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Thermo Scientific National Vials and Closures

More laboratory professionals look to Thermo Scientific National products to meet their critical sampling needs than any other company

- Comprehensive instrument compatibility, "correct fit"
- The industry's widest selection of vials and closures for every application, from economical to high end products
- Innovative products for challenging applications
- Quality products in glass (type 33 glass for clear vials), closures and septa
- Certified and Mass Spec Certified Vial Kits
- The leading manufacturer of vials and closures in North America since 1986
- In-house product development team
- Leading company in convenience and assembled kits

National Certified Vials and Closures Convenience Kits

- National Certified Vial Kits are fully lot-tested including HPLC and GC analysis for 15 critical parameters
- Certificate of Conformance included in every pack
- Superior quality 33 expansion borosilicate clear (Type 1, Class A) or 51A amber (Type 1 Class B) glass
- Fixed insert or conical base vials for limited volume sampling

Unassembled kits

- Includes 100 vials and 100 caps with pre-assembled septa
- Reusable two compartment trays protect vials and closures while keeping matching supplies together
- Clear trays make it easy to keep track of available supplies without opening containers

Assembled kits

- Include 100 vials with pre-attached caps and septa
- Packaged in convenient vial trays with clear covers



National Certified Vial and Closure Convenience Kits

Kit Type	Glass	Patched	Cap Color	Septum	Vial Cat.No.	Cap Cat.No.	Cat. No.	Pack of
Convenience Kit, Certified 9mm Wide Opening Screw Vial, 2mL	Clear	No	Blue	Ivory PTFE/Red Rubber	C4000-1	C4000-51B	CERT4000-80	100
	Clear	Yes	Blue	Ivory PTFE/Red Rubber	C4000-1W	C4000-51B	CERT4000-80W	100
	Amber	Yes	Blue	Ivory PTFE/Red Rubber	C4000-2W	C4000-51B	CERT4000-82W	100
	Clear	Yes	Blue	Red PTFE/White Silicone	C4000-1W	C4000-54B	CERT4000-92W	100
Convenience Kit, Certified 9mm Wide Opening High Recovery Screw Vial, 1.7mL	Clear	No	Black	Bonded Red PTFE/White Silicone	C4000-9	C4000-64B	CERT4000-992	100
Convenience Kit, Certified 9mm Wide Opening Screw Vial, 2mL	Clear	Yes	Black	Bonded Red PTFE/White Silicone	C4000-1W	C4000-64B	CERT4000-78W	100
	Amber	Yes	Black	Bonded Red PTFE/White Silicone	C4000-2W	C4000-64B	CERT4000-75W	100
Convenience Kit, Certified 9mm Wide Opening Precision Taper Screw Vial, 1mL	Clear	No	Black	Bonded Red PTFE/White Silicone	C4000-1PT	C4000-64B	CERT4000-98PT	100
Convenience Kit, Certified 9mm Screw Vial, 350µL Fused Insert	Clear	Yes	Black	Bonded Red PTFE/White Silicone	C4000-LV1W	C4000-64B	CERT4000-69LV	100
	Amber	Yes	Black	Bonded Red PTFE/White Silicone	C4000-LV2W	C4000-64B	CERT4000-72LV	100
Convenience Kit, Certified 10-425 Screw Vial, 2mL	Clear	No	Black	Bonded Red PTFE/White Silicone	C4010-1	C4010-68A	CERT4010-91	100
Convenience Kit, Certified 13-425 Screw Vial, 4mL	Clear	No	Black	Bonded Red PTFE/White Silicone	C4015-1	C4015-67A	CERT4015-83	100
Convenience Kit, Certified 9mm Wide Opening High Recovery Screw Vial, 1.7mL	Clear	No	Gray	Bonded Red PTFE/White Silicone, Pre-slit	C4000-9	C4000-75C	CERT4000-79	100
Convenience Kit, Certified 9mm Wide Opening Screw Vial, 2mL	Clear	Yes	Gray	Bonded Red PTFE/White Silicone, Pre-slit	C4000-1W	C4000-75C	CERT4000-93W	100
	Amber	Yes	Gray	Bonded Red PTFE/White Silicone, Pre-slit	C4000-2W	C4000-75C	CERT4000-76W	100
Convenience Kit, Certified 9mm Wide Opening Total Recovery Screw Vial, w/10µL Reservoir	Clear	No	Gray	Bonded Red PTFE/White Silicone, Pre-slit	C4000-9TR	C4000-75C	CERT4000-993	100
Convenience Kit, Certified Shell Vial 1mL with SepCap	Clear	No	Natural	Integral Molded Polyethylene	–	–	CERT4015-96	200
Assembled Kit, Certified Crimp Top Vial, 2mL	Clear	Yes	Silver	PTFE/Synthetic Red Rubber	C4011-1W	–	CERT4011-89W	100
Assembled Kit, Certified 9mm Wide Opening Screw Vial, 2mL	Amber	Yes	Black	Bonded Red PTFE/White Silicone	C4000-2W	C4000-64B	CERT4000-175W	100
	Clear	Yes	Gray	Bonded Red PTFE/White Silicone	C4000-1W	C4000-75C	CERT4000-193W	100
	Amber	Yes	Gray	White Silicone, Pre-slit	C4000-2W	C4000-75C	CERT4000-176W	100

