Shim-pack STR-ODS Series

Shim-pack STR ODS-II

- The effects of metal oxides are suppressed to a minimum due to the use of highly-purified silica gel as a base material in the STR series.
- STR series columns are durable due to the use of mechanically strong silica gel.
- STR series columns are highly resistant to acidic and basic mobile phases.
- STR series columns are easy to operate and display high levels of performance due to low analytical operating pressures.
- Excellent end capping technology provides sharp peak shapes for basic and acidic compounds, and for samples which form complexes with metals.

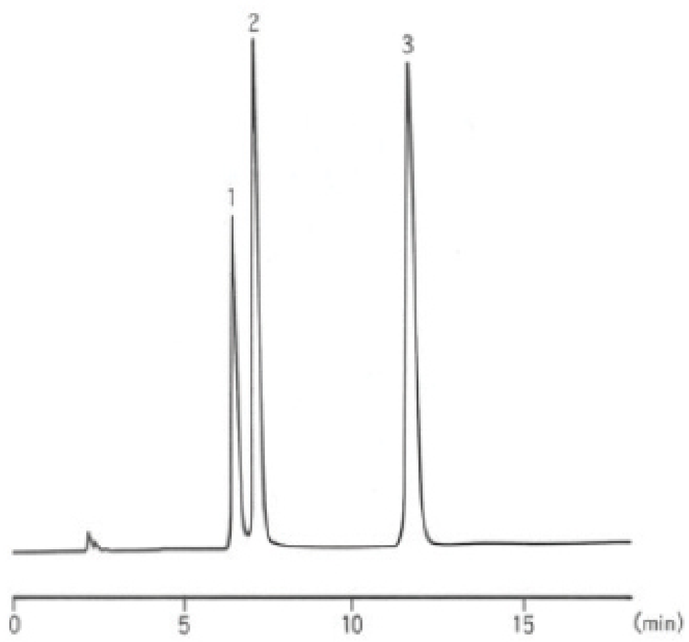
Bonded Phase	Octadecyl Group
Particle Size	5 µm
Particle Shape	Spherical Porous Silica Gel
Pore Size	12 nm
Specific Surface	320 m^2/g
End-Cap	Yes
Carbon content	17 %
USP Code	L1

Column	Particle Size (µm)	I.D (mm)	Length (mm)			Guard column
			100	150	250	
STR ODS-II (Narrow Bore)	5	2.0	-	226-80074-01	226-80075-01	-
STR ODS-II (for Analytical)	5	3.0	-	226-80076-01	226-80077-01	-
		4.0	226-80078-01	226-80079-01	226-80080-01	226-80084-91 (10 x 4.0 mm)
		4.6	-	226-80081-01	226-80082-01	226-80085-91 (10 x 4.6 mm)
		6.0	-	226-80083-01	-	226-80086-91 (10 x 6.0 mm)
STR ODS-II (for Preparative)	5	20.0	-	-	226-80087-01	226-80088-91 (50 x 20.0 mm)
STR ODS-II PEEK (for Analytical)	5	4.6		226-80089-01	226-80090-01	226-80091-91 (10 x 4.0 mm)

Guard cartridges (2 pcs)	Particle Size (µm)	I.D (mm)	Length (mm)		Holder (With adaptor)
			5	10	
STR ODS-II	5	2.0	226-80092-91	-	226-80095-91
		3.0	-	226-80093-91	226-80096-91
		4.6	-	226-80094-91	226-80097-91

Shim-pack STR ODS-M

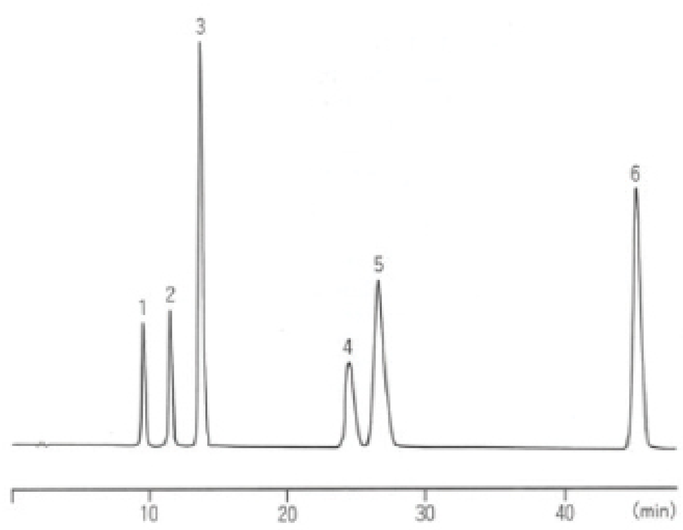
Bonded Phase	Octadecyl Group
Particle Size	5 µm
Particle Shape	Perfectly spherical porous silica gel
Pore Size	10 nm
Specific Surface	350 m²/g
End-Cap	Yes
Carbon content	15 %
USP Code	L1



AMP, ADP, ATP

1. Adenosine 5'-Monophosphate
2. Adenosine 5'-Diphosphate
3. Adenosine 5'-Triphosphate

Column : STR ODS-M, 150 mm x 4.6 mm, I.D. (226-80100-01)
Mobile Phase : 30 mM 2-Diethylaminoethanol is contained
20 mM Citric Acid Aqueous Solution
Flow Rate : 0.8 mL/min
Col. Temp. : 40 °C
Detection : UV-260 nm



Caffeine and Catechin

1. Epigallocatechin
2. Catechin
3. Caffeine
4. Epigallocatechin Gallate
5. Epicatechin
6. Epicatechin Gallate

Column : STR ODS-M, 150 mm x 4.6 mm, I.D. (226-80100-01)
Mobile Phase : A: 10 mM-Phosphate Buffer (pH2.6)
B: CH3CN
7 % B → 7 % B (30 min) 12 % B (30.01 min) → 12 % B (45 min) → 50 % B (45.01 min) → 50 % B (50 min) → 7 % B (50.01 min) → 7 % B (80 min)
Flow Rate : 1.0 mL/min
Col. Temp. : 45 °C
Detection : UV-280 nm (0.64 AUFS)

Column	Particle Size (µm)	I.D (mm)	Length (mm)			
			10	50	150	250
STR ODS-M	5	4.0	226-80103-01	226-80104-01	226-80098-01	226-80099-01
		4.6	-	-	226-80100-01	226-80101-01
		6.0	-	-	226-80102-01	-

Mobile Phase Cleaner for UHPLC/HPLC

Ghost Trap DS/DS-HP

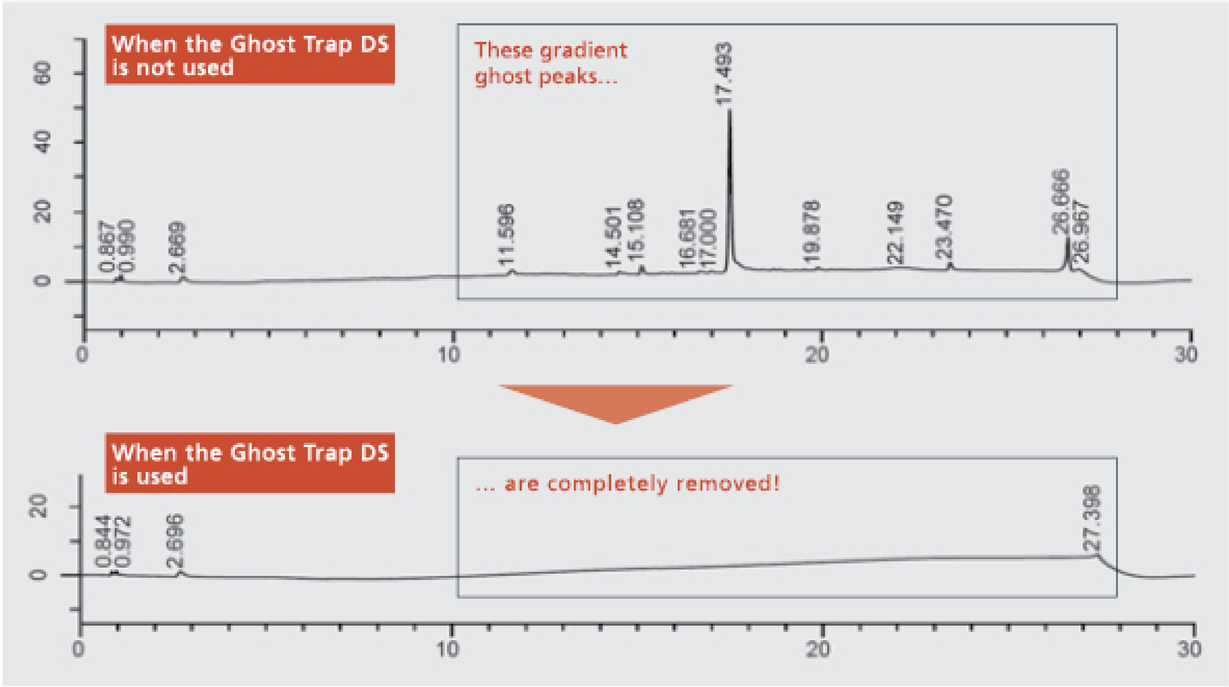
A new high-pressure model for the elimination of impurities from organic solvents has been added to the Ghost Trap DS* lineup. The Ghost Trap DS was co-developed with Daiichi Sankyo Co., Ltd. It has been designed to effectively adsorb impurities in the mobile phase in order to reduce the time required for method development and impurity analysis.

The 100 MPa pressure tolerance of the Ghost Trap DS-HP allows it to be used with UHPLC systems. This permits the effective use of the Ghost Trap DS for method development by UHPLC and subsequent transfer to conventional analysis.

* DS: Abbreviation of Daiichi Sankyo (D) and Shimadzu (S)

Consistently Traps Impurities, Even in Organic Solvents

A major feature of the Ghost Trap DS is the ability to remove impurities, even in organic solvents. When the Ghost Trap DS is installed between the gradient mixer and autosampler in reversed phase gradient analysis, it can trap impurities from the piping and gradient mixer in addition to those from the mobile phase. The example on the right shows that it can effectively trap impurities in mobile phase when the Ghost Trap DS is installed just downstream of the gradient mixer.



Example of removing ghost peaks by Ghost Trap DS
(The data is provided by Daiichi Sankyo Co., Ltd.)

Column : ODS column
Mobile Phase : A) 25 mmol/L Phosphate (Potassium) buffer solution (pH 4.0) / Acetonitrile = 9/1
B) Water/Acetonitrile = 1/9
Flow Rate : 0.65 mL/min
Col. Temp. : 45 °C
Detection : UV 210 nm

Product Information

Item	P/N	Description	Dimensions	Internal Volume *1	Pressure Tolerance
Ghost Trap DS	228-59921-91	Cartridge (2pcs)	30 mmL. × 7.6 mmI.D.	Approx. 700 µL	35 MPa
	228-59921-92	Cartridge (2pcs) + Holder			
	228-59921-93	Cartridge (2pcs)	4.0 mmI.D. × 20 mmL.	Approx. 150 µL	
	228-59921-94	Cartridge (2pcs) + Holder			
Ghost Trap DS-HP	228-59931-91	Packed type	2.1 mmI.D. × 30 mmL.	Approx. 60 µL	100 MPa

*1 Note that a delay volume equivalent to the internal volume of the product occurs if the product is installed downstream of the gradient mixer or the confluence of two pumps.
* The product service life differs according to analysis conditions, such as the mobile phase used.
* In analysis using an ion-pairing reagent, the ion-pairing reagent may be retained in the product, influencing the retention time and peak shape.
* Before connecting the analytical column, be sure to thoroughly clean the flow path with mobile phase (close to the final concentration for gradient analysis).
* Note that some impurities may not be removed.
* When performing high-pressure analysis exceeding 35 MPa with a UHPLC system, connect the gradient mixer to the Ghost Trap DS-HP with a pipe for UHPLC (e.g.228-53137-97).

GLC Suction Filter 2

■ HPLC Suction filter with mobile phase cleaning function

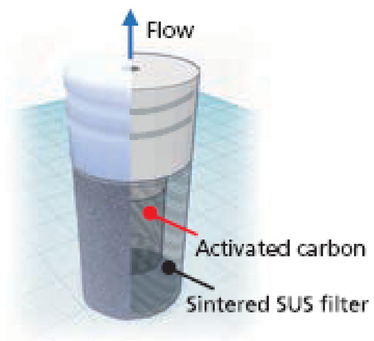
Features

- Removes contaminants from the mobile phase.
- Does not affect gradient delay* to install this product in front o fthe pump (see Fig. 2).
- Available for LCMS due to low bleed.

(*The delay form the time a gradient begins to be produced in the pump to when it reaches the column inlet).

