



# VIALS

chromatography &

SYRINGES

VIALS : Restek 2009/10 Cat p250-267

# Vials

& Syringes

## Vials

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# chromatography **VIALS** &

## SYRINGES

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Top: Marcia Fulton, Assembly Technician  
Bottom: Stephanie Sunner, International Customer Service





**Siltek Coated Vials**

For a highly inert surface, we recommend Siltek® deactivation for your vials:

- Maximizes inertness, minimizes sample breakdown—ideal for difficult matrices and reactive compounds.
- Inert over a wide sample pH range.
- Low bleed.
- Thermally stable.
- Any glass vial can be coated.

Our patented Siltek® deactivation process produces a highly inert glass surface that features high temperature stability, extreme durability, and low bleed. Try Siltek® deactivated vials for better recovery of sample analytes.

For Siltek® vials, add the corresponding suffix number to the vial catalog number.

Qty.	Siltek Deactivation
100-pk.	-222 enquire addl. cost
1000-pk.	-223 enquire addl. cost

**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

**instrument reference****For 2.0mL, 11mm Crimp-Top Vials**

The following instruments are compatible with 2.0mL, 11mm crimp-top vials. For further information or questions, please contact your Restek sales representative or technical service.

Manufacturer	Instrument/Model #	Manufacturer	Instrument/Model #	Manufacturer	Instrument/Model #
A.I.M.	CPS -100, 200	Gilson	231 XL, 232 XL, 233 XL, Asted XL, Aspec XL	Sedere	
A.I.	42 vial tray			Shimadzu	SIIL-10A, 10Ai, 10Axl
Agilent	1042, 1050, 1080, 1082, 1084, 1090, 1100, 5890, 6850, 6890, 7670A, 7671A, 7672, 7673A/B, 7683, 7890, 8042	Gynkotek	Gina, others	Siemens	AS 32, AS 200
Alcott	738	Hitachi	AS-2000, AS-6000	Spark Holland	SPH 125, Marathon, Promis, Triathlon, Midas
Alltech	570, 580 (standard tray)	IBM	other than LC 1600	Spectra-Physics	8875, 8880
Altex		Infochroma		Talbot	
AMS	42	Jasco	851-AS, AS-950	Thermo Scientific	TRACE GC 2000, AS2000
Antek	736 Unisampler, 738	Kipp		TosoHaas	TSK-6080, AS-8010, AS-8020
ASC		Kontron	360	Tosca 1	
Carlo Erba/	42 vial tray	LDC	Marathon, Promis, other than 713	Tracor	770, 771, 772
Fisons	AS 800	L.E.A.P. Technologies	CTC A200S, CTC A105S	TSP	8875, 8880, AS 100/1000, AS 300/3000
Carnegie	CMA-250/200	Magnus Scientific		Unicam	4710, LC-XR 4247
Chrompack	CP 9000 GC Series	PerkinElmer	Autosystem GC, AI-1, Integral 4000, ISS 100, ISS 200, LC 600 42 vial tray, 420/B, 4900	United Technologies	
CTC	CTC A105S			Varian/Rainin	Dynamax AI-IA, AI-200, Dynamax AI-3
Dani	ALS 39.80, 86.80	Pharmacia LKB	2157-010	Varian	8100/8200, 9100/9090/9095, Marathon
Delsi		Precision Sampling	GC111, GC 311, LC 241-60	Waters	Alliance 2690
Dynatech	42 vial tray	Phillips	LC-XR 4247, 4710		
Fisons	42 vial tray, AS800	Polymer-Labs	GPC 110/210		
GBC		Pye	LCXP		
Gerstel		S.G.E.	M280D		