National 8mm Crimp Top Vials

- Superior quality type 1 borosilicate and amber glass. Conical and Round Bottom 8mm Crimp Vials sometimes need an adapter for certain autosampler and cannot stand alone.

Recommended for the following instruments:

- Thermo Scientific
- Agilent
- Beckman
- Carlo Erba
- CTC
- Fisons
- PerkinElmer
- Shimadzu
- VWR (Merck)/Hitachi

For autosampler compatibility look on pages **2-100 to 2-104**



National 8mm Crimp Top Vials

Description	Glass	Patched	Dimension (mm)	Profile	Total Volume (µL)	Usable Volume (µL)	Residual (µL)	Cat. No.	Pack of
8mm Crimp Top Vial	Clear	No	6x32	Round Base	325	250	<6	C4008-632R	100
	Clear	No	6x32	Conical Base	250	200	<2	C4008-632C	100
	Amber	No	7x30	Conical Base	550	400	<3	C4008-730	100
	Clear	No	7x40	Conical Base	575	450	<2	C4008-739	100
	Amber	No	7x40	Conical Base	575	450	<2	C4008-740	100
	Clear	No	7x40	Flat Base	775	650	<70	C4008-741	100
	Amber	No	7x40	Flat Base	775	650	<70	C4008-742	100
	Clear	No	8x30	Flat Base	800	800	<80	C4008-1	200

National 8mm Top Crimp Closures

- Aluminum crimp seals with prefitted septa
- Provide a secure leak-resistant seal
- Pre-assembled caps and septa are convenient and minimize contamination from handling



National 8mm Crimp Top Closures

Description	Cap Color	Cap Material	Septum	Hardness °shore	Thickness (mm)	Cat. No.	Pack of
8mm Crimp Cap, 4mm centre hole	Silver	Aluminum	Clear PTFE/Red Rubber	45	1.0	C4008-1A	200
	Silver	Aluminum	Red PTFE/White Silicone/Red PTFE	45	1.0	C4008-2A	200
	Silver	Aluminum	Red PTFE/White Silicone	45	1.3	C4008-4A	200

National 8mm Crimping and Decrimping Tools

- Crimping tools provide a reproducible, secure vial closure
- Easy and convenient handling
- High quality construction for durability and long life
- Painted, plated and coated for maximum corrosion resistance
- Textured handle surface provides an assured grip



Items not shown to scale

National 8mm Crimping and Decrimping Tools

Description	Use	Cat. No.	Pack of
Manual Crimper	Attaches 8mm aluminum crimp seals	C4008-100	1
Decapping Pliers	Removes 8mm aluminum crimp seals, Protective gloves recommended	C4008-101	1
Manual Decrimper	Removes 8mm aluminum crimp seals without vial damage	C4008-102	1

We offer electronic crimping options

Visit **PAGE 2-094**



National Standard Opening Screw Thread Vials

2mL, 12x32mm, 8mm Standard Opening Screw Thread Vials and Inserts

- 8-425 thread finish
- I-D vials feature a write-on patch with graduation for convenient sample identification
- Superior quality 33 expansion borosilicate clear (Type 1, Class A) or 51A amber (Type 1 Class B) glass
- Microsampling and High Recovery Vials allow maximum sample extraction without need for separate inserts
- Available silanized (deactivated) for optimal recovery of critical polar, labile or OH-interacting compounds*
- Polyspring inserts are self-aligning and provide a cushion against needle contact
- Precision point insert minimizes residual sample loss
- Pulled point inserts are an economical choice for noncritical applications

