

# VWR® chromatography autosampler vials and microplates



# VWR® chromatography autosampler vials and microplates - includes vials, inserts and 96-well collection plates



## PLASTIC VIALS

- High clarity plastic vials for easy sample viewing
- Plastic vials made of low extractable polypropylene for broad compatibility and low non-specific binding
- 9 mm screw thread versions and 11 mm crimp-top/snap-cap finish
- 9 mm screw thread vial features embossed fill lines and high clarity for easy sample viewing
- 11 mm dual crimp/snap top compatible vials are translucent with conical interior design



## VIAL CLOSURES

- All 9 mm screw caps are bonded for worry-free automation reliability and performance
- Septa purity is uniform for all closures
- Convenience kits include part numbers for both cap and vial to improve traceability



## MS CERTIFIED CONVENIENCE KITS

- All critical physical parameters measured plus HPLC and GC Mass Spectrometry (MS) tested to ensure consistency.
- Convenience kit MS chromatograms can be downloaded on [vwr.com](http://vwr.com)
- Improved clamshell design offers a 'stay open' feature for easy access to contents. Each kit contains 100 vials and closures



## ALL GLASS AUTOSAMPLER VIALS ARE CERTIFIED

- Borosilicate 33 and 51N for purity
- 100% automated manufacturing for reliable consistency and Class 100,000 clean room packed
- 8, 9, 10, 11 mm sizes plus 4 ml and headspace versions for larger volume chromatography needs
- Certificates of conformity: BSE/TSE, REACH



## 96-WELL MICROPLATES

- Certified virgin polypropylene construction
- Round and square wells with bottom shape options as well as cover mat choices
- Shallow to deep well volumes



## TECHNICAL GUIDES

- Septum selection guide on page 13
- Vial reference chart on pages 16 - 17



# Table of contents

8 mm standard opening screw-thread  
**Page 4**

9 mm wide opening screw-thread  
**Page 5-6**

10 mm wide opening screw-thread  
**Page 7**

11 mm standard crimp-top  
**Pages 8-9**

11 mm wide opening crimp-top  
**Pages 8-9**

Manual crimpers and decappers  
**Page 9**

11 mm wide opening snap-cap  
**Page 10**

4 ml screw-thread  
**Page 11**

1 ml shell vials  
**Page 11**

Screw-thread headspace magnetic  
**Page 12**

20 mm headspace crimp  
**Page 12**

Septum selection guide  
**Page 13**

Vial reference chart  
**Pages 14-15**

Microplates and covers  
**Page 16**

### VWR® 8 mm STANDARD OPENING SCREW-THREAD VIALS

#### 2 ml and 12x32 mm

- 8-425 thread finish
- Standard opening vials require inserts with a diameter of 5 mm
- Write-on patch with graduation for sample identification
- Superior quality borosilicate glass
- Certificates of conformity: BSE/TSE, REACH
- Spring promotes alignment and ensures the top lip of the insert seals against the septa to help guard against evaporation loss
- Available in preassembled kits
- Kits include 100 vials and 100 caps with preassembled septa



### VWR® STANDARD OPENING SCREW-THREAD VIALS AND INSERTS

Description	Glass	Patched	Dimensions, mm	Profile	Total Volume	Usable Volume	Residual Volume, µl	Cat. No.	Pack of	Case of
8-425 Screw-Thread Vial	Clear	No	12 x 32	Flat Bottom	2.0 ml	1.8 ml	<170	66020-950A	100	1000
	Clear	Yes	12 x 32	Flat Bottom	2.0 ml	1.8 ml	<170	82028-420A	–	1000
	Amber	No	12 x 32	Flat Bottom	2.0 ml	1.8 ml	<170	46610-736A	100	1000
	Amber	Yes	12 x 32	Flat Bottom	2.0 ml	1.8 ml	<170	82028-422A	–	1000
200 µl Flat Bottom Insert	Clear	–	5 x 31	Flat Bottom	250 µl	200 µl	<12	82028-448A	–	1000
150 µl Spring Insert	Clear	–	5 x 29	Pulled Point	200 µl	175 µl	<1	46610-702A	100	–
100 µl Conical Self Aligning	Clear	–	5 x 29	Pulled Point	200 µl	170 µl	<2	82028-446A	100	–

### VWR® 8-425 SCREW-THREAD CAPS AND SEPTA

Description	Cap Color	Cap Material	Septum	Hardness °Shore	Thickness, mm	Cat. No.	Pack of
8 mm Open Top Cap, 5.5 mm Hole	Black	Polypropylene	Red PTFE/White Silicone	45°	1.3	46610-700A	100
8 mm Open Top Cap, 5.5 mm Hole	Black	Phenolic	Red PTFE/White Silicone	45°	1.3	46610-704A	100

### VWR® STANDARD OPENING SCREW-THREAD VIAL CONVENIENCE KITS

Kit Type	Glass	Patched	Cap Color	Septum	Component vial	Component cap	Cat. No.	Pack of	Case of
Unassembled Kit	Clear	No	Black	Red PTFE/White Silicone	66020-950A	46610-700A	66009-878A	100	1000

### VWR® MS CERTIFIED 8 MM SCREW-THREAD VIAL AND CLOSURE CONVENIENCE KIT

Kit Type	Glass	Patched	Cap Color	Septum	Component vial	Component cap	Cat. No.	Pack of	Case of
Assembled Kit	Clear	No	Black	Red PTFE/White Silicone	66020-950A	46610-700A	66009-874A	100	–

