

Accessories and Reference Information



The Chromacol range of tools and accessories have been developed as a result of Chromacol's 30 years involvement in chromatography.

The range has been designed to make life easier for the chromatographer. Instrument compatibility, vial drawings and other valuable reference tools.

Seal Hardness

The hardness testing of plastics is most commonly measured by the Shore (Durometer) test. This method measures the resistance of plastics toward indentation and provides an empirical hardness value. Shore Hardness, is the preferred method for rubbers/elastomers and is also commonly used for 'softer' plastics such as fluoropolymers. Most septa hardness values are stated in Shore A. The results obtained from this test are a useful measure of relative resistance to piercing of various grades of polymers. This gives guidance on the type of needle that will penetrate the seal and whether thinner gauge needles may be used.

Seals in 8mm, 9mm, 11mm, 12mm Caps

Seal Material	Shore Hardness	Thickness
-TST1 Red PTFE/white silicone/red PTFE	57	1mm
-CBT1 Chlorobutyl/PTFE	52	1mm
-ST14 Blue silicone/PTFE	50	1.2mm
-6RT1/AC6 Natural rubber/PTFE	38	1mm
-ST101 Blue silicone/PTFE	30	1mm
-ST143 White silicone/PTFE	20	1.4mm
-ST144 Blue silicone/redPTFE	20	1.4mm

Seal material	Shore Hardness	Thickness
-V1 Viton	62	1mm
-AC7 Natural rubber/PTFE	60	1mm
-8RT1 Natural rubber/PTFE	58	1mm
-ST2 White silicone/red PTFE	57	2mm
-ST18 White silicone/red PTFE	57	1.8mm
-ST15 White silicone/red PTFE	57	1.5mm
-ST1 White silicone/red PTFE	57	1mm

Seals in 20mm Caps

Seal Material	Shore Hardness	Thickness	Max temp
-CBT3B Chlorobutyl/PTFE	52	3mm	120°C
-CBT3 Chlorobutyl/PTFE	52	3mm	120°C
-CB3 Chlorobutyl/PTFE	52	3mm	120°C
-ST3 Blue silicone/PTFE	45	3mm	200°C

Seal Material	Shore Hardness	Thickness	Max temp
-ST3HT Red silicone/PTFE	45	3mm	250°C
-ST3(W) White silicone/PTFE	57	3mm	200°C
-AS3 White silicone/aluminium	45	3mm	<170°C
-ASH3 Red silicone/aluminium	45	3mm	>170°C

Seal properties

Rubber	Used primarily for routine analysis in gas chromatography. Offers moderate resealability and good chemical inertness. Not recommended for multiple injections or holding samples for further analysis. PTFE is protective layer that once broken exposes rubber to chemical attack.
PTFE/Red rubber - AC6, 6RT1	Low durometer of rubber allows ease of needle penetration. A popular and economical septa for general GC purposes.
PTFE/red rubber - AC7, 8RT1	Harder grade of rubber for use with piercing needle. Most popular and economical septa for general GC purposes in Agilent systems.
Pre-slit PTFE/red rubber - 8RT1X	Pre-slit, high quality red rubber with a thin (0.003") layer PTFE. For applications using a very thin-gauge syringe needle or in instances when a vacuum may form in the vial.
Silicone rubber	High quality, silicone rubber laminated to PTFE. Use when excellent resealing qualities are a must. Septum resists coring and is recommended when multiple injections are required. Preferred septa for use in liquid chromatography applications.
PTFE/silicone - ST1, ST15, ST18, ST2	A white medium hardness silicone with red PTFE protective layer available in a range of thickness.
PTFE/silicone - ST101, ST14	A very pure soft silicone laminated to PTFE. Septum resists coring and is recommended for instruments with fine gauge needles. Also recommended for LC-MS and GC-MS due to high purity.
PTFE /silicone/PTFE - ST143, ST144	A very soft silicone laminated to PTFE. Use with flexible needle.
PTFE /silicone/PTFE - TST1, TST11	A layer of PTFE on each side of medium hardness silicone. Most resistant to coring with above average resealing characteristics. Recommended for most demanding applications such as trace analysis, longer time between injections or for internal standards. Use with Gilson instruments and with any autosampler using large diameter, blunt-tip syringe needles.
Pre-slit PTFE/Silicone - ST1X, ST101X, ST14X	Pre-slit, high quality pure white silicone faced with PTFE. For applications using a very thin-gauge syringe needle or in instances when a vacuum may form in the vial. Highly recommended for Shimadzu and Hitachi autosampler units.
PTFE and fluoropolymers	Very good chemical resistance and used as a protective layer for less resistant elastomers.
PTFE - T, T02	For single injections and short sample cycles. This type of septa is not resealable.
Viton - V1	Viton provides the best chemical resistance with limited resealability. Recommended for chlorinated solvents. Due to Viton's intrinsic hardness, these septa are not suitable for 32-gauge syringe needles.
Integral plastic seal	Moulded as part of the cap.
Polyethylene - PE, Polypropylene - PP	Chemically resistant but for one time use only with no resealability.

20mm seal selection for Headspace applications

Butyl rubber/chlorobutyl rubber	An economical choice for low temperature (< 125°C) or low-pressure applications. Not suitable for alkanes, benzene, chlorinated solvents or cyclohexane without a protective PTFE layer.
Grey butyl stopper - B3P	Does not provide PTFE barrier.
Blue chlorobutyl - CB3	Does not provide PTFE barrier.
Blue chlorobutyl/natural PTFE - CBT3	Has PTFE barrier that makes it suitable for work with general organic solvents.
Grey PTFE/chlorobutyl molded - CBT3B	Specially molded seal with PTFE insert. Sealing surface of Butyl and PTFE affects a more positive seal than non-PTFE-faced septa. Ideal choice for temperatures below 125°C. Good sealing characteristics, excellent resistance to most solvents and coring, and high puncture tolerance. PTFE provides increased chemical resistance.
Silicone rubber	Excellent septa choice for volatiles with very low background peaks and low permeability. Also ideal for alcohols and aqueous samples. Good resealing characteristics and resistant to coring.
Natural PTFE/blue silicone - ST3	Best septa choice when temperatures are over 125°C.
Natural PTFE/red silicone - ST3HT	High temperature formulated seal with low bleed.. Best septa choice when temperatures are up to 250°C.
Blue Silicone/red PTFE - ST15	Thin 1.4mm seal with PTFE face for use with Fisons/ Carlo Erba Instruments. Resealing capability limited due to thinner silicone layer.
Aluminium/white silicone - AS3	Reflective aluminium face protects the silicone seal. The white silicone is suitable for use up to 170°C
Aluminium/red silicone - ASH3	Reflective aluminium face protects the silicone seal. The red silicone is suitable for use at temperatures of >170°C
Blue silicone/natural PTFE - ST101	Soft silicone with clean formulation for minimal interference. Thinner seal suitable for solvent washing, solvent extraction and SPME applications with some resealing. Not for direct headspace applications.
Freezer bungs - 2FB3	Butyl bungs for sealing of lyophilized products. Compatible with low storage temperatures.
PTFE/silicone ring - LLX	Thin PTFE layer with sealing ring to give secure closure for strong solvents. For use in liquid extraction or SPME stage during sample preparation. Does not reseat.