Recommended for the following instruments:

- Beckman
 - CTC
 - Gilson
 - Knauer
 - Shimadzu
 - Spark Holland
 - Varian
 - VWR (Merck)/Hitachi
- For autosampler compatibility look on pages **2-100 to 2-104**



National Standard Opening Screw Thread Vials and Inserts

Description	Glass	Patched	Dimension (mm)	Profile	Total Volume	Usable Volume	Residual (µL)	Cat. No.	Pack of
8-425 Screw Thread Vial	Clear	No	12x32	Flat Bottom	2.0mL	1.5mL	<170	C4013-1	100
	Clear	No	12x32	Flat Bottom	2.0mL	1.5mL	<170	C4013-1500	1000
	Clear	Yes	12x32	Flat Bottom	2.0mL	1.5mL	<170	C4013-1W	100
	Amber	No	12x32	Flat Bottom	2.0mL	1.5mL	<170	C4013-2	100
	Amber	Yes	12x32	Flat Bottom	2.0mL	1.5mL	<170	C4013-2W	100
8-425 Screw Thread 150µL MicroVial, Clear Solid Glass	Clear	No	12x32	Conical	400µL	200µL	<2	C4013-12	12
8-425 Screw Thread Vial, silanized*	Clear	No	12x32	Flat Bottom	2.0mL	1.5mL	<170	C4013-S1	100
8-425 Screw Thread 250µL Conical MicroVial	Polypropylene	No	12x32	Conical	475µL	250µL	<4	C4013-11	100
8-425 Screw Thread 600µL Tapered MicroVial	Polypropylene	No	12x32	High Recovery	850µL	675µL	<8	C4013-13	1000
200µL MicroSert Insert	Clear	–	5x31	Flat Bottom	250µL	200µL	<12	C4012-465	500
150µL Polyspring Insert	Clear	–	5x29	Pulled point	200µL	175µL	<1	C4012-530	100
150µL Insert	Clear	–	5x29	Pulled point	200µL	175µL	<3	C4012-529	100
125µL Polyspring Insert	Polypropylene	–	5x29	Precision point	175µL	125µL	<2	C4012-530P	100
150µL Polyspring Insert, silanized*	Clear	–	5x29	Pulled point	200µL	175µL	<1	C4012-S530	100

* For information about silanized products see page **2-055**

National Screw Thread Caps and Septa

- Open top caps are designed to be used with any of our 8mm septa
- Phenolic caps are suitable for autoclaving and low temperature applications
- Polypropylene caps are chemically inert and suitable for most chromatography applications
- Flanged caps are preferred for Shimadzu and Tosoh autosamplers
- Pre-assembled caps and septa are convenient and minimize contamination from handling
- Caps with bonded septa resist dislodging during injection when using large diameter blunt needles
- Closures are shipped in sealed polybags to prevent contamination during transport