The GLC Suction Filter 2 is packed with activated carbon which acts as a chemcal trap and removes contaminants present in the mobile phase.
This product is easy to install and user-replaceable.

Note: Connect 3.0mm outer diameter suction tube when you use this product.



i. 1. Structure o
the GLC Suction Filter 2

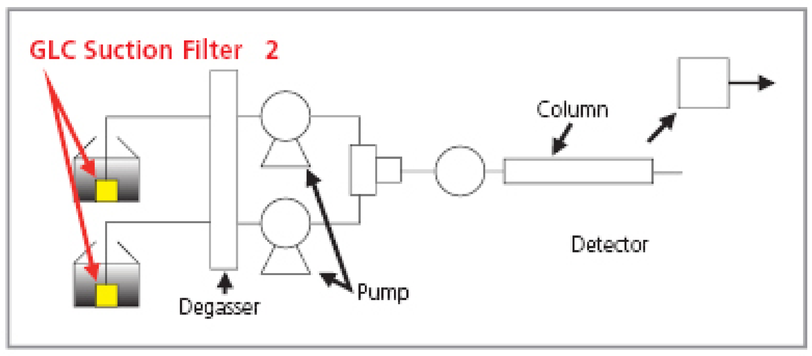
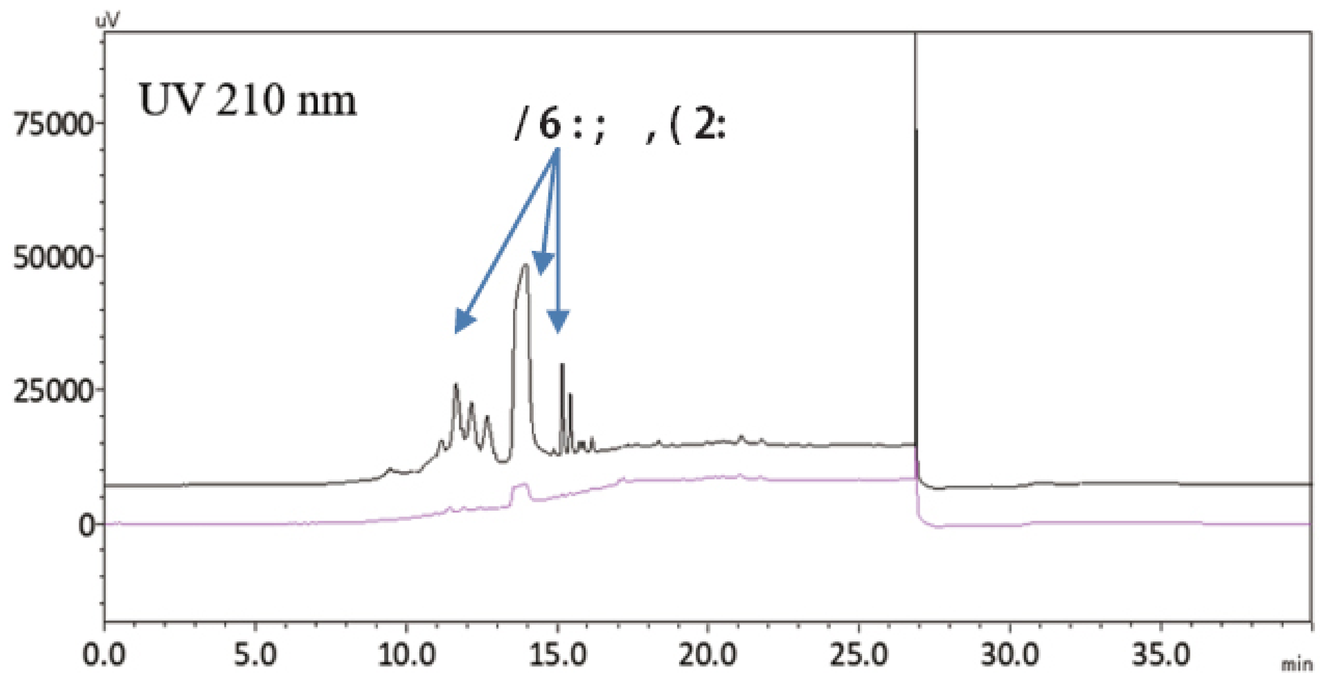


Fig. 2. Attachment position

Removal of contaminants in mobile phase (LC/UV)

■ e.g. Removal of contaminants caused due to the storage of the mobile phase

Ghost peaks are contaminant peaks that appear even when no sample is injected. One of the causes for ghost peaks is contamination in mobile phase due to improper storage or from external sources. We prepared contaminated ultrapure water that was stored in a plastic container (polyethylene) at room temperature for two weeks. Ghost peaks were observed when using the contaminated water as mobile phase. After installing the GLC Suction Filter 2, the previously observed ghost peaks were eliminated.



— Normal Suction Filter
— GLC Suction Filter 2

Analytical Conditions

Instruments	: Nexera XR
Column	: Shim-pack VP-ODS (150 x 4.6 mm I.D.)
Mobile phase:	A ; Contaminated ultrapure water B ; Acetonitrile
Time prog.	: B Conc. 20% (0-5 min.) → 95% (5-25 min.) → 20% (25.01-40 min.)
Flow rate	: 1 mL /min.

Product Informatio n

Description	P/N	Spec	Qty.
GLC Suction Filter 2	370-02010-01	Connecting tube: 3.0mm outer diameter suction tube Internal volume: 0.7 mL Pore size:10µm	1

Please read the manual carefully and condition this product before use.

* The suction tube is not included.
* When using ion-pair reagents in the mobile phase, the ion-pair reagents may be adsorbed to this product and may affect the retention time and peak shape.
* Bleeding from this product may be seen.
* This product does not remove all contaminants.
* When the activated carbon reaches breakthrough, "ghost peaks" derived from mobile phase contaminants may be detected. In this case, replace the product.
* The recommended replacement period is after passing 60L of mobile phase or 1 year after use.

Ultrashield UHPLC/HPLC Pre-column Filter

any column and is leak tight to 15,000 psi (1034 bar).

Part number	Description	Porosity	Pack Size
226-50000-01	Ultrashield UHPLC/HPLC Pre-Column Filter	0.5µm	1
226-50000-03	Ultrashield UHPLC/HPLC Pre-Column Filter	0.5µm	3
226-50000-10	Ultrashield UHPLC/HPLC Pre-Column Filter	0.5µm	10
226-50001-05	Pre-Column replacement frit	0.2µm	5
226-50001-99	Holder for Pre-Column replacement frit	-	1

226-50000-01
Ultrashield UHPLC/HPLC Pre-Column Filter

226-50001-99
Holder for Pre-Column replacement frit

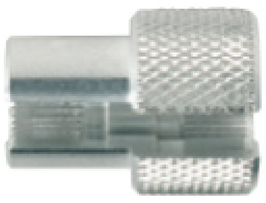
226-50001-05
Pre-Column replacement frit

Use the tightening tool to tighten standard short/long knurl-headed nut like the peek fitting below.

Part number	Description	Pack size
226-50000-01	Ultrashield HPLC Pre-Column Filter	1
226-50106-02	Peek fitting	2
226-50000-99	Tightening Tool	1

Pre-Column Filter

Peek Fitting



Tightening Tool

CoreFocus
SHIMADZU

Vials & Accessories

Features of Shimadzu vials and septa

- 1st hydrolytic class glass
- Vials are packaged in a cleanroom
- Contamination-free septa production

Screw vials, 100/pack

Part number	226-54110-11	226-54110-01	226-54220-11	226-54220-01	226-54305-01
Type	Clear, screw vial	Clear, screw vial	Clear, screw vial	Clear, screw vial	Clear, screw vial with integrated 0.2mL micro-insert, top bonded
Write on spot	√	X	√	X	√
Min. Vol / uL	200	200	200	200	25
Max. Vol / mL	1.5	1.5	1.5	1.5	0.2
Dimension	32 x 11.6mm	32 x 11.6mm	32 x 11.6mm	32 x 11.6mm	32 x 11.6mm
Size	ND 9, wide opening	ND 9, wide opening	ND 8, small opening	ND 8, small opening	ND 9, wide opening

Part number	226-54301-01	226-54111-11	226-54111-01	226-54221-11	226-54222-01
Type	Clear, microliter screw vial	Amber, screw vial	Amber, screw vial	Amber, screw vial	Amber, screw vial
Write on spot	X	√	X	√	X
Min. Vol / uL	30	200	200	200	200
Max. Vol / mL	1.5	1.5	1.5	1.5	1.5
Dimension	32 x 11.6mm	32 x 11.6mm	32 x 11.6mm	32 x 11.6mm	32 x 11.6mm
Size	ND 9, wide opening	ND 9, wide opening	ND 9, wide opening	ND 8, small opening	ND 8, small opening

Part number	226-54307-01	226-54312-01	226-54313-01	226-54308-01	226-54309-01
Type	Clear, 0.9mL LabTotal Recovery vial	Clear, 0.9mL Microliter screw vial	Clear, 1.0mL Total Microliter screw vial	Amber, screw vial with integrated 0.2mL micro-insert, base bonded	Clear, screw vial with integrated 0.2mL micro-insert, base bonded
Write on spot	X	√	X	X	X
Min. Vol / uL	25	25	25	30	30
Max. Vol / mL	1.1	1.1	1.3	0.3	0.3
Dimension	32 x 11.6mm	32 x 11.6mm	32 x 11.6mm	32 x 11.6mm	32 x 11.6mm
Size	ND 9, wide opening	NP 9, wide opening	NP 9, wide opening	ND 9, wide opening	ND 9, wide opening

ND9 screw plastic micro-vials, 100/pack

Plastic vials offer low binding for proteins and peptides and are the best choice for Ion Chromatography. Specially made for customers concerned about broken glass.

Part number	226-54310-01	226-54311-01	226-54302-01	226-54303-01	226-54304-01
Type	1.5ml PP screw clear vial, slightly concave shaped bottom	1.5ml PP screw amber vial, slightly concave shaped bottom	PP micro-vial, transparent	TPX micro-vial, crystal clear	PP micro-vial, amber
Write on spot	x	x	X	X	X
Min. Vol / uL	200	200	30	30	30
Max. Vol / mL	1.5	1.5	0.25	0.25	0.25
Dimension	32 x 11.6mm	32 x 11.6mm	32 x 11.6mm	32 x 11.6mm	32 x 11.6mm
Size	ND 9, wide opening	ND 9, wide opening	ND 9, wide opening	ND 9, wide opening	ND 9, wide opening

Caps/Septa for 1.5mL screw vials, 100/pack

Temperature limit for PTFE/Rubber septa: -40°C up to 110°C
Temperature limit for PTFE/Silicone septa: -60°C up to 200°C
Temperature limit for PTFE/Silicone/PTFE septa: -60°C up to 200°C

Part number	Cap	Septa Material	Septa Thickness	Septa Durometer	Size	Picture
226-54112-01	Blue PP, centre hole	PTFE/Rubber	1.0 mm	45° shore A	ND 9	
226-54113-01	Blue PP, centre hole	PTFE/Silicone, ultra-clean	1.0 mm	55° shore A	ND 9	
226-84131-01	Blue PP, centre hole	PTFE/Silicone *	1.3 mm	45° shore A	ND 9	
226-54114-01	Blue PP, centre hole	PTFE/Silicone/PTFE	1.0 mm	45° shore A	ND 9	
226-84129-01	Blue PP, centre hole	PTFE/Silicone, Slit	1.0 mm	55° shore A	ND 9	
226-54113-02	Blue PP, centre hole	PTFE/Silicone, Slit *	1.3 mm	45° shore A	ND 9	
226-84130-01	Blue PP, centre hole	PTFE/Silicone, pre-cut (Y)	1.0 mm	55° shore A	ND 9	
226-84128-01	Gold Magnetic, centre hole	PTFE/Silicone, ultra-clean	1.0 mm	55° shore A	ND 9	
226-84132-01	Blue PP, closed top	PTFE/Silicone, ultra-clean	1.0 mm	55° shore A	ND 9	
226-84220-01	Black PP, centre hole	PTFE/Silicone, ultra-clean	1.3 mm	45° shore A	ND 8	
226-84221-01	Black PP, centre hole	PTFE/Silicone, ultra-clean	1.3 mm	55° shore A	ND 8	
226-54221-01	Black PP, closed top	PTFE/Silicone, ultra-clean	1.3 mm	45° shore A	ND 8	
226-54221-02	Black PP, closed top	-	-	-	ND 8	
226-54221-03	-	PTFE/Silicone	1.3 mm	45° shore A	ND 8	

* UltraBond seal, cap & septa form an inseparable unit, so that septa cannot fall out.

