泛应用,包括:①死亡调查;②犯罪调查;③尿药检验;④运动药物检验;⑤竞赛实验室;⑥治疗药物监控;⑦药物筛选。

产品描述	吸附剂	吸附剂量/管体积	包装	无 Clean-Thru 嘴	含 Clean-Thru 嘴
DAU	“滥用药物”	130 mg/1 ml	100	CSDAU131	CCDAU131
	专用吸附剂	130 mg/3 ml	50	CSDAU133	CCDAU133
Drugs of Abuse		200 mg/3 ml	50	CSDAU203	CCDAU203
		300 mg/3 ml	50	CSDAU303	CCDAU303
		500 mg/3 ml	50	CSDAU503	CCDAU503
		200 mg/6 ml	50	CSDAU206	CCDAU206

		500 mg/6 ml	50	CSDAU506	CCDAU506
		1000 mg/6 ml	30	CSDAU1M6	CCDAU1M6
		50mg/10 ml	50	ZSDAU005	ZCDAU005
		130mg/10 ml	50	ZSDAU013	ZCDAU013
		200 mg/10 ml	50	ZSDAU020	ZCDAU020
		500 mg/15 ml	50	CSDAU515	CCDAU515
<b>THC</b>	THC 吸附剂	130 mg/1 ml	100	CSTHC131	CCTHC131
<b>Tetrahydrocannabinol (THC)</b>		200 mg/3 ml	50	CSTHC203	CCTHC203
<b>四氢大麻醇</b>		300 mg/3 ml	50	CSTHC303	CCTHC303
		500 mg/3 ml	50	CSTHC503	CCTHC503
		200 mg/6 ml	50	CSTHC206	CCTHC206
		500 mg/6 ml	50	CSTHC506	CCTHC506
		1000 mg/6 ml	30	CSTHC1M6	CCTHC1M6
		130 mg/10 ml	50	ZSTHC013	ZCTHC013
		200 mg/10 ml	50	ZSTHC020	ZCTHC020
		500 mg/15 ml	50	CSTHC515	CCTHC515

**CLEAN-SCREEN® GHB——用于  $\gamma$ -羟基丁酸的萃取新方法**

		<b>130 mg/1 ml</b>	<b>100</b>	<b>CSGHB131</b>	
		200 mg/3 ml	50	CSGHB203	
		300 mg/10 ml	50	ZSGHB030	

**CLEAN-SCREEN® ETG——UCT 独有，适用于 LC/MS，用于乙烷基葡萄糖苷酸萃取的专有碳质填料**

		<b>200 mg/3 ml</b>	<b>50</b>	<b>CSETG203</b>	<b>CCETG203</b>
		400 mg/10 ml	50	ZSETG040	ZCETG040

**CLEAN-SCREEN® BNZ——用于苯并二氮的萃取**

		<b>200 mg/3 ml</b>	<b>50</b>	<b>CSBNZ203</b>	<b>CCBNZ203</b>
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**CLEAN-SCREEN® RSV 减少溶剂体积萃取柱。比传统填充柱少用 75% 溶剂**

<b>所有滥用药物的共聚萃取</b>		<b>50 mg/1 ml</b>	<b>100</b>	<b>CSDAUA51</b>	<b>CCDAUA51</b>
<b>DAU</b>		80 mg/3 ml	50	CSDAUA83	CCDAUA83
		80 mg/10 ml	50	ZSDAUA08Z	ZCDAUA08Z
<b>THC &amp; THCA</b>		50 mg/1 ml	100	CSTHCA51	CCTHCA51
<b>THC</b>		80 mg/3 ml	50	CSTHCA83	CCTHCA83
		80 mg/10 ml	50	ZSTHCA08	ZCTHCA08
<b>C18, Octadecyl</b>		50 mg/1 ml	100	CEC18A51	CUC18A51
<b>十八烷基</b>		80 mg/3 ml	50	CEC18A83	CUC18A83
		80 mg/10 ml	50	ZSC18A08	ZC C18A08

二. CLEAN-UP®

1 反相固相萃取柱(疏水)