# Vial Size Quick Reference Chart

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

## WISP Vials

4.0mL Screw-Thread Step Vial



24654, 24655  
24656, 24657  
Page 262

4.0mL Clear Crimp-Top



24658, 24659  
Page 261

700µL Limited Volume



24680,  
24681  
Page 262

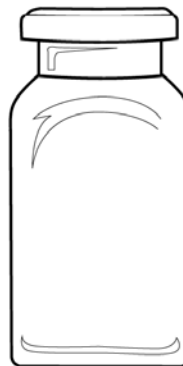
96 Style



24662, 24663,  
24664, 24665,  
24678, 24679  
Page 262

## Headspace Vials

10mL Clear Flat Bottom



24683,  
24684  
Page 263

10mL Clear Rounded Bottom



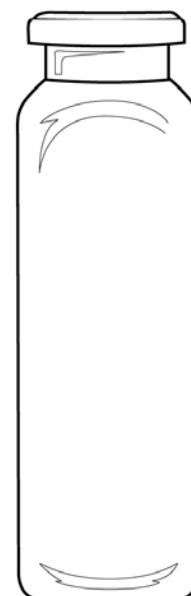
21164,  
21165  
Page 263

20mL Clear Flat Bottom



24685,  
24686  
Page 263

20mL Clear Rounded Bottom



21162,  
21163  
Page 263

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

### Limited Volume Inserts

250µL Big Mouth Insert



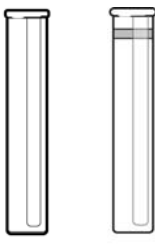
24516,  
21779  
Pages 256, 261

250µL Glass Flat Bottom



24510  
Page 260

350µL Glass Flat Bottom Inserts w/ID Ring



21780,  
24517  
Pages 256, 261

24692,  
24693  
Pages 256, 261

500µL Glass WISP Flat Bottom



21787, 21788  
Page 262

100µL Glass or Polypropylene w/ Polypropylene Bottom Spring



24508, 21775  
24512  
Page 260

250µL Glass or Polypropylene w/ Bottom Spring



21776, 21777  
Pages 256, 261, 262  
24518  
Page 256

### 8mm Screw-Thread Vials

2.0mL Clear or Amber w/ White Graduated Marking Spot



24619, 24620,  
24621, 24622  
Page 259

### 9mm Short-Cap Vials

2.0mL Clear or Amber w/White Graduated Marking Spot



21154\*, 21155\*  
\*w/out white graduated marking spot  
21140, 21141  
21142, 21143  
Page 258

### 10mm Screw-Thread Vials

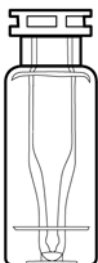
2.0mL Big Mouth Step Clear or Amber



24626, 24627,  
24628, 24629  
Page 260

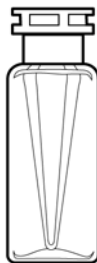
### 11mm Crimp-Top Vials

Limited Volume 100µL Glass Insert, Clear Plastic Vial



24653  
Page 256

Limited Volume 100µL Polypropylene



24651, 24652  
Page 256

2.0mL Snap Seal Style Clear or Amber Glass



21152, 21153, 24383, 24384, 24385, 24386  
Page 256

Crimp-Top Vials



24385



24383



21724

also available

See page 266 for crimpers and decappers.



24673

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

White graduated marking spots are a standard feature unless otherwise noted.

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

Description	100-pk.	1000-pk.
2.0mL Clear Glass Vial w/White Graduated Marking Spot	24383	24384
2.0mL Amber Glass Vial w/White Graduated Marking Spot	24385	24386
2.0mL Clear Glass Vial without Graduated Marking Spot	21152	21153

**2.0mL, 11mm Aluminum Crimp Seals with Septa**

Description	100-pk.	500-pk.	1000-pk.
Silver Seal, PTFE/Natural Rubber Septa	21174	—	21175
Blue Seal, PTFE/Red Rubber Septa	24351	—	24352
Green Seal, PTFE/Red Rubber Septa	24353	—	24354
Red Seal, PTFE/Red Rubber Septa	24355	—	24356
Yellow Seal, PTFE/Red Rubber Septa	24357	—	24358
Mixed Colors, PTFE/Rubber Septa	—	21724	—
Silver Seal, PTFE/Silicone Septa	24359	—	24360
Blue Seal, PTFE/Silicone Septa	24361	—	24362
Green Seal, PTFE/Silicone Septa	24363	—	24364
Red Seal, PTFE/Silicone Septa	24365	—	24366
Yellow Seal, PTFE/Silicone Septa	24367	—	24368
Mixed Colors, PTFE/Silicone Septa	—	21725	—
Silver Seal, PTFE/Silicone/PTFE Septa	24369	—	24370

**2.0mL 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.	1000-pk.
2.0mL Clear Vial, deactivated, PTFE/Natural Rubber Silver Seal	24671	24672
2.0mL Amber Vial, deactivated, PTFE/Natural Rubber Silver Seal	24673	24674
2.0mL Clear Vial, untreated, PTFE/Natural Rubber Silver Seal	21196	21197
2.0mL Amber Vial, untreated, PTFE/Natural Rubber Silver Seal	21198	21199
2.0mL Clear Vial, untreated, PTFE/Silicone Silver Seal	24646	24647
2.0mL Amber Vial, untreated, PTFE/Silicone Silver Seal	24648	24649

