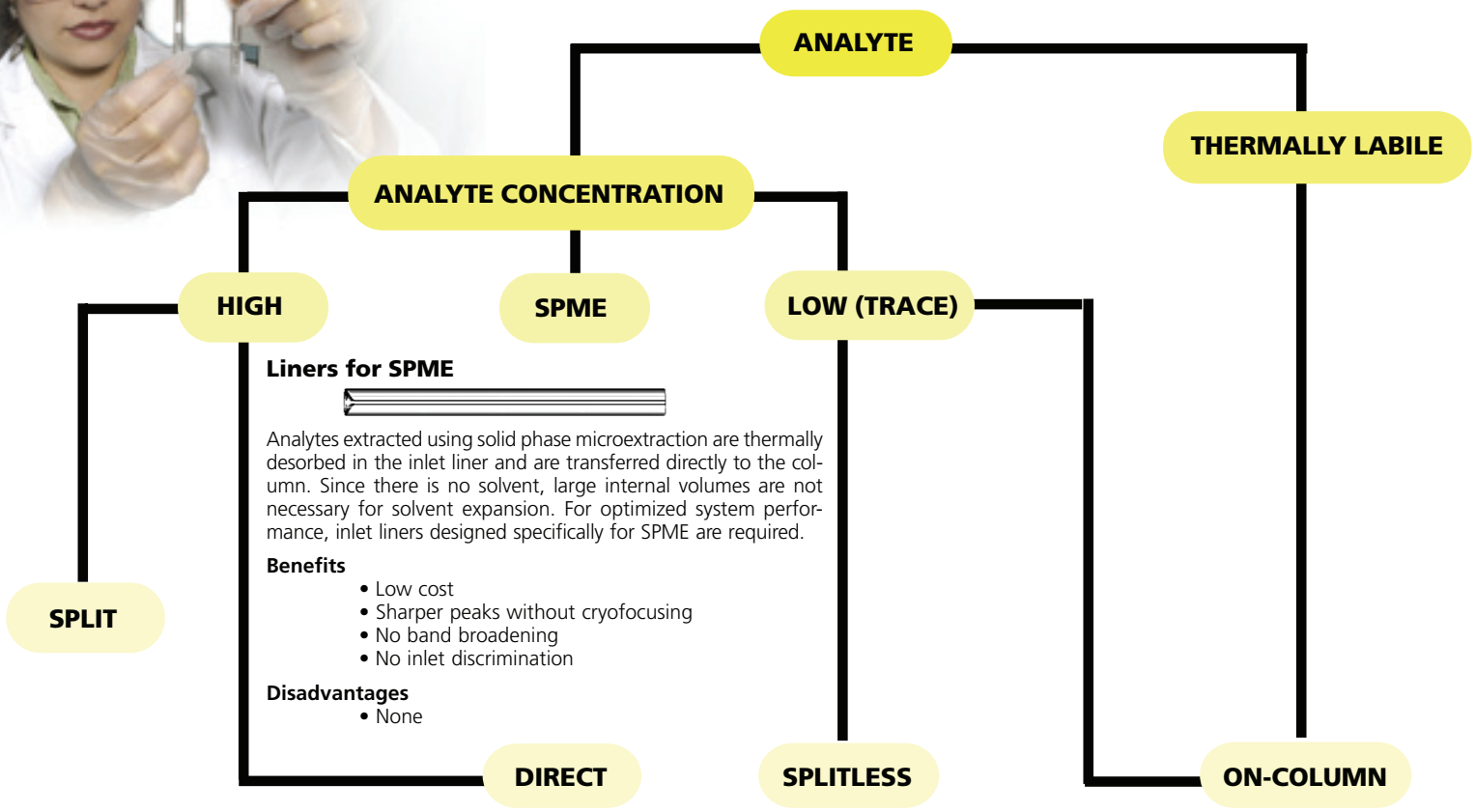
Selecting The Appropriate
INLET LINER

Don't Let The Quality of Your Inlet Liner Limit the Efficiency of Your GC System.



Liners for SPME

Analytes extracted using solid phase microextraction are thermally desorbed in the inlet liner and are transferred directly to the column. Since there is no solvent, large internal volumes are not necessary for solvent expansion. For optimized system performance, inlet liners designed specifically for SPME are required.