National 8-425 Screw Thread Caps and Septa

Description	Cap Color	Cap Material	Septum	Hardness °shore	Thickness (mm)	Cat. No.	Pack of
8mm Open Top Cap 5.5mm hole	Black	Polypropylene	–	–	–	C4013-1A	100
8mm Open Top Cap with flange, 5.5mm hole	Black	Polypropylene	–	–	–	C4013-3A	100
	White	Polypropylene	–	–	–	C4013-98W*	100
8mm Open Top Cap, 5.5mm hole	Pink	Polypropylene	–	–	–	C4013-1P	100
Septum for 8-425 Screw Caps	–	–	White Virgin PTFE, 0.01" Septum	53	0.25	C4013-10	1000
	–	–	Ivory PTFE/Red Rubber Septum	45	1.00	C4013-30	100
	–	–	Blue PTFE/White Silicone, Pre-slit Septum	55	0.90	C4013-32	100
	–	–	Red PTFE/White Silicone/Red PTFE Septum	45	1.00	C4013-40	100
	–	–	Red PTFE/White Silicone Septum	45	1.30	C4013-60	100
	–	–	Tan PTFE/White Silicone Septum	45	1.50	C4013-61	1000
	8mm Open Top Cap, 5.5mm hole	Black	Polypropylene	Ivory PTFE/Red Rubber	45	1.00	C4013-30A
Pink		Polypropylene	Ivory PTFE/Red Rubber	45	1.00	C4013-30P	100
Black		Polypropylene	Red PTFE/White Silicone/Red PTFE	45	1.00	C4013-40A	100
Pink		Polypropylene	Red PTFE/White Silicone/Red PTFE	45	1.00	C4013-40P	100
Black		Polypropylene	Red PTFE/White Silicone	45	1.30	C4013-60A	100
Pink		Polypropylene	Red PTFE/White Silicone	45	1.30	C4013-60P	100
8mm Open Top Cap with flange, 5.5mm hole	Black	Polypropylene	Red PTFE/White Silicone	45	1.30	C4013-63A	100
	White	Polypropylene	Red PTFE/White Silicone	45	1.30	C4013-63W	100
	Pink	Polypropylene	Red PTFE/White Silicone	45	1.30	C4013-63P	100
	Black	Polypropylene	Blue PTFE/White Silicone, Pre-slit	55	0.90	C4013-64A	100
	White	Polypropylene	Blue PTFE/White Silicone, Pre-slit	55	0.90	C4013-64W	100
	Pink	Polypropylene	Blue PTFE/White Silicone, Pre-slit	55	0.90	C4013-64P	100
8mm Open Top Cap, 5.5mm hole	Black	Phenolic Resin	Red PTFE/White Silicone	45	1.30	C4013-74A	100
8mm Open Top Cap with flange, 5.5mm hole	Black	Polypropylene	Red PTFE/White Silicone, Pre-slit	55	1.00	C4013-77A	100
	Pink	Polypropylene	Red PTFE/White Silicone, Pre-slit	55	1.00	C4013-77P	100
8mm Solid Top Cap, 8-425 thread	White	Polypropylene	PTFE/Foam Urethane Liner	–	1.30	B7815-8	100
8mm Open Top Cap, 5.5mm hole	Black	Polypropylene	Bonded Red PTFE/White Silicone, Pre-slit	45	1.30	C4013-69A	100

* Additional colors on request

National Standard Opening Screw Thread Vial Convenience Kits

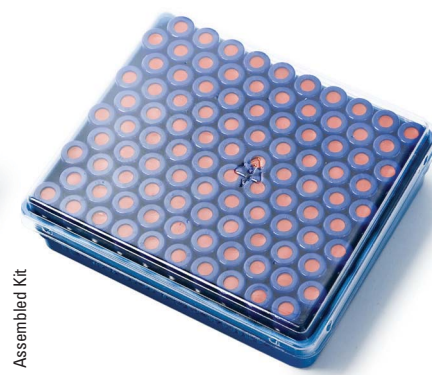
- Save time during sample preparation
- Reduce the risk of contamination

Unassembled kits

- Includes 100 vials and 100 caps with pre-assembled septa
- Reusable two compartment trays protect vials and closure while keeping matching supplies together
- Clear trays make it easy to keep track of available supplies without opening containers

Assembled kits

- Include 100 vials with pre-attached caps and septa
- Packaged in convenient vial trays with clear covers or in economical polybags