1.5mL screw vial kit, including vial, cap and septa, 100/pack

Kit part number	Vial	Vial part number	Septa material	Cap/Septa part number
226-54110-31	Clear with write on spot	226-54110-11	PTFE/Silicone, ultra-clean	226-54113-01
226-54110-41	Clear	226-54110-01	PTFE/Silicone, ultra-clean	226-54113-01
226-54110-51	Clear	226-54110-01	PTFE/Rubber	226-54112-01
226-54111-41	Amber with write on spot	226-54111-11	PTFE/Silicone, ultra-clean	226-54113-01
226-54111-31	Amber	226-54111-01	PTFE/Silicone, ultra-clean	226-54113-01
226-54111-51	Amber	226-54111-01	PTFE/Rubber	226-54112-01

Micro-insert for 1.5mL screw vials, 100/pack

Part number	Min. sample vol	Max. sample vol	Usage	Assembled plastic spring	Type	Picture
226-84201-11	30 uL	250 uL	ND9 wide opening vials	√	Conical	
226-84202-11	25 uL	150 uL	ND8 small opening vials	√	Conical	
226-84203-11	40 uL	350 uL	ND9 wide opening vials	X	Flat bottom	
226-84204-11	40 uL	260 uL	ND8 small opening vials	X	Flat bottom	

1.5 mL amber screw vial kit

1.5 mL clear screw vial kit

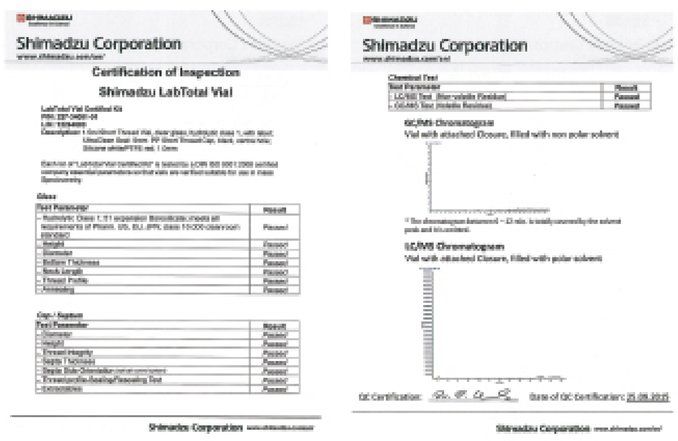
Shimadzu LabTotal Vial MS Certified Kit

- Reduces the Adsorption of Basic Compounds on the Surface of the Glass Vial.
  – This improves quantitative accuracy in the analysis of trace basic compounds.
- Quality certificate proving suitability to LCMS / GCMS
  – This product can be used as a vial for high-sensitivity analysis in GCMS and LCMS
- Wide Mouth with Preset Cap and Septum Improves Ease of Use
  – This shortens the time needed for sample preparation and reduces human error.

Part number	Description
227-34001-01	LabTotal Vial Certified Kit for LCMS, 100/pk
227-34001-02	Blue PP cap, Silicone white/PTFE red for LabTotal vial LCMS, 50/pk
226-84340-01	Black PP cap, Silicone white/PTFE red for LabTotal vial LCMS, 100/pk
227-34002-01	LabTotal Vial Certified Kit for GCMS, 100/pk

Mass Spec Quality Certificate Provided

This confirms that there was an absence of elution components from the vial in random inspections using LC/MS and GC/MS. Therefore, this product can be used with confidence, with no concern for ghost peaks originating from the vial.



Shimadzu LabTotal Recovery Vial kit

- Shimadzu LabTotal Recovery vials offers maximum recovery for GC and HPLC/UHPLC with a residual volume <1uL for valuable samples
- Minimun working volume 25uL up to 1.6mL (Maximum possible volume) for reproducible results
- Can be used as a concentration vial, because the solid glass bottom offers excellent heat transfer and vial-stability.
- Compactible with universal autosampler
- Available in Deactivated, HPLC/GC and Mass Spec certified kits

Kit part number	Vial	Vial part number	Septa material	Cap/Septa part number	Kit Type
226-54307-31	0.9mL Recovery vial	226-54307-01	Silicone beige/PTFE white*	226-84131-01	-
226-55001-71					Deactivated
226-55001-81					HPLC/GC certified
226-55001-91					MS certified
226-54308-31			Silicone beige/PTFE white pre-slit*	226-54113-02	-
226-55002-71					Deactivated
226-55002-81					HPLC/GC certified
226-55002-91					MS certified

*UltraBond seal, cap & septa form an inseparable unit, so that septa cannot fall out.

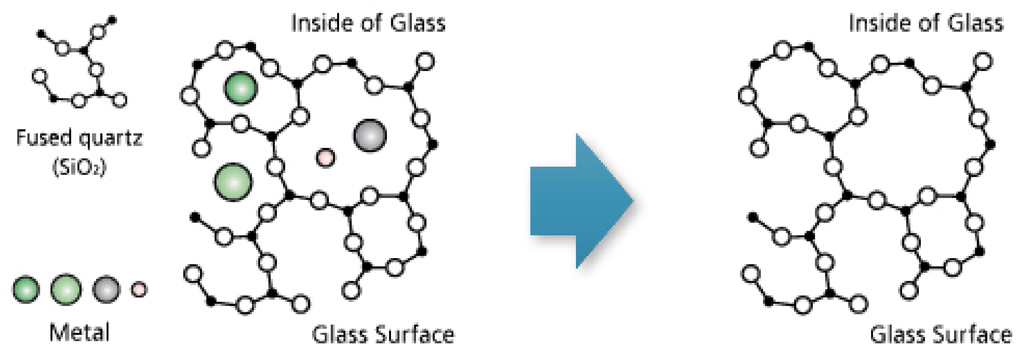
TORAST-H Glass Vial

Features

- Low adsorption vessels treated specially
- Minimized adsorption of bases, acids and neutrals
- Superior quality control

TORAST -H Glass Technology eliminates the risk of adsorption to the glass surface of the vials

Glass, the material of vials, contains metal oxides. Oxides of metals have a high ionizing tendency to be Si-O-M (metal silanolate), which may cause ionic adsorption with basic compounds in the sample. TORAST-H Glass Technology uses special processing to remove metals from the glass and suppress adsorption of basic compounds.

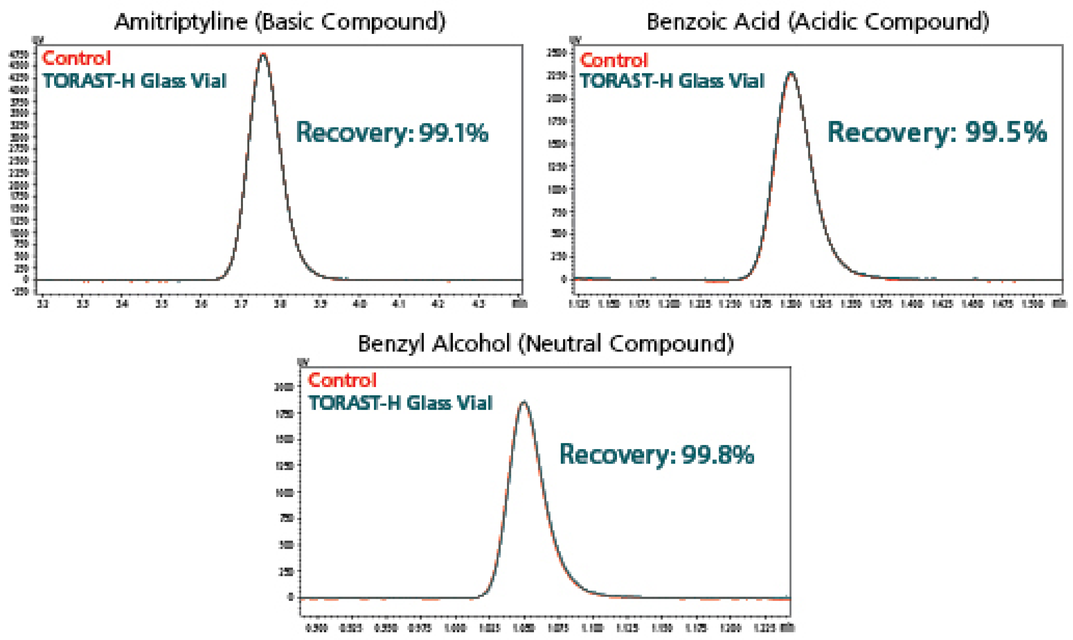


Conventional Vials (including metal)

TORAST-H Glass Vial

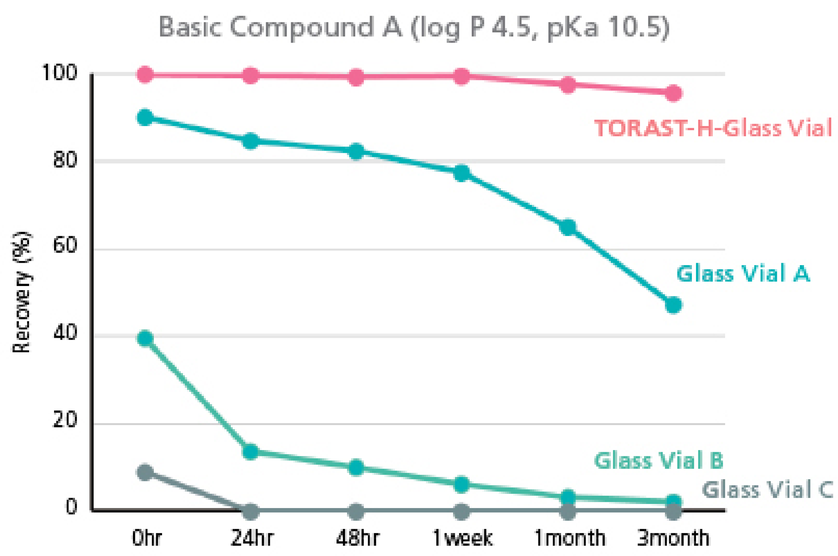
Minimized adsorption of bases, acids & neutrals

In general, giving a positive charge to the glass surface suppresses the adsorption of the basic compounds, but conversely, it causes the adsorption of the acidic compounds. TORAST-H Glass Vials minimize adsorption of both types of compounds.



Low adsorption for long-term storage

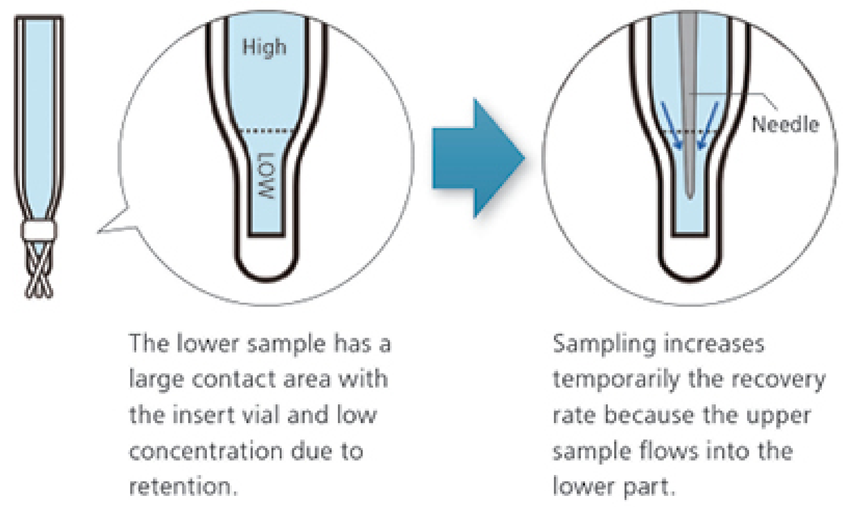
When a sample is stored in a general vial for a long time, the sample may adsorb into the surface of the vial, causing the reproducibility to be poor. The TORAST-H Glass Vial contains low adsorption characteristics that makes it excellent for long term sample storage.

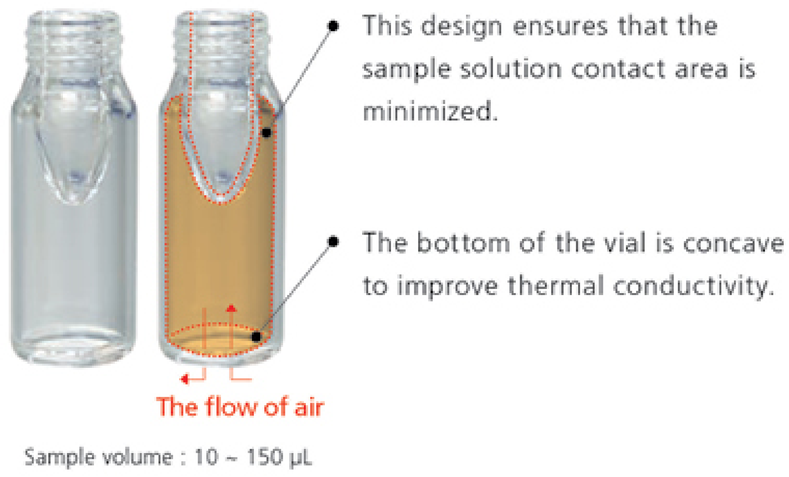


Adsorption test for long-term storage

Small-Volume Vials

Insert vials (small capacity) may produce concentration gradients at the top and bottom due to sample adsorption, causing variation over time.