Benefits

- Low cost
- Sharper peaks without cryofocusing
- No band broadening
- No inlet discrimination

Disadvantages

- None

Liners for Split Injections

Split injection is the most common injection method used. Split liners use a design that establishes turbulent flow rather than laminar flow, ensuring sample vaporization and enhancing proper mixing prior to the point where the sample is split, thereby minimizing inlet discrimination.

Split Liner Packed with Wool

Large expansion volume and surface area of wool enhance the mixing and vaporization of the sample and trap septa fragments and nonvolatiles in dirty samples.

Uses
- General and autosampler use
- Use with a wide range of molecular weight analytes

Benefits
- Easy to use (clean and replace dirty wool)
- Inexpensive

Disadvantages
- Glass wool could adsorb analytes or contribute to analyte decomposition

Fritted Liner

Incorporates the high surface area and complex flow path through a porous ceramic frit to create turbulent flow needed for sample mixing.

Uses
- General

Benefits
- Minimized sample discrimination
- Effectively traps particles and nonvolatiles

Disadvantages
- Somewhat expensive
- Ceramic frit can adsorb or contribute to analyte decomposition
- Cannot be cleaned easily

Cup Splitter

Complex flow path enhances volatilization of high molecular weight compounds. Can be packed with wool to trap nonvolatiles.

Uses
- High analyte concentrations
- High molecular weight analytes
- Large sample volume (up to 5µL)
- Dual column applications

Benefits
- Inlet discrimination is minimized
- Design enhances resolution

Disadvantages
- Expensive
- Hard to clean

Baffle Splitter

Turbulent flow created by internal baffles.

Uses
- General
- Analytes with narrow range of boiling points

Benefits
- Moderately priced
- Can be cleaned

Disadvantages
- Nonvolatiles and septa fragments can get intothe column
- Inlet discrimination

Liners for Direct Injection

Typically used with packed column GCs that have been converted for use with wide bore capillary columns (ID ≥ 0.53mm).

Straight Tube

Usually have small ID (≥ 1mm).

Benefits

- Low cost
- Can be used with isothermal or temperature programmed injections
- No specialized pneumatics are required
- No splitter discrimination

Disadvantages

- Decomposition of thermally labile compounds
- Easy to overload
- Sample flashback
- Column contamination

Liners for Splitless Injections

Since the sample dwell time in the liner is significantly longer in the splitless injection mode, the liner design does not need to create high turbulence. Splitless liners usually are straight tubes with internal volume between 0.25mL and 1mL. Use a liner with internal volume equal to or larger than the expansion volume of the solvent.

NOTE: Deactivation of liners is very important due to the long residence time in the liner.

Straight Tube Configuration

Use low internal volume for slow manual injections and larger volume for fast autosampler injections. For maximum reproducibility, wool-packed liners are recommended for fast injections.

Benefits

- Inexpensive

Disadvantages

- Discrimination of high molecular weight compounds
- Sample decomposition of active compounds
- Sample flashback

Single & Dual Tapered Configurations

These inlet liners feature a tapered restriction that helps vaporize the sample in the deactivated glass of the liner. This minimizes the breakdown of compounds that are sensitive to the metal inlet surfaces present in some GCs.

Benefits

- High efficiency
- Reduced breakdown of active compounds
- Less sample flashback than straight liners

Disadvantages

- Higher cost

Liners for On-Column Injection

Samples are deposited in the inlet of the column. A specialized syringe usually is required. The liner is designed with a tapered region where the end to the column is seated to created a seal between the column and the liner. This taper also guides the needle into the column.

Uses

- Thermally labile compound analysis

Benefits

- High analytical precision

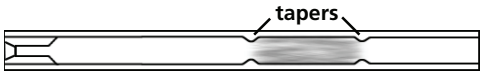
Disadvantages

- Band broadening
- Column overload
- Column contamination (should not be used with dirty samples or samples containing nonvolatiles)

GC Column **FocusLiner**™ Inlet Liners

Part of the Large Selection of Inlet Liners from Supelco

Supelco has expanded their line of inlet liners to include the FocusLiner series and other configurations previously not available.



Features & Benefits

- High temperature deactivation
- Enhanced sample vaporization
- Precision, accuracy, and reliability
- Maximum sensitivity/detection levels
- Guaranteed to fit
- Competitively priced

FocusLiners incorporate a unique design to prevent shifting of the quartz wool during repeated injections or sudden inlet pressure changes. **Tapers** inside the FocusLiner hold the glass wool plug in an optimum position.