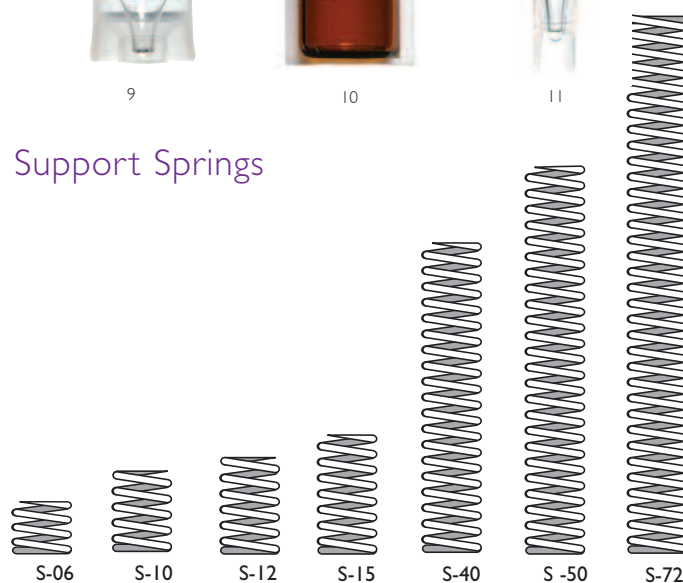
Sleeves and Springs

Support Sleeves

- 1 **TTS-312**
PTFE sleeve for I.I-CTVG and I.I-STVG.
- 2 **TTS-313**
PTFE sleeve for I.I-CTVG and I.I-STVG for all Agilent except 7673 I/I I.
- 3 **TTS-314**
PTFE sleeve, blanked off base for use with Varian I.I-CTVG and I.I-STVG.
- 4 **RTS-1**
Rubber support, grips taper of I.I-CTVG and I.I-STVG.
- 5 **PWS-11**
Support for 12 x 32mm vials for use in the Fisons AS 800, in place of a 2.5mL vial.
- 6 **WS-1**
PTFE sleeve for use with 05-CTV(A).
- 7 **WS-2**
PTFE sleeve for use with Waters 48 vial tray, I.I-CTVG and 2-CV.
- 8 **WS-5**
PTFE sleeve for use with 06-CTV(A) and 08-CRV(A) with all Agilent Technologies except 1090A. Also used with Autometric 4100, Beckman 501/502/507, Dani ALS 86.80, LDC. PerkinElmer Integral 4000, PU-4247, Shimadzu AOC-14/1400, SIL-6B/9A/LC-10A, Spark, Spectra-Physics. Any autosampler that uses an SV-S1 IA sleeve, can also use WS-5 sleeve.
- 9 **WS-6**
A polyethylene support for use with 09-CTV when used with Agilent 7673 autosamplers, Series I and II.
- 10 **WS-7**
PTFE sleeve for use with Waters 717 and 2mL crimp-top vials.
- 11 **MTS-1**
Polyethylene self-centering support device for use with 02-MTV and 02-MTVWG inserts.



Support Springs

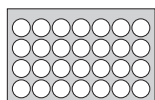


Vial Racks

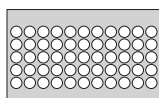
Sci-Rak



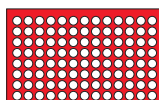
T-25



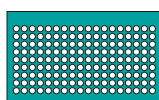
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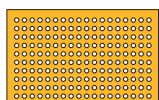
T-55



T-104

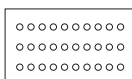


T-162

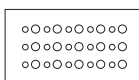


T-180

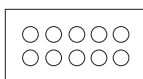
Other Trays



T-15/308



T-15/302



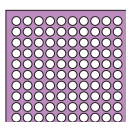
T-10/20



T-105



T-200



B-100

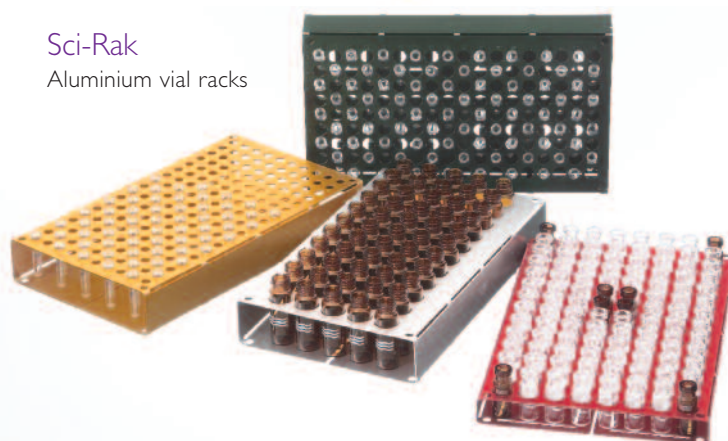
B-100 vial racks

These racks are supplied in packs of five assorted colours. Each rack is alpha numerically indexed and has its own lid.



Sci-Rak

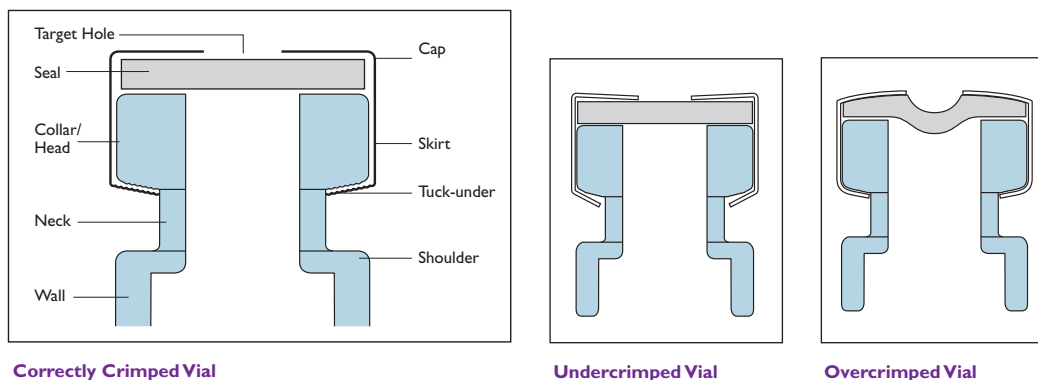
Aluminium vial racks



PART NUMBER	SIZE (mm)	MATERIAL	COLOUR	NO OF VIALS	O.D. OF VIALS (mm)	STACKABLE	DUAL PURPOSE
B-100	140 x 140	Plastic	Various	100	12	Yes	No
T-25	85 x 85	Anodised aluminium	Blue	25	12	No	No
T-55	210 x 134	Anodised aluminium	Silver	55	15	Yes	No
T-28	210 x 134	Anodised aluminium	Silver	28	22	No	No
T-104	210 x 134	Anodised aluminium	Red	104	12	Yes	No
T-162	210 x 134	Anodised aluminium	Green	162	9	Yes	No
T-180	210 x 134	Anodised aluminium	Gold	180	6	Yes	No
T-15/308	178 x 108	Hard inert plastic	White	15	8 and 6	No	Yes
T15/302	188 x 108	Hard inert plastic	White	15	12 and 6	No	Yes
T-10/20	195 x 103	Hard inert plastic	White	10	22	No	No
T-105	210 x 134	Foam	Black	105	12	No	No
T-200	210 x 134	Foam	Black	200	8	No	No

Crimpers and Capping Systems

Your selection and technique for crimping can have a significant effect on the preservation of sample integrity. The crimpmate system creates a perfect seal, ensuring sample integrity.



An over crimped vial will undoubtedly cause coring and needle bending, however, tests revealed that over crimping will also cause the injection site hole to increase by as much as 50% over that of a correctly crimped vial. The softer the seal the more prevalent this condition becomes. The Chromacol Crimpmate system provides a constant reproducible perfect crimped seal.

Crimpmate

The benchtop crimper is a complete workstation which requires little effort to create a perfect seal. Steel jaws provide a long life and reproducible crimp pressures. It can be assembled or dismantled in a few minutes and has a substantial steel base for balance and stability. Crimpmate has a unique lever action, which greatly reduces the effort needed to generate a perfectly crimped vial.

Each workstation can handle a wide variety of different seals and caps, since it is designed to accept interchangeable jaws.

Four jaw sizes are currently available for 8, 11, 13 and 20mm crimp caps. Jaws can be changed in as little as 6 seconds and each is adjustable to cope with variations in vial collar and seal thickness.