产品号	规格	包装	产品号	规格	包装	产品号	规格	包装
<b>C18, 十八烷基(封尾) OCTADECYL</b>			<b>C2, 乙基(封尾) ETHYL</b>			<b>Cn3, 丙基(封尾) PROPYL</b>		
CEC181L1	50mg/1ml	100	CEC021L1	50mg/1ml	100	CECn31L1	50mg/1ml	100
CEC18111	100mg/1ml	100	CEC02111	100mg/1ml	100	CECn3111	100mg/1ml	100
CEC18113	100mg/3ml	50	CEC02113	100mg/3ml	50	CECn3113	100mg/3ml	50
CEC18123	200mg/3ml	50	CEC02123	200mg/3ml	50	CECn3123	200mg/3ml	50
CEC18153	500mg/3ml	50	CEC02153	500mg/3ml	50	CECn3153	500mg/3ml	50
CEC18156	500mg/6ml	50	CEC02156	500mg/6ml	50	CECn3156	500mg/6ml	50
CEC1811Z	100mg/10ml	50	CEC0211Z	100mg/10ml	50	CECn311Z	100mg/10ml	50
CEC1812Z	200mg/10ml	50	CEC0212Z	200mg/10ml	50	CECn312Z	200mg/10ml	50
CEC1815Z	500mg/10ml	50	CEC0215Z	500mg/10ml	50	CECn315Z	500mg/10ml	50
CEC181M6	1g/6ml	30	CEC021M6	1g/6ml	30	CECn31M6	1g/6ml	30
CEC1812M15	2g/15ml	20	CEC0212M15	2g/15ml	20	CECn312M15	2g/15ml	20
CEC1815M25	5g/25ml	20	CEC0215M25	5g/25ml	20	CECn315M25	5g/25ml	20
CEC18110M75	10g/75ml	10	CEC02110M75	10g/75ml	10	CECn3110M75	10g/75ml	10
<b>Cn4, 正丁基(封尾) n-BUTYL</b>			<b>Ci4, 异丁基(封尾) ISOBUTYL</b>			<b>Ct4, 叔丁基(封尾) TERTIARY BUTYL</b>		
CECn41L1	50mg/1ml	100	CECi41L1	50mg/1ml	100	CECt41L1	50mg/1ml	100
CECn4111	100mg/1ml	100	CECi4111	100mg/1ml	100	CECt4111	100mg/1ml	100
CECn4113	100mg/3ml	50	CECi4113	100mg/3ml	50	CECt4113	100mg/3ml	50
CECn4123	200mg/3ml	50	CECi4123	200mg/3ml	50	CECt4123	200mg/3ml	50
CECn4153	500mg/3ml	50	CECi4153	500mg/3ml	50	CECt4153	500mg/3ml	50
CECn4156	500mg/6ml	50	CECi4156	500mg/6ml	50	CECt4156	500mg/6ml	50
CECn411Z	100mg/10ml	50	CECi411Z	100mg/10ml	50	CECt411Z	100mg/10ml	50
CECn412Z	200mg/10ml	50	CECi412Z	200mg/10ml	50	CECt412Z	200mg/10ml	50
CECn415Z	500mg/10ml	50	CECi415Z	500mg/10ml	50	CECt415Z	500mg/10ml	50
CECn41M6	1g/6ml	30	CECi41M6	1g/6ml	30	CECt41M6	1g/6ml	30
CECn412M15	2g/15ml	20	CECi412M15	2g/15ml	20	CECt412M15	2g/15ml	20
CECn415M25	5g/25ml	20	CECi415M25	5g/25ml	20	CECt415M25	5g/25ml	20
CECn4110M75	10g/75ml	10	CECi4110M75	10g/75ml	10	CECt4110M75	10g/75ml	10
<b>C5, 戊基(封尾) PENTYL</b>			<b>C6, 己基(封尾) HEXYL</b>			<b>C7, 庚基(封尾) HEPTYL</b>		
CEC051L1	50mg/1ml	100	CEC061L1	50mg/1ml	100	CEC071L1	50mg/1ml	100
CEC05111	100mg/1ml	100	CEC06111	100mg/1ml	100	CEC07111	100mg/1ml	100
CEC05113	100mg/3ml	50	CEC06113	100mg/3ml	50	CEC07113	100mg/3ml	50
CEC05123	200mg/3ml	50	CEC06123	200mg/3ml	50	CEC07123	200mg/3ml	50
CEC05153	500mg/3ml	50	CEC06153	500mg/3ml	50	CEC07153	500mg/3ml	50
CEC05156	500mg/6ml	50	CEC06156	500mg/6ml	50	CEC07156	500mg/6ml	50
CEC0511Z	100mg/10ml	50	CEC0611Z	100mg/10ml	50	CEC0711Z	100mg/10ml	50
CEC0512Z	200mg/10ml	50	CEC0612Z	200mg/10ml	50	CEC0712Z	200mg/10ml	50
CEC0515Z	500mg/10ml	50	CEC0615Z	500mg/10ml	50	CEC0715Z	500mg/10ml	50
CEC051M6	1g/6ml	30	CEC061M6	1g/6ml	30	CEC071M6	1g/6ml	30
CEC0512M15	2g/15ml	20	CEC0612M15	2g/15ml	20	CEC0712M15	2g/15ml	20
CEC0515M25	5g/25ml	20	CEC0615M25	5g/25ml	20	CEC0715M25	5g/25ml	20
CEC05110M75	10g/75ml	10	CEC06110M75	10g/75ml	10	CEC07110M75	10g/75ml	10