**VWR® 9 mm WIDE OPENING SCREW-THREAD VIALS**

2 ml, 12x32 mm

- Wide neck opening design allows for easy filling
- Wide opening vials require inserts with a diameter of 6 mm
- Write-on patch with graduation for sample identification
- Superior quality borosilicate glass
- Certificates of conformity: BSE/TSE, REACH
- Spring promotes alignment and ensures the top lip of the insert seals against the septa to help guard against evaporation loss
- Available in preassembled kits
- Kits include 100 vials and 100 caps with preassembled septa



**VWR® 9 mm WIDE OPENING SCREW-THREAD VIALS AND INSERTS**

Description	Glass	Patched	Dimensions, mm	Profile	Total Volume	Usable Volume	Residual Volume, µl	Cat. No.	Pack of	Case of
9 mm Screw-Thread Vial	Clear	No	12 x 32	Flat Bottom	2.0 ml	1.8 ml	<170	46610-722A	100	1000
	Clear	Yes	12 x 32	Flat Bottom	2.0 ml	1.8 ml	<170	46610-724A	100	1000
	Amber	Yes	12 x 32	Flat Bottom	2.0 ml	1.8 ml	<170	46610-726A	100	1000
	Polypropylene	Graduated	12 x 32	Flat Bottom	2.0 ml	1.5 ml	<170	89524-188A	100	-
	Polypropylene	No	12 x 32	Conical	400 µl	300 µl	<2	89524-190A	100	-
9 mm Fused Insert Vial	Clear	Yes	12 x 32	Insert Vial	475 µl	350 µl	<2	10781-890A	100	-
9 mm Fused Insert Vial	Amber	No	12 x 32	Insert Vial	475 µl	350 µl	<2	10803-888A	100	-
300 µl Spring Insert	Clear	-	6 x 31	Conical	375 µl	250 µl	<1	46610-762A	100	-
	Polypropylene	-	6 x 30	Conical	325 µl	250 µl	<2	82028-450A	100	-
400 µl Flat Bottom Insert	Clear	-	6 x 31	Flat Bottom	500 µl	450 µl	<25	82028-454A	-	1000
350 µl Self Aligning Insert	Clear	-	6 x 31	Pulled Point	400 µl	350 µl	<4	82028-452A	100	-



**VWR® 9 mm SCREW-THREAD CAPS AND SEPTA**

Description	Cap Color	Cap Material	Septum	Hardness °Shore	Thickness, mm	Cat. No.	Pack of	Case of
9 mm Open Top Cap, 6 mm Hole	Black	Polypropylene	Bonded White PTFE/Red Rubber	45°	1	46610-708A	100	1000
	Blue	Polypropylene	Bonded White PTFE/Red Rubber	45°	1	89239-016A	100	1000
	Black	Polypropylene	Bonded Red PTFE/White Silicone/Red PTFE	45°	1	46610-710A	100	1000
	Blue	Polypropylene	Bonded Red PTFE/White Silicone/Red PTFE	45°	1	89239-018A	100	1000
	Black	Polypropylene	Bonded Red PTFE/White Silicone	45°	1	46610-712A	100	1000
	Blue	Polypropylene	Bonded Red PTFE/White Silicone	45°	1	89239-020A	100	1000
	Black	Polypropylene	Bonded Red PTFE/White Silicone, Pre-slit	55°	1	82028-424A	-	1000
	Blue	Polypropylene	Bonded Blue PTFE/White Silicone, Pre-slit	55°	1	89239-022A	100	1000
	Green	Polypropylene	Bonded Red PTFE/White Silicone	45°	1	76047-552A	100	-
	Red	Polypropylene	Bonded Red PTFE/White Silicone	45°	1	76047-554A	100	-
	Yellow	Polypropylene	Bonded Red PTFE/White Silicone	45°	1	76047-574A	100	-

**VWR® MS CERTIFIED 9 mm SCREW-THREAD VIAL AND CLOSURE CONVENIENCE KITS**

2 ml, 12X32

- Certificate of conformity: LCMS/GCMS vial/cap testing on 14 critical parameters
- Cap/Septum extractables testing and dimensional analysis
- Vial dimensions verified for height, diameter and bottom thickness
- Write-on patch for sample identification
- Superior quality borosilicate glass
- Available graduated and in preassembled kits
- Kits include 100 vials and 100 bonded cap/septum
- All 9 mm kits are standard 12x32, 2 ml wide opening vials