Crimpmate and Autocrimp Systems

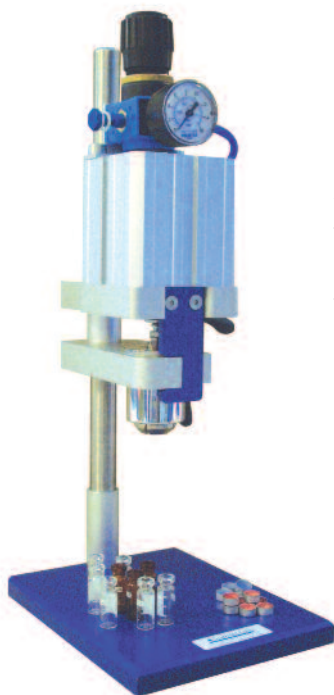
PART NUMBER	DESCRIPTION	Complete Workstations
CMS-8	Workstation with 8mm jaws	
CMS-11	Workstation with 11mm jaws	
CMS-13	Workstation with 13mm jaws	
CMS-20	Workstation with 20mm jaws	

PART NUMBER	DESCRIPTION	Workstation Components Base Unit
CMS-0	Workstation without jaws	
CMSP-0	Autocrimp pneumatic workstation without jaws	

PART NUMBER	DESCRIPTION	Crimping Jaws
CMJ-8	8mm jaw set	
CMJ-11	11mm jaw set	
CMJ-13	13mm jaw set	
CMJ-20	20mm jaw set	
CMJF-20	20mm jaw set for flip top caps	

PART NUMBER	DESCRIPTION	De-capping Jaws
CDJ-8	De-capper jaw for 8mm vials	
CDJ-11	De-capper jaw for 11mm vials	
CDJ-20	De-capper jaw for 20mm vials	

Crimpers and Capping Systems



Autocrimp

This unit is actuated by compressed air (5-6 bar) and is operated by a foot pedal leaving the operator with both hands free for sample manipulation.

The CMSP-0 Autocrimp workstation uses the same interchangeable jaws for crimping and decapping as the Crimpmate, see previous page.

Electronic Crimpers

Chromacol electronic handheld crimpers give tight, reproducible seals every time. Adjustable, slim steel jaws fit around closely spaced vials, enabling users to crimp vials directly in crowded autosampler trays. Using the same handheld design as the crimpers, Chromacol's new electronic decappers remove caps instantly and are designed for laboratories that recycle vials.



PART NUMBER	DESCRIPTION
ECR-11	Electronic crimper with 11mm steel jaws
ECR-20	Electronic crimper with 20mm steel jaws
EDCB-11	Electronic decapper with 11mm steel jaws
EDCB-20	Electronic decapper with 20mm steel jaws

Hand Crimpers

All Chromacol hand crimpers have an adjustable stop, to give reproducible crimp pressures and to compensate for any small variations in vial collar and seal thickness. Crimpers for fliptop caps are also available upon request.

PART NUMBER	DESCRIPTION
CR-8	Hand crimper with 8mm steel jaws
CR-11	Hand crimper with 11mm steel jaws
CR-13	Hand crimper with 13mm steel jaws
CR-20	Hand crimper with 20mm steel jaws
CR-30	Hand crimper with 30mm steel jaws

De-Cappers

The DCB-8, 11 and 20 allow the removal of 8, 11 and 20mm caps with considerable less effort and eliminate the risk of the vial breaking in the process. This system is ideal for the environmentally conscious company who wishes to separate all four elements (the sample, the glass, the cap and the seal). A range of pliers type de-cappers is also available which allow the easy removal of aluminium crimp top caps from glass vials.

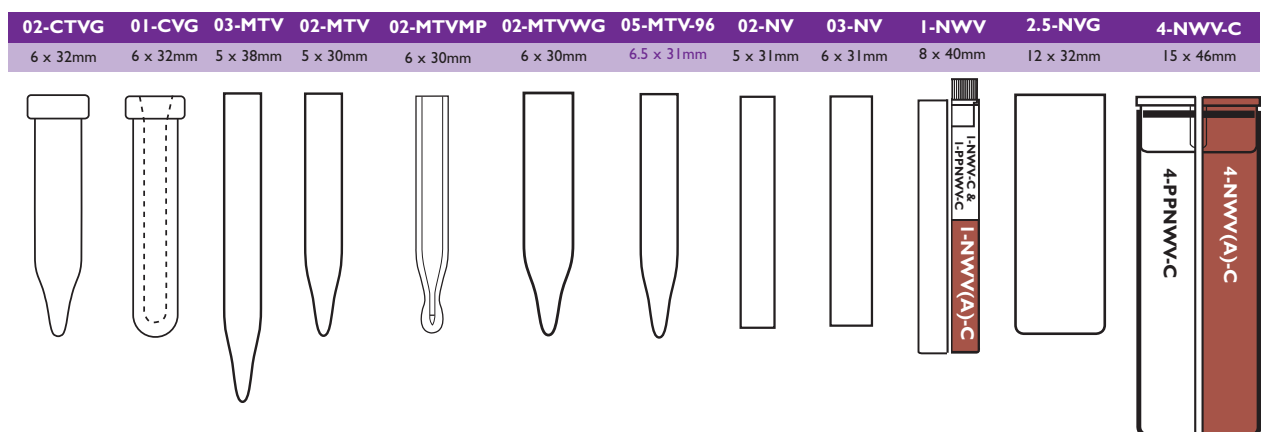
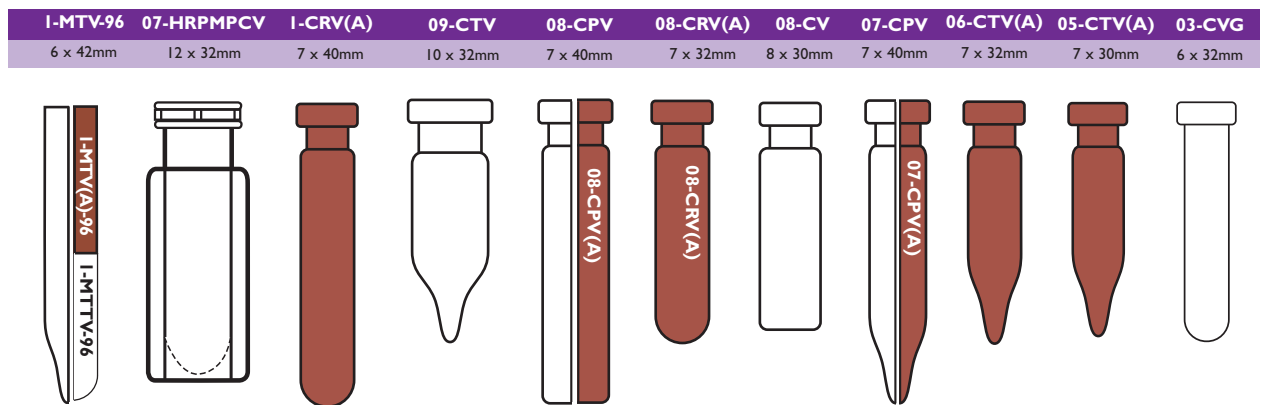
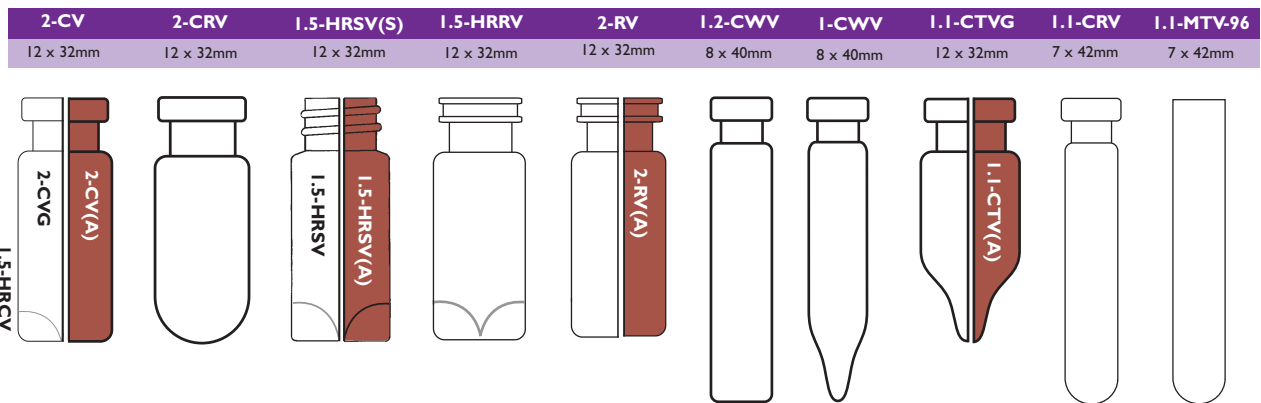
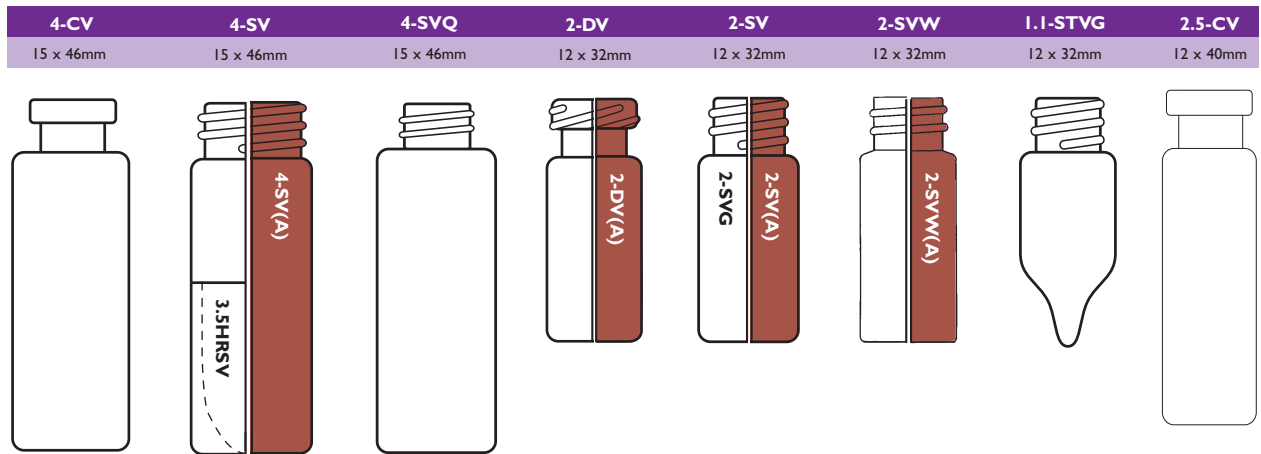
PART NUMBER	DESCRIPTION
DCB-8	De-capper with 8mm jaws
DCB-11	De-capper with 11mm jaws
DCB-20	De-capper with 20mm jaws
DCR-8	De-capper (pliers type) for 8mm caps
DCR-11	De-capper (pliers type) for 11mm caps
DCR-13	De-capper (pliers type) for 13mm caps
DCR-20	De-capper (pliers type) for 20mm caps
DCR-30	De-capper (pliers type) for 30mm caps