产品号	规格	包装	产品号	规格	包装	产品号	规格	包装
<b>C8, 辛基(封尾) OCTYL</b>			<b>C10, 癸基(封尾) nDECYL</b>			<b>C12, 十二烷基(封尾) nDODECYL</b>		
CEC081L1	50mg/1ml	100	CEC101L1	50mg/1ml	100	CEC121L1	50mg/1ml	100
CEC08111	100mg/1ml	100	CEC10111	100mg/1ml	100	CEC12111	100mg/1ml	100
CEC08113	100mg/3ml	50	CEC10113	100mg/3ml	50	CEC12113	100mg/3ml	50
CEC08123	200mg/3ml	50	CEC10123	200mg/3ml	50	CEC12123	200mg/3ml	50
CEC08153	500mg/3ml	50	CEC10153	500mg/3ml	50	CEC12153	500mg/3ml	50
CEC08156	500mg/6ml	50	CEC10156	500mg/6ml	50	CEC12156	500mg/6ml	50
CEC0811Z	100mg/10ml	50	CEC1011Z	100mg/10ml	50	CEC1211Z	100mg/10ml	50
CEC0812Z	200mg/10ml	50	CEC1012Z	200mg/10ml	50	CEC1212Z	200mg/10ml	50
CEC0815Z	500mg/10ml	50	CEC1015Z	500mg/10ml	50	CEC1215Z	500mg/10ml	50
CEC081M6	1g/6ml	30	CEC101M6	1g/6ml	30	CEC121M6	1g/6ml	30
CEC0812M15	2g/15ml	20	CEC1012M15	2g/15ml	20	CEC1212M15	2g/15ml	20
CEC0815M25	5g/25ml	20	CEC1015M25	5g/25ml	20	CEC1215M25	5g/25ml	20
CEC08110M75	10g/75ml	10	CEC10110M75	10g/75ml	10	CEC12110M75	10g/75ml	10
<b>C20, 二十烷基(封尾) EICOSYL</b>			<b>环己基(封尾) CYCLOHEXYL</b>			<b>苯基(封尾) PHENYL</b>		
CEC201L1	50mg/1ml	100	CECYH1L1	50mg/1ml	100	CEPHY1L1	50mg/1ml	100
CEC20111	100mg/1ml	100	CECYH111	100mg/1ml	100	CEPHY111	100mg/1ml	100
CEC20113	100mg/3ml	50	---	---	---	---	---	---
CEC20123	200mg/3ml	50	CECYH123	200mg/3ml	50	CEPHY123	200mg/3ml	50
CEC20153	500mg/3ml	50	CECYH153	500mg/3ml	50	CEPHY153	500mg/3ml	50
CEC20156	500mg/6ml	50	CECYH156	500mg/6ml	50	CEPHY156	500mg/6ml	50
CEC2011Z	100mg/10ml	50	CECYH11Z	100mg/10ml	50	CEPHY11Z	100mg/10ml	50
CEC2012Z	200mg/10ml	50	CECYH12Z	200mg/10ml	50	CEPHY12Z	200mg/10ml	50
CEC2015Z	500mg/10ml	50	CECYH15Z	500mg/10ml	50	CEPHY15Z	500mg/10ml	50
CEC201M6	1g/6ml	30	CECYH1M6	1g/6ml	30	CEPHY1M6	1g/6ml	30
CEC2012M15	2g/15ml	20	CECYH12M15	2g/15ml	20	CEPHY12M15	2g/15ml	20
CEC2015M25	5g/25ml	20	CECYH15M25	5g/25ml	20	CEPHY15M25	5g/25ml	20
CEC20110M75	10g/75ml	10	CECYH110M75	10g/75ml	10	CEPHY110M75	10g/75ml	10

## 2 正相固相萃取柱(亲水)

产品号	规格	包装	产品号	规格	包装	产品号	规格	包装
<b>未键合硅胶(酸洗) Unbonded Silica (Acid Washed)</b>			<b>氟罗里硅土 Florisil</b>			<b>酸性氧化铝 Alumina Acid</b>		
CUSIL1L1	50mg/1ml	100	CUFLS1L1	50mg/1ml	100	CUALA1L1	50mg/1ml	100
CUSIL111	100mg/1ml	100	CUFLS111	100mg/1ml	100	CUALA111	100mg/1ml	100
CUSIL123	200mg/3ml	50	CUFLS123	200mg/3ml	50	CUALA123	200mg/3ml	50
CUSIL153	500mg/3ml	50	CUFLS153	500mg/3ml	50	CUALA153	500mg/3ml	50
CUSIL156	500mg/6ml	50	CUFLS156	500mg/6ml	50	CUALA156	500mg/6ml	50
CUSIL11Z	100mg/10ml	50	CUFLS11Z	100mg/10ml	50	CUALA11Z	100mg/10ml	50
CUSIL12Z	200mg/10ml	50	CUFLS12Z	200mg/10ml	50	CUALA12Z	200mg/10ml	50
CUSIL15Z	500mg/10ml	50	CUFLS15Z	500mg/10ml	50	CUALA15Z	500mg/10ml	50
CUSIL1M6	1g/6ml	30	CUFLS1M6	1g/6ml	30	CUALA1M6	1g/6ml	30
CUSIL12M15	2g/15ml	20	CUFLS12M15	2g/15ml	20	CUALA12M15	2g/15ml	20
CUSIL15M25	5g/25ml	20	CUFLS15M25	5g/25ml	20	CUALA15M25	5g/25ml	20