This positioning results in wool plug penetration by the needle tip during an injection. The wool provides a large surface area for sample vaporization, and the wiping action removes residual liquid sample from the needle tip, thus preventing droplet formation. This improves reproducibility as much as 10 fold, reduces solvent tailing, and lowers mass discrimination during split injections without any cost disadvantage compared to alternative liners.

FocusLiners are available for all major GC instruments, a variety of injection techniques, and for 0.10 mm I.D. Fast Capillary columns. For technical assistance or help choosing an inlet liner, contact Supelco Technical Service at 800-359-3041/ 814-359-3041, or e-mail us at techservice@sial.com

FocusLiners are compatible with the following instrument manufacturers:

- Agilent / Finnigan
- Shimadzu
- Varian
- PerkinElmer
- Thermo

Agilent

Inlet Liners for Agilent / HP - Models 4890, 5880, 5890, 6850, 6890

Description	Pk. of 1 Cat. No.	Pk. of 5 Cat. No.	Pk. of 25 Cat. No.
Split (78.5 mm x 6.3 mm O.D. x 4.0 mm I.D.)			
Cup - unpacked (replaces HP #18740-80190)	**2051001**	**2051005**	**2051025**
Cup - wool packed (replaces HP #18740-80190)	**2048201**	**2048205**	**2048225**
Cup - packed w/ 10% OV-1® on Chromosorb® W HP (replaces HP #18740-60840)	**2055101**	**2555105**	**2555125**
Split/Splitless (78.5 mm x 6.3 mm O.D.)			
4 mm I.D., wool packed (replaces HP #19251-60540)	**2048601**	**2048605**	**2048625**
FocusLiner, 4.0 mm I.D.	**2879801-U**	**2879805-U**	**2879825-U**
FocusLiner with single taper, 4.0 mm I.D.	**2879901-U**	**2879905-U**	**2879925-U**
FocusLiner with recessed gooseneck, 4.0 mm I.D.	**2879701-U**	**2879705-U**	**2879725-U**
FAST FocusLiner, 2.3 mm I.D.	**2879601-U**	**2879605-U**	**2879625-U**
FAST FocusLiner with single taper, 2.3 mm I.D.	**2879501-U**	**2879505-U**	**2879525-U**
Splitless (78.5 mm x 6.5 mm O.D.)			
2 mm I.D. (replaces HP #18740-80220 or 5181-8818)	**2051301**	**2051305**	**2051325**
Dual tapered (replaces HP #5181-3315)	**2048501**	**2048505**	**2048525**
Tapered - unpacked (replaces HP #5181-3316)	**2046601**	**2046605**	**2046625**
Tapered - wool packed (replaces HP #5062-3587)	**2047801**	**2047805**	**2047825**
Direct (78.5 mm x 6.3 mm O.D.)			
SPME, 0.75 mm I.D.	**2637501**	**2637505**	**2637525**

FocusLiners are packed with quartz wool.