Items not shown to scale

National Standard Opening Screw Thread Vial Convenience Kits

Kit Type	Glass	Patched	Cap Color	Septum	Vial Cat.No.	Cap/Septum Cat.No.	Cat. No.	Pack of
Convenience Kit	Clear	No	Black, flanged	Red PTFE/White Silicone	C4013-1	C4013-63A	C4013-14	100
	Clear	No	Black	Red PTFE/White Silicone	C4013-1	C4013-60A	C4013-15	100
	Clear	No	Pink	Red PTFE/White Silicone	C4013-1	C4013-60P	C4013-15P	100
	Amber	No	Black	Red PTFE/White Silicone	C4013-2	C4013-60A	C4013-17	100
	Amber	No	Pink	Red PTFE/White Silicone	C4013-2	C4013-60P	C4013-17P	100
	Clear	Yes	Black, flanged	Red PTFE/White Silicone, Pre-slit	C4013-1W	C4013-77A	C4013-95W	100
	Clear	No	Black, phenolic	Red PTFE/White Silicone	C4013-1	C4013-74A	C4013-492	100
Assembled Kit	Clear	No	Black	White Virgin PTFE, 0.01"	C4013-1	C4013-1A/ C4013-10	C4013-10A	100
	Clear	No	Black	Red PTFE/White Silicone	C4013-1	C4013-60A	C4013-15A	100
	Amber	No	Black	Red PTFE/White Silicone	C4013-2	C4013-60A	C4013-17A	100
	Clear	No	Black, flanged	Blue PTFE/White Silicone, Pre-slit	C4013-1	C4013-3A/ C4013-32	C4013-32A	100
	Clear	Yes	Yellow, flanged	Red PTFE/White Silicone, Pre-slit	C4013-1W	C4013-98Y/ C4013-60TW	C4013-36A	100
	Clear	No	Black, flanged	Red PTFE/White Silicone	C4013-1	C4013-63A	C4013-57	100
	Clear	No	White, flanged	Red PTFE/White Silicone	C4013-1	C4013-63V	C4013-58	100
	Clear	No	Black, phenolic	Red PTFE/White Silicone	C4013-1	C4013-74A	C4013-492A	100
Assembled Kit, in Polybag	Clear	No	Black, phenolic	Red PTFE/White Silicone	C4013-2	C4013-74A	C4013-494A	100
				White Virgin PTFE, 0.01"	C4013-1	C4013-1A/ C4013-10	C4013-010A	100

National Standard Opening Screw Thread Vial Storerooms

- Storerooms organize supplies and save valuable bench space
- Storerooms are shipped fully stocked
- 6 drawer mini-storeroom holds 500 vials and closures.
- 9 drawer full size storeroom holds 2000 vials and closures



C4075-380



C4000-MS



C4075-500

Items not shown to scale

National Standard Opening Screw Thread Vial Storerooms

Kit Type	Glass	Patched	Cap Color	Septum	Vial Cat.No.	Cap/Septum Cat.No.	Cat. No.	Pack of
Nine Drawer Storeroom, 2000 pieces Caps and Vials	Clear	No	Black, phenolic	Red PTFE/White Silicone	C4013-1	C4013-74A	C4075-380	1
Six Drawer Mini Storeroom – Cabinet Only	–	–	–	–	–	–	C4000-MS	1
Nine Drawer Storeroom, Full Size – Cabinet Only	–	–	–	–	–	–	C4075-500	1



National Target DP 9mm Wide Opening Screw Thread Vials

2mL, 12x32mm, 9mm Wide Opening Short Screw Thread Vials and Inserts

Recommended for most brands of autosamplers:

For autosampler compatibility look on pages **2-100 to 2-104**

- Some vials feature an I-D write-on patch with graduation for convenient sample identification
- Wide neck opening design, allows easy filling, requires Micro-Inserts with a diameter of 6mm
- Superior quality 33 expansion borosilicate clear (Type 1, Class A) or 51A amber (Type 1 Class B) glass
- Microsampling and High Recovery Vials allow maximum sample extraction without need for separate inserts
- Available silanized (deactivated) for optimal recovery of critical polar, labile or OH-interacting compounds
- Polyspring inserts are self-aligning and provide a cushion against needle contact
- Precision point insert minimizes residual sample loss