Diameter xH	Caps included	Description	Material	Capacity	Bottom style	Cap color	Cap material	Cap size	Color	Septa type	Unit	Cat. No.
12x32 mm	Yes	Pre-assembled vial kits, MS certified	Borosilicate glass	2 ml	Flat bottom	Black	PP	9 mm	Clear	Red PTFE/White silicone	Case of 100	66009-852A
12x32 mm	Yes	Vial kits, MS certified	Borosilicate glass	2 ml	Flat bottom	Blue	PP	9 mm	Clear	Red PTFE/White silicone	Pack of 100	89239-026A
12x32 mm	Yes	Vial kits, MS certified, with ID Patch	Borosilicate glass	2 ml	Flat bottom	Blue	PP	9 mm	Clear	Clear PTFE/White Silicone	Case of 1000	
12x32 mm	Yes	Vial kits, MS certified, with ID Patch	Borosilicate glass	2 ml	Flat bottom	Blue	PP	9 mm	Clear	Clear PTFE/White Silicone	Pack of 100	89523-478A
12x32 mm	Yes	Vial kits, MS certified, with ID Patch	Borosilicate glass	2 ml	Flat bottom	Blue	PP	9 mm	Amber	Clear PTFE/White Silicone	Pack of 100	89523-480A
12x32 mm	Yes	Vial kits, MS certified, with ID Patch	Borosilicate glass	2 ml	Flat bottom	Gray	PP	9 mm	Clear	Red PTFE/White Silicone, Pre-Slit	Pack of 100	82030-972A
12x32 mm	Yes	Vial kits, MS certified, with ID Patch	Borosilicate glass	2 ml	Flat bottom	Gray	PP	9 mm	Amber	Red PTFE/White Silicone, Pre-Slit	Pack of 100	82030-976A
12x32 mm	Yes	Vial kits, MS certified, with ID Patch	Borosilicate glass	2 ml	Flat bottom	Black	PP	9 mm	Clear	Red PTFE/White silicone	Pack of 100	82030-970A
12x32 mm	Yes	Vial kits, MS certified, with ID Patch	Borosilicate glass	2 ml	Flat bottom	Black	PP	9 mm	Amber	Red PTFE/White silicone	Pack of 100	82030-974A
12x32 mm	Yes	Vial kits, MS certified	Borosilicate glass	2 ml	Flat bottom	Black	PP	9 mm	Clear	Red PTFE/White silicone/Red PTFE	Case of 1000"	66009-862A
12x32 mm	Yes	Vial kits, MS certified, with ID Patch	Borosilicate glass	2 ml	Flat bottom	Blue	PP	9 mm	Clear	Red PTFE/White silicone	Pack of 100	10804-054A
12x32 mm	Yes	Vial kits, MS certified	Borosilicate glass	2 ml	Flat bottom	Blue	PP	9 mm	Clear	Blue PTFE/White silicone, pre-slit	Pack of 100	89239-028A
12x32 mm	Yes	Vial kits, MS certified, with ID Patch	Borosilicate glass	2 ml	Flat bottom	Blue	PP	9 mm	Clear	Red PTFE/White silicone	Case of 1000	
12x32 mm	Yes	Vial kits, MS certified, with ID Patch	Borosilicate glass	2 ml	Flat bottom	Blue	PP	9 mm	Amber	Red PTFE/White silicone	Pack of 100	10804-056A
12x32 mm	Yes	Vial kits, MS certified, with ID Patch	Borosilicate glass	2 ml	Flat bottom	Blue	PP	9 mm	Clear	Blue PTFE/White silicone, pre-slit	Pack of 100	10803-884A
12x32 mm	Yes	Vial kits, MS certified, with ID Patch	Borosilicate glass	2 ml	Flat bottom	Blue	PP	9 mm	Amber	Blue PTFE/White silicone, pre-slit	Pack of 100	10803-886A

**MS Certified Kit Components**

Kit	Component vial	Component cap
10803-884A	46610-724A	89239-022A
10803-886A	46610-726A	89239-022A
10804-054A	46610-724A	89239-020A
10804-056A	46610-726A	89239-020A
66009-852A	46610-722A	46610-712A
66009-862A	46610-722A	46610-710A
82030-970A	46610-724A	46610-712A

Kit	Component vial	Component cap
82030-972A	46610-724A	46610-709A
82030-974A	46610-726A	46610-712A
82030-976A	46610-726A	46610-709A
89239-026A	46610-722A	89239-020A
89239-028A	46610-722A	89239-022A
89523-478A	46610-724A	46610-711A
89523-480A	46610-726A	46610-71A

**VWR® SCREW-THREAD VIAL AND CLOSURE CONVENIENCE KITS**

2 ml, 12X32, 9 mm

- Write-on patch for sample identification
- Superior quality borosilicate glass
- Available graduated
- Certificates of conformity: BSE/TSE, REACH
- Assembled kits include 100 vials with preattached caps and septa
- Reusable two-compartment trays protect vials and closure while keeping matching supplies together
- All caps are 9 mm polypropylene



Glass	Patched	Cap Color	Septum	Cat. No.	Pack of	Case of
<b>Unassembled Kit</b>						
Clear	No	Blue	Ivory PTFE/Red Rubber	89239-024A	100	1000
Clear	No	Black	Ivory PTFE/Red Rubber	66009-858A	100	1000
Clear	No	Black	Red PTFE/White Silicone	66009-854A	100	1000
Amber	Yes	Black	Red PTFE/White Silicone	76326-140A	100	-

Glass	Patched	Cap Color	Septum	Cat. No.	Pack of	Case of
<b>Assembled Kit</b>						
Clear	No	Blue	Ivory PTFE/Red Rubber	89239-030A	100	-
Clear	No	Black	Ivory PTFE/Red Rubber	66009-856A	100	-
Clear	No	Black	Red PTFE/White Silicone/Red PTFE	66009-860A	100	-

## VWR® 10 mm WIDE OPENING SCREW-THREAD VIALS

2 ml, 12x32 mm

- 10-425 thread finish
- Wide neck opening design allows for easy filling to max vol. of 1.8 ml
- Wide opening vials require inserts with a diameter of 6 mm
- Write-on patch with graduation for sample identification
- Superior quality borosilicate glass
- Spring promotes alignment and ensures the top lip of the insert seals against the septa to help guard against evaporation loss
- Certificates of conformity: BSE/TSE, REACH