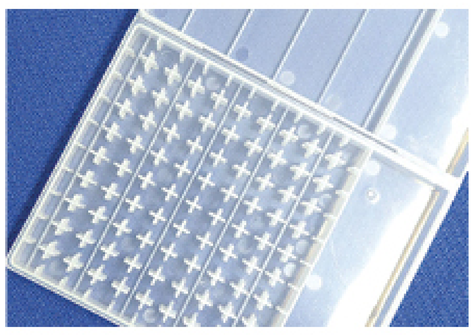




Small-volume vials have a large contact area; therefore, the rate of loss due to adsorption is greater than with a standard vial. TORAST-H Glass Vials shows dramatically less adsorption compared to other small-volume glass vials.

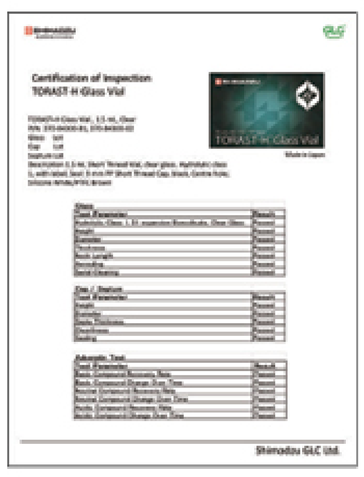
Medical Grade Packaging Materials

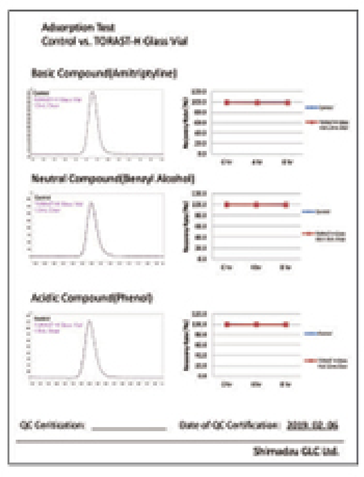
Reduce the adhesion of organic substances from the packaging and the formation of organic layers.



Superior Quality Control

- Hydrolytic Class 1; 51 expansion Borosilicate
- Comes with quality certificates for lot management.
- Shape inspection of vials, septa and caps.
- Low adsorption performance testing for basic, acidic and neutral compounds.





Product Information

P/N	Color	Volume	Cap	Septa	Qty
370-04300-01	Clear Glass	1.5 mL	Screw, Black	PTFE/Silicone	100
370-04300-02				Preslit PTFE/Silicone	
370-04300-03	Amber Glass			PTFE/Silicone	
370-04300-04				Preslit PTFE/Silicone	
370-04301-01	Clear Glass	150 µL		PTFE/Silicone	
370-04301-02				Preslit PTFE/Silicone	
370-04301-03	Amber Glass			PTFE/Silicone	
370-04301-04				Preslit PTFE/Silicone	

* Avoid sunlight and store at room temperature.

TORAST-H Bio Vial

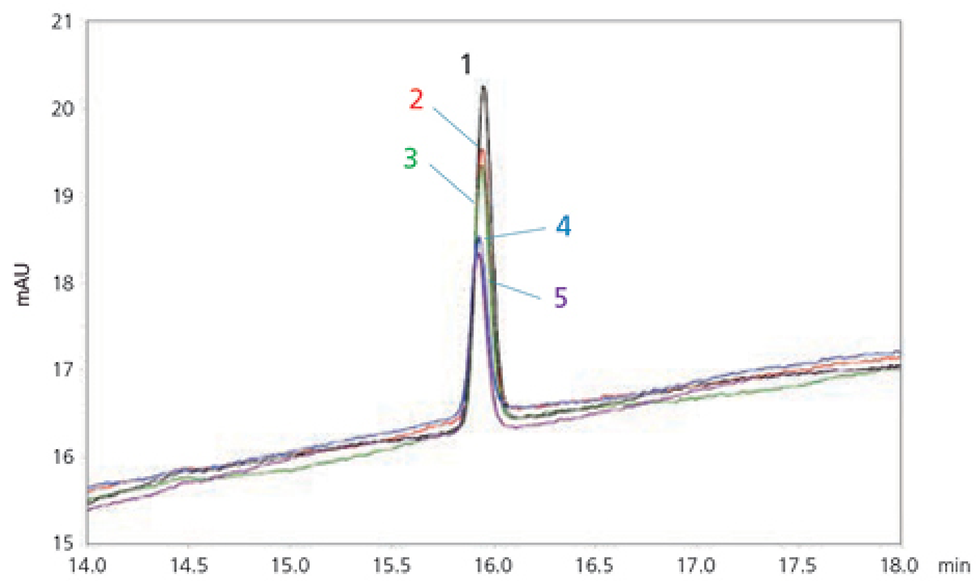
Features

- Prevents the adsorption of organic compounds
- Reduces the adsorptive loss of the precious sample
- Ideal for peptide and basic compounds analysis

Reduces the adsorption of peptides

The peptide used as a medium molecule pharmaceutical product is likely to be adsorbed on the polypropylene resin by the hydrophobic interaction. The TORAST-H Bio Vial prevents the adsorption of organic compounds.

No.	Vial Type	Sample Vol. (µL)	Recovery (%)
1	TORAST-H Bio VIal	200	100
2	Glass Vial by Company A	1500	81.1
3	Glass Vial by Company B	1500	78
4	PP Vial by Company B	200	52.1
5	PP Vial by Company C	200	53.3



Adsorption test on Ghrelin with various type of vials

Product Information

Name	P/N	Volume (µL)	Material	Qty./Unit
TORAST-H Bio Vial with cap	370-04350-00	300	Polypropylene	100

TORAST-H 96well 500 RU

Features

- Low adsorption polypropylene 96-well plate
- Prevents the adsorption of organic compounds
- Reduces the adsorption loss of the precious sample
- Ideal for peptide and basic compounds analysis

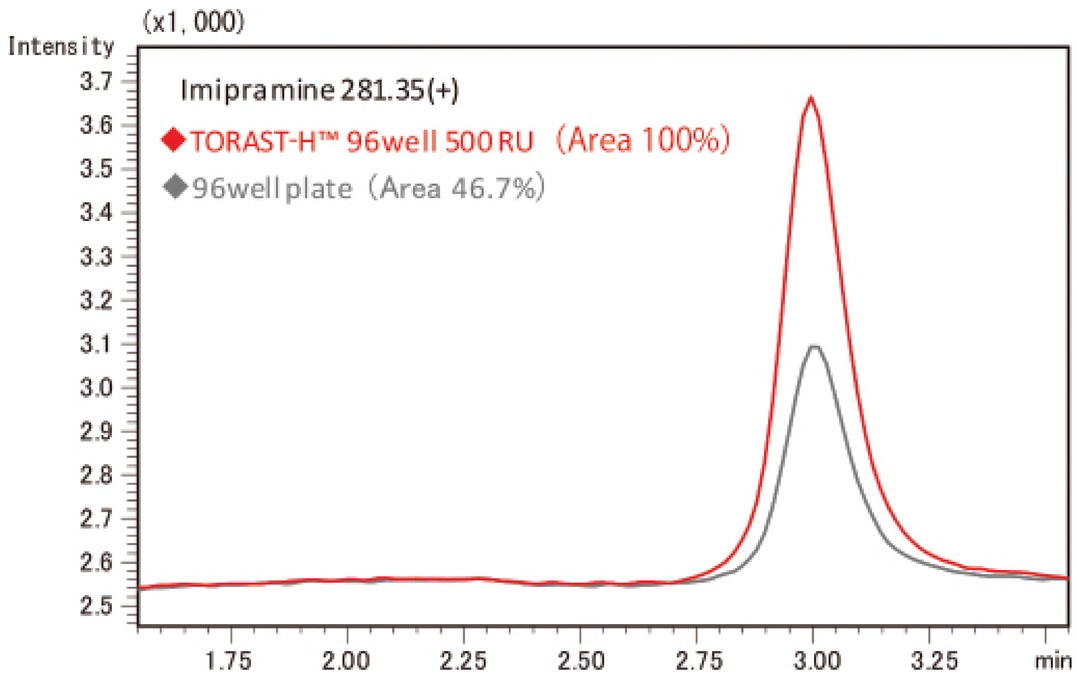
Adsorption Test of Imipramine

Imipramine is used in the treatment of depression and is a hydrophilic and basic compound. (logP: 4.28, pKa: 9.2).

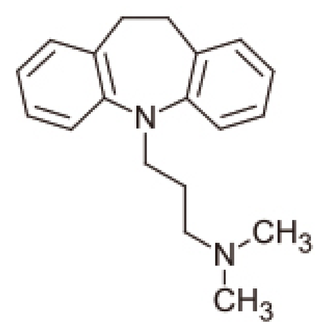
The chromatogram below shows a comparison of the Imipramine peak area with non-coated polypropylene 96-well plate compared to TORAST-H™ 96- well plates.

Non-coated polypropylene 96-well plate show hydrophobic adsorption within the well.

TORAST-H 96well 500 RU plates significantly improved the peak area by preventing the adsorption within the wells. This result indicates that TORAST-H 96well 500 RU well plate is effective in preventing adsorption.



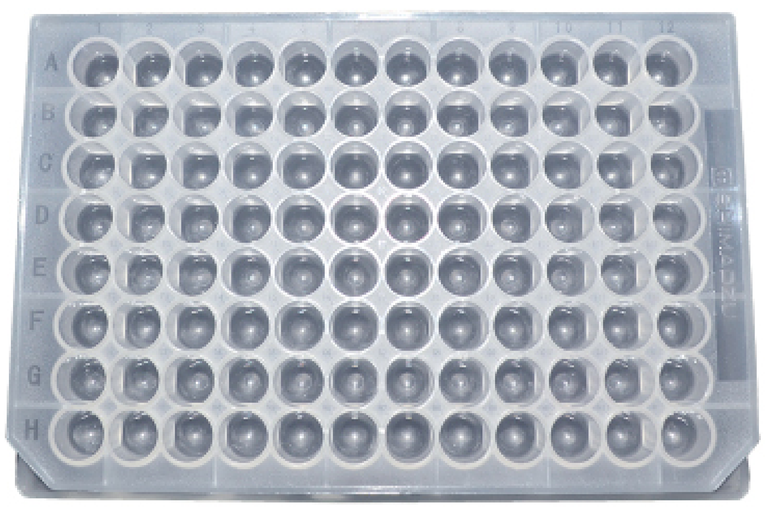
Sample : Imipramine (1 ng/mL)
Instruments : Nexera-i, LCMS-2020
Mobile Phase : 10 mM Ammonioum Acetate in Water : MeCN =40:60_Isocratic flow
Flow Rate : 0.2 mL/min



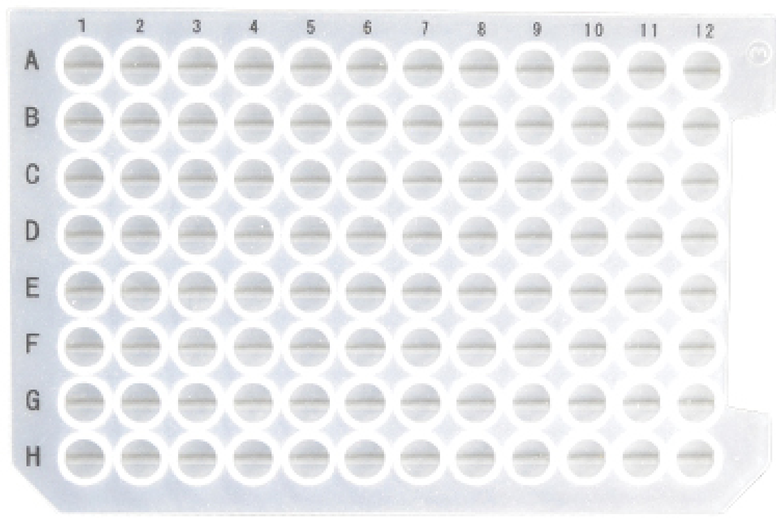
Imipramine Molecular Weight : 280.4

Product Information

Name	P/N	Volume (µL)	Material	Qty./Unit
TORAST-H 96well 500 RU	370-04100-01	500	Polypropylene	10
TORAST 96well Silicon Mat	370-04020-01	-	Silicon	50