Instrument	Model	Crimp 8mm	Snap/Crimp 11mm	Screw 8mm/9mm	Sci-Vi Sleeve	Headspace	Number of WebSeal Plates
Agilent	I050	✓	✓	9mm	SV-S11A		
	I100/I200/NanoFlow		✓	9mm	SV-S11A	✓	
	I100/I200 Well-Plate		✓	9mm	SV-S11A		2
	I090A	✓	✓	✓	SV-S4	✓	
	6850 ALS		✓		SV-S11A		
	7673A/7683		✓		SV-S14		
	7680A SFE/7694/G1888					✓	
	G1888					✓	
	Model 220						12
	I200 SL plus		✓	✓			2
AI	42 Vial Tray		✓		SV-S1		
	60 Vial Tray	✓			SV-S2		
AIM	CPS-100/200		✓	✓	SV-S1		
Alcott	708AL				Neckless		
	718AL/719D		✓	✓	SV-S3A		2 or 31
Alpha M.O.S.	Fox/Prometheus		✓	✓	SV-S1	M	
	Kronos		✓	✓	SV-S1		
Altex™	See Beckman-Coulter						
Antec Leyden™	Alexys		✓	✓	SV-S1		
ATAS GL™	Focus		✓	✓	SV-S1	M	
Beckman-Coulter™	501/507/System Gold	✓	✓	✓	SV-S11A		
	504				SV-S2		
Bruker™	Mapll						12
	LC51			4mL	SV-S15		
Carlo Erba	See Fisons Instruments						
CTC Analytics	LC PAL/GC PAL	✓	✓	✓	SV-S1		4
	Combi PAL	✓	✓	✓	SV-S1	M	4
	HTC PAL/HTS PAL	✓	✓	✓	SV-S1		9
	TwinPAL	✓	✓	✓		M	2
	IFC PAL		✓	✓			24
DANI	Master AS		✓	✓			
	Master DHS					✓	
	ALS-1000/39.80/86.80		✓		SV-S1		
	HSS 39.50/86.50/SPT 37.50					✓	
Dionex	AS-HV			✓			
	Ultimate 3000	✓	✓	✓			3
	ASI-100/AS50		✓	✓	SV-S1		
	AS40			4mL	SV-S15		
	FAMOS		✓	✓	SV-S1		1
Dynatech	LC-241	✓	✓	✓	SV-S2		
Eksigent®	NanoLC-ASI		✓	✓			1
ESA®	540-MT		✓	✓	SV-S1		1
	540		✓	✓	SV-S1		
EST™	Markelov 9000					✓	
	LC-241 plus	✓	✓		SV-S1		
	Cobra	✓	✓	✓			
Fisons Instruments	A-200S/AS 150/800/8000		✓	✓	SV-CE		
	AS 200	✓					
GBC™	LC 1650		✓	✓	SV-S1		
GE Healthcare™	Ettan A-950		✓	✓			1
GE Instruments™	Sievers 900			✓			
Gerstel	MPS 2		✓	✓	SV-S1	M	4
	MPS 3		✓	✓	SV-S1		
Gilson	234/Asted/Aspec		✓	✓	SV-S1		
	235		✓	✓	SV-S1		4
	231 XL/232 XL/233 XL	✓	✓	✓	SV-S1		
	215		✓	✓	SV-S1		12
	250		✓	✓	SV-S1		2
Gynkotek/Softron	GINA 50/160		✓	✓	SV-S1		
HTA™	HT310A		✓	✓			
	HT300A		✓		SV-S1		4
	HT200H		✓				
ICI	See GBC						
Jasco	851/AS-950/1550/1555			Flange	SV-S12A		
	AS-2059/AS-2059Plus			Flange	SV-S12A		2
	AS-2055/AS-2057			Flange	SV-S12A		1
	AS-2059-SF/X-LC	✓		✓	SV-S12A		2
Konik™	K-Mass		✓				
Kontron	MSI-660			4mL	SV-S15		
	360/460/560/565		✓	✓	SV-S1		
Knauer™	Smartline 3800/3900		✓	✓	SV-S1		
LDC	See TSP						
LEAP Technologies	See CTC Analytics						
Merck-Hitachi	AS-1000/AS-2000		✓	✓	SV-S3A		
	AS-4000		✓		SV-S3A		
	Lachrom L-7200		✓	✓	SV-S1		

