

The background of the entire page is a deep blue with lighter blue diagonal stripes. Overlaid on this are white line-art illustrations of various chromatography components: a syringe, a vial, a coiled tube, several circular gauges or filters, a large circular manifold with multiple ports, and a spray nozzle. These elements are arranged in a dynamic, overlapping fashion.

RESTEK®

Pure Chromatography

30
YEARS
1985–2015

Vials

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Septum Selection Guide

Materials	Compatibility	Incompatibility	Resealability	Max. Temp.
Red Rubber (synthetic)	acetone, alcohols, DMF, DMSO, ether	ACN, benzene, chloroform, heptane, hexane, pyridine, THF, toluene	very good	90 °C
PTFE/ Natural Rubber	PTFE: resistance until punctured Rubber: acetone, ACN, alcohols, diethylamine, DMF, DMSO, phenol	aromatics, carbon disulfide, chlorinated solvents, hydrocarbon solvents	very good	90 °C
PTFE/Silicone PTFE/Silicone/PTFE	PTFE: resistance until punctured Silicone: acetone, alcohols, DMF, DMSO, ether	ACN, benzene, chloroform, heptane, hexane, pyridine, THF, toluene	very good	205 °C
Polyethylene	Good resistance to solvents and weak acids or bases. Unreactive with most chemicals, but some solvents cause softening or swelling.	hydrocarbon solvents	one-time use	175 °C
Gray Chlorobutyl	acids or bases, water solutions, buffer solutions, oxygenated solvents, vegetable oils	aliphatic or aromatic hydrocarbons, halogenated solvents, mineral oils, strong acids	very good	100 °C

Abbreviations: ACN = acetonitrile, DMF = dimethylformamide, DMSO = dimethylsulfoxide, THF = tetrahydrofuran

NOTE: This chemical resistance chart is intended only as a guideline. It does not cover all compounds or all solvents. Tests were done at room temperature on pure, single solvents, and there is no data on solvent combinations. Always confirm the compatibility of your vial, closure, and chemical combination prior to sample preparations.



Manufacturer	Instrument/Model #	11 mm Crimp-Top	9 mm Short Cap Screw-Thread	Headspace	8 mm Screw-Thread	10 mm Screw-Thread	4 mL WISP 48 Style	1 mL WISP 96 Style
A.I.M.	CPS-100, 200	x			x			
A.I.	42 Vial Tray	x						
A.I.	Headspace (HS: 10, 20 mL)			x				
Agilent	1042, 1050, 1080, 1082, 1084, 1090, 1100, 5890, 6850, 6890, 7670A, 7671A, 7672, 7673A/B, 7683, 7890, 8042	x	x					
Agilent	Headspace (HS: 6, 10, 20 mL, Flat)			x				
Alcott	738	x			x	x		
Alltech	570	x			x	x		
Alltech	580 (standard tray)	x						
Altex		x				x		
AMS	42	x						
Antek	736 Unisampler, 738	x						
ASC		x			x	x		
Beckman	501, 502, 507				x	x		
Bruker	LC 51						x	
Bruker/Varian	8100/8200	x	x		x	x		
Bruker/Varian	Marathon	x	x					
Bruker/Varian	8035, 8000 Series, 8055, 8085, 3800 GC				x			
Bruker/Varian	9100/9090/9095	x			x			
Bruker/Varian	Genesis (HS: 10, 20 mL Rounded)			x				
Bruker/Varian/Rainin	Dynamax AI-IA, AI-200, Dynamax AI-3	x						
Bruker/Varian/Rainin	Dynamax AI-3AI-IA, AI-2W				x			
Carlo Erba/Fisons	42 vial tray AS 800	x						
Carlo Erba/Fisons	AS 800		x					
Carlo Erba/Fisons	AS 800, 8000				x			
Carlo Erba	HS 500, HS 800 (HS: 6, 10, 20 mL, Flat)			x				
Carnegie	CMA-250/200	x						
Chrompack	CP 9000 GC Series	x						
Cueni	Headspace (HS: 10, 20 mL)			x				
CTC	CTC A105S	x						
CTC	Headspace (HS: 20 mL, Flat)			x				
Dani	ALS 39.80, 86.80	x	x		x			
Dani	HSS 39.50, HSS 86.50 (HS: 10, 20 mL)			x				
Dani	SPT 37.50 (HS: 20 mL)			x				
Delsi		x						
Dynatech	42 vial tray	x	x		x			
Dynatech	LC2000		x					
Fisons	42 vial tray, AS800	x						
GBC		x						
Gerstel		x						
Gilson	231 XL, 232 XL, 233 XL, Aspec XL	x	x		x			
Gilson	Asted XL	x			x			
Gynkoteck	Gina, others	x			x			
Hitachi	AS-2000, AS-6000	x	x					
Hitachi	S6551				x			
Hitachi	L-7200				x		x	x
Hitachi	L-7250				x		x	
IBM		x			x			
ICI	other than LC 1600	x			x			
Infochroma		x			x			