## VWR® 10 mm WIDE OPENING SCREW-THREAD VIALS AND INSERTS

Description	Glass	Patched	Dimensions, mm	Profile	Total Volume	Usable Volume	Residual Volume, µl	Cat. No.	Pack of
10-425 Screw-Thread Vial	Clear	No	12 x 32	Flat Bottom	1.8 ml	1.5 ml	<170	82028-426A	1000
	Clear	Yes	12 x 32	Flat Bottom	1.8 ml	1.5 ml	<170	82028-428A	1000
	Amber	Yes	12 x 32	Flat Bottom	1.8 ml	1.5 ml	<170	82028-432A	1000
300 µl Spring Insert	Clear	-	6 x 31	Conical	375 µl	0.25 ml	<1	46610-762A	100
	Polypropylene	-	6 x 30	Conical	325 µl	250 µl	<2	82028-450A	100
400 µl Flat Bottom Insert	Clear	-	6 x 31	Flat Bottom	500 µl	450 µl	<25	82028-454A	1000
350 µl Self Aligning Insert	Clear	-	6 x 31	Pulled Point	400 µl	350 µl	<4	82028-452A	100

## VWR® 10-425 WIDE OPENING SCREW-THREAD CAPS AND SEPTA

- Polypropylene caps are chemically inert and suitable for most chromatography applications
- Preassembled caps and septa are convenient and minimize contamination risk from handling

Description	Cap Color	Cap Material	Septum	Hardness °Shore	Thickness, mm	Cat. No.	Pack of
10 mm Open Top Cap, 8.5 mm Hole	Black	Polypropylene	Blue PTFE/White Silicone, Pre-slit	55°	1.5	82028-436A	100
	Black	Polypropylene	Red PTFE/White Silicone	50°	1.3	82028-434A	100

## VWR® 10 mm WIDE OPENING SCREW-THREAD VIAL CONVENIENCE KITS

- Recommended for Shimadzu HPLC Autosamplers
- Unassembled kits include 100 vials and 100 caps with preassembled septa

Description	Glass	Patched	Cap Color	Septum	Cat. No.	Component vial	Component cap	Pack of
Convenience Kit	Clear	Yes	Black	Red PTFE/White Silicone, Soft	89523-482A	82028-428A	82028-434A	100
	Amber	Yes	Black	Red PTFE/White Silicone, Soft	89523-484A	82028-432A	82028-434A	100

**VWR® 11 mm CRIMP-TOP VIALS**

2 ml, 12x32 mm

- Standard opening vials require inserts with a diameter of 5 mm; wide opening vials require inserts with a diameter of 6 mm
- Vials feature a write-on patch with graduation for convenient sample identification
- Superior quality borosilicate glass
- Spring promotes alignment and ensures the top lip of the insert seals against the septa to help guard against evaporation loss
- Certificates of conformity: BSE/TSE, REACH



**VWR® 11 mm CRIMP-TOP VIALS AND INSERTS – STANDARD OPENING**

Description	Glass	Patched	Dimensions, mm	Profile	Total Volume	Usable Volume	Residual Volume, µl	Cat. No.	Pack of	Case of
11 mm Crimp-Top, Standard Opening	Clear	No	12 x 32	Flat Bottom	2 ml	1.5 ml	<170	66020-953A	100	1000
	Clear	Yes	12 x 32	Flat Bottom	2 ml	1.5 ml	<170	82028-402A	-	1000
	Amber	Yes	12 x 32	Flat Bottom	2 ml	1.5 ml	<170	82028-404A	-	1000
200 µl Insert	Clear	-	5 x 31	Flat Bottom	250 µl	200 µl	<12	82028-448A	-	1000
150 µl Spring Insert	Clear	-	5 x 29	Pulled point	200 µl	175 µl	<1	46610-702A	100	-
100 µl Conical Self Aligning	Clear	-	5 x 29	Pulled point	200 µl	170 µl	<2	82028-446A	100	-



**VWR® 11 mm CRIMP-TOP VIALS AND INSERTS – WIDE OPENING**

Description	Glass	Patched	Dimensions, mm	Profile	Total Volume	Usable Volume	Residual Volume, µl	Cat. No.	Pack of	Case of
11 mm Crimp-Top Vial, Wide Opening	Clear	No	12 x 32	Flat Bottom	2 ml	1.5 ml	<170	66010-539A	100	1000
	Clear	Yes	12 x 32	Flat Bottom	2 ml	1.5 ml	<170	46610-740A	100	1000
	Polypropylene	No	12 x 32	Conical	475 µl	300 µl	<2	82028-412A	-	1000
	Amber	Yes	12 x 32	Flat Bottom	2 ml	1.5 ml	<170	46610-742A	100	1000
11 mm Crimp-Top Vial 250 µl, Fused Insert	Clear	Yes	12 x 32	Fused Conical	500 µl	350 µl	<2	82028-408A	100	-
	Amber	Yes	12 x 32	Fused Conical	500 µl	350 µl	<2	82028-410A	100	-
300 µl Spring Insert	Clear	-	6 x 30	Conical	375 µl	250 µl	<1	46610-762A	100	-
	Polypropylene	-	6 x 30	Conical	325 µl	250 µl	<2	82028-450A	100	-
400 µl Insert	Clear	-	6 x 31	Flat Bottom	500 µl	450 µl	<25	82028-454A	-	1000
350 µl Self Aligning Insert	Clear	-	6 x 31	Pulled Point	400 µl	350 µl	<4	82028-452A	100	-



### VWR® 11 mm CRIMP-TOP CLOSURES

- Aluminum crimp closures provide a secure leak-resistant seal
- Aluminum seals must be applied with a crimping tool
- Synthetic PTFE/Red Rubber seal is specially formulated for improved background performance



Description	Cap Color	Cap Material	Septum	Hardness *Shore	Thickness, mm	Cat. No.	Pack of	Case of
11 mm Crimp-Top, 5.5 mm Hole	Silver	Aluminum	Clear PTFE/Natural Red Rubber	60°	1	46610-744A	100	1000
	Silver	Aluminum	Red PTFE/White Silicone/Red PTFE	45°	1	46610-716A	100	1000
	Silver	Aluminum	Tan PTFE/White Silicone	45°	1.3	46610-714A	100	1000
	Silver	Aluminum	PTFE/Synthetic Red Rubber	35°	1	46610-754A	100	1000