CUSIL110M75	10g/75ml	10	CUFLS110M75	10g/75ml	10	CUALA110M75	10g/75ml	10
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产品号	规格	包装	产品号	规格	包装	产品号	规格	包装
碱性氧化铝 Alumina Base			中性氧化铝 Alumina Neutral			CN, 氰丙基 Cyanopropyl		
CUALB1L1	50mg/1ml	100	CUALN1L1	50mg/1ml	100	CUCNP1L1	50mg/1ml	100
CUALB111	100mg/1ml	100	CUALN111	100mg/1ml	100	CUCNP111	100mg/1ml	100
CUALB123	200mg/3ml	50	CUALN123	200mg/3ml	50	CUCNP123	200mg/3ml	50
CUALB153	500mg/3ml	50	CUALN153	500mg/3ml	50	CUCNP153	500mg/3ml	50
CUALB156	500mg/6ml	50	CUALN156	500mg/6ml	50	CUCNP156	500mg/6ml	50
CUALB11Z	100mg/10ml	50	CUALN11Z	100mg/10ml	50	CUCNP11Z	100mg/10ml	50
CUALB12Z	200mg/10ml	50	CUALN12Z	200mg/10ml	50	CUCNP12Z	200mg/10ml	50
CUALB15Z	500mg/10ml	50	CUALN15Z	500mg/10ml	50	CUCNP15Z	500mg/10ml	50
CUALB1M6	1g/6ml	30	CUALN1M6	1g/6ml	30	CUCNP1M6	1g/6ml	30
CUALB12M15	2g/15ml	20	CUALN12M15	2g/15ml	20	CUCNP12M15	2g/15ml	20
CUALB15M25	5g/25ml	20	CUALN15M25	5g/25ml	20	CUCNP15M25	5g/25ml	20
CUALB110M75	10g/75ml	10	CUALN110M75	10g/75ml	10	CUCNP110M75	10g/75ml	10
Diol, 二醇基			石墨碳(无孔, 120/400 目)					
CUDOL1L1	50mg/1ml	100	CUCARBL1	50mg/1ml	100			
CUDOL111	100mg/1ml	100	CUCARB11	100mg/1ml	100			
CUDOL123	200mg/3ml	50	CUCARB1L3	200mg/3ml	50			
CUDOL153	500mg/3ml	50	CUCARB23	200mg/3ml	50			
CUDOL156	500mg/6ml	50	CUCARB2L3	250mg/3ml	50			
CUDOL11Z	100mg/10ml	50	CUCARB53	500mg/3ml	50			
CUDOL12Z	200mg/10ml	50	CUCARB2L6	250mg/6ml	30			
CUDOL15Z	500mg/10ml	50	CUCARB56	500mg/6ml	30			
CUDOL1M6	1g/6ml	30	CUCARB1Z	100mg/10ml	50			
CUDOL12M15	2g/15ml	20	CUCARB2Z	200mg/10ml	50			
CUDOL15M25	5g/25ml	20	CUCARB5Z	500mg/10ml	30			
CUDOL 110M75	10g/75ml	10	CUCARBM6	1g/6ml	20			
			CUCARBM15	1g/15ml	20			
			CUCARB2M15	2g/15ml	20			
			CUCARB5M25	5g/25ml	20			
			CUCARB10M75	10g/75ml	10			

### 3 离子交换固相萃取柱

#### 1) 阴离子交换柱

产品号	规格	包装	产品号	规格	包装	产品号	规格	包装
氨丙基 Aminopropyl			聚亚胺 Polyimine(PAX)			二乙氨基 Diethylamino		
CUNAX1L1	50mg/1ml	100	CUPAX1L1	50mg/1ml	100	CUDAX1L1	50mg/1ml	100
CUNAX111	100mg/1ml	100	CUPAX111	100mg/1ml	100	CUDAX111	100mg/1ml	100
CUNAX123	200mg/3ml	50	CUPAX123	200mg/3ml	50	CUDAX123	200mg/3ml	50
CUNAX153	500mg/3ml	50	CUPAX153	500mg/3ml	50	CUDAX153	500mg/3ml	50
CUNAX156	500mg/6ml	50	CUPAX156	500mg/6ml	50	CUDAX156	500mg/6ml	50
CUNAX11Z	100mg/10ml	50	CUPAX11Z	100mg/10ml	50	CUDAX11Z	100mg/10ml	50

CUNAX12Z	200mg/10ml	50	CUPAX12Z	200mg/10ml	50	CUDAX12Z	200mg/10ml	50
CUNAX15Z	500mg/10ml	50	CUPAX15Z	500mg/10ml	50	CUDAX15Z	500mg/10ml	50
CUNAX1M6	1g/6ml	30	CUPAX1M6	1g/6ml	30	CUDAX1M6	1g/6ml	30
CUNAX12M15	2g/15ml	20	CUPAX12M15	2g/15ml	20	CUDAX12M15	2g/15ml	20
CUNAX15M25	5g/25ml	20	CUPAX15M25	5g/25ml	20	CUDAX15M25	5g/25ml	20
CUNAX 110M75	10g/75ml	10	CUPAX110M75	10g/75ml	10	CUDAX110M75	10g/75ml	10