Manufacturer	Instrument/Model #	11 mm Crimp-Top	9 mm Short Cap Screw-Thread	Headspace	8 mm Screw-Thread	10 mm Screw-Thread	4 mL WISP 48 Style	1 mL WISP 96 Style
Jasco	851-AS, AS-950	x			x			
Jasco	LC800 & 900 series				x			
Kipp		x			x			
Kontron	360	x			x			
Kontron	460				x			
LDC	Marathon, Promis	x	x		x			
LDC	other than 713	x			x			
L.E.A.P. Technologies	CTC A105S	x						
L.E.A.P. Technologies	CTC A200S	x	x		x	x		
L.E.A.P. Technologies	HS 500 (HS: 10, 20 mL Rounded)			x				
Magnus Scientific		x			x			
PerkinElmer	AI-1	x	x					
PerkinElmer	Autosystem GC (HS: 10, 20 mL, Rounded)	x			x	x		
PerkinElmer	F40, F45, HS 6, HS 40 (HS: 10, 20 mL, Rounded)			x				
PerkinElmer	Integral 4000 (HS: 10, 20 mL, Rounded)	x		x				
PerkinElmer	ISS 100, LC 600 42 vial tray	x	x					
PerkinElmer	ISS 200 (HS: 6 mL)	x	x	x				
PerkinElmer	420/B, 4900	x			x			
Pharmacia LKB	2157-010	x			x			
Phillips	4247, 4710	x			x			
Phillips	LC-XP	x			x		x	
Polymer-Labs	GPC 110/210	x						
Precision Sampling	GC111, GC 311, LC 241-60	x			x			
Pye	LCXP	x						
S.G.E.	M280D	x			x			
Sedere		x			x			
Shimadzu	AOC 20i	x				x		
Shimadzu	AOC-14/1400, AOC-17				x		x	
Shimadzu	AOC-8B/9, SIL-6A, SIL-6B, -9A, -8A				x			
Shimadzu	HSS-2B (HS: 27 mL)			x				
Shimadzu	SIL-2AS						x	
Shimadzu	SIL-10A, 10Ai, 10AxL	x	x		x	x		
Siemens	AS 32, AS 200	x						
Spark Holland	SPH 125	x	x					
Spark Holland	Marathon, Promis	x	x		x			
Spark Holland	Triathlon, Midas	x			x			
Spectra-Physics	8875, 8880	x	x		x			
Talbot		x			x			
Tekmar	7000, 7000/7050 (HS: 10, 20 mL, Rounded)			x				
Thermo Scientific	TRACE GC 2000, AS2000	x	x					
TOA	ICA5450				x			
Tosca 1		x						
TosoHaas	TSK-6080, AS-8010, AS-8020	x			x		x	
Tracor	770, 771, 772	x						
TSP	8875, 8880, AS 100/1000, AS 300/3000	x			x			
Unicam	4710	x						
Unicam	4700LC				x			
Unicam	4247	x			x			
Unicam	LC-XP	x			x		x	
United Technologies		x			x			
Waters	Alliance 2690	x	x		x	x		
Waters	710, 717+						x	x
Waters	48-pos. M700						x	
Waters	96-pos. M700							x



Vial Size Quick Reference Chart

All vials pictured are actual size with description, Restek catalog number, and page number for quick reference.

WISP Vials

4.0 mL Screw-
Thread Step Vial



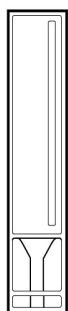
24654, 24655
24656, 24657
Page 364

4.0 mL Clear
Crimp-Top



24658, 24659
Page 364

700 μ L Limited
Volume



24680,
24681
Page 365

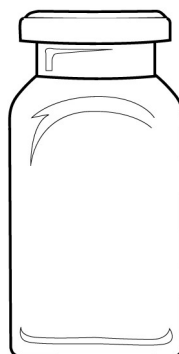
96 Style



24662, 24663,
24664, 24665,
24678, 24679
Page 365

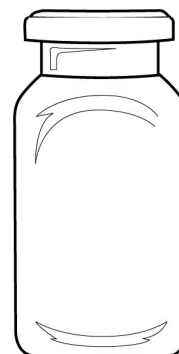
Headspace Vials

10 mL Clear
Flat Bottom



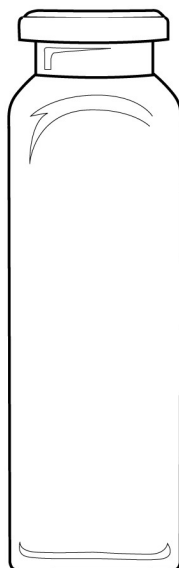
24683,
24684
Page 367

10 mL Clear
Rounded Bottom



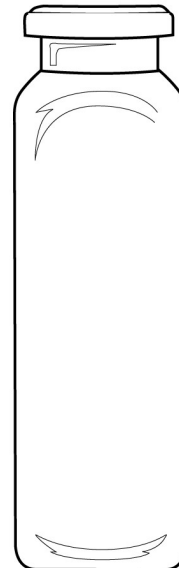
21164,
21165
Page 367

20 mL Clear
Flat Bottom



24685,
24686
Page 367

20 mL Clear
Rounded Bottom



21162,
21163
Page 367

All vials pictured are actual size with description, Restek catalog number, and page number for quick reference.

Limited Volume Inserts

250 μ L Big
Mouth Insert



24516,
21779
Page 355

250 μ L Glass
Flat Bottom



24510
Page 355

350 μ L Glass
Flat Bottom Inserts
w/ID Ring



21780,
24517
Page
355



24692,
24693
Page
355

500 μ L Glass
WISP
Flat Bottom



21787, 21788
Page 356

100 μ L Glass or
Polypropylene
w/ Polypropylene
Bottom Spring



24508, 21775
24512
Page 355

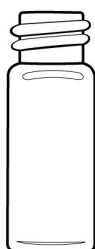
250 μ L Glass
or Polypropylene
w/ Bottom Spring



21776, 21777,
24518
Page 355

8 mm Screw-Thread Vials

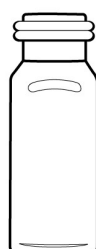
2.0 mL Clear or
Amber w/ White Graduated
Marking Spot



24619, 24620,
24621, 24622
Page 360

9 mm Short-Cap Vials

2.0 mL Clear or
Amber w/White Graduated
Marking Spot



21154*, 21155*
*w/o white graduated marking spot
21140, 21141
21142, 21143
Page 359

10 mm Screw-Thread Vials

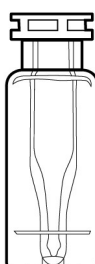
2.0 mL Big Mouth Step
Clear or Amber



24626, 24627,
24628, 24629
Page 362

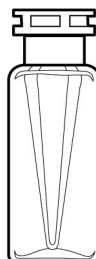
11 mm Crimp-Top Vials

Limited Volume 100 μ L
Glass Insert, Clear Plastic Vial



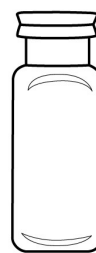
24653
Page 357

Limited Volume
100 μ L Polypropylene



24651, 24652
Page 357

2.0 mL Snap Seal Style
Clear or Amber Glass



21152, 21153, 24383, 24384, 24385, 24386
Page 357



We put quality and a personal commitment to you in all our products.