Vials and Caps for Agilent LC Autosampler - Models 7673, 7683

Description	Pk. of 100 Cat. No.	Pk. of 1000 Cat. No.
Agilent 1050, 1090 & 1100		
Clear Glass		
Crimp cap vial, 2 mL, wide opening	**27058**	**27059**
Crimp cap vial, 2 mL, wide opening, marking spot	**27062-U**	**27063**
ABC screw cap vial, 2 mL	**27329**	**27554**
ABC screw cap vial, 2 mL, marking spot	**27330**	**27556**
Screw cap vial, 2 mL, standard opening (4.6 mm)	**27078**	**27079**
Screw cap vial, 2 mL, standard opening, marking spot	**27080-U**	**27081-U**
Aluminum crimp cap, 11 mm, with silicone/PTFE red septa	**SU860094**	**SU860016**
Aluminum crimp cap, 11 mm, with PTFE/red rubber septa	**27102-U**	**33233-U**
Amber Glass		
Crimp cap vial, 2 mL, wide opening	**27064**	**27065**
Crimp cap vial, 2 mL, wide opening, marking spot	**27066-U**	**27067-U**
ABC screw cap vial, 2 mL	**27331**	**27555-U**
ABC screw cap vial, 2 mL, marking spot	**27332**	**27557**
Screw cap vial, 2 mL, standard opening (4.6 mm)	**27083-U**	**27087-U**
Screw cap vial, 2 mL, standard opening, marking spot	**27084-U**	**27085-U**
Open top screw cap, 9 mm, with silicone/PTFE red septa	**27326**	**27558**
Open top screw cap, 9 mm, PP, natural rubber red-orange	**27327**	**27559**
Screw cap black, 9 mm, with PTFE red/silicone/PTFE red septa	**507407**	—
PP open to screw cap, 8 mm, black, PTFE/silicone	**27262**	—
PP open top screw cap, 8 mm, w/out septa	**27052**	**24764**
Septa, 8 mm, PTFE/red rubber	**27132**	—
Aluminum crimp cap, 11 mm, with silicone/PTFE red septa	**SU860094**	**SU860016**
Aluminum crimp cap, 11 mm, with PTFE/red rubber septa	**27102-U**	**33233-U**
Agilent HS7694		
Flat bottom headspace vial, 10 mL, 23 x 46 mm	**27198**	—
Flat bottom headspace vial, 20 mL, 23 x 75 mm	**27199**	—
Crimp seal open center (20 mm), PTFE white/silicone beige	**27362**	**27375**
Crimp seal pressure release (20 mm), PTFE/silicone	**27455-U**	—
Aluminum cap plain, 10 mm center hole, Pharma-Fix septum, 3.0 mm	**SU860011**	—

PerkinElmer

Inlet Liners for PerkinElmer GCs - AUTOSYSTEM PSS

Description	Pk. of 1 Cat. No.	Pk. of 5 Cat. No.	Pk. of 25 Cat. No.
AUTOSYSTEM™ Split/Splitless Capillary Injector			
Borosilicate, 4 mm I.D. (replaces PE #N610-1052, N612-1001)	**2630901**	**2630905**	**2630925**
Borosilicate, 2 mm I.D. (replaces PE #N612-1002)	—	**2631105**	**2631125**
Packed w/deactivated wool, 4 mm	**2631001**	**2631005**	**2631025**
SPME, 0.75 mm I.D.	—	**2631205**	—
AUTOSYSTEM and Clarus 500 Split/Splitless (92 mm x 6.2 mm O.D.)			
FocusLiner, 4.0 mm I.D.	**2879201-U**	**2879205-U**	—
FocusLiner with single taper, 4.0 mm I.D.	**2879101-U**	**2879105-U**	—
Programmed Split/Splitless Injector (PSS)			
Split, 2 mm (replace PE #N612-1004)	**2631301**	**2631305**	**2631325**
Splitless, 1 mm (replace PE #N612-1006)	—	**2631405**	—
On-column (replaces PE #N610-1539)	—	**2631505**	—

FocusLiners are packed with quartz wool.

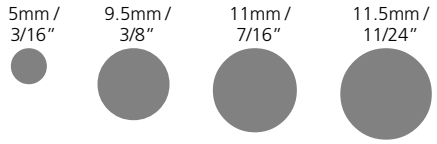
Vials and Caps for PerkinElmer Autosampler

Description	Pk. of 100 Cat. No.	Pk. of 1000 Cat. No.
AI-1, AUTOSYSTEM, Integral 4000, ISS-100/200		
Clear Glass		
Crimp cap vial, 2 mL, wide opening	**27058**	**27059**
Crimp cap vial, 2 mL, wide opening, marking spot	**27062-U**	**27063**
Aluminum crimp cap, 11 mm, with silicone/PTFE red septa	**SU860094**	**SU860016**
Aluminum crimp cap, 11 mm, with PTFE/red rubber septa	**27102-U**	**33233-U**
ABC screw cap vial, 2 mL	**27329**	**27554**
ABC screw cap vial, 2 mL, marking spot	**27330**	**27556**
Open top screw cap, 9 mm, with silicone/PTFE red septa	**27326**	**27558**
Open top screw cap, 9 mm, PP, natural rubber red-orange/ PTFE	**27327**	**27559**
Open top screw cap, 9 mm, with PTFE red/silicone/PTFE red septa	**507407**	—
Amber Glass		
Crimp cap vial, 2 mL, wide opening	**27064**	**27065**
Crimp cap vial, 2 mL, wide opening, marking spot	**27066-U**	**27067-U**
ABC screw cap vial, 2 mL	**27331**	**27555-U**
ABC screw cap vial, 2 mL, marking spot	**27332**	**27557**
Open top screw cap, 9 mm, with silicone/PTFE red septa	**27326**	**27558**
Open top screw cap, 9 mm, PP, natural rubber red-orange/ PTFE	**27327**	**27559**
Open top screw cap, 9 mm, with PTFE red/silicone/PTFE red septa	**507407**	—

Thermogreen LB-2 Septa

Preconditioned - lowest bleed septa available. Max temperature 350 °C.