TORAST-H 96 well 500 RU



TORAST-H 96 well Silicon Mat

1.5mL crimp vials, 100/pack

Part number	226-54120-11	226-54120-01	226-54306-01	226-54121-11	226-54121-01
Type	Clear, crimp vial	Clear, crimp vial	Clear, crimp vial with integrated 0.2mL micro-insert, top bonded	Amber, crimp vial	Amber, crimp vial
Write on spot	√	X	√	√	X
Min. Vol / uL	200	200	25	200	200
Max. Vol / mL	1.5	1.5	0.21	1.5	1.5
Dimension	32 x 11.6mm	32 x 11.6mm	32 x 11.6mm	32 x 11.6mm	32 x 11.6mm
Size	ND 11	ND 11	ND 11	ND 11	ND 11

Caps/Septa for 1.5mL crimp vials, 100/pack

Temperature limit for PTFE/Rubber septa: -40°C up to 110°C
Temperature limit for PTFE/Silicone septa: -60°C up to 200°C
Temperature limit for PTFE/Silicone/PTFE septa: -60°C up to 200°C

Part number	Cap	Septa Material	Septa Thickness	Septa Durometer	Picture
226-54123-01	Silver Aluminum	PTFE/Silicone, ultra-Clean	1.3 mm	45° shore A	
226-54124-01	Silver Aluminum	PTFE/rubber	1.0 mm	45° shore A	
226-84125-01	Blue Aluminum	PTFE/rubber	1.0 mm	45° shore A	
226-84126-01	Red Aluminum	PTFE/rubber	1.0 mm	45° shore A	
226-54127-01	Green Aluminum	PTFE/rubber	1.0 mm	45° shore A	
226-54128-01	Gold magnetic	Silicone/PTFE	1.3 mm	45° shore A	
226-54129-01	Gold magnetic	PTFE/ Silicone/PTFE	1.0 mm	45° shore A	
226-54125-01	–	Silicone/PTFE	1.5 mm	55° shore A	
226-54129-02	–	PTFE/ Silicone/PTFE	1.0 mm	45° shore A	
226-54128-02	–	Silicone/PTFE	1.3 mm	45° shore A	

1.5mL crimp vial kit, including vial, cap and septa, 100/pack

Kit part number	Vial	Vial part number	Septa material	Cap/Septa part number
226-54120-51	Clear with write on spot	226-54120-11	PTFE/Silicone, ultra-Clean	226-54123-01
226-54120-31	Clear	226-54120-01	PTFE/Silicone, ultra-Clean	226-54123-01
226-54120-61	Clear	226-54120-01	PTFE/rubber	226-54124-01
226-54121-51	Amber with write on spot	226-54121-11	PTFE/Silicone, ultra-Clean	226-54123-01
226-54121-31	Amber	226-54121-01	PTFE/Silicone, ultra-Clean	226-54123-01
226-54121-41	Amber	226-54121-01	PTFE/rubber	226-54124-01

Micro-insert for 1.5mL crimp vials, 100/pack

Part number	Min. sample vol	Max. sample vol	Usage	Assembled plastic spring	Type	Picture
226-84201-11	30 uL	250 ul	ND9 & ND11 vials	√	Conical	
226-84203-11	40 uL	350 uL	ND9 & ND11 vials	X	Flat bottom	

Crimper/Decapper for 1.5mL crimp vials

Part number	Description
226-84001-00	11mm Crimper
226-84011-00	11mm Decapper

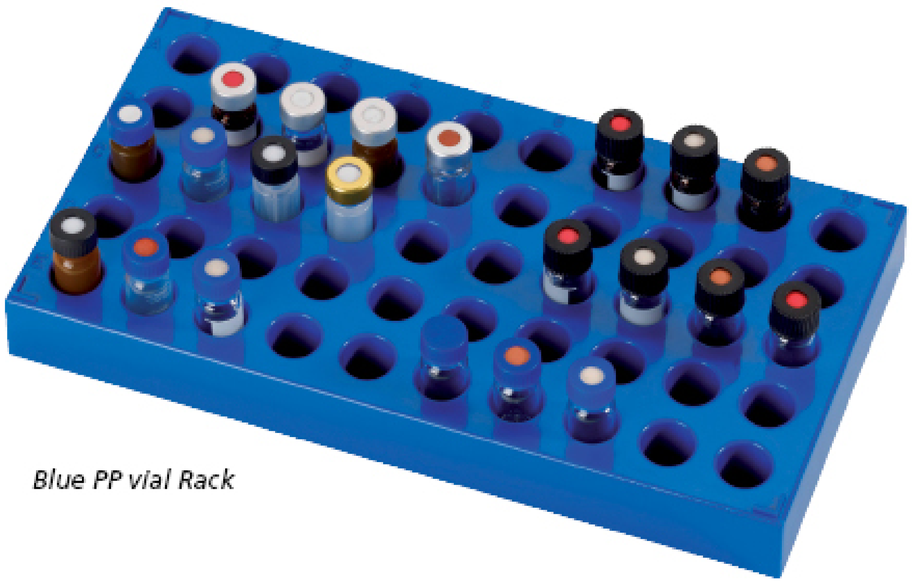
Vial racks for 1.5mL vials

Part number	Type	Dimension	Cavities
226-84902-10	Acrylic	173 x 95 x 20 mm	50
226-84903-10	Blue PP	200 x 105 x 17 mm	50

Shell vials, 100/pack

Part number	226-84203-01	226-84204-01
Min. Vol / uL	100	100
Max. Vol / mL	1.0	1.0
Dimension	40 x 8.2mm	40 x 8.2mm

11mm crimper & decapper



Blue PP vial Rack

4mL screw vials, 100/pack

Part number	226-84410-01	226-84410-21	226-84411-01	226-84411-21
Type	Clear, screw	Clear, screw	Amber, screw	Amber, screw
Write on spot	√	X	√	X
Min. Vol / uL	800	800	800	800
Max. Vol / mL	4.1	4.1	4.1	4.1
Dimension	45 x 14.7mm	45 x 14.7mm	45 x 14.7mm	45 x 14.7mm
Size	ND 13	ND 13	ND 13	ND 13

Caps/Septa for 4mL vials, 100/pack

Temperature limit for Silicone/PTFE septa: -60°C up to 200°C

Part number	Cap	Septa Material	Septa Thickness	Septa Durometer	Picture
226-84413-01	Black PP closed top	Silicone/PTFE	1.5 mm	55° shore A	
226-84413-02	Black PP open top	Silicone/PTFE	1.5 mm	55° shore A	
226-84415-01	White PP open top	-	-	-	
226-84414-01	-	Silicone/PTFE	1.5 mm	55° shore A	

4mL screw vial kit, including vial, cap and septa, 100/pack

Kit part number	Vial	Vial part number	Cap / Septa	Cap/Septa part number
226-84410-31	Clear with write on spot	226-84410-01	Closed top, Silicone/PTFE	226-84413-01
226-84410-41	Clear	226-84410-21	Closed top, Silicone/PTFE	226-84413-01
226-84412-31	Clear	226-84410-21	Open top, Silicone/PTFE	226-84413-02
226-84411-31	Amber with write on spot	226-84411-01	Closed top, Silicone/PTFE	226-84413-01
226-84411-41	Amber	226-84411-21	Closed top, Silicone/PTFE	226-84413-01

10mL and 20mL Headspace screw vials, 100/pack

Part number	226-84521-01	226-84521-21	226-84510-01	226-84510-21
Volume / mL	10	10	20	20
Type	Round bottom	Round bottom	Round bottom	Round bottom
Dimension	46 x 22.5mm	46 x 22.5mm	75.5 x 22.5mm	75.5 x 22.5mm
For use on instrument	CTC Combi PAL (Varian, Gerstel, Atas, Shimadzu), Agilent, PerkinElmer*			

For TurboMatrix™ 16, 40 and 110, produced after 01.09.2006

Caps/septa for 10mL and 20mL screw vials

Temperature limit for PTFE/Silicone septa: -60°C up to 200°C
Temperature limit for Butyl/PTFE septa: -40°C up to 120°C

Part number	Cap	Septa Material	Septa Thickness	Septa Durometer	Picture
226-84513-01	Magnetic Screw	Silicone/PTFE	1.3 mm	45° shore A	
226-84514-01	Magnetic Screw	Silicone/PTFE	1.5 mm	55° shore A	
226-84519-01	Magnetic Screw	Silicone/PTFE	1.3 mm	45° shore A	
226-84524-01	Magnetic Screw	Silicone/PTFE, Pre-cut(*)	1.5 mm	55° shore A	
226-84516-01	Magnetic Screw	Butyl/PTFE	1.6 mm	55° shore A	
226-84515-01	-	Silicone/PTFE	1.3 mm	45° shore A	
226-84517-01	-	Butyl/PTFE	1.6 mm	55° shore A	
226-84518-01	-	Silicone/PTFE	1.5 mm	55° shore A	

20mL screw vial kit, including vial, cap and septa, 100/pack

Kit part number	Vial	Vial part number	Cap / Septa	Cap/Septa part number
226-84510-31	Clear	226-84510-01	Magnetic Screw, Silicone/ PTFE	226-84513-01

10mL and 20mL Headspace crimp vials, 100/pack

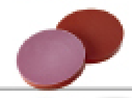
Part number	226-84520-00	226-84521-00	226-84520-01	226-84520-21
Volume / mL	10	10	20	20
Type	Round bottom	Round bottom	Round bottom	Round bottom
Dimension	46 x 22.5mm	46 x 22.5mm	75.5 x 22.5mm	75.5 x 22.5mm
For use on instrument	Carlo Erba, CTC PAL (Varian, Gerstel, Atas, Shimadzu), Fisons, Varian, Thermo Scientific		CTC PAL (Varian, Gerstel, Atas, Shimadzu), Thermo Scientific TriPlus HS **	

** not suitable for Thermo Scientific HS250/HS500

10mL and 20mL Headspace crimp vials, 100/pack

Part number	226-84522-01	226-84520-02	226-84523-01
Volume / mL	20	20	20
Type	Flat bottom	Round bottom	Round bottom
Dimension	75.5 x 22.5mm	75.5 x 23mm	75.5 x 23mm
For use on instrument	Agilent, Carlo Erba, DANI, Fisons	PerkinElmer, Tekmar	

Caps/septa for 10mL and 20mL crimp vials

Part number	Cap	Septa Material	Septa Thickness	Septa Durometer	Temperature limit	Picture
226-84523-11	Gold magnetic	Silicone/PTFE, ultra-clean	3.0 mm	45° shore A	-60°C up to 200°C	
226-84524-11	Aluminum pressure release	Silicone/PTFE, ultra-clean	3.0 mm	45° shore A	-60°C up to 200°C	
226-84525-11	Aluminum silver	Silicone/PTFE, ultra-clean	3.0 mm	45° shore A	-60°C up to 200°C	
226-84531-11	Aluminum silver	Butyl/PTFE	3.0 mm	50° shore A	-40°C up to 120°C	
226-84526-11	Aluminum pressure release	Butyl/PTFE	3.0 mm	50° shore A	-40°C up to 120°C	
226-84540-11	Aluminum silver	Silicone/PTFE (HT quality)	3.2 mm	45° shore A	-60°C up to 200°C	
226-84530-11	Aluminum silver 5mm centre hole	Silicone/PTFE, ultra-clean	3.0 mm	45° shore A	Up to 300°C	
226-84541-11	Magnetic Bimetal	Silicone/PTFE	3.0 mm	55° shore A	-60°C up to 200°C	
226-84527-11	-	Silicone/PTFE, ultra-clean	3.1 mm	45° shore A	Up to 250°C	
226-84528-11	-	Silicone/PTFE, ultra-clean	3.0 mm	45° shore A	Up to 300°C	
226-84529-11	Aluminum silver	-	-	-	-	

20mL crimp vial kit, including vial, cap and septa, 100/pack

Kit part number	Vial	Vial part number	Cap / Septa	Cap/Septa part number
226-84520-31	Clear	226-84520-01	Gold magnetic, Silicone/ PTFE, ultra-clean	226-84523-11
226-84521-31	Clear	226-84520-01	Aluminum pressure release, Silicone/PTFE, ultra-clean	226-84524-11