Microsampling Vials and Inserts

Microsampling vials and inserts are ideal for applications where sample volume is limited because they provide maximum sample extraction and minimal sample waste. One-piece interlock vials offer less handling of vial components and reduce the chance of sample loss due to spillage. Limited-volume inserts are designed to work in 2 mL vials.



Interlock Vials

Interlock limited volume vials offer the performance and convenience of a one-piece microvial for a fraction of the cost. A 300 μ L insert is fused into a 12 x 32 mm clear or amber glass vial. This one-piece design reduces the potential for contamination.

Description	Type	Volume	Color	Material	100-pk.	500-pk.
Interlock Vial	9 mm Thread	300 μ L	Clear	Glass	22433	22434
Interlock Vial	9 mm Thread	300 μ L	Amber	Glass	22435	22436
Interlock Vial	11 mm Crimp or Snap Ring	300 μ L	Clear	Glass	22437	22438
Interlock Vial	11 mm Crimp or Snap Ring	300 μ L	Amber	Glass	22439	22440



also available

Mininert® sampling valves

See **page 370**.



Micro-Vials with Screw Threads

- Two sizes available.
- Tapered for high recovery of contents.
- Work with Mininert® sampling valves.

Description	Volume	Screw Thread Size	qty.	cat.#
Micro-Vial, Open Top Cap (attached), Borosilicate Glass, w/Graduated Marking Spot	1.0 mL	13 mm/425	12-pk.	21050
Micro-Vial, Open Top Cap (attached), Borosilicate Glass, w/Graduated Marking Spot	3.0 mL	20 mm/400	12-pk.	21051



Inserts for 2.0 mL, 11 mm Crimp-Top & 2.0 mL, 9 mm Short-Cap, Screw-Thread Vials
(Vials shown on pages 357–359.)

Description	Volume	Material	100-pk.	1,000-pk.
Big Mouth Insert w/Bottom Spring	50 µL	Glass	24513	21782
Big Mouth Insert w/Bottom Spring	250 µL	Glass	21776	21777
Big Mouth Insert w/Glass Flange (Step Design)*	250 µL	Glass	24516	21779
Insert, Flat Bottom	350 µL	Glass	21780	24517
Insert, Flat Bottom w/ID Ring	350 µL	Glass	24692	24693
Big Mouth Insert w/Bottom Spring	250 µL	Polypropylene	24518	—
Big Mouth Insert w/Bottom Spring & Graduated Markings	250 µL	Polypropylene	24518A	—
Big Mouth Insert, Top Flange	250 µL	Polypropylene	24519	—
Big Mouth Insert, No Spring	250 µL	Polypropylene	24520	—

*Big Mouth insert w/glass flange (step design) not to be used with 9 mm screw-thread vials.



Inserts for 2.0 mL, 8 mm Screw-Thread Vials
(Vials shown on page 360.)

Description	Volume	Material	100-pk.	1,000-pk.
Insert w/Polypropylene Bottom Spring	100 µL	Glass	24508	21775
Insert, Flat Bottom	250 µL	Glass	—	24510
Insert, Flat Bottom w/ID Ring	250 µL	Glass	—	24691
Insert, No Spring	100 µL	Polypropylene	24511	—
Insert w/Bottom Spring	100 µL	Polypropylene	24512	—



Inserts for 2.0 mL, 10 mm Big Mouth Step Design Screw-Thread Vials
(Vials shown on page 362.)

Description	Volume	Material	100-pk.	1,000-pk.
Big Mouth Insert w/Bottom Spring	250 µL	Glass	21776	21777
Insert, Flat Bottom	350 µL	Glass	21780	24517
Insert, Flat Bottom w/ID Ring	350 µL	Glass	24692	24693
Big Mouth Insert w/Glass Flange (Step Design)*	250 µL	Glass	24516	21779

Polypropylene inserts available on request (1,000-packs only).

*Big Mouth insert w/glass flange (Step design) not to be used with 9 mm screw-thread vials.

also available
Crimpers & Decappers
See **page 371**.



Sky®
Inlet Liners



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Sky® inlet liners, featuring a state-of-the-art deactivation, give you the inertness you need for accurate, reproducible trace-level results.

See pages 193–202 for details.



Inserts for 4.0 mL WISP 48 Screw-Thread Step Vials (Vials shown on page 364.)

Description	Volume	Material	100-pk.	1,000-pk.
Insert for WISP 48 Vials, Flat Bottom**	500 µL	Glass	21787	21788

Polypropylene inserts available on request (1,000-packs only).

**Also fit 4.0 mL Snap Seal vials. See page 364.



Limited Volume Inserts for Shell Vials, 1.0 mL WISP 96 Style, 8 x 40 mm (Vials shown on page 365.)

Description	Volume	Material	100-pk.	1,000-pk.
Big Mouth Insert w/Bottom Spring	250 µL	Glass	21776	21777

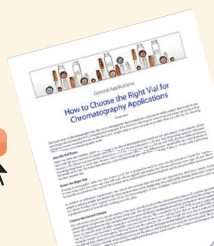
free literature

How to Choose the Right Vial for Chromatography Applications

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lit. cat.#
GNAR2018-UNV



Inserts for Versa Vials™ (Vials shown on page 368.)

Description	Volume	Material	100-pk.	1,000-pk.
Versa Vial Insert w/Glass Flange	250 µL	Glass	22707	—
Versa Vial Insert w/Flange	250 µL	Polypropylene	22709	22710
Versa Vial Insert, Flat Bottom	250 µL	Glass	22711	22712

2.0 mL Crimp-Top Vials, 12 x 32 mm, 11 mm

Choose with or without graduated marking spots.



2.0 mL Crimp-Top Vials, 12 x 32 mm, 11 mm

Description	Color	Material	100-pk.	1,000-pk.
Vial w/White Graduated Marking Spot	Clear	Glass	24383	24384
Vial w/Blue Graduated Marking Spot	Clear	Glass	—	24384B
Vial w/Green Graduated Marking Spot	Clear	Glass	—	24384G
Vial w/Rust Graduated Marking Spot	Clear	Glass	—	24384R
Vial w/Yellow Graduated Marking Spot	Clear	Glass	—	24384Y
Vial w/White Graduated Marking Spot	Amber	Glass	24385	24386
Vial without Graduated Marking Spot	Clear	Glass	21152	21153



2.0 mL Crimp-Top Vial With 100 µL Insert

- Plastic vial.
- Choice of glass or polypropylene fused insert.