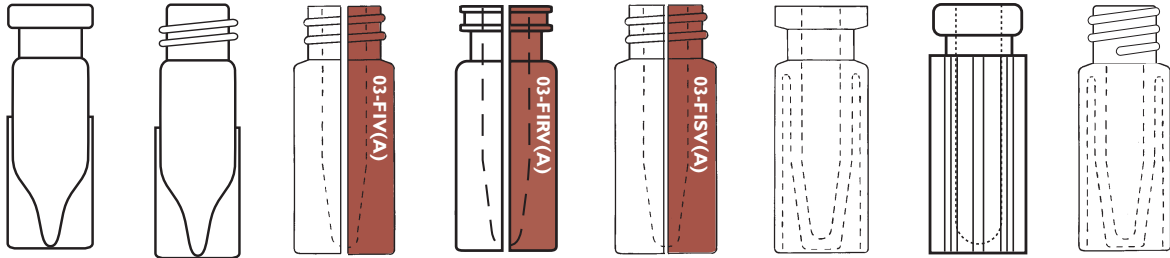
Instrument	Model	Crimp 8mm	Snap/Crimp 11mm	Screw 8mm/9mm	Sci-Vi Sleeve	Headspace	Number of WebSeal Plates
	Lachrom Elite L-2200		✓	✓	SV-S1		2
	Lachrom Ultra L-2200U		✓	✓	SV-S1		2
Metrohm™	Triathlon		✓	✓	SV-S1		
NLG™ HTA	HT300A/HT300L		✓	✓	SV-S1		
	HT200H					✓	
PerkinElmer	Autosystem/AS-2000/ Clarus 500/600		✓	4mL	SV-S1		
	Integral 4000		✓	✓	SV-S11A		
	ISS-100/200/Series 200	✓	✓	✓	SV-S11A		
	Model 225		✓	✓	SV-S1		
	HS16/40/120		✓	✓		✓	
	LC Plus	✓	✓	✓	SV-S11A		1
	Turbomatrix HS110					✓	
Pharmacia	2157/Akta A-900		✓	✓	SV-S1		
Philips	See Unicam						
Polymer Labs	GPC 110/210		✓	✓	SV-S1		
Pye	See Unicam						
Selerity™	3100		✓	✓	SV-S1		
Seplatec™							30
SGE™	LS-3200		✓	✓	SV-S1		
Shimadzu	AOC-8B/9 AOC-14/1400		✓	✓	SV-S11A		
	AOC-5000		✓		SV-S1	M	
	AOC-20		✓		SV-S1		
	AOC-20S	✓	✓	✓	SV-S1	✓	4
	HSS-2B/4B					✓	
	SIL-2A			4mL	SV-S15		
	SIL-2/6A/6B/9A			Flange	SV-S12A		
	SIL-10A			✓	SV-S11A		
	SIL-20A		✓	✓	SV-S11A		
	SIL-HT/10ADVP	✓	✓	✓	SV-S11A		2
	LC-2010	✓	✓	✓	SV-S11A		4
	Prominence		✓	✓	SV-S11A		2 or 14
Spark	Marathon/Promis/Midas		✓	✓	SV-S1		
	Symbiosis/Reliance		✓	✓	SV-S1		24
	Symbiosis Pico						24
	Alias/Prospekt 2		✓	✓	SV-S1		2
	Endurance/Triathlon		✓	✓	SV-S1		2
Spectra Physics	SP8875/8880		✓	✓	SV-S3A		
	AS100/300/1000/3000		✓	✓	SV-S1		
Teledyne Tekmar	7000/7050					✓	
	HT3A					✓	
Thermo Scientific	Surveyor™/Accela		✓	✓	SV-S1		2
	AS 3000/TraceGC/ Surveyor Plus™ Lite		✓	9mm	SV-S1		2
	Focus GC		✓	✓	SV-S1		
	TriPlus AS		✓	✓	SV-S1		
	TriPlus HS					✓	
TOA	ICA-5000450/5450		✓	Flange	SV-S12A		
Tosoh™	TSK-6080/AS-8010/ AS-8020		✓	Flange & 4mL	SV-S12A		
Tracor	770/771/772		✓		SV-S1		
TSP	AM4100		✓		SV-TSP		
	AS3000		✓	✓	SV-TSP		
Unicam	LC-XP/4710/4247		✓	4mL	SV-S1 & SV-S15		
	4700GC/LC/S4/S8	✓	✓		SV-S1		
	612	✓	✓		SV-S2		
Varian	CP-8410		✓	✓	SV-S3A		
	Genesis					✓	
	CombiPAL					M	
	8034/8035/8100/8200		✓		SV-S3A		
	9095/9100		✓	✓	SV-S1		
	920-LC		✓	✓	SV-S1		3
	940-LC		✓	✓	SV-S2		4
	ProStar 400/410/420/430		✓	✓	SV-S1		
Waters	WISP 96	✓			SV-S2 & Neckless		
	WISP 48			4mL	SV-S15		
	717Plus	✓	✓	✓	SV-S11A		
	Alliance 2690		✓	✓	SV-S1		2
	Model 2707		✓	✓	SV-S1		4
	Model 2767						4
	Model 2777						12
	Alliance HTS						2
	Acquity		✓	✓	SV-S1		2 or 21
	Acquity Sample Organizer		✓	✓			12
	NanoAcquity		✓	✓	SV-S1		2
	CapLC		✓	✓	SV-S1		1