### VWR® 11 mm CRIMP-TOP CONVENIENCE KITS

- Superior quality borosilicate glass; amber vials feature writing patch
- Kits include 100 vials and 100 caps with preassembled septa
- Reusable clear tray makes it easy to keep track of supplies without opening containers



Kit Type	Glass	Patched	Cap Color	Septum	Cat. No.	Component vial	Component cap	Pack of	Case of
Convenience Kit, Standard Opening Crimp-Top Vial	Clear	No	Silver	Clear PTFE/Red Rubber	89239-004A	66010-539A	46610-744A	100	1000
Convenience Kit, Wide Opening Crimp-Top Vial	Amber	Yes	Silver	Clear PTFE/Red Rubber	89239-006A	82028-404A	46610-744A	100	1000
Convenience Kit, Standard Opening Crimp-Top Vial	Clear	No	Silver	Clear PTFE/Red Rubber	66009-850A	66010-539A	46610-744A	100	1000
Convenience Kit, Wide Opening Crimp-Top Vial	Amber	Yes	Silver	Clear PTFE/Red Rubber	89239-008A	46610-742A	46610-744A	100	1000
Convenience Kit, Standard Opening Crimp-Top Vial	Clear	No	Silver	Seal 2000 PTFE/Red Rubber	66009-864A	66010-539A	46610-744A	100	1000
Convenience Kit, Wide Opening Crimp-Top Vial	Clear	No	Silver	Seal 2000 PTFE/Red Rubber	66009-864A	66010-539A	46610-744A	100	1000

### VWR® MANUAL CRIMPERS AND DECAPPERS

- Easy and convenient handling
- Adjustable in crimping pressure limitation by screw in handle
- Adjustable screw setting facilitates optimum crimping



Description	Size, mm	Cat. No.	Unit
Manual Crimper	8	76047-556A	Each
	11	76047-558A	Each
	20	76047-562A	Each
Manual Decapper	8	76047-564A	Each
	11	76047-566A	Each
	20	76047-570A	Each

**VWR® 11 mm WIDE OPENING SNAP-CAP VIALS**

2 ml, 12x32 mm

- Superior quality borosilicate glass features a dual snap ring for optimal snap-cap performance. If using aluminum crimp caps, care must be taken to avoid ring damage
- Snap-cap vials feature wide opening design which allows for easy filling and requires an insert of 6 mm
- All glass vials are certified



**VWR® 11 mm WIDE OPENING SNAP-CAP VIALS AND INSERTS**

Description	Glass	Patched	Dimensions, mm	Profile	Total Volume	Usable Volume	Residual Volume, µl	Cat. No.	Pack of	Case of
11 mm Crimp/Snap Vial	Clear	No	12 x 32	Flat Bottom	2 ml	1.5 ml	<170	66009-822A	100	1000
	Clear	Yes	12 x 32	Flat Bottom	2 ml	1.5 ml	<170	82028-414A	-	1000
	Amber	Yes	12 x 32	Flat Bottom	2 ml	1.5 ml	<170	82028-416A	-	1000
300 µl Spring Insert	Polypropylene	No	12 x 32	Conical Base	475 µl	300 µl	<2	82028-412A	100	-
	Clear	-	6 x 30	Conical	375 µl	0.25 ml	<1	46610-762A	100	-
400 µl Insert	Polypropylene	-	6 x 30	Conical	325 µl	250 µl	<2	82028-450A	100	-
350 µl Self Aligning Insert	Clear	-	6 x 31	Flat Bottom	500 µl	450 µl	<25	82028-454A	-	1000
11 mm Crimp/Snap Vial 350 µl, Fused Insert	Clear	-	6 x 31	Pulled Point	400 µl	350 µl	<2	82028-452A	100	-
11 mm Crimp/Snap Vial 350 µl, Fused Insert	Clear	No	12 x 32	Fused Conical	500 µl	350 µl	<2	10803-890A	100	-

**VWR® 11 mm SNAP-CAPS AND SEPTA**

Description	Cap Color	Cap Material	Septum	Hardness °Shore	Thickness, mm	Cat. No.	Pack of	Case of
11 mm Snap Cap, 6 mm hole	Clear	Polyethylene	Clear PTFE/Synthetic Red Rubber	60°	1	46610-718A	100	1000
	Blue	Polyethylene	Clear PTFE/Synthetic Red Rubber	60°	1	89239-010A	100	1000
	Clear	Polyethylene	Red PTFE/White Silicone	50°	1.3	46610-720A	100	1000
	Blue	Polyethylene	Red PTFE/White Silicone	50°	1.3	89239-012A	100	1000
	Clear	Polyethylene	Blue PTFE/White Silicone, Pre-slit	55°	1	82028-418A	-	1000
	Blue	Polyethylene	Blue PTFE/White Silicone, Pre-slit	55°	1	89239-014A	100	1000

**VWR® 11 mm WIDE OPENING SNAP-CAP CONVENIENCE KITS**

- Wide opening vials require 6 mm inserts
- Superior quality clear borosilicate glass
- Kits include 100 vials and 100 caps with preassembled septa
- Reusable clear tray makes it easy to keep track of supplies without opening containers

Kit Type	Glass	Patched	Cap Color	Septum	Cat. No.	Component vial	Component cap	Pack of	Case of
Convenience Kit, Wide Opening Snap-Cap Vial	Clear	No	Clear	Clear PTFE/Red Rubber	66009-868A	66009-822A	46610-718A	-	1000
	Clear	No	Clear	Clear PTFE/White Silicone	66009-872A	66009-822A	46610-720A	100	1000