Description	100-pk.	1,000-pk.
Clear Plastic Vial w/100 µL Polypropylene Insert	24651	24652
Clear Plastic Vial w/100 µL Glass Insert	24653	—



2.0 mL, 11 mm Aluminum Crimp Seals With Septa

Seal Color	Septa Material	100-pk.	500-pk.	1,000-pk.
Silver	PTFE/Natural Rubber	21174	—	21175
Blue	PTFE/Red Rubber	24351	—	24352
Green	PTFE/Red Rubber	24353	—	24354
Red	PTFE/Red Rubber	24355	—	24356
Yellow	PTFE/Red Rubber	24357	—	24358
Mixed	PTFE/Rubber	—	21724	—
Silver	PTFE/Silicone	24359	—	24360
Blue	PTFE/Silicone	24361	—	24362
Green	PTFE/Silicone	24363	—	24364
Red	PTFE/Silicone	24365	—	24366
Yellow	PTFE/Silicone	24367	—	24368
Mixed	PTFE/Silicone	—	21725	—
Silver	PTFE/Silicone/PTFE	24369	—	24370
Silver	PTFE/Silicone w/Slit	26562	—	26563



Choose preslit caps to reduce the risk of needle bending, release vacuum from high-volume injections, and improve injection reproducibility when greater than 20% of vial volume is withdrawn.

also available

Crimpers & Decappers

See page 371.



also available

Limited Volume Inserts

for 2.0 mL, 11 mm Crimp-Top Vials

See **page 355**.



2.0 mL, 11 mm Poly Crimp Seal Caps: Snap-On or Crimp

The Poly Crimp seal is versatile, working as either a snap-on or crimp-top cap. Simply use a standard crimping tool to secure the Poly Crimp seal onto any crimp-top vial. It's that easy!

Seal Color	Septa Material	100-pk.	400-pk.	1,000-pk.
Clear	PTFE/Butyl Rubber	24433	—	24434
Clear	PTFE/Silicone	24443	—	24444
Blue	PTFE/Silicone	24445	—	24446
Clear	PTFE/Silicone/PTFE	24453	—	24454
Blue	PTFE/Silicone/PTFE	24455	—	24456
Mixed	PTFE/Silicone/PTFE	—	21728	—
Clear	PTFE/Silicone w/Slit	26564	—	26565
Clear	PTFE/Silicone/PTFE w/Starburst	26566	—	26567
Clear	PTFE/Silicone w/Starburst	26568	—	26569
Blue	PTFE/Silicone w/Starburst	26570	—	26571

NEW!

Choose preslit caps to reduce the risk of needle bending, release vacuum from high-volume injections, and improve injection reproducibility when greater than 20% of vial volume is withdrawn.



2.0 mL, 11 mm GC Snap Ring Cap With Septum

- Snaps on any crimp-style vial.
- Save money! Use this snap cap when you don't need to crimp.

Description	Septa Material	100-pk.	1,000-pk.
Polypropylene Snap Ring Cap w/Liner	PTFE, 10 mil	21729	21730
Polypropylene Snap Ring Cap w/Septum	PTFE/Butyl Rubber	21731	21732
Polypropylene Snap Ring Cap w/Septum	PTFE/Silicone	21733	21734

Restek
Recommends!



24673

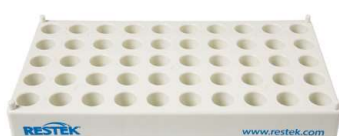
2.0 mL Crimp Vial Convenience Kits (Vials, Caps, & Septa)

Vials packaged in a clear-lid tray. Caps with septa packaged in a plastic bag.

Description	100-pk.	1,000-pk.
Clear 2.0 mL Vial, Deactivated, Silver Seal, PTFE/Natural Rubber Septa	24671	24672
Amber 2.0 mL Vial, Deactivated, Silver Seal, PTFE/Natural Rubber Septa	24673	24674
Clear 2.0 mL Vial, Untreated, Silver Seal, PTFE/Natural Rubber Septa	21196	21197
Amber 2.0 mL Vial, Untreated, Silver Seal, PTFE/Natural Rubber Septa	21198	21199
Clear 2.0 mL Vial, Untreated, Silver Seal, PTFE/Silicone Septa	24646	24647
Amber 2.0 mL Vial, Untreated, Silver Seal, PTFE/Silicone Septa	24648	24649

2.0 mL Sample Vial Racks

- Racks feature alphanumeric indexing for easier vial identification.
- Racks can be stacked for efficient storage.
- Fits most 2.0 mL, 12 x 32 mm vials (vials sold separately).



22856

Description	Capacity	qty.	cat.#	qty.	cat.#
Polypropylene Storage Rack for 12 x 32 mm Vials	50 vials, 5 x 10	ea.	22856	5-pk.	22857

2.0 mL, 9 mm Short-Cap, Screw-Thread Vials, 12 x 32 mm

Fit all 2.0 mL, 12 x 32 mm, crimp-top vial-based autosamplers.



Ideal for Agilent 7673, 7683,
and 7693 autosamplers.

also available

Limited Volume Inserts
for 2.0 mL, 9 mm Short-Cap
Screw-Thread Vials

See page 355.