Description	Pk. of 50 Cat. No.
Agilent 5880/90, 6890, OCI ports, 5 mm	**20638**
Agilent 5700 series, 5880 - Varian packed column injectors, 9.5 mm	**20652**
Agilent 5880A, 5880 - PerkinElmer series 900 & 990, 8000, AUTOSYSTEM autosampler - Varian SPI injectors and capillary injectors, 11 mm	**20654**
Varian Saturn GC-MS and capillary injectors, 11.5 mm	**23154**
Pre-Drilled Thermogreen™ LB-2 Septa for SPME	
9.5 mm	**23162-U**
11 mm	**23168**



Shimadzu

Inlet Liners for Shimadzu GCs - Models 9A/AM/15/15A/16/17A

Description	Pk. of 1 Cat. No.	Pk. of 5 Cat. No.	Pk. of 25 Cat. No.
Models 14/15A/16 with SPL-14 Injectors (99 mm x 5 mm O.D.)			
Split liner (replaces Shimadzu #221-32544-01), 3 mm I.D.	—	**2633305**	**2633325**
Splitless liner (replaces Shimadzu #221-32544-03), 3 mm I.D.	—	**2633405**	**2633425**
SPME liner, 0.75 mm I.D.	**2633501**	**2633505**	—
Models 17A with SPL-17 Injectors (95 mm x 5 mm O.D.)			
Split liner (replaces Shimadzu #221-41444-01), 3.4 mm I.D.	**2633601**	**2633605**	**2633625**
Split liner packed with glass wool, 3 mm I.D.	—	**2632705**	**2632725**
Split/Splitless FocusLiner, 3.4 mm I.D.	**2878601-U**	**2878605-U**	—
Split/Splitless FocusLiner w/single taper, 3.4 mm I.D.	**2878401-U**	**2878405-U**	—
SPME liner, 0.75 mm I.D.	**2633901**	**2633905**	**2633925**
WBC - internal tapered, 2.6 mm I.D. (replaces Shimadzu #221-41599-00)	**2633801**	**2633805**	**2633825**
GC-2010 System (95 mm x 5 mm O.D.)			
Direct FocusLiner, 3.4 mm I.D.	**2877601-U**	**2877605-U**	—

Vials and Caps for Shimadzu Autosampler

Description	Pk. of 100* Cat. No.	Pk. of 1000 Cat. No.
AOC-14, 1400, SIL-2AS, SIL-6A, SIL-6B/SIL-9A		
Clear Glass		
Vial, 0.3 mL, round bottom, 31.5 x 5.5 mm, Pk. of 200*	**24725***	**24726**
Vial, 0.3 mL, tapered bottom, 31.5 x 5.5 mm, Pk. of 200*	**27283***	**27284**
Seal w/Teflon® red rubber liner, Pk. of 200*, 8 mm	**33135-U***	**33136**
Seal w/red-faced silicone septa, 8 mm	**27359**	**27372**

(continue on next column)

Vials and Caps for Shimadzu Autosampler (cont.d)