产品号	规格	包装	产品号	规格	包装	产品号	规格	包装
<b>PSA n-2 氨基</b>			<b>乙酸季铵 Quaternary Amine with Acetate counter ion</b>			<b>甲酸季铵 Quaternary Amine with Formate counter ion</b>		
CUPSA1L1	50mg/1ml	100	CAQAX1L1	50mg/1ml	100	CFQAX1L1	50mg/1ml	100
CUPSA111	100mg/1ml	100	CAQAX111	100mg/1ml	100	CFQAX111	100mg/1ml	100
CUPSA123	200mg/3ml	50	CAQAX123	200mg/3ml	50	CFQAX123	200mg/3ml	50
CUPSA153	500mg/3ml	50	CAQAX153	500mg/3ml	50	CFQAX153	500mg/3ml	50
CUPSA156	500mg/6ml	50	CAQAX156	500mg/6ml	50	CFQAX156	500mg/6ml	50
CUPSA11Z	100mg/10ml	50	CAQAX11Z	100mg/10ml	50	CFQAX11Z	100mg/10ml	50
CUPSA12Z	200mg/10ml	50	CAQAX12Z	200mg/10ml	50	CFQAX12Z	200mg/10ml	50
CUPSA15Z	500mg/10ml	50	CAQAX15Z	500mg/10ml	50	CFQAX15Z	500mg/10ml	50
CUPSA1M6	1g/6ml	30	CAQAX1M6	1g/6ml	30	CFQAX1M6	1g/6ml	30
CUPSA12M15	2g/15ml	20	CAQAX12M15	2g/15ml	20	CFQAX12M15	2g/15ml	20
CUPSA15M25	5g/25ml	20	CAQAX15M25	5g/25ml	20	CFQAX15M25	5g/25ml	20
CUPSA110M75	10g/75ml	10	CAQAX110M75	10g/75ml	10	CFQAX110M75	10g/75ml	10

<b>羟基季铵 Quaternary Amine with Hydroxide counter ion</b>			<b>氯化季铵 Quaternary Amine with Chloride counter ion</b>		
产品号	规格	包装	产品号	规格	包装
CHQAX1L1	50mg/1ml	100	CUQAX1L1	50mg/1ml	100
CHQAX111	100mg/1ml	100	CUQAX111	100mg/1ml	100
CHQAX123	200mg/3ml	50	CUQAX123	200mg/3ml	50
CHQAX153	500mg/3ml	50	CUQAX153	500mg/3ml	50
CHQAX156	500mg/6ml	50	CUQAX156	500mg/6ml	50
CHQAX11Z	100mg/10ml	50	CUQAX11Z	100mg/10ml	50
CHQAX12Z	200mg/10ml	50	CUQAX12Z	200mg/10ml	50
CHQAX15Z	500mg/10ml	50	CUQAX15Z	500mg/10ml	50
CHQAX1M6	1g/6ml	30	CUQAX1M6	1g/6ml	30
CHQAX12M15	2g/15ml	20	CUQAX12M15	2g/15ml	20
CHQAX15M25	5g/25ml	20	CUQAX15M25	5g/25ml	20
CHQAX110M75	10g/75ml	10	CUQAX110M75	10g/75ml	10

## 2) 阳离子交换柱

产品号	规格	包装	产品号	规格	包装	产品号	规格	包装
<b>苯磺酸 Benzenesulfonic Acid</b>			<b>苯磺酸-高载量 Benzenesulfonic Acid – HIGH LOAD</b>			<b>羧酸 Carboxylic Acid</b>		
CUBCX1L1	50mg/1ml	100	CUBCXH1L1	50mg/1ml	100	CUCCX1L1	50mg/1ml	100
CUBCX111	100mg/1ml	100	CUBCXH111	100mg/1ml	100	CUCCX111	100mg/1ml	100
CUBCX123	200mg/3ml	50	CUBCXH123	200mg/3ml	50	CUCCX123	200mg/3ml	50
CUBCX153	500mg/3ml	50	CUBCXH153	500mg/3ml	50	CUCCX153	500mg/3ml	50

CUBCX156	500mg/6ml	50	CUBCXH156	500mg/6ml	50	CUCCX156	500mg/6ml	50
CUBCX11Z	100mg/10ml	50	CUBCXH11Z	100mg/10ml	50	CUCCX11Z	100mg/10ml	50
CUBCX12Z	200mg/10ml	50	CUBCXH12Z	200mg/10ml	50	CUCCX12Z	200mg/10ml	50
CUBCX15Z	500mg/10ml	50	CUBCXH15Z	500mg/10ml	50	CUCCX15Z	500mg/10ml	50
CUBCX1M6	1g/6ml	30	CUBCXH1M6	1g/6ml	30	CUCCX1M6	1g/6ml	30
CUBCX12M15	2g/15ml	20	CUBCXH12M15	2g/15ml	20	CUCCX12M15	2g/15ml	20
CUBCX15M25	5g/25ml	20	CUBCXH15M25	5g/25ml	20	CUCCX15M25	5g/25ml	20
CUBCX110M75	10g/75ml	10	CUBCXH110M75	10g/75ml	10	CUCCX110M75	10g/75ml	10