Headspace Wash Kit

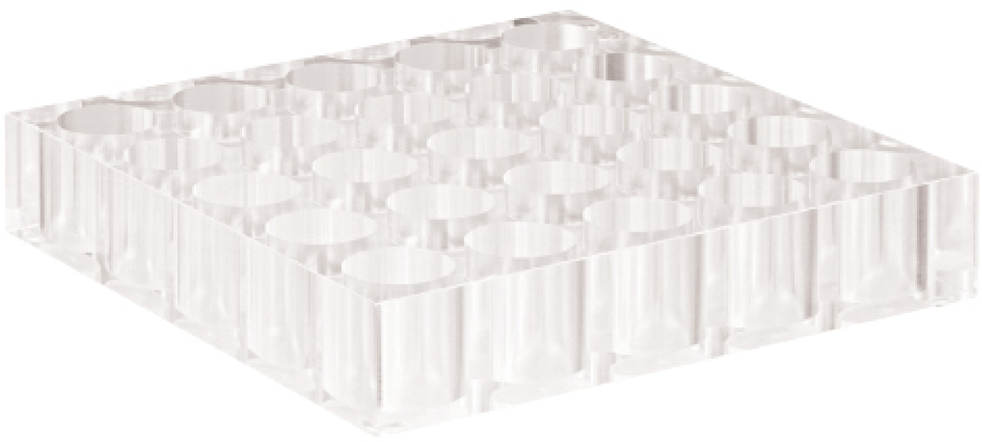
Part number	Vial type	Cap Type	Septa Material	Pack size
226-84600-00	10mL crimp vial	PE Snap Cap	Silicone/PTFE, Y-slitted	25

Vial rack for 10mL and 20mL vials

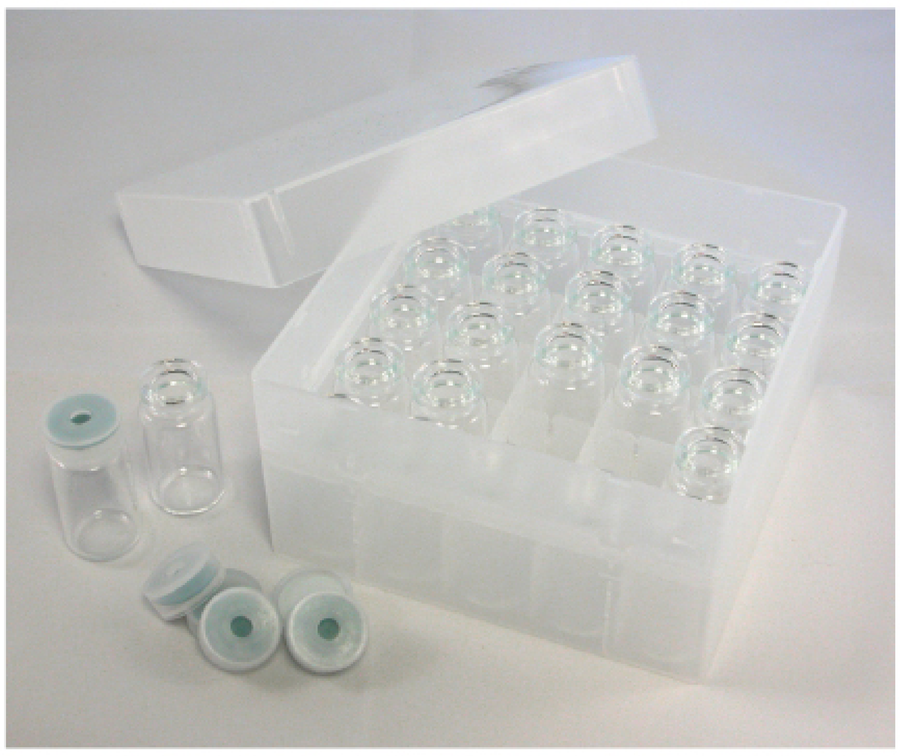
Part number	Type	Dimension	Cavities
226-84901-10	Acrylic	160 x 160 x 30mm	25

Crimper/Decapper for 10mL and 20mL crimp vials

Part number	Description
226-84002-00	20mm Crimper
226-84012-00	20mm Decapper



Acrylic vial rack



Headspace wash kit

EPA vials

Shimadzu EPA vials are manufactured from 1st hydrolytic class glass, meeting EPA requirement. The flat bottomed EPA screw vials are available in 20 mL, 30 mL, 40 mL and 60 mL sizes in either clear or amber for light sensitive samples. Both injection and solid storage caps pre-assembled with septa are available for these vials. We recommend Ultrabond seals caps where the cap and septa form an inseparable unit, avoiding the issue of septa falling out or pushing into the vial. EPA vials and caps are sold separately in 100 per pack. Convenience vial kits with vials and pre-assembled caps are also available.

EPA screw vials, 100/pack

Part number	Volume	Vial	Size
226-84531-01	20 mL	Clear	ND 24
226-84532-01	20 mL	Amber	ND 24
226-84537-01	30 mL	Clear	ND 24
226-84537-21	30 mL	Amber	ND 24
226-84538-01	40 mL	Clear	ND 24
226-84538-21	40 mL	Amber	ND 24
226-84539-01	60 mL	Clear	ND 24
226-84539-21	60 mL	Amber	ND 24

Caps/septa for EPA screw vials, 100/pack

Part number	Cap	Septa Material	Septa Thickness	Septa Durometer	Picture
226-84533-11	White PP, centre hole	Silicone/PTFE (EPA-Quality)	3.2 mm	45° shore A	
226-84534-11	White PP, closed top	Silicone/PTFE (EPA-Quality)	3.2 mm	45° shore A	
226-84535-11	White PP, centre hole	Silicone/PTFE (EPA-Quality) *	3.2 mm	45° shore A	
226-84537-11	White PP, closed top	Butyl/PTFE	2.5 mm	55° shore A	
226-84538-11	White PP, centre hole	Butyl/PTFE	2.5 mm	55° shore A	
226-84536-11	-	Silicone/PTFE (EPA-Quality)	3.2 mm	45° shore A	

* UltraBond seal, cap & septa form an inseparable unit, so that septa cannot fall out.

EPA screw vial kit, including vial, cap and septa, 100/pack

Kit part number	Vial	Vial part number	Septa material	Cap/Septa part number
226-84531-31	20 mL clear	226-84531-01	Centre hole, Silicone/PTFE (EPA-Quality)	226-84533-11
226-84532-31	20 mL clear	226-84531-01	Closed top, Silicone/PTFE (EPA-Quality)	226-84534-11
226-84533-31	20 mL clear	226-84531-01	Centre hole, Silicone/PTFE (EPA-Quality) *	226-84535-11
266-84537-31	30 mL clear	226-84537-01	Centre hole, Silicone/PTFE (EPA-Quality) *	226-84535-11
226-84538-31	40 mL clear	226-84538-01	Centre hole, Silicone/PTFE (EPA-Quality)	226-84533-11

* UltraBond seal, cap & septa form an inseparable unit, so that septa cannot fall out.

Storage screw vials and caps, 100/pack

Part number	Volume	Vial	Size	Cap/Septa part number	Cap Material	Septa Material
226-54220-01	1.5 mL	Clear	ND 8	226-54221-01	PP Black closed top	Silicone/PTFE
226-54222-01	1.5 mL	Amber	ND 8	226-54221-01	PP Black closed top	Silicone/PTFE
226-84410-21	4 mL	Clear	ND 13	226-84413-01	PP Black closed top	Silicone/PTFE
226-84411-21	4 mL	Amber	ND 13	226-84413-01	PP Black closed top	Silicone/PTFE
226-84416-01	8 mL	Clear	ND 15	226-84416-02	PP Black closed top	Silicone/PTFE
226-84416-21	8 mL	Amber	ND 15	226-84416-02	PP Black closed top	Silicone/PTFE
226-84417-01	12 mL	Clear	ND 15	226-84416-02	PP Black closed top	Silicone/PTFE
226-84417-21	12 mL	Amber	ND 15	226-84416-02	PP Black closed top	Silicone/PTFE
226-84418-01	16 mL	Clear	ND 18	226-84418-02	PP Black closed top	Silicone/PTFE

40mL TOC Vial Certified Kits, 72/pack

Part number	Description	Remarks
226-50580-00	40mL TOC Vial Certified Kit, incl. cap and 0.068" Silicon/PTFE septa	Comes with certificate certified <10ppb Carbon, meets USP Method 643
226-50581-00	40mL TOC Vial Certified Kit, incl. cap and 0.125" Silicon/PTFE septa	
226-50582-00	40mL TOC Vial Certified Kit, incl. cap and 0.125" Silicon/PTFE septa,with dust covers	Each vial has an individual dust cover

40mL TOC Vial Kits Separate Components

Part number	Description	Consist of
226-50585-00	40mL TOC clear vial, 144/pack	-
226-50586-00	PP Cap, centre hole, with 0.125" Silicon/PTFE septa, for 40mL vial, 72/pack	226-50587-00 & 226-50588-00
226-50587-00	PP cap, centre hole, for 40mL vials, 72/pack	-
226-50588-00	Septa only, 0.125" Silicon/PTFE, for 40mL vial, 72/pack	-
226-50589-00	PP Caps, with welded 0.068" Silicon/PTFE septa, for 40mL vial, 72/pack	-

Dedicated Pretreatment Vials for CLAM-2000

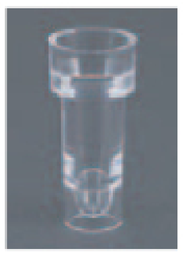
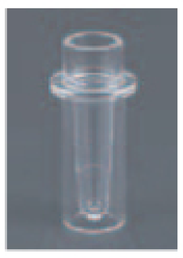
CLAM-2000 is compatible with dedicated disposable pretreatment vials from Shimadzu. Filtration and Collection vials are used as a pair.

Part number	Description		
241-16531-41	Vial set	Set of 100	* Sold as a set
241-16531-42	Vial set	Set of 500	* Sold as a set

Dedicated Filtration Vial

Dedicated Collection Vial

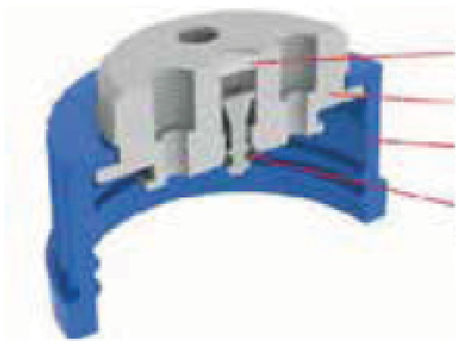
Specifications of Applicable Sample and Reagent Vials

Sample Containers	13 mm body diameter × 75 mm tall Examples: BD brand Vacutainer blood collection tubes Terumo brand Venoject II blood collection tubes Nipro brand Neotube blood collection tubes, etc.	
	2 mL cup P/N 038-00180 Sample Cup, 1270016HIT	
	X Micro-volume cup P/N 241-94045-01 Sample Cup, Micro	
Reagent Vials	2 mL vial P/N 038-00083-01 Vial, 2.0mL Glass Shell Vial	
	6 mL vial P/N 038-00199-04 Vial, SCREW NO.2-C	
	12 mL vial P/N 038-00199-06 Vial, SCREW NO.4-C	

Solvent Safety Caps Kit

Features

- Minimize release of solvent odors
- One-way emission control valve allows air to enter the reservoir as solvent is removed
- Valve opens at a low 0.07psi to minimize back pressure



Part number		Description	Consists of	
①	226-50318-00	4 Ports bottle cap, 1 pc	-	
②	226-50319-00	2 Ports Bottle Cap, 1 pc	-	
③	226-50315-01	Plug, ¼-28, Virgin PTFE, 1pc	-	
④	226-50316-01	Tubing Connection, 1/8" OD tubing, Blue Polypropylene fitting, Yellow Tefzel ferrule, 1pc	-	
⑤	226-50318-01	4 Ports Bottle Caps Kit	226-50315-00	Plug, ¼-28, Virgin PTFE, 2 pcs
			226-50316-00	Tubing Connection, 1/8" OD tubing, Blue Polypropylene fitting, Yellow Tefzel ferrule, 4 pcs
			226-50318-00	Safety Bottle Cap, 1pc
⑥	226-50319-01	2 Ports Bottle Caps Kit	226-50315-01	Plug, ¼-28, Virgin PTFE, 1 pc s
			226-50316-02	Tubing Connection, 1/8" OD tubing, Blue Polypropylene fitting, Yellow Tefzel ferrule, 2 pcs
			226-50319-00	Safety 2 Ports Bottle Cap, 1pc

①

②

③

④

⑤

⑥

LC/LCMS Solvent Waste Kit

Features

- Enclose your LC solvents in the reagent bottles and trap solvent vapours in the waste container
- Collect solvent waste and reduce solvent emissions from HPLC and other laboratory instruments
- Convert an open, venting waste collection point to a "Closed System"
- Can be used with a broad array of standard laboratory solvent container
- Designed for ease of use and adaptability

①

②

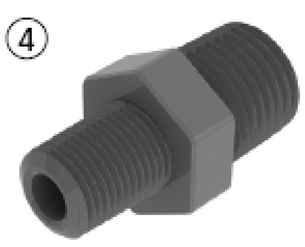
A colour marker label at the top of the indicator tube, marked "EXPOSED," shows the colour at which the indicator has been fully exposed. When the colour approximates this label, the filter should be changed. If the indicator changes to a light yellow colour, it designates a prolonged exposure to solvent and should be replaced immediately.