**Inserts for 2.0mL Crimp-Top & Short-Cap, Screw-Thread Vials**

Description	100-pk.	1000-pk.
50µL Glass, Big Mouth w/Bottom Spring	24513	21782
250µL Glass, Big Mouth Insert w/Bottom Spring	21776	21777
250µL Glass, Big Mouth Insert w/Glass Flange (Step Design)*	24516	21779
350µL Glass, Flat Bottom Insert	21780	24517
350µL Glass, Flat Bottom Insert w/ID Ring	24692	24693
250µL Polypropylene, Big Mouth, Bottom Spring	24518	—
250µL Polypropylene, Big Mouth, Bottom Spring w/Graduated Markings	24518A	—
250µL Polypropylene, Big Mouth, Top Flange	24519	—
250µL Polypropylene, Big Mouth, No Spring	24520	—

\*Not to be used with 9mm screw-thread vials.



21776



24518A



24692



24651

**2.0mL Crimp-Top Vial with 100µL Insert**

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

Description	100-pk.	1000-pk.
100µL Polypropylene	24651	24652
100µL Glass Insert/Clear Plastic Vial	24653	—

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

The patented 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! The Poly Crimp Seal offers the following benefits:

- Works on any crimp style vial.
- Crimps smoothly and easily—no more sharp edges from an aluminum crimp cap.
- Easily decaps using standard decapping tools.
- Eliminates inconsistent sealing that results from improper crimping.
- Unique design holds the septum firmly in place.
- Provides better seal than snap caps.\*
- Meets CONEG standards. The Poly Crimp Seal is free of heavy metals and is easily disposed of or incinerated.



Description	100-pk.	400-pk.	1000-pk.
Clear Seal, PTFE/Red Rubber Liner	24433	—	24434
Clear Seal, PTFE/Silicone Liner	24443	—	24444
Blue Seal, PTFE/Silicone Liner	24445	—	24446
Clear Seal, PTFE/Silicone/PTFE Liner	24453	—	24454
Blue Seal, PTFE/Silicone/PTFE Liner	24455	—	24456
Mixed Color Seals, PTFE/Silicone/PTFE Liner	—	21728	—

\*Based on continual use for 3–4 days.

### tech tip

#### Compatibility concerns?

Refer to the Septum Selection Guide on page 253.

## 2.0mL, 11mm GC Snap-Top Cap with Septum

- Snaps on any crimp-style vial.
- Clear polypropylene cap provides a tighter seal than standard Snap-Top Cap.
- Good for pressurized injection systems.
- Save money! Use this snap cap when you don't need to crimp.

Description	100-pk.	1000-pk.
Polypropylene Cap, 10mil PTFE Liner	21729	21730
Polypropylene Cap, PTFE/Natural Rubber Septum	21731	21732
Polypropylene Cap, PTFE/Silicone Septum	21733	21734



21731

## Certified Autosampler Vial Kits

National Scientific's certified vial kits provide the extra assurance that time after time the vial that you use upholds the rigorous manufacturing standards of National Scientific. These certified vial kits include your choice of vials and closures, conveniently packaged in benchtop storage compartments.

- 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 purposes.

### 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:

HPLC Test: nonvolatile residue

GC Test: volatile residue



22788

## Certified Vials, 2.0mL Screw-Thread Vials

Description	100-pk.
Assembled 2mL Clear Vial w/Marking Spot and Bonded PTFE/Silicone Slit Septa	22789
Assembled 2mL Amber Vial w/Marking Spot and Bonded PTFE/Silicone Slit Septa	22788
Unassembled 2mL Clear Vial w/Marking Spot and Bonded PTFE/Silicone Septa	22792
Unassembled 2mL Clear High Recovery Vial w/Marking Spot and Bonded PTFE/Silicone Slit Septa	22793
Unassembled 2mL Amber Vial w/Marking Spot and Bonded PTFE/Silicone Septa	22790
Unassembled 2mL Amber High Recovery Vial w/Marking Spot and Bonded PTFE/Silicone Slit Septa	22791



22792



Agilent Compatible!



21140

Ideal for Agilent 7673 & other autosamplers that process 12 x 32mm crimp-top vials.



also **available**

Limited volume inserts are available on [page 256](#).

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

Are you tired of dealing with crimp-top vials, but worried about using screw-thread vials with your autosampler? If you want the performance of a crimp-top vial with the convenience of a screw-thread vial, these vials are the answer for you.