产品号	规格	包装	产品号	规格	包装
<b>丙磺酸 Propylsulfonic Acid</b>			<b>三乙酸 Triacetic Acid</b>		
CUBCX1L1	50mg/1ml	100	CUTAX1L1	50mg/1ml	100
CUBCX111	100mg/1ml	100	CUTAX111	100mg/1ml	100
CUBCX123	200mg/3ml	50	CUTAX123	200mg/3ml	50
CUBCX153	500mg/3ml	50	CUTAX153	500mg/3ml	50
CUBCX156	500mg/6ml	50	CUTAX156	500mg/6ml	50
CUBCX11Z	100mg/10ml	50	CUTAX11Z	100mg/10ml	50
CUBCX12Z	200mg/10ml	50	CUTAX12Z	200mg/10ml	50
CUBCX15Z	500mg/10ml	50	CUTAX15Z	500mg/10ml	50
CUBCX1M6	1g/6ml	30	CUTAX1M6	1g/6ml	30
CUBCX12M15	2g/15ml	20	CUTAX12M15	2g/15ml	20
CUBCX15M25	5g/25ml	20	CUTAX15M25	5g/25ml	20
CUBCX110M75	10g/75ml	10	CUTAX110M75	10g/75ml	10

#### 4 共聚物固相萃取柱(混合相)

产品号	规格	包装	产品号	规格	包装	产品号	规格	包装
<b>氨丙基+C8, AMINOPROPYL + C8</b>			<b>季铵+C8, QUATERNARY AMINE + C8</b>			<b>羧酸+C8, CARBOXYLIC ACID + C8</b>		
CUNAX2L1	50mg/1ml	100	CUQAX2L1	50mg/1ml	100	CUCCX2L1	50mg/1ml	100
CUNAX211	100mg/1ml	100	CUQAX211	100mg/1ml	100	CUCCX211	100mg/1ml	100
CUNAX223	200mg/3ml	50	CUQAX223	200mg/3ml	50	CUCCX223	200mg/3ml	50
CUNAX253	500mg/3ml	50	CUQAX253	500mg/3ml	50	CUCCX253	500mg/3ml	50
CUNAX256	500mg/6ml	50	CUQAX256	500mg/6ml	50	CUCCX256	500mg/6ml	50
CUNAX21Z	100mg/10ml	50	CUQAX21Z	100mg/10ml	50	CUCCX21Z	100mg/10ml	50
CUNAX22Z	200mg/10ml	50	CUQAX22Z	200mg/10ml	50	CUCCX22Z	200mg/10ml	50
CUNAX25Z	500mg/10ml	50	CUQAX25Z	500mg/10ml	50	CUCCX25Z	500mg/10ml	50
CUNAX2M6	1g/6ml	30	CUQAX2M6	1g/6ml	30	CUCCX2M6	1g/6ml	30
CUNAX22M15	2g/15ml	20	CUQAX22M15	2g/15ml	20	CUCCX22M15	2g/15ml	20
CUNAX25M25	5g/25ml	20	CUQAX25M25	5g/25ml	20	CUCCX25M25	5g/25ml	20
CUNAX 210M75	10g/75ml	10	CUQAX 210M75	10g/75ml	10	CUCCX 210M75	10g/75ml	10
<b>丙磺酸+C8, PROPYLSUFONIC ACID + C8</b>			<b>苯磺酸+C8, BENZENESULFONIC ACID + C8</b>			<b>氰丙基+C8, CYANOPROPYL + C8</b>		
CUPCX2L1	50mg/1ml	100	CUBCX2L1	50mg/1ml	100	CUCNP2L1	50mg/1ml	100
CUPCX211	100mg/1ml	100	CUBCX211	100mg/1ml	100	CUCNP211	100mg/1ml	100
CUPCX223	200mg/3ml	50	CUBCX223	200mg/3ml	50	CUCNP223	200mg/3ml	50
CUPCX253	500mg/3ml	50	CUBCX253	500mg/3ml	50	CUCNP253	500mg/3ml	50

CUPCX256	500mg/6ml	50	CUBCX256	500mg/6ml	50	CUCNP256	500mg/6ml	50
CUPCX21Z	100mg/10ml	50	CUBCX21Z	100mg/10ml	50	CUCNP21Z	100mg/10ml	50
CUPCX22Z	200mg/10ml	50	CUBCX22Z	200mg/10ml	50	CUCNP22Z	200mg/10ml	50
CUPCX25Z	500mg/10ml	50	CUBCX25Z	500mg/10ml	50	CUCNP25Z	500mg/10ml	50
CUPCX2M6	1g/6ml	30	CUBCX2M6	1g/6ml	30	CUCNP2M6	1g/6ml	30
CUPCX22M15	2g/15ml	20	CUBCX22M15	2g/15ml	20	CUCNP22M15	2g/15ml	20
CUPCX25M25	5g/25ml	20	CUBCX25M25	5g/25ml	20	CUCNP25M25	5g/25ml	20
CUPCX 210M75	10g/75ml	10	CUBCX 210M75	10g/75ml	10	CUCNP 210M75	10g/75ml	10