Vials

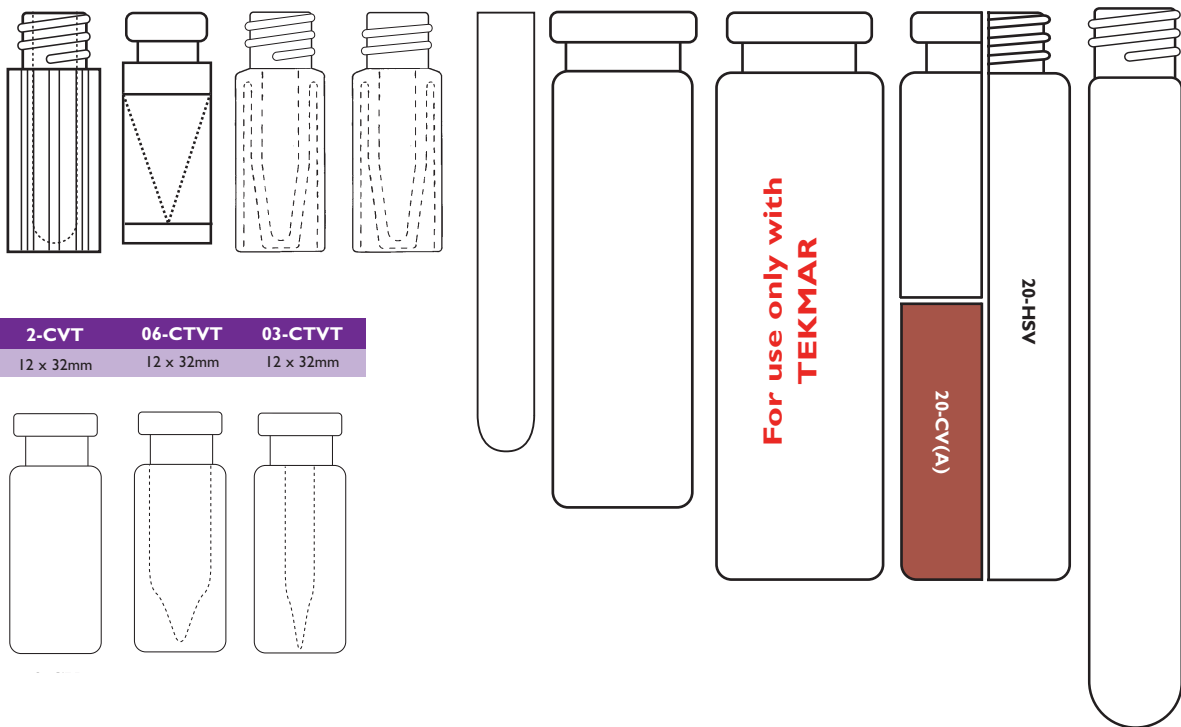


Vials

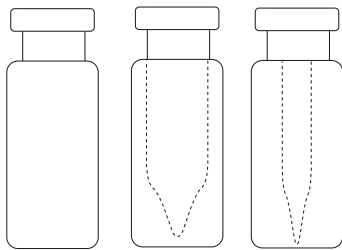
09-FIV 12 x 32mm	09-FISV 12 x 32mm	03-FIV 12 x 32mm	03-FIRV 12 x 32mm	03-FISV 12 x 32mm	06-PECV 12 x 32mm	06-PPCV 12 x 32mm	06-PESV 12 x 32mm
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06-PPSV 12 x 32mm	03-PECV 12 x 30mm	03-PPSV 12 x 32mm	03-PPSVW 12 x 32mm	1.5-MTV-96 7 x 60mm	12-CV 18 x 65mm	22-CV 22 x 75mm	20-CV 22 x 75mm	10-SV 13 x 100mm
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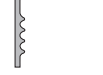

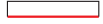





















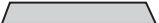










2-CVT 12 x 32mm	06-CTVT 12 x 32mm	03-CTVT 12 x 32mm
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5-SV 13 x 65mm	9-CV 18 x 50mm	6-CV 22 x 38mm	20-EPSVCA 27 x 57mm	27-CV 30 x 60mm	10-CV 22 x 45mm
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Profiles

12-SC 12 x 10mm	12-SCS 12 x 10mm	12-SC-ST2 12 x 10mm	12-SC-8RTI 12 x 10mm	11-DSC(R) 11 x 6.5mm	11-DSC(R)-ST14X 11 x 6.5mm		
							
	<ul style="list-style-type: none"> ■ 12-SC(R) ■ 12-SC(W) ■ 12-SC(WG) ■ 12-SC(Y) 						
9-SC(B)-8RTI 9 x 6.5mm	9-SC(B)-ST10I 9 x 6.5mm	9-SC(B)-STI 9 x 6.5mm	9-SC(B)-TSTI 9 x 6.5mm	9-SCS-8RTI 9 x 6.5mm	9-SCJ-8RTI 9 x 9mm	9-SCJ-ST10I 9 x 9mm	9-SCJ-ST15 9 x 9mm
							
<ul style="list-style-type: none"> ■ 9-SC(G)-8RTI ■ 9-SC(N)-8RTI ■ 9-SC(B)-8RTIX 		<ul style="list-style-type: none"> ■ 9-SC(G)-STI ■ 9-SC(N)-STI ■ 9-SC(B)-STIX ■ 9-SC(BLK)-BSTI ■ 9-SC(GY)-BSTIX 			<ul style="list-style-type: none"> ■ 9-SCJ(Y)-8RTI ■ 9-SCJ(W)-8RTI 	<ul style="list-style-type: none"> ■ 9-SCJ(Y)-ST10I ■ 9-SCJ(W)-ST10I 	<ul style="list-style-type: none"> ■ 9-SCJ(Y)-ST15 ■ 9-SCJ(W)-ST15
8-SCS 8 x 9mm	8-SC 8 x 9mm	8-SCJ 8 x 9mm	8-SC(B) 8 x 6mm	8-SC-8RTI 8 x 9mm	8-SC-ST15 8 x 9mm	11-PSN(B) 9 x 6.5mm	11-PSN(B)-ST10I 9 x 6.5mm
							
	<ul style="list-style-type: none"> ■ 8-SC(BT) ■ 8-SC(R) ■ 8-SC(W) ■ 8-SC(Y) 		<ul style="list-style-type: none"> ■ 8-SCJ(R) ■ 8-SCJ(W) ■ 8-SCJ(Y) 				
11-PSN(B)-T02 9 x 6.5mm	11-PSN(B)-TSTI 9 x 6.5mm	11-PSN(B)-8RTI 9 x 6.5mm	11-PSN(B)-STIX 9 x 6.5mm	11-PSN(B)-STI 9 x 6.5mm	18-MSC 18 x 13mm	18-MSC-ST3 18 x 13mm	
							
<ul style="list-style-type: none"> ■ 11-PSN(R)-T02 	<ul style="list-style-type: none"> ■ 11-PSN(B)-STIX 	<ul style="list-style-type: none"> ■ 11-PSN(Y)-8RTI ■ 11-PSN-8RTI 	<ul style="list-style-type: none"> ■ 11-PSN(G)-STIX 	<ul style="list-style-type: none"> ■ 11-PSN(Y)-STI ■ 11-PSN-STI 		<ul style="list-style-type: none"> ■ 18-MSC-ST10I ■ 18-MSC-CBT3 	
12-ST2 12 x 2mm	12-ST143 12 x 1.5mm	12-ST18 12 x 1.8mm	12-6RTI 12 x 1mm	12-ST10I 12 x 1mm	12-T02 12 x 0.25mm	11-6RTI 10 x 1mm	
							
11-LLX 11 x 3mm	11-ST14 10 x 1.4mm	11-ST15 10 x 1.5mm	11-T02 11 x 0.25mm	8-ST14 8 x 1.4mm	8-ST14X 8 x 1.4mm	8-ST143 8 x 1.5mm	
							
8-ST144 8 x 1.4mm	8-6RTI 8 x 1mm	8-ST10I 8 x 1mm	8-T02 8 x 0.25mm	8-TSTI 8 x 1mm	8-TSTII 8 x 1mm	8-ST15 8 x 1.5mm	20-AS3/ASH3 20 x 3mm
							
20-CB3 20 x 3mm	20-CBT3 20 x 3mm	20-CBT3B 20 x 3mm	20-LLX 20 x 3mm	20-ST3 20 x 3mm	20-ST3HT 20 x 3mm		
							
18-ST3 18 x 3mm	20-ST10I 20 x 1mm	18-ST10I 18 x 1mm	20-B3P 20 x 9mm	20-2FB3 20 x 13mm			
							

Caps, Plugs and Seals





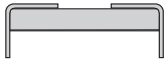
























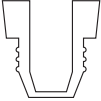

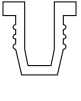

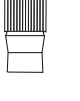
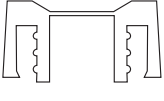
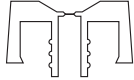
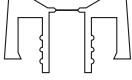
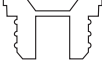
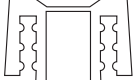
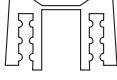







20-ACB 20 x 7mm	20-MCB 20 x 7mm	20-MCBC 20 x 7mm	20-MCBC-ST3 20 x 7mm	20-AC-CBT3 20 x 7mm		
		 20-MCBC(N) 20-MCBC(R)	 20-MCBC(N)-ST3 20-MCBC(R)-ST3			
20-AC-ST3 20 x 7mm	11-AC6 11 x 6mm	11-AC7 11 x 6mm	11-ACB 11 x 6mm	11-AC-CBT1 11 x 6mm	11-AC-PP 11 x 6mm	
	 11-AC6(B) 11-AC6(G) 11-AC6(GO) 11-AC6(R)	 11-AC7(B) 11-AC7(G) 11-AC7(GO) 11-AC7(R)				
11-AC-ST101 11 x 6mm	11-AC-ST101X 11 x 6mm	11-AC(B)-ST144 11 x 6mm	11-AC-ST15 11 x 6mm	11-ACT 11 x 6mm		
						