- Fit all 2.0mL, 12 x 32mm, crimp-top vial based autosamplers.
- Shorter screw cap allows the robotic autosampler to function properly.
- Wider opening prevents syringe problems.
- Dimensions are effectively identical to the crimp-top vial.
- Variety of colors and liner material.

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

Description	100-pk.	1000-pk.
2.0mL Clear Vial, w/White Graduated Marking Spot	21140	21141
2.0mL Amber Vial, w/White Graduated Marking Spot	21142	21143
2.0mL Clear Vial, without Graduated Marking Spot	21154	21155

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

Description	100-pk.	500-pk.	1000-pk.
Blue Cap, PTFE/Red Rubber Liner	24473	—	24474
Mixed Colors, PTFE/Red Rubber Liner	—	24668	—
Blue Cap, PTFE/Silicone Liner	24485	—	24486
Green Cap, PTFE/Silicone Liner	24487	—	24488
Yellow Cap, PTFE/Silicone Liner	24493	—	24494
Mixed Colors, PTFE/Silicone Liner	—	24669	—
Blue Cap, PTFE/Silicone/PTFE Liner	24497	—	24498
Black Cap, PTFE/Silicone/PTFE Liner	24495	—	24496
Natural Cap, PTFE/Silicone/PTFE Liner	24501	—	24502
Red Cap, PTFE/Silicone/PTFE Liner	24503	—	24504
Yellow Cap, PTFE/Silicone/PTFE Liner	24505	—	24506
Mixed Colors, PTFE/Silicone/PTFE Liner	—	24670	—

## instrument **reference**

### For 2.0mL, 9mm Short-Cap, Screw-Thread Vials

The following instruments are compatible with 2.0mL, 9mm short-cap, screw-thread vials. For further information or questions, please contact your Restek sales representative or technical service.

Manufacturer	Instrument/Model #	Manufacturer	Instrument/Model #
Carlo Erba / Fisons	AS 800	L.E.A.P. Technologies	CTC A200S
Dani	ALS 39.80, 86.80	PerkinElmer	AI-1, ISS 100, ISS 200, LC 600 42 vial tray
Dynatech	42 vial tray, LC2000	Shimadzu	SIL-10A, 10Ai, 10AxL
Gilson	231 XL, 232 XL, 233 XL, Aspec XL	Spark Holland	SPH 125, Marathon, Promis
Agilent	1042, 1050, 1080, 1082, 1084, 1090, 1100, 5890, 6890, 7670A, 7671A, 7672, 7673A/B, 7683, 7890, 8042	Spectra-Physics	8875, 8880
Hitachi	AS-2000, AS-6000	Thermo Scientific	TRACE GC 2000, AS2000
LDC	Marathon, Promis	Varian	8100/8200, Marathon
		Waters	Alliance 2690

**NEW!**



### 2.0mL Sample Vial Racks

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

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

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

- Fit all 2.0mL, 12 x 32mm, screw-thread 8mm/425 vial-based autosamplers.
- Vaporization is minimized over shorter vials.

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

Description	100-pk.	1000-pk.
2.0mL Clear Vial, White Graduated Marking Spot	24619	24620
2.0mL Amber Vial, White Graduated Marking Spot	24621	24622

### 2.0mL, 8mm Caps and Septa (preassembled)

Description	100-pk.	1000-pk.
8/425 Black Cap w/Red PTFE/Silicone Septa, 0.065"	21149	21720
8/425 Black Top Hat PTFE/Silicone Septa	21721	21722

### Polypropylene Caps & Septa for 2.0mL, 8mm Screw-Thread Vials

Description	100-pk.	1000-pk.
Black, Open-Hole Cap	21176	21177
8mm x 0.045" Red PTFE/Silicone	21178	21179
8mm x 0.065" Red PTFE/White Silicone	21795	21147

### 2.0mL Convenience Kits: Vials w/Preassembled Caps and Septa Packed Separately

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

Description	100-pk.	1000-pk.
2.0mL Clear Vial, Silcote CL7-Deactivated	24638	24639
2.0mL Amber Vial, Silcote CL7-Deactivated	24640	24641
2.0mL Clear Vial, untreated	21192	21193
2.0mL Amber Vial, untreated	21194	21195

### 2.0mL Preassembled Vial Kits: Screw-Thread, Unmarked Vials, Septa, and Caps

Caps attached to vials.