### 三 ENVIRO-CLEAN®

专用于环境分析(如杀虫剂、除草剂、芳香烃、多氯化联苯和其它与环境有关的没有增塑剂背景的化合物)。

#### 1. 反相固相萃取柱(疏水)

产品号	规格	包装	产品号	规格	包装	产品号	规格	包装
<b>C18, 十八烷基(封尾) OCTADECYL</b>			<b>C2, 乙基(封尾) ETHYL</b>			<b>Cn3, 丙基(封尾) PROPYL</b>		
EEC181L1	50mg/1ml	100	EEC021L1	50mg/1ml	100	EECn31L1	50mg/1ml	100
EEC18111	100mg/1ml	100	EEC02111	100mg/1ml	100	EECn3111	100mg/1ml	100
EEC18113	100mg/3ml	50	EEC02113	100mg/3ml	50	EECn3113	100mg/3ml	50
EEC18123	200mg/3ml	50	EEC02123	200mg/3ml	50	EECn3123	200mg/3ml	50
EEC18153	500mg/3ml	50	EEC02153	500mg/3ml	50	EECn3153	500mg/3ml	50
EEC18156	500mg/6ml	50	EEC02156	500mg/6ml	50	EECn3156	500mg/6ml	50
EEC1811Z	100mg/10ml	50	EEC0211Z	100mg/10ml	50	EECn311Z	100mg/10ml	50
EEC1812Z	200mg/10ml	50	EEC0212Z	200mg/10ml	50	EECn312Z	200mg/10ml	50
EEC1815Z	500mg/10ml	50	EEC0215Z	500mg/10ml	50	EECn315Z	500mg/10ml	50
EEC181M6	1g/6ml	30	EEC021M6	1g/6ml	30	EECn31M6	1g/6ml	30
EEC1812M15	2g/15ml	20	EEC0212M15	2g/15ml	20	EECn312M15	2g/15ml	20
EEC1815M25	5g/25ml	20	EEC0215M25	5g/25ml	20	EECn315M25	5g/25ml	20
EEC18110M75	10g/75ml	10	EEC02110M75	10g/75ml	10	EECn3110M75	10g/75ml	10
<b>Cn4, 正丁基(封尾) n-BUTYL</b>			<b>Ci4, 异丁基(封尾) ISOBUTYL</b>			<b>Ct4, 叔丁基(封尾) TERTIARY BUTYL</b>		
EECn41L1	50mg/1ml	100	EECi41L1	50mg/1ml	100	EECt41L1	50mg/1ml	100
EECn4111	100mg/1ml	100	EECi4111	100mg/1ml	100	EECt4111	100mg/1ml	100
EECn4113	100mg/3ml	50	EECi4113	100mg/3ml	50	EECt4113	100mg/3ml	50
EECn4123	200mg/3ml	50	EECi4123	200mg/3ml	50	EECt4123	200mg/3ml	50
EECn4153	500mg/3ml	50	EECi4153	500mg/3ml	50	EECt4153	500mg/3ml	50
EECn4156	500mg/6ml	50	EECi4156	500mg/6ml	50	EECt4156	500mg/6ml	50
EECn411Z	100mg/10ml	50	EECi411Z	100mg/10ml	50	EECt411Z	100mg/10ml	50
EECn412Z	200mg/10ml	50	EECi412Z	200mg/10ml	50	EECt412Z	200mg/10ml	50
EECn415Z	500mg/10ml	50	EECi415Z	500mg/10ml	50	EECt415Z	500mg/10ml	50
EECn41M6	1g/6ml	30	EECi41M6	1g/6ml	30	EECt41M6	1g/6ml	30
EECn412M15	2g/15ml	20	EECi412M15	2g/15ml	20	EECt412M15	2g/15ml	20
EECn415M25	5g/25ml	20	EECi415M25	5g/25ml	20	EECt415M25	5g/25ml	20
EECn4110M75	10g/75ml	10	EECi4110M75	10g/75ml	10	EECt4110M75	10g/75ml	10
<b>C5, 戊基(封尾) PENTYL</b>			<b>C6, 己基(封尾) HEXYL</b>			<b>C7, 庚基(封尾) HEPTYL</b>		
EEC051L1	50mg/1ml	100	EEC061L1	50mg/1ml	100	EEC071L1	50mg/1ml	100