2.0 mL, 9 mm Short-Cap, Screw-Thread Vials (vial only)

Description	Color	100-pk.	1,000-pk.
Short-Cap Vial w/White Graduated Marking Spot	Clear	21140	21141
Short-Cap Vial w/White Graduated Marking Spot	Amber	21142	21143
Short-Cap Vial without Graduated Marking Spot	Clear	21154	21155



2.0 mL, 9 mm Short-Cap, Screw-Vial Closures (Polypropylene, preassembled)

Cap Color	Septa Material	100-pk.	500-pk.	1,000-pk.
Blue	PTFE/Butyl Rubber	24473	—	24474
Mixed	PTFE/Butyl Rubber	—	24668	—
Blue	PTFE/Silicone	24485	—	24486
Green	PTFE/Silicone	24487	—	24488
Yellow	PTFE/Silicone	24493	—	24494
Mixed	PTFE/Silicone	—	24669	—
Blue	PTFE/Silicone/PTFE	24497	—	24498
Black	PTFE/Silicone/PTFE	24495	—	24496
Natural	PTFE/Silicone/PTFE	24501	—	24502
Red	PTFE/Silicone/PTFE	24503	—	24504
Green	PTFE/Silicone/PTFE	24499	—	24500
Yellow	PTFE/Silicone/PTFE	24505	—	24506
Mixed	PTFE/Silicone/PTFE	—	24670	—
Black	PTFE/Silicone w/Slit	26572	—	26573
Green	PTFE/Silicone w/Slit	26574	—	26575
Red	PTFE/Silicone w/Slit	26576	—	26577
Blue	PTFE/Silicone w/Slit	26578	—	26579
Yellow	PTFE/Silicone w/Slit	26580	—	26581



Choose preslit caps to reduce the risk of
needle bending, release vacuum from
high-volume injections, and improve
injection reproducibility when greater
than 20% of vial volume is withdrawn.

NEW!

2.0 mL Screw-Thread Vial Convenience Kits (Vials, Caps, & Septa)

Vials packaged in a clear-lid tray. Caps with septa packaged in a plastic bag.

Description	100-pk. cat.#	1,000-pk. cat.#
Clear Vial w/Graduated Marking Spot, 9 mm, Blue Cap PTFE/Butyl Rubber Liner	26590	26591
Clear Vial w/Graduated Marking Spot, 9 mm, Blue Cap PTFE/Silicone Liner	26592	26593
Amber Vial w/Graduated Marking Spot, 9 mm, Blue Cap PTFE/Butyl Rubber Liner	26594	26595
Amber Vial w/Graduated Marking Spot, 9 mm, Blue Cap PTFE/Silicone Liner	26596	26597



also available

Mininert® sampling valves

See **page 370**.



2.0 mL Screw-Thread Vials, 12 x 32 mm, 8 mm/425 Thread

- Fit all 2.0 mL, 12 x 32 mm, screw-thread 8 mm/425 vial-based autosamplers.



2.0 mL, 8 mm Screw-Thread Vials (vial only)

These vials provide the most secure environment for your sample because evaporation is minimized.

Description	Volume	Color	100-pk.	1,000-pk.
Vial w/White Graduated Marking Spot	2.0 mL	Clear	24619	24620
Vial w/White Graduated Marking Spot	2.0 mL	Amber	24621	24622



2.0 mL, 8 mm Screw-Thread Vials with 100 µL Insert

- Plastic vials.
- Choice of glass or fused polypropylene insert.

Description	Color	100-pk.	1,000-pk.
Plastic Vial w/100 µL Polypropylene Insert	Clear	24623	24624
Plastic Vial w/100 µL Glass Insert	Clear*	24625	—

*Amber plastic vial with clear glass insert available on request. (1,000-packs only)

also available

Limited Volume Inserts
for 2.0 mL, 8 mm Screw-Thread Vials

See **page 355**.



2.0 mL, 8 mm Caps and Septa (preassembled)

Cap Color	Septa Material	100-pk.	1,000-pk.
Black	Red PTFE/Silicone, 0.065"	21149	21720
Black Top Hat	PTFE/Silicone	21721	21722
Black	Red PTFE/Silicone, 0.060" w/Slit	26582	26583
Black Flangeless	Red PTFE/Silicone, 0.060" w/Slit	26584	26585

Choose preslit caps to reduce the risk of needle bending, release vacuum from high-volume injections, and improve injection reproducibility when greater than 20% of vial volume is withdrawn.

NEW!



Caps and Septa for 2.0 mL, 8 mm Screw-Thread Vials

Description	Septa Material	100-pk.	1,000-pk.
Black Polypropylene, Open-Hole Caps		21176	21177
Septa, 8 mm x 0.060"	Red PTFE/Silicone	21178	21179
Septa, 8 mm x 0.065"	Red PTFE/White Silicone	21795	21147

2.0 mL Autosampler Vial Convenience Kits

- Vials packaged in a clear-lid tray. Preassembled caps with septa packaged separately in a plastic bag.
- Black polypropylene open-hole caps and 8 mm red PTFE/silicone septa, 0.065".

Description	100-pk.	1,000-pk.
Clear 2.0 mL Vial, Silcote Deactivated, Black Cap, Red PTFE/Silicone Septa, 0.065"	24638	24639
Amber 2.0 mL Vial, Silcote Deactivated, Black Cap, Red PTFE/Silicone Septa, 0.065"	24640	24641
Clear 2.0 mL Vial, Untreated, Black Cap, Red PTFE/Silicone Septa, 0.065"	21192	21193
Amber 2.0 mL Vial, Untreated, Black Cap, Red PTFE/Silicone Septa, 0.065"	21194	21195



24638

2.0 mL Preassembled Vial Kits

8 mm/425 Screw-Thread, Unmarked Vials, Septa, and Caps

Caps attached to vials.

Description	100-pk.	1,000-pk.
Clear 2.0 mL Vial, Black Cap, Red PTFE/Silicone Septa, 0.045"*	24630	24631
Amber 2.0 mL Vial, Black Cap, Red PTFE/Silicone Septa, 0.045"*	24632	24633
Clear 2.0 mL Vial, Black Cap, Red PTFE/Silicone Septa, 0.065"***	24634	24635
Amber 2.0 mL Vial, Black Cap, Red PTFE/Silicone Septa, 0.065"***	24636	24637

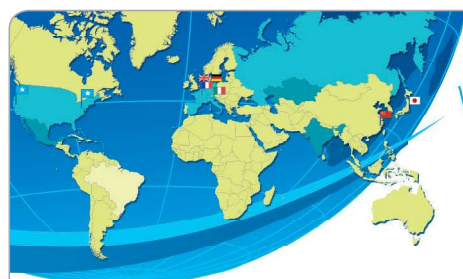
*Best fit for Shimadzu.