Description	100-pk.	1000-pk.
Clear Vial, Black Cap, Red PTFE/Silicone Septa, 0.045"	24630	24631
Amber Vial, Black Cap, Red PTFE/Silicone Septa, 0.045"	24632	24633
Clear Vial, Black Cap, Red PTFE/Silicone Septa, 0.065"	24634	24635
Amber Vial, Black Cap, Red PTFE/Silicone Septa, 0.065"	24636	24637

\*Best fit for Shimadzu.

\*\*Best fit for Varian.



## instrument **reference**

### For 2.0mL, 8mm Screw-Thread Vials

The following instruments are compatible with 2.0mL, 8mm screw-thread vials. For further information or questions, please contact your Restek sales representative or technical service.

Manufacturer	Instrument/Model #	Manufacturer	Instrument/Model #
A.I.M.	CPS-100, 200	PerkinElmer	Autosystem GC, 420/B, 4900
Alcott	738	Pharmacia LKB	2157-010
Alltech	570	Precision Sampling	GC111, GC 311, LC241-60
ASC		Phillips	LC-XP, 4247, 4710
Beckman	501, 502, 507	S.G.E.	M2800
Carlo Erba/Fisons	AS 800, 8000	Sedere	
Dani	ALS 39.80, 86.80	Shimadzu	AOC-8B/9, SIL-6A, AOC14/1400, AOC-17, SIL-6B, -9A, -8A, SIL-10A, 10Ai, 10AxL
Dynatech	42 vial tray	Spark Holland	Marathon, Promis, Tiathalon, Midas
Gilson	231XL, 232XL, 233XL, Asted XL, Aspec XL	Spectra-Physics	8875, 8880
Gynkoteck	Gina, others	Talbot	
Hitachi	S6551, L-7200, L-7250	TOA	ICA5450
IBM		TosoHaas	TSK-6080, AS-8010, AS-8020
ICI	All except LC1600	TSP	8875, 8880, AS100/1000, AS300/3000
Infochroma		Unicam	4700LC, LC-XP, 4247
Jasco	851-AS, AS-950, LC800 & 900 series	United Technologies	
Kipp		Varian/Rainin	Dynamax AI-3AI-IA, AI-2W
Kontron	360, 460	Varian	8100/8200, 8035, 8000 Series, Marathon, 8055, 8085, 9100/9090/9095, 3800 GC
LDC	All except 713	Waters	Alliance 2690
L.E.A.P. Technologies	CTC A200S		
Magnus Scientific			



### Inserts for 2.0mL, 8mm Screw-Thread Vials

Description	100-pk.	1000-pk.
100µL Glass w/Polypropylene Bottom Spring	24508	21775
250µL Glass, Flat Bottom	—	24510
250µL Glass, Flat Bottom w/ID Ring	—	24691
100µL Polypropylene, No Spring	24511	—
100µL Polypropylene, Bottom Spring	24512	—

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

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

Description	100-pk.	1000-pk.
100µL Polypropylene	24623	24624
100µL Glass Insert/Clear Plastic Vial*	24625	—

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

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

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

Description	100-pk.	1000-pk.
2.0mL Clear Step Vial, White Graduated Marking Spot	24626	24627
2.0mL Amber Step Vial, White Graduated Marking Spot	24628	24629

### 2.0mL Caps and Septa for Big Mouth Step Vials

Description	1000-pk.
Caps w/Septa, Pre-Assembled, Red PTFE/White Silicone, 0.060"	24677
Septa Only, Red PTFE/White Silicone, 0.060"	21148
Cap w/Septa, Pre-Assembled, PTFE/Silicone/PTFE, 0.040"	21723

## also available

See page 261 for preassembled vial kits and limited volume inserts.

## tech tip

### Compatibility concerns?

Refer to the Septum Selection Guide on page 253.

## instrument reference

### For 2.0mL, 10mm Screw-Thread Vials

The following instruments are compatible with 2.0mL, 10mm screw-thread vials. For further information or questions, please contact your Restek sales representative or technical service.

Manufacturer	Instrument/Model #
Alcott	738
Alltech	570
Altex	
ASC	
Beckman	501, 502, 507
L.E.A.P. Technologies	CTC A200S
Shimadzu	SIL-10A, 10Ai, 10AxL
Varian	8100/8200
Waters	Alliance 2690

**Preassembled Vial Kits and Limited Volume Inserts for 2.0mL Big Mouth Step Design Screw-Thread Vials, 12 x 32mm, 10mm/425 Thread**

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

Caps attached to vials.