Description	Pk. of 100* Cat. No.	Pk. of 1000 Cat. No.
AOC-14, 1400, SIL-6B/SIL-9A		
Clear Glass		
Crimp cap vial, 2 mL, wide opening	**27058**	**27059**
Crimp cap vial, 2 mL, wide opening, marking spot	**27062-U**	**27063**
Aluminum crimp cap, 11 mm, with silicone/PTFE red septa	**SU860094**	**SU860016**
Aluminum crimp cap, 11 mm, with PTFE/red rubber septa	**27102-U**	**33233-U**
ABC screw cap vial, 2 mL	**27329**	**27554**
ABC screw cap vial, 2 mL, marking spot	**27330**	**27556**
Open top screw cap, 9 mm, with silicone/PTFE red septa	**27326**	**27558**
Open top screw cap, 9 mm, PP, natural rubber red-orange/PTFE	**27327**	**27559**
Open top screw cap, 9 mm, with PTFE red/silicone/ PTFE red septa	**507407**	—
Screw cap vial, 2 mL, standard opening, 4.6 mm	**27078**	**27079**
Screw cap vial, 2 mL, standard opening, marking spot	**27080-U**	**27081-U**
PP open top screw cap, 8 mm, black, PTFE/silicone	**27262**	—
PP open top screw cap, 8 mm, w/out septa	**27052**	**24764**
Septa, 8 mm, PTFE/red rubber	**27132**	—
Crimp/snap-ring vial, 2 mL, marking spot	**27249**	**27250-U**
Snap ring cap, transparent, 11 mm, center hole, with PTFE/silicone liner	**24758**	—
Snap ring cap (PTFE/red rubber)	**24756**	—
Amber Glass		
Crimp cap vial, 2 mL, wide opening	**27064**	**27065**
Crimp cap vial, 2 mL, wide opening, marking spot	**27066-U**	**27067-U**
Aluminum crimp cap, 11 mm, with silicone/PTFE red septa	**SU860094**	**SU860016**
Aluminum crimp cap, 11 mm, with PTFE/red rubber septa	**27102-U**	**33233-U**
ABC screw cap vial, 2 mL	**27331**	**27555-U**
ABC screw cap vial, 2 mL, marking spot	**27332**	**27557**
Screw cap, 9 mm, with PTFE red/silicone/PTFE red septa	**507407**	—
Screw cap vial, 2 mL, standard opening, 4.6 mm	**27083-U**	**27087-U**
Screw cap vial, 2 mL, standard opening, marking spot	**27084-U**	**27085-U**
Crimp/snap-ring vial, 2 mL, marking spot	**27251**	**27252**

*Pack of 100, except where noted.

Ferrules

Supeltex™ ferrules form leaktight seals without sticking to your column. Clean sharp profile with minimal flash designed for GC specifications. No sulfur contamination.

Manufacturer	Ferrule Type	Temp. Limit	Package Size	0.20-0.25mm Column ID	0.32mm Column ID	0.53mm Column ID
Agilent	M-2A	400°C	10	**24803-U**	**24802-U**	**24801-U**
			50	**24807-U**	**24806-U**	**24804-U**
	M-4	450°C	10	**24811-U**	**24809-U**	**24808-U**
			50	**24819-U**	**24813-U**	**24812-U**
CapSeal Bullet	CapSeal Bullet	450°C	12	**23864**	**23865**	**23866**
			48	**23867**	**23868**	**23869**
PerkinElmer or Varian	M-2A	400°C	10	**24826-U**	**24824-U**	**24823-U**
			50	**28022-U**	**28023-U**	**28024-U**
	M-4	450°C	10	**28025-U**	**28026-U**	**28027-U**
			50	**28028-U**	**28031-U**	**28032-U**
	CapSeal Bullet	450°C	12	**23488**	**23489**	**23490**
			48	**23493**	**23494-U**	**23495**

M-2A Composition: DuPont VESPEL™ SP-21 (85% polymide/15% graphite). Characteristics : High resuability. Won't stick to metal or glass.

M-4 Composition: Flexible Graphite. Characteristics : Maximum sealing surface contact, reduced risk of column contamination at installation.

CapSeal Bullet: graphite in an aluminum base

Characteristics: Reusable ferrules consist of a graphite material captured in an aluminum base. This unique design keeps the ferrule from adhering to the fitting, making it easy to remove.