### VWR® 4 ml SCREW-THREAD VIALS

4 ml, 15x45 mm

- Superior quality borosilicate glass
- 13-425 thread finish with a featured write-on patch with graduation for convenient sample identification
- Shell vial includes a plug-style closure
- All glass vials are certified



### VWR® 4 ml SCREW-THREAD VIALS AND INSERTS

Description	Glass	Patched	Dimensions, mm	Profile	Total Volume	Usable Volume	Residual Volume, µl	Cat. No.	Pack of	Case of
13-425 Screw-Thread Vial	Clear	No	15 x 45	Flat Bottom	4 ml	4 ml	<800	66010-562A	200	1000
	Clear	Yes	15 x 45	Flat Bottom	4 ml	4 ml	<800	82028-438A	-	1000
	Amber	Yes	15 x 45	Flat Bottom	4 ml	4 ml	<800	82028-440A	-	1000

### VWR® 13-425 SCREW-THREAD CAPS AND SEPTA

Description	Cap Color	Cap Material	Septum	Hardness *Shore	Thickness, mm	Cat. No.	Pack of
13-425 Open-Top Screw Cap 13-425 Thread, 8.5mm Hole	White	Polypropylene	Blue PTFE/White Silicone, Pre-slit	55°	1.5	82028-442A	100
	Black	Phenolic	Red PTFE/White Silicone	60°	1.5	82028-444A	100
	Black	Polypropylene	Red PTFE/White Silicone	60°	1.5	46610-706A	100

### VWR® 4 ml SCREW-THREAD CONVENIENCE KITS

- Unassembled kits include 200 vials and 200 caps with preassembled septa
- Assembled kits include 100 vials with preattached caps and septa
- Packaged in convenient vial trays with clear covers

Description	Glass	Patched	Cap Color	Septum	Cat. No.	Component vial	Component cap	Pack of
Unassembled Kit	Clear	No	Black	Red PTFE/White Silicone	66009-880A	66010-562A	46610-706A	200
Assembled Kit	Clear	No	Black	Red PTFE/White Silicone	66009-876A	66010-562A	46610-706A	100

### VWR® SHELL VIALS AND INSERTS

- Polyethylene SepCap with starburst center design eases syringe needle penetration
- Convenience kits include equal quantities of vials and caps

Description	Glass	Patched	Dimensions, mm	Profile	Total Volume	Usable Volume	Residual Volume, µl	Cat. No.	Pack of	Case of
1 ml Shell Vial with SepCap	Clear	No	8 x 40	Flat Bottom	1.25 ml	1 ml	<80	66015-702A	250	1000

### VWR® SCREW-THREAD HEADSPACE VIALS AND MAGNETIC CLOSURES

- Screw-thread magnetic headspace vials offer the convenience of a screw-thread vial
- Excellent sealing characteristics that withstand high pressures of headspace applications
- Choose from all-steel or improved polymeric-metal versions. Both are compatible with all standard or magnetic headspace autosamplers such as CTC/LEAP/Gerstel and others

Description	Size	Glass	Cat. No.	Pack of
Screw-Thread Headspace Vial, Round Bottom	20 ml	Clear	10119-902A	100
	10 ml	Clear	10119-906A	100



10119-902A

### VWR® MAGNETIC CLOSURES

Description	Septa Thickness	Septum	Hardness °Shore	Cat. No.	Pack of
Magnetic Screw-Thread Headspace Caps	1.5 mm	White Silicone/Blue PTFE	55°	10119-910A	100
	1.6 mm	Red Butyl/Grey PTFE	55°	10119-912A	100
	1.3 mm	White Silicone/Red PTFE	45°	10119-914A	100
	1.3 mm	Blue Silicone/White PTFE	45°	10119-916A	100
	1.5 mm	White Silicone/Red PTFE, Star Slit	55°	10119-918A	100

VWR® Manual Crimpers and Decappers on page 9



75983-244A

75983-246A

75983-250A

75983-254A

75983-256A

### 20 mm CLEAR CRIMP SEAL HEADSPACE VIALS

Description	Capacity	O.D. x L	Top Finish	Cat. No.	Pack of
Round-Bottom Vial	20 ml	23 x 75 mm	Bevel Edge	75983-244A	100
Flat Bottom Vial	20 ml	23 x 75 mm	Bevel Edge	75983-246A	100

### 20 mm CRIMP CAPS WITH 9.5 mm HOLE

Thickness	Cap Color	Cap Material	Septum	Cat. No.	Pack of
3.2 mm	Silver	Aluminum	Tan PTFE/White Silicone	75983-250A	100
3 mm	Silver	Aluminum	Gray PTFE/Gray Butyl Rubber	75983-254A	100
3 mm	Silver	Aluminum	Clear PTFE/Gray Butyl Rubber	75983-256A	100

# Septum selection guide

Septa for use with general chromatography vials

## PTFE/Natural Red Rubber

PTFE/Natural Red Rubber are an economical choice for seals for GC and HPLC with good chemical properties. They are ideal for multiple injections due to high resealability, but not as easy to penetrate as PTFE/Red Rubber.

## PTFE/High Performance Synthetic Red Rubber

PTFE/Red Rubber is a highly pure synthetic red rubber septum that provides a reduced background level for specific GC applications that employ sensitive detectors such as ECD or NPD. Resealing characteristics are similar for both PTFE/Red Rubber and PTFE/Natural Red Rubber.