11-AC-TST1 11 x 6mm	11-AC-V1 11 x 6mm	8-AC6 8 x 5mm	8-AC7 8 x 5mm	8-ACB 8 x 5mm	8-AC-CBT1 8 x 5mm	
		 8-AC6(B) 8-AC6(R)				
8-AC-ST15 8 x 5mm	8-AC-ST101 8 x 5mm	8-AC-ST101X 8 x 5mm	8-AC(B)-ST144 8 x 5mm	8-ACT 8 x 5mm	8-AC-TST1 8 x 5mm	8-AC-V1 8 x 5mm
						
12-PEP4 15 x 10mm	11-PEP2 11 x 6mm	11-PEP2W 11 x 6mm	8-PEP1 8 x 9mm	8-NPWP 8 x 9mm	20-PEPC5 20 x 10mm	
	 11-PEP2(B)					
11-PEPC3X 11 x 6mm	11-PEPC3XW 11 x 6mm	12-NPEP4 12 x 7mm	12-SCP 12 x 10mm	8-SCP 8 x 9mm		
						
11-PECI 11 x 6mm	8-PECI 8 x 5mm	8-PEC-STIX 8 x 5mm	11-PECIX 11 x 6mm	8-PECIX 8 x 5mm	11-PEC-8RT1 11 x 7mm	11-PEC-ST1 11 x 7mm
						

Table of Solubilities

SEALING MATERIAL

SOLVENT	SEALING MATERIAL									
	AC6	AC7	B3P	CBT1	CB3	CBT3	LDPE	HDPE	PP	PTFE
Acetic Acid Aqueous	A(A)	A(B)	A(B)	A(A)	A(A)	A(A)	A(A)	A(A)	A(A)	A(A)
Acetone	A(A)	A(C)	A(A)	A(A)	A(A)	A(A)	D(D)	B(B)	B(B)	A(A)
Acetonitrile	A(A)	A(-)	-	A(A)	A(A)	A(A)	-	-	-	A(A)
Alcohols(Aromatic)	A(B)	A(D)	-	A(B)	B(B)	A(B)	D(D)	D(D)	B(B)	A(A)
Alcohols(Aliphatic)	A(A)	A(B)	A(B)	A(A)	A(A)	A(A)	D(D)	B(B)	B(B)	A(A)
Amyl Acetate	A(A)	A(D)	A(C)	A(A)	A(A)	A(A)	D(D)	D(D)	-	A(A)
Aqueous Solutions Dilute	A(A)	A(-)	-	A(A)	A(A)	A(A)	A(A)	A(A)	A(A)	A(A)
Benzene	A(D)	A(D)	D(D)	A(D)	D(D)	A(D)	D(D)	D(D)	D(D)	A(A)
Butyl Alcohol	A(B)	A(A)	A(B)	A(B)	B(B)	A(B)	B(B)	B(B)	B(B)	A(A)
Carbon Disulphide	A(D)	A(D)	D(D)	A(D)	D(D)	A(D)	D(D)	D(D)	D(D)	A(A)
Carbon Tetrachloride	A(D)	A(D)	D(D)	A(D)	D(D)	A(D)	D(D)	D(D)	D(D)	A(A)
Chloroform	A(D)	A(D)	D(D)	A(D)	D(D)	A(D)	D(D)	D(D)	D(D)	A(A)
Cyclohexane	A(D)	A(D)	D(D)	A(D)	D(D)	A(D)	-	-	-	A(A)
Cyclohexanol	A(D)	A(D)	D(D)	A(D)	D(D)	A(D)	D(D)	D(D)	B(B)	A(A)
Diethyl Ether	A(D)	A(D)	D(D)	A(D)	D(D)	A(D)	D(D)	D(D)	D(D)	A(A)
Dimethyl Sulphoxide	A(C)	A(D)	D(D)	A(C)	C(C)	A(C)	-	-	-	A(A)
Dioxane	A(B)	A(D)	A(B)	A(B)	B(B)	A(B)	-	-	-	A(A)
Esters	A(B)	A(D)	A(C)	A(B)	B(B)	A(B)	D(D)	D(D)	B(B)	A(A)
Ethyl Acetate	A(B)	A(D)	A(B)	A(B)	B(B)	A(B)	D(D)	D(D)	B(B)	A(A)
Ethyl Alcohol	A(A)	A(A)	A(A)	A(A)	A(A)	A(A)	D(D)	B(B)	B(B)	A(A)
Ethylene Chloride	A(D)	A(D)	A(C)	A(D)	D(D)	A(D)	D(D)	D(D)	D(D)	A(A)
Ethylene Glycol	A(A)	A(A)	A(A)	A(A)	A(A)	A(A)	A(A)	A(A)	A(A)	A(A)
Formaldehyde	A(B)	A(B)	A(A)	A(B)	B(B)	A(B)	A(A)	A(A)	A(A)	A(A)
Glycol	A(A)	A(A)	A(A)	A(A)	A(A)	A(A)	A(A)	A(A)	A(A)	A(A)
Halogenated Hydrocarbons	A(D)	A(C)	A(B)	A(D)	D(D)	A(D)	D(D)	D(D)	D(D)	A(A)
Hexane	A(D)	A(D)	D(D)	A(D)	D(D)	A(D)	-	-	-	A(A)
Hydrochloric Acid Dilute	A(A)	A(C)	A(A)	A(A)	A(A)	A(A)	A(A)	A(A)	A(A)	A(A)
Iso-Octane	A(D)	A(D)	D(D)	A(D)	D(D)	A(D)	-	-	-	A(A)
Ketones	A(A)	A(C)	A(B)	A(A)	A(A)	A(A)	D(D)	B(B)	B(B)	A(A)
MeOH/H ₂ O/Acetonitrile	A(A)	A(-)	-	A(A)	A(A)	A(A)	-	-	-	A(A)
Methanol	A(A)	A(A)	A(A)	A(A)	A(A)	A(A)	-	-	-	A(A)
Methyl Chloride	A(C)	A(D)	A(C)	A(C)	C(C)	A(C)	D(D)	D(D)	D(D)	A(A)
Methyl Acetate	A(B)	A(C)	A(A)	A(B)	B(B)	A(B)	D(D)	D(D)	B(B)	A(A)
Methyl Ethyl Ketone	A(A)	A(D)	A(B)	A(A)	A(A)	A(A)	D(D)	B(B)	B(B)	A(A)
Methylene Chloride	A(D)	A(D)	D(D)	A(D)	D(D)	A(D)	D(D)	D(D)	D(D)	A(A)
Nitric Acid Dilute	A(A)	A(D)	A(B)	A(A)	A(A)	A(A)	A(A)	A(A)	A(A)	A(A)
Pentane	A(D)	A(-)	-	A(D)	D(D)	A(D)	-	-	-	A(A)
Petroleum Ether	A(D)	A(-)	-	A(D)	D(D)	A(D)	D(D)	D(D)	D(D)	A(A)
Sodium Hydroxide	A(A)	A(A)	A(A)	A(A)	A(A)	A(A)	A(A)	A(A)	A(A)	A(A)
Sulphuric Acid Dilute	A(D)	A(C)	A(B)	A(D)	D(D)	A(D)	A(A)	A(A)	A(A)	A(A)
Surfactants	A(A)	A(-)	-	A(A)	A(A)	A(A)	-	-	-	A(A)
Toluene	A(D)	A(D)	D(D)	A(D)	D(D)	A(D)	D(D)	D(D)	B(B)	A(A)
Trichloroethylene	A(D)	A(D)	D(D)	A(D)	D(D)	A(D)	D(D)	D(D)	D(D)	A(A)
Water	A(A)	A(A)	A(A)	A(A)	A(A)	A(A)	A(A)	A(A)	A(A)	A(A)