Varian and Chrompack

Inlet Liners for Varian and Chrompack GCs - Models 3400, 3600, 3700 Series

Description	Pk. of 1 Cat. No.	Pk. of 5 Cat. No.	Pk. of 25 Cat. No.
1075/1077 Injectors			
Split (72 mm x 6.3 mm O.D.)			
Fritted (replaces Varian #01-900109-03 or 16-000830-01), 4 mm I.D.	**2050501**	**2050505**	**2050525**
Single taper, 4.0 mm I.D.	**2875601-U**	**2875605-U**	—
FocusLiner, 4.0 mm I.D.	**2875401-U**	**2875405-U**	—
FocusLiner with single taper, 4.0 mm I.D.	**2874801-U**	**2874805-U**	—
FocusLiner, 2.3 mm I.D.	**2874701-U**	**2874705-U**	—
FocusLiner with top-end restriction, 4.0 mm I.D.	**2874901-U**	**2874905-U**	—
Splitless (74 mm x 6.3 mm O.D.)			
FocusLiner with top-end restriction, 4.0 mm I.D.	**2874601-U**	**2874605-U**	—
Straight (replaces Varian #01-900109-05 or 03-949437-90), 2 mm I.D.	**2050201**	**2050205**	**2050225**
SPME liner, 0.75mm ID	**2635801**	**2635805**	**2635825**
Split/Splitless (54 mm x 5 mm O.D.)			
FocusLiner with single taper, 3.4 mm I.D.	**2875701-U**	**2875705-U**	—
1078/1079 Injectors			
Split (54 mm x 5 mm O.D. x 3.4 mm I.D.)			
Fritted (replaces Varian #03-918464-01)	**2637201**	**2637205**	**2637225**
Unpacked (replaces Varian #03-918464-00)	**2637101**	**2637105**	**2637125**
Packed (replaces Varian #03-918956-00)	**2637301**	**2637305**	**2637325**
Splitless (54 mm x 5 mm O.D.)			
Unpacked (replaces Varian #03-918466-00), 2 mm I.D.	**2637401**	**2637405**	**2637425**
SPME (replaces Varian #03-925330-00), 0.8 mm I.D.	**2637801**	**2637805**	—
Temperature Program Mode, packed (replaces Varian #03-925350-00), 2 mm I.D.	**2637701**	**2637705**	**2637725**
Split/Splitless (54 mm x 5 mm O.D.)			
FocusLiner with single taper, 3.4 mm I.D.	**2875701-U**	**2875705-U**	—
FocusLiner with dual taper, 3.4 mm I.D.	**2875501-U**	**2875505-U**	—
1093/1094 Injectors			
(54 mm x 4.6 mm O.D.)			
High linearity for 0.25 and 0.32 mm I.D. columns (replaces Varian #03-918332-01 / 01-900066-18)	**2636301**	**2636305**	**2636325**
Flash, on-column for 0.53 mm I.D. columns, SPME (replaces Varian #03-918332-02 / 01-900109-07 / 01-900066-19)	**2636401**	**2636405**	**2636425**
Varian Model CP-1177 Injector			
Split (78.5 mm x 6.3 mm O.D. x 4.0 mm I.D.)			
Straight through	**2879401-U**	**2879405-U**	**2879425-U**
Cup, unpacked (replaces CP #18740-80190)	**2051001**	**2051005**	**2051025**
Cup, wool packed (replaces CP #18740-80190)	**2048201**	**2048205**	**2048225**
Cup, packed w/10% OV-1 on 80/100 Chromosorb W HP (replaces CP #18740-60840)	**2055101**	**2055105**	**2055125**
Split/Splitless (78.5 mm x 6.3 mm O.D.)			
Wool packed, 4 mm I.D., (replaces CP #19251-60540)	**2048601**	**2048605**	**2048625**
FocusLiner with single taper, 4.0 mm I.D.	**2879901-U**	**2879905-U**	**2879925-U**
FocusLiner, 4.0 mm I.D.	**2879801-U**	**2879805-U**	**2879825-U**
FocusLiner with recessed gooseneck, 4.0 mm I.D.	**2879701-U**	**2879705-U**	**2879725-U**
FAST FocusLiner, 2.3 mm I.D.	**2879601-U**	**2879605-U**	**2879625-U**
FAST FocusLiner with single taper, 2.3 mm I.D.	**2879501-U**	**2879505-U**	**2879525-U**
Splitless (78.5 mm x 6.5 mm O.D.)			
Dual tapered, 4.0 mm I.D.	**2048501**	**2048505**	**2048525**
Tapered (unpacked), 4.0 mm I.D.	**2046601**	**2046605**	**2046625**
Tapered, wool packed, 4.0 mm I.D.	**2047801**	**2047805**	**2047825**
2 mm I.D. (replaces CP #18740-80220)	**2051301**	**2051305**	**2051325**
Direct			
SPME, 0.75 mm ID (78.5 mm x 6.3 mm O.D.)	**2637501**	**2637505**	**2637525**
1.5 mm ID (78.5 mm x 6.5 mm O.D.)	**2051701**	**2051705**	**2051725**

FocusLiners are packed with quartz wool.