Description	100-pk.	1000-pk.
2.0mL Clear Vial, PTFE/Silicone/Red PTFE Septa, 0.040"	24675	24676
2.0mL Clear Vial, Red PTFE/Silicone Septa, 0.065"	24642	24643
2.0mL Amber Vial, Red PTFE/Silicone Septa, 0.065"	24644	24645

**2.0mL Big Mouth Step Inserts**

Description	100-pk.	1000-pk.
250µL Glass, Big Mouth Insert w/Bottom Spring	21776	21777
350µL Glass, Flat Bottom Insert	21780	24517
350µL Glass, Flat Bottom Insert w/ID Ring	24692	24693
250µL Glass, Big Mouth Insert w/Glass Flange (Step Design)*	24516	21779

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

\*Not to be used with 9mm screw-thread vials.



21776



24692

**WISP Vials**

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

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

Description	100-pk.	1000-pk.
4.0mL Clear Vial, White Graduated Marking Spot	24658	24659



24658

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

Description	100-pk.	1000-pk.
Silver, PTFE/Natural Rubber	21753	21754
Silver, PTFE/Silicone	21755	21756

**13mm Crimper and Decapper**

Good for WISP-type vials.

Description	qty.	cat.#	price
13mm Crimper	ea.	21739	
13mm Decapper	ea.	21740	



also **available**

For other crimpers/decappers, see [page 266](#).

**instrument reference**

**For 4.0mL WISP 48 Style Vials**

The following instruments are compatible with 4.0mL WISP 48 style vials. For further information or questions, please contact your Restek sales representative or technical service.

Manufacturer	Instrument/Model #	Manufacturer	Instrument/Model #
Bruker	LC 51	TosoHaas	TSK-6080, AS-8010, AS-8020
Hitachi	L-7200, L7250	Unicam	LC-XP
Phillips	LC-XP	Waters	48-pos. M700, 710, 717+
Shimadzu	AOC-14/1400, AOC-17, SIL-2AS		





24654

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

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

Description	100-pk.	1000-pk.
4.0mL Clear Step Vial, White Grad. Marking Spot	24654	24655
4.0mL Amber Step Vial, White Grad. Marking Spot	24656	24657

##### 4.0mL WISP 48 Caps and Septa

Description	100-pk.	1000-pk.
Top Hat, PTFE/Silicone Septa	21745	21746
Pre-Assembled, Red PTFE/Silicone, 0.065"	21743	21744
Caps, Black, Polypropylene, Open-Hole	21741	21742
Septa, Red PTFE/Silicone, 0.040"	21751	21752
Septa, Red PTFE/Silicone, 0.060"	21749	21750

##### 4.0mL WISP Inserts

Description	100-pk.	1000-pk.
500µL, Glass, WISP, Flat Bottom**	21787	21788

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

\*\*Also fit 4.0mL Snap Seal Vials (page 261).



24664

24662

24678

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

Available in 3 styles.

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

Description	200-pk.	1000-pk.
1.0mL Clear Vial	24662	24663
1.0mL Amber Vial	24664	24665
1.0mL Polypropylene Vial	24678	24679
700µL Limited Volume Polypropylene Vial	24680	24681



21776

##### Limited Volume Inserts for Shell Vials

Description	100-pk.	1000-pk.
250µL Glass, Big Mouth Insert w/Bottom Spring	21776	21777

### did you know?

Restek can provide services to coat chromatography vials and make them inert to most organics. Our Siltek® coating can create a highly inert surface for your testing purposes. See page 253 for more details.

### instrument reference

#### For 1.0mL WISP 96 Style Vials

The following instruments are compatible with 1.0mL WISP 96 style vials. For further information or questions, please contact your Restek sales representative or technical service.

Manufacturer	Instrument/Model #
Hitachi	L-7200
Waters	96-position M-700, 710, 717+

### Crimp-Top and Screw-Top Headspace Vials

- 6, 10, 20, and 27mL vials available with 20mm crimp-seal finish.
- 10 and 20mL screw-top vials available with 18mm screw-thread finish.
- Compatible with Gerstel and CTC/Leap Technologies headspace samplers when used with magnetic closures.