**Best fit for Varian.



24630

24632



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also available

Limited Volume Inserts
for 2.0 mL, 10 mm Big Mouth Step
Design Screw-Thread Vials

See **page 355**.



2.0 mL Big Mouth Step Design Screw-Thread Vials, 12 x 32 mm, 10 mm/425 Thread

- 40% larger opening than other vials.
- Step profile automatically centers glass flange limited volume inserts.
- Preassembled caps with septa, with or without vials.
- Designed for Waters Alliance® autosamplers.

The Big Mouth Step vial system has a larger ID than conventional vials and incorporates a neck finish that is uniquely designed to allow the insert to be precisely aligned in the center of the vial. This precise alignment provides maximum sample withdrawal and eliminates any chance of missed injections.



2.0 mL Big Mouth Step Screw-Thread Vials (vial only)

Description	Volume	Color	100-pk.	1,000-pk.
Big Mouth Step Vial w/White Graduated Marking Spot	2.0 mL	Clear	24626	24627
Big Mouth Step Vial w/White Graduated Marking Spot	2.0 mL	Amber	24628	24629



Caps and Septa for 2.0 mL Big Mouth Step Vials (preassembled)

Description	Septa Material	100-pk.	1,000-pk.
Caps and Septa, Preassembled	PTFE/Silicone/PTFE, 0.040"	—	21723
Caps and Septa, Preassembled	Red PTFE/White Silicone, 0.060"	—	24677
Vial Caps & Septa	Red PTFE/Silicone, 0.060" w/Slit	26586	26587

Choose preslit caps to reduce the risk of needle bending, release vacuum from high-volume injections, and improve injection reproducibility when greater than 20% of vial volume is withdrawn.

NEW!



Septa for 2.0 mL Big Mouth Step Vials

Description	Septa Material	qty.	cat.#
Septa Only	Red PTFE/White Silicone, 0.060"	1,000-pk.	21148



2.0 mL Big Mouth Step Vial Kits w/Black Caps (preassembled)

Caps attached to vials.

Description	100-pk.	1,000-pk.
Clear 2.0 mL Vial, Black Cap, PTFE/Silicone/Red PTFE Septa, 0.040"	24675	24676
Clear 2.0 mL Vial, Black Cap, Red PTFE/Silicone Septa, 0.065"	24642	24643
Amber 2.0 mL Vial, Black Cap, Red PTFE/Silicone Septa, 0.065"	24644	24645

Certified Autosampler Vial Kits

Certified 2.0 mL Screw-Thread Vials

- Certificates enclosed with each kit.
- Vials of clear or amber borosilicate glass with ID marking spots.
- Closures with pre-inserted septa.
- Each kit sealed for integrity.

Certification Parameters Include:

Vial Dimensions: Height, diameter, bottom thickness, neck length, thread profile, and annealing

Cap/Septum: Diameter, height, thread integrity, center flash, septa insertion, sealing/resealing test, residue by headspace GC, and extractables

Chemical Test: LC Test: nonvolatile residue

GC Test: volatile residue

Description

100-pk.

Assembled Clear 2.0 mL Vial w/Marking Spot, Cap, Bonded PTFE/Silicone Slit Septa	22789
Assembled Amber 2.0 mL Vial w/Marking Spot, Cap, Bonded PTFE/Silicone Slit Septa	22788
Unassembled Clear 2.0 mL Vial w/Marking Spot, Cap, Bonded PTFE/Silicone Septa	22792
Unassembled Amber 2.0 mL Vial w/Marking Spot, Cap, Bonded PTFE/Silicone Septa	22790
Unassembled Clear 2.0 mL High-Recovery Vial w/Marking Spot, Cap, Bonded PTFE/Silicone Slit Septa	22793
Unassembled Amber 2.0 mL Vial w/Marking Spot, Cap, Bonded PTFE/Silicone Slit Septa	22791



22788



22792

Raptor[™]
LC Columns



Experience *Selectivity Accelerated*

See pages 155–159 or visit www.restek.com/raptor

Raptor[™] EXP[®] Guard Columns also available.

also available

Limited Volume Inserts
for 4.0 mL WISP 48 Screw-Thread
Step Vials

See **page 356**.



4.0 mL WISP 48 Crimp-Top 13 mm Vials, 15 x 45 mm, Snap Seal



4.0 mL WISP 48 Snap Seal Crimp-Top Vial (vial only)

Description	Volume	Color	100-pk.	1,000-pk.
WISP 48 Snap Seal Vial w/White Graduated Marking Spot	4.0 mL	Clear	24658	24659



Aluminum Seals w/Septa for 4.0 mL WISP Crimp-Top Vials

Seal Color	Septa Material	100-pk.	1,000-pk.
Silver	PTFE/Butyl Rubber	21753	21754
Silver	PTFE/Silicone	21755	

4.0 mL WISP 48 Screw-Thread Step Vials, 15 x 45 mm, 13/425



4.0 mL WISP 48 Screw-Thread Step Vials (vials only)

Description	Volume	Material	100-pk.	1,000-pk.
WISP 48 Step Vial w/White Graduated Marking Spot	4.0 mL	Clear	24654	24655
WISP 48 Step Vial w/White Graduated Marking Spot	4.0 mL	Amber	24656	24657



Choose preslit caps to reduce the risk of
needle bending, release vacuum from
high-volume injections, and improve
injection reproducibility when greater
than 20% of vial volume is withdrawn.

NEW!



4.0 mL WISP 48 Caps and Septa

Description	Septa Material	100-pk.	1,000-pk.
WISP 48 Caps and Septa, Top Hat	PTFE/Silicone	21745	21746
WISP 48 Caps and Septa, Preassembled	Red PTFE/Silicone, 0.065"	21743	21744
Vial Caps & Septa, Black Polypropylene, Open-Hole	Red PTFE/Silicone, 0.060" w/Slit	26588	26589
WISP 48 Caps, Black Polypropylene, Open-Hole		21741	21742
Septa	Red PTFE/Silicone/PTFE, 0.040"	21751	21752
Septa	Red PTFE/Silicone, 0.060"	21749	21750

1.0 mL WISP 96 Style Shell Vials, 8 x 40 mm

Available in three styles.



also available

Limited Volume Inserts
for 1.0 mL WISP 96 Style Shell Vials

See **page 356**.