Part number		Description	Consists of
①	226-50330-00	LC Solvent Waste Kit	GL45 safety cap manifold, exhaust filter, colour indicator, basic tubing connections and one DIN45, 6 litre, HDPE Jerrycan.
②	226-50350-00	LCMS Ion Source Waste Kit	PTFE GL45/DIN45 cap with (2) barbs for 1/2" ID tubing and one DIN45, 6 litre, HDPE Jerrycan.
③	226-50336-00	Activated Carbon exhaust filter for organic solvents	
③	226-50337-00	COLOR INDICATOR for activated carbon vapor filters	
④	226-50338-00	Exhaust Filter Adapter to 1/8" NPT port, 1pc	
⑤	226-50342-00	Bottle Thread Adapter, S40 (Merck) female to GL45 male, polypropylene, 1pc	

③

Carbon exhaust filter
with color indicator

④



⑤

Vacuum Filtration System

47 mm, Glass Filtration Set

- Unique filtration adaptor design can connect with GL45 storage bottle.
- Can filtrate and store solution directly in GL45 storage bottle without the need of being transferred from the -filtering flask.

Application: Purification of organic, corrosive liquid such as solvent (mobile phase) for HPLC analysis.

PTFE Coated Chemical Resistant Vacuum Pump

- No air pollution, maintenance free
  Rocker 300C vacuum pumps are driven by diaphragm, without the need of lubricant, regular oil changes and maintenance with no oil pollution.
- Good chemical resistance
  The diaphragm chamber of Rocker 300C is coated with PTFE and the SS # 316 valve plate can offer good resistance to a wide range of corrosive gases
- Thermal protection device
  Every motor of Rocker series pumps has a built-in thermal protection device to shut of the pump automatically when overheated and then resume working when the temperature cools down.
- International safety certification
  CE certification

Application: Vacuum filtration, Solid-Phase Extraction (SPE), Solvent purification

Part number	Item
226-82000-00	47mm Glass Filtration Set
226-82000-01	PTFE Coated Chemical Resistant Vacuum Pump
226-82000-31	47mm Glass Filtration set with pump

Glass Filtration Set

Filter funnel	Borosilicate glass
Funnel support base	Borosilicate glass
Membrane support	Sintered glass
Clamp	Anodized aluminum
Filtration Adaptor	PP (Autoclavable)
Storage Bottle	Borosilicate glass
Funnel capacity	300 mL
Flask capacity	1000 mL
Filter diameter	47 mm
Effective filtration area	9.6 cm^2
Hose barb	5/16 inch (8 mm)

Vacuum Pump

Voltage	220V/50Hz
Max. power	60 W
Max. current	0.3 A
Max. vacuum	- 630 mmHg
Max. flow rate	20 l/min
Dimension (LxWxH)	28.5x13.5x20.4 cm

Solvent bottle and cap kit

Solvent bottle kit includes:

- 1 cap, GL45 thread, with three ports
- Safety-coated glass bottle 1L
- Polypropylene male Luer plug

Part number	Description	Pack size
226-88585-31	Solvent bottles with caps and accessories	5
226-88583-01	Cap with accessories	4
226-88585-02	Solvent bottle 1L	5

Membrane and Syringe Filters, 100/pack

Type	Material	Pore Size / um		Diameter			
			4mm*	13mm	25mm	33mm	47mm*
Syringe filter	Nylon	0.22	226-82104-22	226-82113-22	226-52125-22	226-82133-22	
		0.45	226-82104-45	226-82113-45	226-52125-45	226-82133-45	
	Hydrophobic PTFE	0.22	226-82204-22	226-82213-22	226-52225-22	226-82233-22	
		0.45	226-82204-45	226-82213-45	226-52225-45	226-82233-45	
	Hydrophilic PTFE	0.22	226-82604-22	226-82613-22	226-82625-22	226-82633-22	
		0.45	226-82604-45	226-82613-45	226-82625-45	226-82633-45	
	CA	0.22	226-82504-22	226-82513-22	226-82525-22	226-82533-22	
		0.45	226-82504-45	226-82513-45	226-82525-45	226-82533-45	
	PES	0.22	226-82404-22	226-82413-22	226-82425-22	226-82433-22	
		0.45	226-82404-45	226-82413-45	226-82425-45	226-82433-45	
	PVDF	0.22	226-82304-22	226-82313-22	226-82325-22	226-82333-22	
		0.45	226-82304-45	226-82313-45	226-82325-45	226-82333-45	
	MCE	0.22	226-82704-22	226-82713-22	226-82725-22	226-82733-22	
		0.45	226-82704-45	226-82713-45	226-82725-45	226-82733-45	
Membrane filter	Nylon	0.22		226-52113-22	226-82125-22		226-82147-22
		0.45		226-52113-45	226-82125-45		226-52147-45
	Hydrophobic PTFE	0.22		226-52213-22	226-82225-22		226-82247-22
		0.45		226-52213-45	226-82225-45		226-52247-45
	PES	0.22		226-52413-22	226-52425-22		226-52447-22
		0.45		226-52413-45	226-52425-45		226-52447-45
	PVDF	0.22		226-52313-22	226-52325-22		226-52347-22
		0.45		226-52313-45	226-52325-45		226-52347-45

* 200/pack

SHIMADZU
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S-COS-B18B
#2021 Issue

Shimadzu Consumables Catalogue

SHIMADZU
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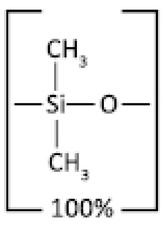
S-COS-B18B #2021 Issue

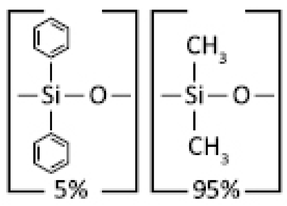
Structures, polarities, properties, and uses for Shimadzu capillary column phases, in order of increasing polarity

SH-I-1Ms, SH-1HT,
SH-I-1
Dimethyl polysiloxane



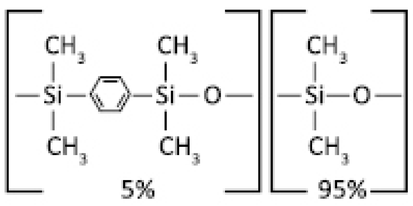
Similar to: (100%-methyl)-polysiloxane Polarity: nonpolar
Uses: solvents, petroleum products, pharmaceutical samples, waxes

SH-I-5Ms, SH-I-5HT,
SH-5, SH-5MS
Diphenyl dimethyl polysiloxane



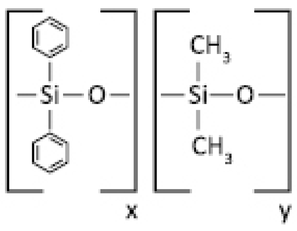
Similar to: (5%-phenyl)-methylpolysiloxane Polarity: slightly polar
Uses: flavors, environmental, aromatic hydrocarbons

SH-I-5Sil MS
1,4-bis(dimethylsiloxy)phenylene dimethyl polysiloxane



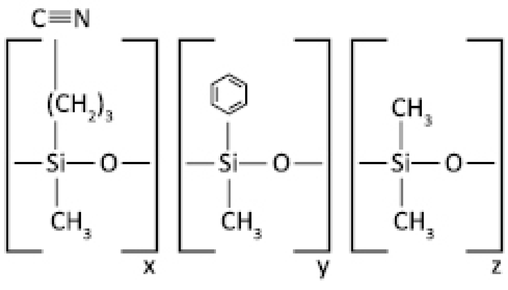
Similar to: (5%-phenyl)-methylpolysiloxane Polarity: slightly polar
Uses: flavors, environmental, pesticides, PCBs, aromatic hydrocarbons

SH-20, SH-25
Diphenyl dimethyl polysiloxane



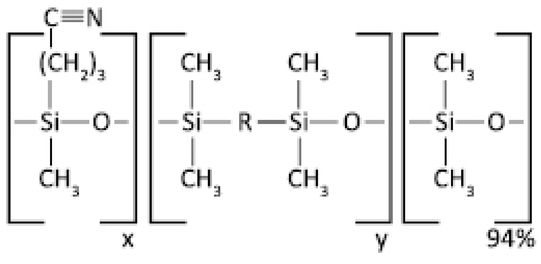
Similar to: (20%-phenyl)-methylpolysiloxane Polarity: slightly polar
Uses: volatile compounds, alcohols

SH-1301, SH-624
Cyanopropylmethyl phenylmethl polysiloxane



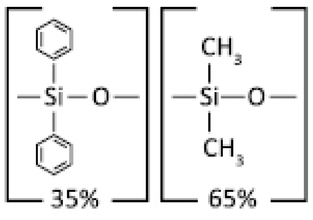
Similar to: (6%-cyanopropylphenyl)-methylpolysiloxane
Polarity: intermediately polar
Uses: volatile compounds, insecticides

SH-I-624Sil MS



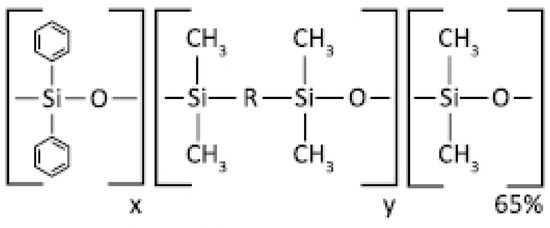
Similar to: (6%-cyanopropylphenyl)-methylpolysiloxane
Polarity: intermediately polar
Uses: volatile compounds, insecticides, residue solvents in pharmaceutical products

SH-35
Diphenyl dimethyl polysiloxane



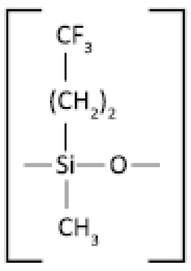
Similar to: (35%-phenyl)-methylpolysiloxane
Polarity: intermediately polar
Uses: pesticides, PCBs, amines, nitrogen-containing herbicides

SH-I-35Sil MS



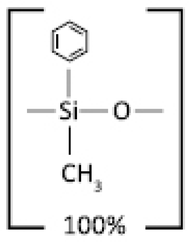
Similar to: (35%-phenyl)-methylpolysiloxane Polarity: intermediately polar
Uses: pesticides, PCBs, amines, nitrogen-containing herbicides

SH-200
Trifluoropropylmethyl polysiloxane



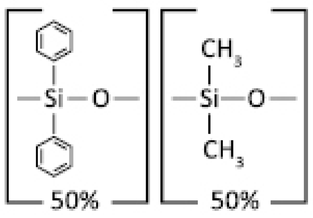
Similar to: (trifluoropropyl)-methylpolysiloxane
Polarity: selective for lone pair electrons Uses: environmental, solvents, Freon® gases, drugs, ketones, alcohols

SH-50
Phenyl methyl polysiloxane



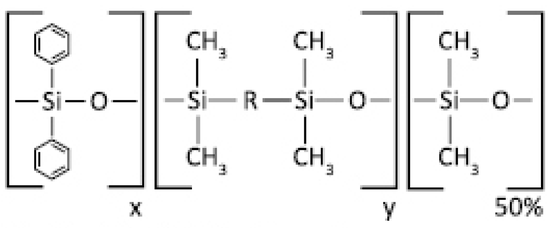
Similar to: (50%-phenyl)-methylpolysiloxane Polarity: intermediately polar
Uses: FAMEs, carbohydrates

SH-I-17
Diphenyl dimethyl polysiloxane



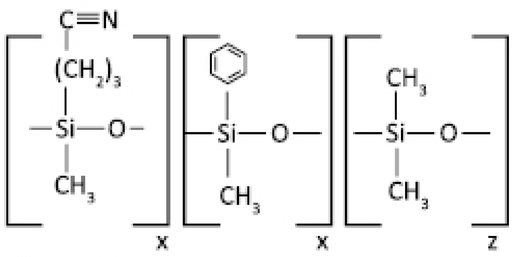
Similar to: (50%-phenyl)-methylpolysiloxane
Polarity: intermediately polar
Uses: triglycerides, phthalate esters, steroids, phenols