### Screw-Top Headspace Vials (18mm)

Description	Dimensions	qty.	cat.#	price
20mL Screw-Top Vial	22 x 75mm	125-pk.	22794	
10mL Screw-Top Vial	22 x 45mm	125-pk.	22795	

### Magnetic Screw-Thread Caps

Description	qty.	cat.#	price
18mm Magnetic Screw-Thread Cap w/PTFE/Silicone	125-pk.	22796	
18mm Magnetic Screw-Thread Cap w/PTFE/Silicone for SPME	125-pk.	22797	
18mm Magnetic Screw-Thread Cap w/Pre-slit PTFE/Silicone for SPME	125-pk.	22798	
18mm Magnetic Screw-Thread Cap w/PTFE/Blue Chlorobutyl	125-pk.	22799	



### Headspace Crimp Vials (20mm)

Description	Dimensions	100-pk.	1000-pk.
a) 6mL Clear Vial	22 x 38mm	21166	21167
b) 10mL Clear Vial, Flat Bottom	23 x 48mm	24683	24684
c) 10mL Clear Vial, Rounded Bottom	23 x 48mm	21164	21165
d) 20mL Clear Vial, Flat Bottom	23 x 75mm	24685	24686
e) 20mL Clear Vial, Rounded Bottom	23 x 75mm	21162	21163
f) 27mL Clear Vial	30 x 60mm	21160	21161

a) - f) vial to instrument compatibility are designated in instrument reference chart below.



### Aluminum Seals w/Septa (20mm, preassembled)

Description	100-pk.	1000-pk.
Silver Seal w/PTFE/Gray Butyl Rubber	21761	21762
Silver Seal w/PTFE/Silicone	21763	21764
Pressure Release Silver Seal w/PTFE/Gray Butyl Rubber Septum	21765	21766
Pressure Release Silver Seal w/PTFE/Silicone Septum	21767	21768
20mm Magnetic Crimp Cap w/Teflon/Silicone Septum (tan/white) with 8mm Hole	22831	22832
20mm Magnetic Crimp Cap w/Teflon/Silicone Septum (tan/white) with 5mm Hole	22833	22834
20mm Magnetic Crimp Cap w/PTFE/Butyl Septum with 8mm Hole	22835	22836

5mm hole is compatible with the following systems: Carlo Erba HS500/HS800, CTC 500, Fisons HS500/HS800 and Varian/Chrompack 9020/25. 8mm hole is compatible with the Combi Pal.

### tech tip

#### Compatibility concerns?

Refer to the Septum Selection Guide on page 253.



## instrument **reference**

### For Headspace Vials

The following instruments are compatible with the headspace vials listed above (as letter designated above). For further information or questions, please contact your Restek sales representative or technical service.

Manufacturer	Instrument/Model #	Manufacturer	Instrument/Model #	Manufacturer	Instrument/Model #	Manufacturer	Instrument/Model #
<b>a)</b> Carlo Erba	HS 500, HS 800	<b>c)</b> A.I.	Headspace	<b>d)</b> A.I.	Headspace	<b>e)</b> Dani	HSS 39.50, HSS 86.50, SPT 37.50
Agilent	Headspace	Cueni	Headspace	Carlo Erba	HS 500, HS 800	L.E.A.P.	Technologies HS 500
PerkinElmer	ISS 200	Dani	HSS 39.50, HSS 86.50	CTC	Headspace	PerkinElmer	Autosystem GC, F40, F45, HS 6, Integral 4000, HS 40
		L.E.A.P.	Technologies HS 500	Cueni	Headspace	Tekmar	7000, 7000/7050
<b>b)</b> A.I.	Headspace	PerkinElmer	Autosystem GC, F40, F45, HS 6, Integral 4000, HS 40	Dani	HSS 39.50, HSS 86.50, SPT 37.50	Varian	Genesis
Carlo Erba	HS500, HS 800	Tekmar	7000, 7000/7050	Agilent	Headspace		
Cueni	Headspace	Varian	Genesis			<b>f)</b> Shimadzu	HSS-2B
Dani	HSS 39.50, HSS 86.50			<b>e)</b> A.I.	Headspace		
Agilent	Headspace			Cueni	Headspace		



22701

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

- Increased neck length for accommodating fluctuations in robotic arm settings.
- Eliminate cracked necks, breakage and dangerous sharp edges, using soft Versa Vial PTFE/silicone plugs.
- Largest target area available, ideal for sampling and pipet use.
- Vials available with or without graduated marking spots.
- Patent pending.