## PTFE/Silicone Septa: (T/S)

High-quality, lowest background/blank value, 100% synthetic pure silicone septa for all types of chromatographic applications. Laminated to 0.005" thick PTFE for a pure, highly inert septum with excellent resealing characteristics even after repeated punctures. PTFE/Silicone septa are ideal for use in most HPLC and GC applications where resealability and purity are critical. Cleaner than Natural Rubber or Red Rubber. Available with different hardnesses (durometers) to meet the requirements of various needle types.

## Pre-slit PTFE/Silicone Septa

A PTFE/Silicone septum has a thin 0.005" PTFE layer laminated to highly pure silicon. It is slit through the center for easier needle penetration and to release the vacuum that forms when a large volume of sample is withdrawn from a vial. This septum provides chromatographic characteristics similar to that of a septum without a slit, except that the ability to withstand exposure to aggressive solvents is slightly lessened. Pre-slit septa are highly recommended for autosamplers with thin gauge needles, polymeric needles and cannula-needle systems. Bonded caps feature a PTFE/Silicone septum electrolytically bonded into the cap.

## PTFE/Silicone/PTFE Septa: (T/S/T)

A layer of 0.003" thick PTFE is laminated to each side of high-purity, medium durometer silicone to form a septum that is resistant to coring but still maintains good resealing characteristics. T/S/T septa are recommended for the most critical applications such as ultratrace analysis, where there is a longer time between injections, or for internal standard methods. T/S/T septa also provide superior performance with any autosampler employing a large diameter, blunt-tip needle.



Vial reference chart

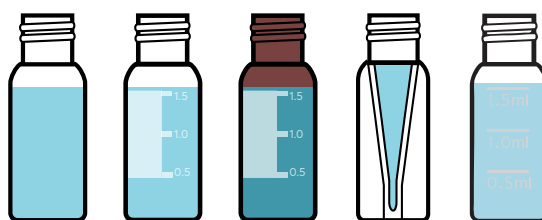
Images shown are 80% to scale

8 mm Standard-Opening  
Screw-Thread Vials – 12x32 mm



Cat. No.	66020-950A	82028-420A	46610-736A	82028-422A
Common Description	2 ml	2 ml	2 ml	2 ml
Approx. Total Capacity	1.9 ml	1.9 ml	1.9 ml	1.9 ml
Rec. Usable Volume	1.5 ml	1.5 ml	1.5 ml	1.5 ml
Residual Volume	<170 µl	<170 µl	<170 µl	<170 µl
Composition	Glass	Glass	Amber	Amber

9 mm Screw Vials – 12x32mm



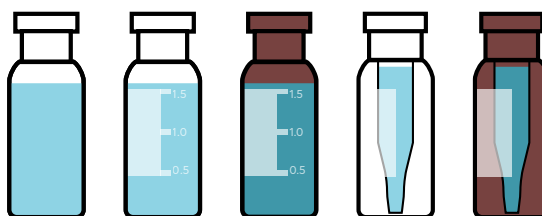
Cat. No.	46610-722A	46610-724A	46610-726A	89524-190A	89524-188A
Common Description	2 ml	2 ml	2 ml	400µl	2 ml
Approx. Total Capacity	2 ml	2 ml	2 ml	300µl	2 ml
Rec. Usable Volume	1.5 ml	1.5 ml	1.5 ml	250µl	1.5 ml
Residual Volume	<170 µl	<170 µl	<170 µl	<1 µl	<170 µl
Composition	Glass	Glass	Amber	PP	Clear PP

10 mm Wide Opening  
Screw-Thread Vials – 12x32 mm



Cat. No.	82028-426A	82028-428A	82028-432A
Common Description	2 ml	2 ml	2 ml
Approx. Total Capacity	2 ml	2 ml	2 ml
Rec. Usable Volume	1.5 ml	1.5 ml	1.5 ml
Residual Volume	<170 µl	<170 µl	<170 µl
Composition	Glass	Glass	Amber

11 mm Wide Opening  
Crimp-Top Vials



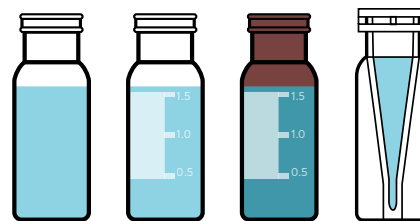
Cat. No.	66010-539A	46610-740A	46610-742A	82028-408A	82028-410A
Common Description	2 ml	2 ml	2 ml	250 µl	250 µl
Approx. Total Capacity	2 ml	2 ml	2 ml	500 µl	500 µl
Rec. Usable Volume	1.5 ml	1.5 ml	1.5 ml	350 µl	350 µl
Residual Volume	<170 µl	<170 µl	<170 µl	<2 µl	<2 µl
Composition	Glass	Glass	Amber	Glass	Amber

11 mm Standard-Opening  
Crimp Vials – 12x32 mm



Cat. No.	66020-953A	82028-402A	82028-404A
Common Description	2 ml	2 ml	2 ml
Approx. Total Capacity	2 ml	2 ml	2 ml
Rec. Usable Volume	1.5 ml	1.5 ml	1.5 ml
Residual Volume	<170 µl	<170 µl	<170 µl
Composition	Glass	Glass	Amber