SH-I-17Sil MS



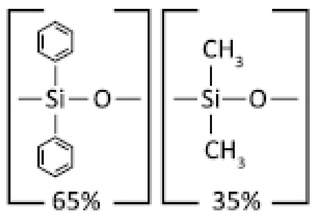
Similar to: (50%-phenyl)-methylpolysiloxane Polarity: intermediately polar
Uses: triglycerides, phthalate esters, steroids, phenols

SH-1701



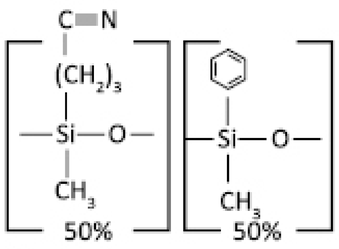
Similar to: (14%-cyanopropylphenyl)-methylpolysiloxane
Polarity: intermediately polar
Uses: pesticides, PCBs, alcohols, oxygenates

SH-65
Diphenyl dimethyl polysiloxane



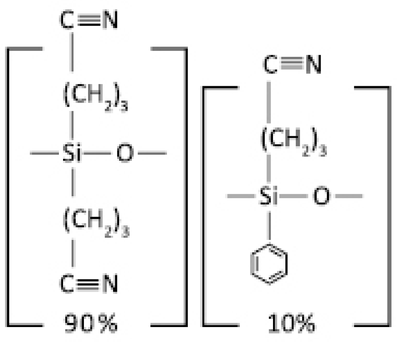
Similar to: (65%-phenyl)-methylpolysiloxane Polarity: intermediately polar
Uses: triglycerides, rosin acids, free fatty acids

SH-225
Cyanopropylmethyl phenylmethyl polysiloxane



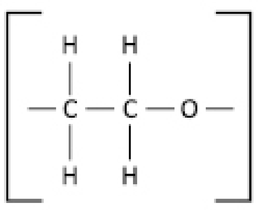
Similar to: (50%-cyanopropylmethyl)-methylphenylpolysiloxane
Polarity: polar
Uses: FAMEs, carbohydrates

SH-2330
Biscyanopropyl cyanopropylphenyl polysiloxane



Similar to: (95%-cyanopropyl)-phenyl polysiloxane Polarity: polar
Uses: cis/trans FAMEs, dioxin isomers, rosin acids

SH-PolarWax, SH-Wax
Polyethylene glycol



Polarity: polar
Uses: FAMEs, flavors, acids, amines, solvents, xylene isomers

**Structures, polarities, and properties also apply to metal MXT® stationary phases.

Capillary Columns

Cross-Reference

Shimadzu	Stationary Phase	USP	Similar Phases						Page
			Agilent	Supelco	SGE	Phenomenex	Quadrex	Alltech	
High-Performance Columns									
SH-I-1MS	100% dimethyl polysiloxane	G1, G2, G38	HP-1ms UI, HP-1ms, DB-1ms UI, DB-1ms, Ultra-1, VF-1ms	SPB-1, Equity-1	BP-1	ZB-1, ZB-1ms	007-1	AT-1ms	C-6
SH-I-1HT	100% dimethyl polysiloxane	–	DB-1HT	–	–	ZB-1HT Inferno		AT-1ht	C-8
SH-I-5MS	5% diphenyl / 95% dimethyl polysiloxane	G27, G36	HP-5ms UI, HP-5ms, DB-5, Ultra-2, CP Sil 8 CB	SPB-5, Equity-5	BP-5	ZB-5, ZB-5MSi	007-5	AT-5ms	C-7
SH-I-5HT	5% diphenyl / 95% dimethyl polysiloxane	–	DB-5HT, VF-5HT	–	HT-5	ZB-5HT Inferno	–	–	C-8
SH-I-5Sil MS	1,4-bis(dimethylsiloxy)phenylene dimethyl polysiloxane	–	DB-5ms UI, DB-5ms, VF-5ms	SLB-5ms	BPX-5	ZB-5MS, ZB-Semi-Volatiles	007-5MS	–	C-9
SH-I-XLB	Unique phase	–	DB-XLB, VF-Xms	–	–	ZB-MR1, ZB-XLB	–	–	C-10
SH-I-17	50% diphenyl / 50% dimethyl polysiloxane	G3	HP-17, DB-17, DB-17HT, DB-608	SPB-17	–	ZB-50	–	–	C-11
SH-I-35Sil MS	Similar to 35% phenyl methyl polysiloxane	–	DB-35ms, DB-35ms UI, VF-35ms	–	BPX-35	ZB-MR2	–	–	C-11
SH-I-17Sil MS	Similar to 50% phenyl methyl polysiloxane	G3, G17	DB-17ms, VF-17ms,	–	BPX-50	–	–	–	C-12
SH-I-PAH	Ideal for EFSA PAH4 analysis	–	–	–	–	–	–	–	C-12
SH-I-624Sil MS	Similar to 6% cyanopropylphenyl / 94% dimethyl polysiloxane	G43	HP-624, DB-624, VF-624ms, CP-Select	–	BP-624	–	–	–	C-13
SH-I-1301Sil MS	Similar to 6% cyanopropylphenyl / 94% dimethyl polysiloxane	–	VF-1301ms	–	–	–	–	–	C-14
General Purpose Columns									
SH-1	100% dimethyl polysiloxane	G1, G2, G38	HP-1, DB-1, CP-Sil 5 CB	SPB-1	BP-1	ZB-1	007-1	AT-1, EC-1	C-15
SH-5	5% diphenyl / 95% dimethyl polysiloxane	G27, G36	HP-5, DB-5, CP-Sil 8 CB	SPB-5	BP-5	ZB-5	007-5	AT-5, EC-5	C-16
SH-5MS	5% diphenyl / 95% dimethyl polysiloxane	G27, G36	HP-5, DB-5, CP Sil 8 CB	SPB-5	BP-5	ZB-5	007-5	AT-5, EC-5	C-17
SH-20	20% diphenyl / 80% dimethyl polysiloxane	G28, G32	–	SPB-20	–	–	007-20	AT-20, EC-20	C-18
SH-25	25% diphenyl / 75% dimethyl polysiloxane	–	–	–	–	–	–	–	C-18
SH-35 / SH-35MS	35% diphenyl / 65% dimethyl polysiloxane	G42	HP-35, DB-35	SPB-35, SPB-608	BPX-35, BPX-608	ZB-35	007-35	AT-35, AT-35ms	C-19
SH-50	100% methyl phenyl polysiloxane	G3	HP-50+, CP-Sil 24 CB	SPB-50	BPX-50	–	007-17	AT-50	C-20
SH-65	65% diphenyl / 35% dimethyl polysiloxane	–	–	–	–	–	007-65HT	–	C-20
SH-1301	6% cyanopropylphenyl / 94% dimethyl polysiloxane	G43	DB-1301, CP-1301	SPB-1301	BP-624	ZB-624	007-1301	AT-1301	C-21
SH-624	6% cyanopropylphenyl / 94% dimethyl polysiloxane	G43	HP-624, DB-624, DB-624 UI, VF-624ms	SPB-624	BP-624	ZB-624	007-624	AT-624	C-21
SH-1701	14% cyanopropylphenyl / 86% dimethyl polysiloxane	G46	DB-1701P, DB-1701, CP Sil 19 CB, VF-1701ms, VF-1701 Pesticides	Equity-1701	BP-10	ZB-1701, ZB-1701P	007-1701	AT-1701	C-22

Shimadzu	Stationary Phase	USP	Similar Phases						Page
			Agilent	Supelco	SGE	Phenomenex	Quadrex	Alltech	
SH-200 / SH-200MS	Trifluoropropylmethyl polysiloxane	G6	DB-210, DB-200, VF-200ms	–	–	–	–	AT-210	C-23
SH-225	50% cyanopropylmethyl / 50% phenylmethyl polysiloxane	G7, G19	DB-225, DB-225MS, CP-Sil 43 CB	SPB-225	BP-225	–	007-225	AT-225	C-25
SH-2330	90% biscyanopropyl / 10% cyanopropylphenyl polysiloxane (Non-bonded)	G8, G48	DB-23, VF-23ms	SP-2330, SP-2331, SP-2380	BPX-70	–	007-23	AT-Silar90	C-25
SH-2560	Biscyanopropyl polysiloxane	–	HP-88, CP-Sil 88	SP-2560	–	–	–	–	C-26
SH-Wax	Polyethylene glycol	G14, G15, G16, G20, G39	DB-Wax, CP-Wax 52 CB	–	BP-20	ZB-Wax	007-CW	AT-WAXms, EC-WAX	C-27
SH-PolarWax	Polyethylene glycol	G14, G15, G16, G20, G39	HP-INNOWax, CP-Wax 52 CB, VF-WAX MS	Supelcowax-10	–	ZB-Wax Plus	–	AT-WAX	C-28
Dedicated Columns									
SH-1614	Ideal for analysis of PBDE	–	–	–	–	–	–	–	C-29
SH-OPP2	Ideal for analysis of organophosphorus pesticides	–	–	–	–	–	–	–	C-30
SH-CLP / SH-CLP II	Ideal for analysis of organochlorine pesticides	–	DB-CLP1 / DB-CLP2	–	–	ZB-CLP1 ZB-CLP2	–	–	C-31
SH-VMS	Ideal for analysis of volatile organic pollutants	–	–	–	–	–	–	–	C-32
SH-VRX		–	DB-VRX	–	–	–	–	–	C-33
SH-PCB	Ideal for analysis of PCB congeners	–	–	–	–	–	–	–	C-33
SH-BAC Plus 1 / SH-BAC Plus 2	Ideal for analysis of alcohol compounds in blood	–	DB-ALC1 / DB-ALC2	–	–	ZB-BAC-1 / ZB-BAC-2	–	–	C-34
SH-FAME	Ideal for analysis of FAMEs	G16	Select FAME	Omegawax	–	–	–	AT-AquaWax, AT-FAME	C-35
SH-Volatil Amin	Ideal for analysis of volatile amines	–	–	–	–	–	–	–	C-35
SH-5 Amine / SH-35 Amine	Ideal for analysis of amines	–	–	–	–	–	–	–	C-36
SH-PolarD	Ideal for analysis of free acid	G25, G35	HP-FFAP, DB-FFAP, VF-DA, CP-Wax 58 FFAP CB	SPB-1000, Nukol	BP-21	ZB-FFAP	007-FFAP	AT-AquaWax-DA, AT-1000, EC-1000	C-37
SH-PolarX	Ideal for analysis of amines	–	CAM, CP-Wax 51 for Amines	Carbowax Amine	–	–	–	AT-CAM	C-38
PLOT Columns									
SH-Silica BOND	Bonded silica	–	GS-GasPRO, CP-SilicaPLOT	–	–	–	–	–	C-39
SH-Alumina BOND / Na2SO4	Aluminum oxide with Na2SO4 deactivation	–	GS-Alumina, CP-Al2O3/ Na2SO4	Alumina sulfate PLOT	–	–	–	AT-Alumina	C-40
SH-Alumina BOND / KCl	Aluminum oxide with KCl deactivation	–	GS-Alumina KCl, HP-PLOT Al2O3 KCl, CP-Al2O3/KCl	Alumina chloride PLOT	–	–	PLT-AL2O3	–	C-40
SH-Msieve 5A	Molecular Sieve 5A	–	HP-PLOT Molesieve, CP-Molsieve 5A	Mol Sieve 5A PLOT	–	–	PLT-5A	AT-Mole Sieve	C-41
SH-Q-BOND	100% divinylbenzene porous polymer	–	HP-PLOT Q, CP-PoraPLOT Q, CP-PoraBOND Q	Supel-Q PLOT	–	–	PLT-Q	AT-Q	C-42
SH-U-BOND	Divinylbenzene ethylene glycol / dimethylacrylate porous polymer	–	HP-PLOT U, CP-PoraPLOT U, CP-PoraBOND U	–	–	–	–	–	C-42
Metal Columns									
SH-MetalX-1	100% dimethyl polysiloxane	G1, G2, G38	DB-PS1	–	–	–	UAC-1	–	C-43
SH-MetalX-5	5% diphenyl / 95% dimethyl polysiloxane	G27, G36	DB-PS5, VF-5ht UltiMetal	–	–	–	UAC-5	–	C-43
SH-MetalX-1701	Similar to (14%-cyanopropylphenyl)-methylpolysiloxane	G46	DB-PS1701	–	–	–	–	–	C-43
SH-MetalX-WAX	Carbowax polyethylene glycol	G14, G15, G16, G20, G39	DB-PSWAX	–	–	–	UAC-CW	–	C-43
SH-MetalX Biodiesel TG	Propietary phase	–	Bioiesel, Select Biodiesel	MET-Biodiesel	–	ZB-Bioethanol	–	–	C-43