SOLVENT	SEALING MATERIAL										
	ST3	ST2	ST18	ST15	ST14	ST144	ST143	ST101	TST11	TST1	VITON
Acetic Acid Aqueous	A(A)	A(A)	A(A)	A(A)	A(A)	A(A)	A(A)	A(A)	A(A)	A(A)	D(D)
Acetone	A(D)	A(B)	A(A)	A(A)	A(A)	A(D)	A(B)	A(A)	A(A)	A(B)	D(D)
Acetonitrile	A(A)	A(-)	A(A)	A(A)	A(A)	A(A)	A(-)	A(A)	A(A)	A(-)	B(B)
Alcohols(Aromatic)	A(B)	A(-)	A(A)	A(A)	A(A)	A(B)	A(-)	A(A)	A(A)	A(-)	-
Alcohols(Aliphatic)	A(B)	A(-)	A(A)	A(A)	A(A)	A(B)	A(-)	A(A)	A(A)	A(-)	-
Amyl Acetate	A(D)	A(D)	A(C)	A(C)	A(C)	A(D)	A(D)	A(C)	A(C)	A(D)	D(D)
Aqueous Solutions Dilute	A(A)	A(-)	A(A)	A(A)	A(A)	A(A)	A(-)	A(A)	A(A)	A(-)	-
Benzene	A(D)	A(D)	A(C)	A(C)	A(C)	A(D)	A(D)	A(C)	A(C)	A(D)	A(A)
Butyl Alcohol	A(B)	A(B)	A(B)	A(B)	A(B)	A(B)	A(B)	A(B)	A(B)	A(B)	A(A)
Carbon Disulphide	A(D)	A(-)	A(A)	A(A)	A(A)	A(D)	A(-)	A(A)	A(A)	A(-)	A(A)
Carbon Tetrachloride	A(D)	A(D)	A(C)	A(C)	A(C)	A(D)	A(D)	A(C)	A(C)	A(D)	A(A)
Chloroform	A(D)	A(D)	A(C)	A(C)	A(C)	A(D)	A(D)	A(C)	A(C)	A(D)	A(A)
Cyclohexane	A(D)	A(D)	A(C)	A(C)	A(C)	A(D)	A(D)	A(C)	A(C)	A(D)	A(A)
Cyclohexanol	A(D)	A(-)	A(B)	A(B)	A(B)	A(D)	A(-)	A(B)	A(B)	A(-)	A(A)
Diethyl Ether	A(D)	A(-)	A(B)	A(B)	A(B)	A(D)	A(-)	A(B)	A(B)	A(-)	D(D)
Dimethyl Sulphoxide	A(D)	A(-)	A(A)	A(A)	A(A)	A(D)	A(-)	A(A)	A(A)	A(-)	C(C)
Dioxane	A(D)	A(D)	A(C)	A(C)	A(C)	A(D)	A(D)	A(C)	A(C)	A(D)	D(D)
Esters A(B)	A(-)	A(B)	A(B)	A(B)	A(B)	A(-)	A(B)	A(B)	-	A(-)	-
Ethyl Acetate	A(B)	A(B)	A(B)	A(B)	A(B)	A(B)	A(B)	A(B)	A(B)	A(B)	D(D)
Ethyl Alcohol	A(A)	A(B)	A(A)	A(A)	A(A)	A(A)	A(B)	A(A)	A(A)	A(B)	-
Ethylene Chloride	A(D)	A(D)	A(C)	A(C)	A(C)	A(D)	A(D)	A(C)	A(C)	A(D)	-
Ethylene Glycol	A(A)	A(A)	A(A)	A(A)	A(A)	A(A)	A(A)	A(A)	A(A)	A(A)	A(A)
Formaldehyde	A(B)	A(B)	A(A)	A(A)	A(A)	A(B)	A(B)	A(A)	A(A)	A(B)	D(D)
Glycol(A)	A(A)	A(A)	A(A)	A(A)	A(A)	A(A)	A(A)	A(A)	-	A(A)	-
Halogenated Hydrocarbons	A(D)	A(-)	A(A)	A(A)	A(A)	A(D)	A(-)	A(A)	A(A)	A(-)	-
Hexane	A(D)	A(D)	A(C)	A(C)	A(C)	A(D)	A(D)	A(C)	A(C)	A(D)	-
Hydrochloric Acid Dilute	A(D)	A(-)	A(A)	A(A)	A(A)	A(D)	A(-)	A(A)	A(A)	A(-)	A(A)
Iso-Octane	A(D)	A(D)	A(C)	A(C)	A(C)	A(D)	A(D)	A(C)	A(C)	A(D)	-
Ketones	A(D)	A(-)	A(B)	A(B)	A(B)	A(D)	A(-)	A(B)	A(B)	A(-)	-
MeOH/H ₂ O/Acetonitrile	A(A)	A(-)	A(B)	A(B)	A(B)	A(A)	A(-)	A(B)	A(B)	A(-)	-
Methanol	A(A)	A(A)	A(A)	A(A)	A(A)	A(A)	A(A)	A(A)	A(A)	A(A)	D(D)
Methyl Chloride	A(D)	A(D)	A(A)	A(A)	A(A)	A(D)	A(D)	A(A)	A(A)	A(D)	A(A)
Methyl Acetate	A(D)	A(D)	A(B)	A(B)	A(B)	A(D)	A(D)	A(B)	A(B)	A(D)	D(D)
Methyl Ethyl Ketone	A(D)	A(D)	A(A)	A(A)	A(A)	A(D)	A(D)	A(A)	A(A)	A(D)	D(D)
Methylene Chloride	A(D)	A(-)	A(B)	A(B)	A(B)	A(D)	A(-)	A(B)	A(B)	A(-)	-
Nitric Acid Dilute	A(D)	A(B)	A(B)	A(B)	A(B)	A(D)	A(B)	A(B)	A(B)	A(B)	A(A)
Pentane	A(D)	A(-)	A(C)	A(C)	A(C)	A(D)	A(-)	A(C)	A(C)	A(-)	-
Petroleum Ether	A(D)	A(-)	A(C)	A(C)	A(C)	A(D)	A(-)	A(C)	A(C)	A(-)	-
Sodium Hydroxide	A(A)	A(B)	A(A)	A(A)	A(A)	A(A)	A(B)	A(A)	A(A)	A(B)	D(D)
Sulphuric Acid Dilute	A(D)	A(D)	A(B)	A(B)	A(B)	A(D)	A(D)	A(B)	A(B)	A(D)	A(A)
Surfactants	A(A)	A(-)	A(A)	A(A)	A(A)	A(A)	A(-)	A(A)	A(A)	A(-)	-
Toluene	A(D)	A(D)	A(C)	A(C)	A(C)	A(D)	A(D)	A(C)	A(C)	A(D)	A(A)
Trichloroethylene	A(D)	A(D)	A(C)	A(C)	A(C)	A(D)	A(D)	A(C)	A(C)	A(D)	A(A)
Water	A(A)	A(A)	A(A)	A(A)	A(A)	A(A)	A(A)	A(A)	A(A)	A(A)	B(B)

Key: The first character indicates the characteristics of the seal prior to any injection.
 The second character in () indicates the potential characteristics of the seal after an injection.
 A = Recommended B = Suitable for most purposes C = Use with care D = Not advisable - = Not tested

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Instrument compatibility

We believe that our instrument/vial compatibility suggestions are accurate at the time of going to press. However, changes in manufacturers' specifications may result in different instrument/vial compatibilities to those indicated. All dimensions and capacities are approximate.

Solubilities

We believe that the information included in our seal solubility table is accurate at the time of going to press. However, changes in manufacturers' specifications may alter the degree of solubility indicated. Where we indicate any degree of solubility we would always recommend that a test be carried out before commencing any analysis.

Intellectual property

Patents:

The Sci-Vi System, Crimpmate and WebSeal are patented in the UK and USA and are the subject of pending patent applications in other countries.

Uni-Vi™ vials - 1.1-CTVG, 1.1-STVG, 09-CTV, 08-CRV(A), 06-CTV(A), 05-CTV(A) - together with support sleeves WS-2, WS-5, WS-6 and WS-7 are larger capacity members of the Sci-Vi System patent.



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