Description	100-pk.	1000-pk.
2.0mL Clear Glass Vial	22701	22702
2.0mL Clear Glass Vial w/Graduated Marking Spot	22703	22704
2.0mL Amber Glass Vial	22697	22698



22705

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

Description	100-pk.	1000-pk.
1.5mL Polypropylene Vial	22705	22706



22707

### Versa Vial Inserts

Description	100-pk.	1000-pk.
250µL Glass Insert w/Glass Flange	22707	—
250µL Polypropylene w/Flange	22709	22710
250µL Glass Flat Bottom Insert	22711	22712



22715

### Versa Vial Plugs

Description	100-pk.	1000-pk.
12mm, Green Polyethylene Plug	22713	22714
12mm, Grey Chlorobutyl/Siliconized Plug	22715	22716
12mm, White PTFE/Silicone Plug	22717	22718
12mm, White PTFE/Silicone Plug w/Slit*	22719	22720

\*Eliminates needle damage to plug.



21798

26122

### Pre-Cleaned Volatile Organic Analyte (VOA) Sampling Vials

- Container, liner and closure cleaned and assembled.
- Clear or amber.
- Open top caps.
- Teflon® faced 0.125" silicone septa.
- Each case lot numbered.

Description	Screw-Thread		cat.#	price
	Size	qty.		
20mL Clear Pre-Cleaned VOA Vials	24mm-400	72-pk.	21798	
20mL Amber Pre-Cleaned VOA Vials	24mm-400	72-pk.	21799	
40mL Clear Pre-Cleaned VOA Vials	24mm-400	72-pk.	21796	
40mL Amber Pre-Cleaned VOA Vials	24mm-400	72-pk.	21797	
60mL Collection Vials, Clear Glass, for ASE 200	24mm-400	72-pk.	26121	
60mL Collection Vials, Amber Glass, for ASE 200	24mm-400	72-pk.	26122	
Replacement Septa for 20, 40 & 60mL Vials and 250mL Bottles (24mm Teflon-lined 0.125" silicone septa)		100-pk.	24694	

### 2.0mL Sample Vial Racks

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



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



### Snap Rack Storage Unit

The Snap Rack sample vial rack is an innovation that allows you to keep your vials and caps together. Constructed of tough polypropylene, the Snap Rack holds 50 12 x 32mm size vials. The Snap Rack is stackable too! Simply “snap” one rack on top of another. Double rack capacity by snapping a rack across another rack.

Description	Capacity	qty.	cat.#	price
50 Position Snap Rack for 12 x 32mm Vials	50	ea.	24521	



Snap Rack vial racks are stackable for maximum storage of vials and caps!

### Accuform® Micro-Vials with Screw Threads

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

Description	Screw Thread Size	qty.	cat.#	price
1.0mL Micro-Vial, Accuform Borosilicate Glass, Screw Thread, Graduated, Open Top Closure (attached)	13mm-425	12-pk.	21050	
3.0mL Micro-Vial, Accuform Borosilicate Glass, Screw Thread, Graduated, Open Top Closure (attached)	20mm-400	12-pk.	21051	



### 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 20mm ID glassware slides into the neck of the vial. Turn the threaded flange to secure a tight fit.

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







Universal plug set for battery charger included in all kits.

### Electronic Rechargeable Crimpers and Decappers

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

The redesigned electronic crimpers and decappers have a 4.8 volt battery installed. The battery allows for quick, powerful operation and a faster charge cycle, minimizing down-time. Charging the battery takes thirty minutes to two hours. The universal plug set includes U.S., European, UK, and Australian plug clips. Each kit includes a tool, a 4.8v battery, which allows for a faster charge cycle, and a universal plug set for the battery charger.

### Capping

Easily crimp caps on standard crimp vials.



### Decapping has never been easier!

one...

two...

three!



Description	qty.	cat.#	price
11mm Electronic Crimper	kit	22338	
11mm Electronic Decapper	kit	22340	
20mm Electronic Crimper	kit	22339	
20mm Electronic Decapper	kit	22341	
Replacement Battery for Electronic Crimpers and Decappers	ea.	22342	

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



Decapper



Crimper

### Manual Crimpers and Decappers

Each crimper is adjustable for optimized aluminum cap sealing performance and is comfortable enough for prolonged use. If you need to save, transfer, or dispose of your samples, our decapper allows you to remove a crimp-top cap safely and easily.

Description	qty.	cat.#	price
8mm Crimper	ea.	21735	
8mm Decapper	ea.	21736	
11mm Crimper	ea.	21170	
11mm Decapper	ea.	21171	
13mm Crimper	ea.	21739	
13mm Decapper	ea.	21740	
20mm Crimper	ea.	21737	
20mm Decapper	ea.	21738	