1.0 mL WISP 96 Style, 8 x 40 mm Shell Vials

Description	Volume	Color	Material	200-pk.	1,000-pk.
WISP 96 Style Vial	1.0 mL	Clear	Glass	24662	24663
WISP 96 Style Vial	1.0 mL	Amber	Glass	24664	24665
WISP 96 Style Vial	1.0 mL	Clear	Polypropylene	24678	24679
WISP 96 Style Vial	700 µL Limited Volume	Clear	Polypropylene	24680	24681

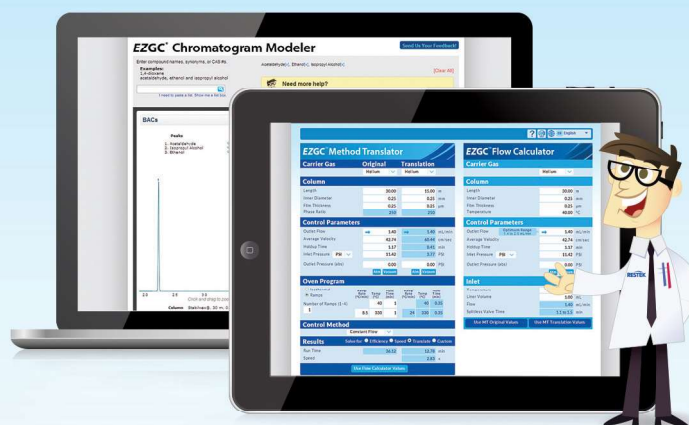
8mm Starburst Plugs sold separately.



8 mm Starburst Plugs for Shell Vials, 1.0 mL WISP 96 Style, 8 x 40 mm

Description	Color	Material	200-pk.	1,000-pk.
Starburst Snap Plugs for Shell Vials	Clear	Polyethylene	21769	21770
Starburst Snap Plugs for Shell Vials, Conical	Clear	Polyethylene	21771	21772
Starburst Snap Plugs for Shell Vials, Silicone-Lined	Clear	Polyethylene	21773	21774

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Headspace Screw-Thread Vials (18 mm)

Description	Volume	Color	Dimensions	100-pk.	1,000-pk.
Headspace Vial	10 mL	Clear	22 x 45 mm	23084	23085
Headspace Vial	10 mL	Amber	22 x 45 mm	23088	23089
Headspace Vial	20 mL	Clear	22 x 75 mm	23082	23083
Headspace Vial	20 mL	Amber	22 x 75 mm	23086	23087

Caps not included (sold separately).



Magnetic Screw-Thread Caps (18 mm)

Description	Septa Material	100-pk.	1,000-pk.
Magnetic Caps and Septa for SPME	Blue PTFE/Silicone, 1.5 mm thick	23090	23091
Magnetic Caps and Septa	Red PTFE/Silicone, 1.9 mm thick	23092	23093
Magnetic Caps and Septa	PTFE/Red Chlorobutyl	23094	23095



3-IN-1 TECHNOLOGY

Highest Inertness • Lowest Bleed • Exceptional Reproducibility

See **pages 24–39.**

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Headspace Crimp Vials (20 mm)

Description	Volume	Color	Dimensions	100-pk.	1,000-pk.
Headspace Vial	6 mL	Clear	22 x 38 mm	21166	21167
Headspace Vial, Flat Bottom	10 mL	Clear	23 x 46 mm	24683	24684
Headspace Vial, Rounded Bottom	10 mL	Clear	23 x 46 mm	21164	21165
Headspace Vial, Flat Bottom	20 mL	Clear	23 x 75 mm	24685	24686
Headspace Vial, Rounded Bottom	20 mL	Clear	23 x 75 mm	21162	21163
Headspace Vial	27 mL	Clear	30 x 60 mm	21160	21161

Vial-to-instrument compatibility is designated in instrument reference chart. See page 351.



Aluminum Seals w/Septa (20 mm, preassembled)

Description	Cap Color	Septa Material	100-pk.	1,000-pk.
Seals w/Septa	Silver	PTFE/Gray Butyl Rubber	21761	21762
Seals w/Septa	Silver	PTFE/Silicone	21763	21764
Pressure Release Seals w/Septa*	Silver	PTFE/Gray Butyl Rubber	21765	21766
Pressure Release Seals w/Septa*	Silver	PTFE/Silicone	21767	21768

*Pressure release point: 3.0 bar $\pm$ 0.5 bar



Magnetic Seals w/Septa (20 mm, preassembled)

Description	Cap Color	Septa Material	100-pk.	1,000-pk.
Magnetic Seals w/Septa, with 5 mm Hole	Gold	PTFE/Silicone	22833	22834
Magnetic Seals w/Septa, with 8 mm Hole	Gold	PTFE/Silicone	22831	22832
Magnetic Seals w/Septa, with 8 mm Hole	Gold	PTFE/Butyl	22835	22836
BiMetal Magnetic Seals w/Septa, with 8 mm Hole	Red/Silver	PTFE/Silicone	22441	22442
BiMetal Magnetic Seals w/Septa, with 8 mm Hole	Blue/Silver	PTFE/Silicone	22443	22444

5 mm hole is compatible with the following systems: Carlo Erba HS500/HS800, CTC 500, Fisons HS500/HS800, and Bruker/Varian/Chrompack 9020/25. 8 mm hole is compatible with the Combi Pal. BiMetal magnetic seals are easier to crimp and decap than standard 20 mm magnetic seals.



2.0 mL Versa Vials™, Glass, 12 x 32 mm

- Elongated neck allows for consistent, reliable autosampler pick up.
- 9 mm opening is ideal for sampling and pipette use.

also available

Versa Vial™ Inserts

See page 356.