Vials and Caps for Varian Autosampler

Description	Pk. of 100 Cat. No.	Pk. of 1000. Cat. No.
Clear Glass		
8100 / 8200 - CombiPAL - Marathon		
Crimp cap vial, 2 mL, wide opening	**27058**	**27059**
Crimp cap vial, 2 mL, wide opening, marking spot	**27062-U**	**27063**
Aluminum crimp cap, 11 mm, with silicone/PTFE red septa	**SU860094**	**SU860016**
Aluminum crimp cap, 11 mm, with PTFE/red rubber septa	**27102-U**	**33233-U**
Magnetic crimp cap, 11 mm, with silicone/PTFE red septa	**SU860096**	**SU860018**
Magnetic crimp cap, 11 mm, with PTFE/silicone/PTFE red septa	**SU860095**	**SU860017**
Crimp/snap-ring vial, 2 mL	**27249**	**27250-U**
Snap-ring cap transparent, 11 mm, 6 mm center hole, silicone white/PTFE red, 1.0 mm	**24758**	—
Snap ring cap (PTFE/red rubber)	**24756**	—
ABC screw cap vial, 2 mL	**27329**	**27554**
ABC screw cap vial, 2 mL, marking spot	**27330**	**27556**
Open top screw cap, 9 mm, with silicone/PTFE red septa	**27326**	**27558**
Open top screw cap, 9 mm, PP, natural rubber red-orange/ PTFE	**27327**	**27559**
Open top screw cap, 9 mm, with PTFE red/silicone/PTFE red septa	**507407**	—
Screw cap vial, 2 mL, standard opening (4.6 mm)	**27078**	**27079**
Screw cap vial, 2 mL, standard opening, marking spot	**27080-U**	**27081-U**
PP open to screw cap, 8 mm, black, PTFE/silicone	**27262**	—
Amber Glass		
Crimp cap vial, 2 mL, wide opening	**27064**	**27065**
Crimp cap vial, 2 mL. wide opening, marking spot	**27066-U**	**27067-U**
Crimp/snap-ring vial, 2 mL	**27251**	**27252**
Snap ring cap (PTFE/red rubber)	**24756**	—
ABC screw cap vial, 2 mL	**27331**	**27555-U**
ABC screw cap vial, 2 mL, marking spot	**27332**	**27557**
Screw cap vial, 2 mL, standard opening (4.6 mm)	**27083-U**	**27087-U**
Screw cap vial, 2 mL, standard opening, marking spot	**27084-U**	**27085-U**
Genesis - CombiPAL		
Headspace clear glass vial, 10 mL, 46 x 23 mm, round bottom beveled top	**27294**	**27295**
Headspace crimp vial, 20 mL, 23 x 75 mm, round bottom beveled top	**27296**	**27297**
Flat bottom headspace vial, 20 mL, 23 x 75 mm, beveled top	**27199**	—
Crimp seal 20N (20 mm), PTFE white/silicone beige (open center)	**27362**	**27375**
Crimp seal 20N (20 mm), PTFE/grey butyl (pressure release seal)	**27455-U**	—
Aluminum cap plain, 10 mm center hole, Pharma-Fix septum, 3.0 mm	**SU860011**	—
Headspace clear glass vial, 10 mL, 46 x 22.5 mm flat top, round bottom	**854180-U**	—
Crimp cap, 20 mm, magnetic, gold, 5 mm hole, Pharma-Fix, 3.0 mm	**854178-U**	—
Crimp cap, 20 mm, magnetic, gold, 5 mm hole, silicone blue transparent/PTFE white 3.0 mm	**854179-U**	—
Crimp seal 20N (20 mm), PTFE white/silicone beige	**27362**	**27375**
Crimp seal 20N (20 mm), PTFE/grey butyl	**27455-U**	—
Headspace Vials, Screw Thread Design, Round Bottom		
Clear glass for SPME, 10 mL	**SU860099**	—
Amber glass for SPME, 10 mL	**SU860100**	—
Clear glass for SPME, 20 mL	**SU860097**	—
Amber glass for SPME, 20 mL	**SU860098**	—
Screw Caps for Headspace Vials, Screw Thread Design		
Screw cap, 18 mm, w/PTFE/silcone septa, 35 ° shore A	**SU860101**	—
Screw cap, 18 mm, w/PTFE/butyl septa	**SU860102**	—
Screw cap, 18 mm, w/PTFE/silcone septa, 60 ° shore A	**SU860103**	—

Contact our Technical Service Department for expert answers to your questions.

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