EEC05111	100mg/1ml	100	EEC06111	100mg/1ml	100	EEC07111	100mg/1ml	100
EEC05113	100mg/3ml	50	EEC06113	100mg/3ml	50	EEC07113	100mg/3ml	50
EEC05123	200mg/3ml	50	EEC06123	200mg/3ml	50	EEC07123	200mg/3ml	50
EEC05153	500mg/3ml	50	EEC06153	500mg/3ml	50	EEC07153	500mg/3ml	50
EEC05156	500mg/6ml	50	EEC06156	500mg/6ml	50	EEC07156	500mg/6ml	50
EEC0511Z	100mg/10ml	50	EEC0611Z	100mg/10ml	50	EEC0711Z	100mg/10ml	50
EEC0512Z	200mg/10ml	50	EEC0612Z	200mg/10ml	50	EEC0712Z	200mg/10ml	50
EEC0515Z	500mg/10ml	50	EEC0615Z	500mg/10ml	50	EEC0715Z	500mg/10ml	50
EEC051M6	1g/6ml	30	EEC061M6	1g/6ml	30	EEC071M6	1g/6ml	30
EEC0512M15	2g/15ml	20	EEC0612M15	2g/15ml	20	EEC0712M15	2g/15ml	20
EEC0515M25	5g/25ml	20	EEC0615M25	5g/25ml	20	EEC0715M25	5g/25ml	20
EEC05110M75	10g/75ml	10	EEC06110M75	10g/75ml	10	EEC07110M75	10g/75ml	10

产品号	规格	包装	产品号	规格	包装	产品号	规格	包装
<b>C8, 辛基(封尾) OCTYL</b>			<b>C10, 癸基(封尾) nDECYL</b>			<b>C12, 十二烷基(封尾) nDODECYL</b>		
EEC081L1	50mg/1ml	100	EEC101L1	50mg/1ml	100	EEC121L1	50mg/1ml	100
EEC08111	100mg/1ml	100	EEC10111	100mg/1ml	100	EEC12111	100mg/1ml	100
EEC08113	100mg/3ml	50	EEC10113	100mg/3ml	50	EEC12113	100mg/3ml	50
EEC08123	200mg/3ml	50	EEC10123	200mg/3ml	50	EEC12123	200mg/3ml	50
EEC08153	500mg/3ml	50	EEC10153	500mg/3ml	50	EEC12153	500mg/3ml	50
EEC08156	500mg/6ml	50	EEC10156	500mg/6ml	50	EEC12156	500mg/6ml	50
EEC0811Z	100mg/10ml	50	EEC1011Z	100mg/10ml	50	EEC1211Z	100mg/10ml	50
EEC0812Z	200mg/10ml	50	EEC1012Z	200mg/10ml	50	EEC1212Z	200mg/10ml	50
EEC0815Z	500mg/10ml	50	EEC1015Z	500mg/10ml	50	EEC1215Z	500mg/10ml	50
EEC081M6	1g/6ml	30	EEC101M6	1g/6ml	30	EEC121M6	1g/6ml	30
EEC0812M15	2g/15ml	20	EEC1012M15	2g/15ml	20	EEC1212M15	2g/15ml	20
EEC0815M25	5g/25ml	20	EEC1015M25	5g/25ml	20	EEC1215M25	5g/25ml	20
EEC08110M75	10g/75ml	10	EEC10110M75	10g/75ml	10	EEC12110M75	10g/75ml	10
<b>C20, 二十烷基(封尾) EICOSYL</b>			<b>环己基(封尾) CYCLOHEXYL</b>			<b>苯基(封尾) PHENYL</b>		
EEC201L1	50mg/1ml	100	EECYH1L1	50mg/1ml	100	EEPHY1L1	50mg/1ml	100
EEC20111	100mg/1ml	100	EECYH111	100mg/1ml	100	EEPHY111	100mg/1ml	100
EEC20113	100mg/3ml	50	---	---	---	---	---	---
EEC20123	200mg/3ml	50	EECYH123	200mg/3ml	50	EEPHY123	200mg/3ml	50
EEC20153	500mg/3ml	50	EECYH153	500mg/3ml	50	EEPHY153	500mg/3ml	50
EEC20156	500mg/6ml	50	EECYH156	500mg/6ml	50	EEPHY156	500mg/6ml	50
EEC2011Z	100mg/10ml	50	EECYH11Z	100mg/10ml	50	EEPHY11Z	100mg/10ml	50
EEC2012Z	200mg/10ml	50	EECYH12Z	200mg/10ml	50	EEPHY12Z	200mg/10ml	50
EEC2015Z	500mg/10ml	50	EECYH15Z	500mg/10ml	50	EEPHY15Z	500mg/10ml	50
EEC201M6	1g/6ml	30	EECYH1M6	1g/6ml	30	EEPHY1M6	1g/6ml	30
EEC2012M15	2g/15ml	20	EECYH12M15	2g/15ml	20	EEPHY12M15	2g/15ml	20
EEC2015M25	5g/25ml	20	EECYH15M25	5g/25ml	20	EEPHY15M25	5g/25ml	20
EEC20110M75	10g/75ml	10	EECYH110M75	10g/75ml	10	EEPHY110M75	10g/75ml	10

## 2 正相固相萃取柱(亲水)