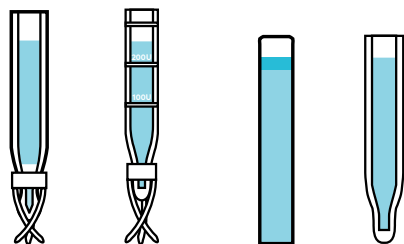
11 mm Snap Vials – 12x32 mm



Cat. No.	66009-822A	82028-414A	82028-416A	82028-412A
Common Description	2 ml	2 ml	2 ml	250 µl
Approx. Total Capacity	2 ml	2 ml	2 ml	475 µl
Rec. Usable Volume	1.5 ml	1.5 ml	1.5 ml	300 µl
Residual Volume	<170 µl	<170 µl	<170 µl	<2 µl
Composition	Glass	Glass	Amber	PP

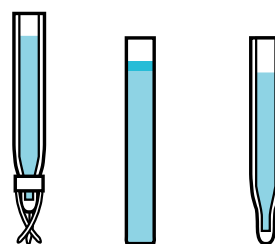
Images shown are 80% to scale

Wide Opening Microvolume Inserts



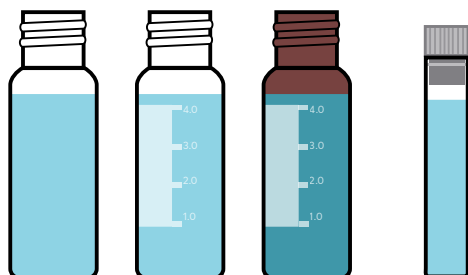
Cat. No.	46610-762A	82028-450A	82028-454A	82028-452A
Common Description	300 µl	300 µl	400 µl	350 µl
Approx. Total Capacity	375 µl	325 µl	500 µl	400 µl
Rec. Usable Volume	300 µl	250 µl	400 µl	350 µl
Residual Volume	<1 µl	<2 µl	<25 µl	<4 µl
Composition	Glass	PP	Glass	Glass

Standard Microvolume Inserts



Cat. No.	46610-702A	82028-448A	82028-446A
Common Description	150 µl	200 µl	150 µl
Approx. Total Capacity	200 µl	250 µl	200 µl
Rec. Usable Volume	170 µl	200 µl	170 µl
Residual Volume	<1 µl	<12 µl	<2 µl
Composition	Glass	Glass	Glass

15x45 mm Screw-Thread Vials



Cat. No.	66010-562A	82028-438A	82028-440A	66015-702A
Common Description	4 ml	4 ml	4 ml	1 ml
Approx. Total Capacity	5.2 ml	5.2 ml	5.2 ml	1.25 ml
Rec. Usable Volume	4 ml	4 ml	4 ml	1 ml
Residual Volume	<800 µl	<800 µl	<800 µl	<80 µl
Composition	Glass	Glass	Amber	Glass

Shell Vials and Inserts

Headspace Vials



Cat. No.	10119-906A	10119-902A	75983-244A
Common Description	10 ml	20 ml	20 ml
Approx. Total Capacity	12 ml	21 ml	21 ml
Composition	Glass	Glass	Glass

### VWR® 96-WELL POLYPROPYLENE MICROPLATES AND COVERS

VWR® 96-Well Microplates are manufactured in a variety of sizes and well formats to meet the demanding requirements of modern laboratory applications. Sample volumes are uniform dimensionally so that all covers, whether round or square, fit interchangeably on other round or square well microplates. This reduces the number of covers needed for most laboratories.

- Virgin polypropylene construction
- Round, conical and flat bottom formats are available
- Shallow well microplates have flat, round and conical bottoms for volumes up to 350 µl
- Medium well microplates have a round bottom for volumes up to 500 µl
- Deep well microplates are available in round well with round bottoms for volumes up to 1.0 ml and square well with either a conical or round bottom for volumes up to 2.0 ml



### MICROPLATES

Description	Well Volume	Color	Well Shape	Cat. No.	Unit
Deep Well Microplate	2000 µl	Natural	Square Bottom	76397-576	Pack of 10
Deep Well Microplate	1600 µl	Natural	Conical Bottom	76397-580	Pack of 10
Deep Well Microplate	1.0 ml	Natural	Conical Bottom	76397-582	Pack of 10
Deep Well Microplate	2.0 ml	Natural	Round Bottom	89237-526	Pack of 10
Deep Well Microplate	2.0 ml	Natural	Conical Bottom	89237-522	Pack of 10
Medium Well Microplate	500 µl	Natural	Round Bottom	76397-578	Pack of 10
Shallow Well Microplate	350 µl	Natural	Flat Bottom	76397-816	Pack of 10
Shallow Well Microplate	350 µl	Natural	Round Bottom	76397-818	Pack of 10
Shallow Well Microplate	350 µl	Natural	Conical Bottom	76397-574	Pack of 10

### MICROPLATE COVERS

EVA microplate covers are designed to stabilize samples during transport from one workstation to another. There are two cover options - a thicker cover for seal strength that is not pierceable or a thinner version that is pierceable by most autosampler needles. The silicone covers are available in two thicknesses, both of which are available either pre-cut or non-cut for resealability.

- Covers are available in multiple materials and thicknesses
- All covers fit interchangeably



Description	Color	Well Shape	Cat. No.	Unit
EVA Microplate Cover, 7 mm	Natural	Round	76397-822	Pack of 10
EVA Microplate Cover	Natural	Square	76397-834	Pack of 10
Silicone Microplate Cover, Thin, Pre-cut	Natural	Round	76397-828	Pack of 10
Silicone Microplate Cover, Thin, Pre-cut	Natural	Square Well	76397-830	Pack of 10
Silicone Microplate Cover, Thick, Pre-cut	Natural	Round Well	76397-820	Pack of 10
Silicone Microplate Cover, 8 mm	Natural	Round Well	76397-824	Pack of 10

Covers available in ethylene vinyl acetate or silicone with a sprayed-on Teflon barrier











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