Description	Volume	Color	Material	100-pk.	1,000-pk.
Versa Vial	2.0 mL	Clear	Glass	22701	22702
Versa Vial	2.0 mL	Amber	Glass	22697	—
Versa Vial w/Marking Spot	2.0 mL	Clear	Glass	22703	22704
Versa Vial w/Marking Spot	2.0 mL	Amber	Glass	22699	22700



1.5 mL Versa Vials™, Polypropylene, 12 x 32 mm

Description	Volume	Color	Material	100-pk.	1,000-pk.
Versa Vial	1.5 mL	Clear	Polypropylene	22705	22706



Versa Vial™ Plugs (12 mm)

Description	Color	Plug Material	100-pk.	1,000-pk.
Versa Vial Plug	Green	Polyethylene	22713	22714
Versa Vial Plug	Grey	Chlorobutyl/Siliconized	22715	22716
Versa Vial Plug	White	PTFE/Silicone	22717	22718
Versa Vial Plug	White	PTFE/Silicone Plug w/Slit*	22719	22720

*Eliminates needle damage to plug.

Precleaned Volatile Organic Analyte (VOA) Sampling Vials

- Container, liner, and closure cleaned, assembled, and lot traceable.
- Open-top caps.
- PTFE faced 0.125" silicone septa.
- Cleaned to U.S. EPA Protocol B specifications.



24694

Description	Volume	Color	Material	Screw-Thread Size	qty.	cat.#
Precleaned VOA Vials	20 mL	Clear	Glass	24 mm/400	72-pk.	21798
Precleaned VOA Vials	20 mL	Amber	Glass	24 mm/400	72-pk.	21799
Precleaned VOA Vials	40 mL	Clear	Glass	24 mm/400	72-pk.	21796
Precleaned VOA Vials	40 mL	Amber	Glass	24 mm/400	72-pk.	21797
Collection Vials for ASE 200	60 mL	Clear	Glass	24 mm/400	72-pk.	26121
Collection Vials for ASE 200	60 mL	Amber	Glass	24 mm/400	72-pk.	26122
Replacement Septa, 24 mm x 0.125"			PTFE-lined silicone		100-pk.	24694



21798

26122



Reference Materials

Crack open the best organic reference standards in the industry by choosing:

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- Custom Flexibility
- Easy-to-Find Documentation

See **pages 464-465**.

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Filter Vials, Sampling Valves for Vials



Simply squeeze particulates and contaminants out of your sample!

Thomson SINGLE StEP® Filter Vials

- Easy-to-use vials offer fast sample filtration and require only a squeeze of your fingers.
- Color-coded caps allow easy identification of 0.2 µm or 0.45 µm membranes in PVDF, PTFE, PES, or nylon.
- Pre-slit PTFE/silicone caps help eliminate broken autosampler needles and cored septa.
- Low dead volume units feature rugged polypropylene vial and insert with 450 µL loading capacity.
- Fit most standard 12 x 32 mm autosamplers, including UHPLC instruments.



Porosity	Color	qty.	cat. #
Nylon			
0.2 µm	black cap	100-pk.	25891
0.45 µm	pink cap	100-pk.	25892
PES (polyethersulfone)			
0.2 µm	grey cap	100-pk.	25897
0.45 µm	orange cap	100-pk.	25898
PTFE (polytetrafluoroethylene)			
0.2 µm	green cap	100-pk.	25893
0.45 µm	blue cap	100-pk.	25894
PVDF (polyvinylidene difluoride)			
0.2 µm	red cap	100-pk.	25895
0.45 µm	yellow cap	100-pk.	25896

Patent No. 7,790,117

See **pages 410–411** for a compatibility chart.

**Mininert® Precision Sampling Valves for Vials**

Mininert® valves are very convenient for repetitive sampling and limit content exposure to the silicon septum. Models are available for screw-cap and crimp-top vials. The crimp-top valve for 20 mm ID glassware slides into the neck of the vial. Turn the threaded flange to secure a tight fit.

Description	Type	Thread Size	qty.	cat. #
Mininert Precision Sampling Valves	Screw-Thread	13 mm/425	12-pk.	24900
Mininert Precision Sampling Valves	Screw-Thread	15 mm/425	12-pk.	24901
Mininert Precision Sampling Valves	Screw-Thread	18 mm/400	12-pk.	24902
Mininert Precision Sampling Valves	Screw-Thread	20 mm/400	12-pk.	24903
Mininert Precision Sampling Valves	Screw-Thread	24 mm/400	12-pk.	24904
Mininert Precision Sampling Valves	Crimp-Top	—	12-pk.	24905
Replacement Septa			50-pk.	24906
Septum Insertion Tool			ea.	24907

Electronic Rechargeable Crimpers and Decappers

- Easy to use; comfortable grip.
- Hundreds of operations from one charge.
- Adjustable crimping force.
- Large battery allows for faster charge cycle.
- All kits include a universal plug set for the battery charger.
- For 11 mm and 20 mm caps.
- One-year warranty.

These electronic crimpers and decappers have a rechargeable 6.4-volt battery installed. The large battery allows for quick, powerful operation and a faster charge cycle, minimizing downtime. Charging the battery takes thirty minutes to two hours. The universal plug set includes U.S., European, UK, and Australian plug clips.

Description	Size	qty.	cat.#
Electronic Crimper	11 mm	kit	22358
Electronic Crimper	20 mm	kit	22359
Electronic Decapper	11 mm	kit	22360
Electronic Decapper	20 mm	kit	22361
Replacement Battery for Electronic Crimpers and Decappers		ea.	22362



Universal plug set for battery charger included in all kits.

Easy Grip Manual Crimpers and Decappers

Our Easy Grip crimpers and decappers feature tough, light, plastic bodies with curved handles that improve hand comfort during use. The bottom-pull handle allows for a steadier hold than top-push handles. An easily viewed adjustment knob is located at the head of the product. The clearly shown + and – symbols, along with directional arrows, simplify adjusting the intensity of the crimp/decap as needed. The knob is also designed to indicate when the crimp setting has been reached, when it fully contacts the body of the product.

Description	Size	qty.	cat.#
Crimper	11 mm	ea.	23396
Crimper	20 mm	ea.	23398
Decapper	11 mm	ea.	23397
Decapper	20 mm	ea.	23399



Safer than removing caps with pliers, knives, or screwdriver blades!

Restek Electronic Leak Detector

Protect your instrument and your analytical column

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