National Target DP 9mm Wide Opening Screw Thread Vials and Inserts

Description	Glass	Patched	Dimension (mm)	Profile	Total Volume	Usable Volume	Residual (µL)	Cat. No.	Pack of
9mm Target DP Vial	Clear	No	12x32	Flat Bottom	2.0mL	1.5mL	<170	C4000-1	100
	Clear	Yes	12x32	Flat Bottom	2.0mL	1.5mL	<170	C4000-1W	100
	Amber	Yes	12x32	Flat Bottom	2.0mL	1.5mL	<170	C4000-2W	100
	Amber PP	Graduated	12x32	Flat Bottom	2.0mL	1.5mL	<170	C4000-12	100
9mm Target DP ColorBand Vial	Clear	Blue**	12x32	Flat Bottom	2.0mL	1.5mL	<170	C4000-1B	100
	Clear	Green**	12x32	Flat Bottom	2.0mL	1.5mL	<170	C4000-1G	100
	Clear	Red**	12x32	Flat Bottom	2.0mL	1.5mL	<170	C4000-1R	100
	Clear	Yellow**	12x32	Flat Bottom	2.0mL	1.5mL	<170	C4000-1Y	100
9mm Target DP Vial, High Recovery with 30µL Reservoir	Clear	No	12x32	Tapered Base	1.7mL	1.3mL	<4	C4000-9	100
	Amber	No	12x32	Tapered Base	1.7mL	1.3mL	<4	C4000-9A	100
9mm Target DP Vial, Total Recovery with 10µL Reservoir	Clear	No	12x32	Deep Well Base	1.5mL	1.2mL	<1	C4000-9TR	100
9mm Target DP MacroVial 350µL, Fused Insert	Clear	No	12x32	Insert Vial	475µL	350µL	<2	C4000-LV1	100
	Clear	Yes	12x32	Insert Vial	475µL	350µL	<2	C4000-LV1W	100
	Amber	No	12x32	Insert Vial	475µL	350µL	<2	C4000-LV2	100
	Amber	Yes	12x32	Insert Vial	475µL	350µL	<2	C4000-LV2W	100
9mm Target DP MacroVial 200µL, Fused Insert	Clear	Yes	12x32	Insert Vial	375µL	240µL	<1	C4000-LV3W	100
9mm Target DP Micro-V Tapered MicroVial with 150µL reservoir	Clear	No	12x32	Tapered Base	1.4mL	1.0mL	<4	C4000-V1	100
	Amber	No	12x32	Tapered Base	1.4mL	1.0mL	<4	C4000-V2	100
9mm Target DP Vial, silanized*	Clear	No	12x32	Flat Bottom	2.0mL	1.5mL	<170	C4000-S1	100
	Clear	Yes	12x32	Flat Bottom	2.0mL	1.5mL	<170	C4000-S1W	100
	Amber	Yes	12x32	Flat Bottom	2.0mL	1.5mL	<170	C4000-S2W	100
9mm Target DP High Recovery Vial, silanized*, with 30µL Reservoir	Clear	No	12x32	Tapered Base	1.7mL	1.3mL	<4	C4000-S9	100
9mm Target DP 300µL Target DP Vial	Polypropylene	No	12x32	Conical	400µL	300µL	<2	C4000-11	100
350µL Insert	Clear	–	6x31	Pulled Point	400µL	350µL	<4	C4010-627L	100
300µL Insert	Clear	–	6x30	Pulled Point	375µL	300µL	<4	C4010-629	100
350µL Insert	Clear	–	6x31	Precision Point	400µL	350µL	<2	C4010-629L	100
300µL Insert, Graduation Marks	Polypropylene	–	6x30	Conical	325µL	250µL	<2	C4010-629P	100
300µL Polyspring Insert	Clear	–	6x31	Conical	375µL	300µL	<1	C4010-630	100
	Polypropylene	–	6x30	Conical	325µL	250µL	<2	C4010-630P	100
400µL MicroSert Insert	Clear	–	6x31	Flat Bottom	500µL	450µL	<25	C4011-631	500
	Polypropylene	–	6x31	Flat Bottom	500µL	450µL	<25	C4011-631P	500
300µL Insert, silanized*	Clear	–	6x31	Pulled Point	375µL	300µL	<4	C4010-S629	100
300µL Polyspring Insert, silanized*	Clear	–	6x29	Conical	375µL	300µL	<1	C4010-S630	100
400µL MicroSert Insert, silanized*	Clear	–	6x31	Flat Bottom	500µL	450µL	<25	C4011-S631	500
300µL Polyspring Insert, Kimshield*	Clear	–	6X29	Conical	375µL	300µL	<1	C4010-K630	100

* For information about silanized products see page **2-055**

**Target DP ColorBand vials are designed to provide full sample color coding for autosamplers with optical vial detection. Use the optimum cap for your instrument without sacrificing your color coding scheme.

National 9mm Screw Caps and Septa

- Fully compatible with all National Target DP vials
- Easy-on, easy-off convenience with just one turn
- Pre-assembled caps and septa are convenient and minimize contamination from handling
- Polypropylene caps are chemically inert and suitable for most chromatography applications
- Closures have the profile of a crimp or snap closure for compatibility with robotic autosamplers
- Closures are shipped in sealed polybags to prevent contamination during transport



National 9mm Screw Thread Caps and Septa

Description	Cap Color	Cap Material	Septum	Hardness °shore	Thickness (mm)	Cat. No.	Pack of
9mm Open Top Cap, 6 mm hole	Blue	Polypropylene	–	N/A	N/A	C4000-98B	100
	Pink	Polypropylene	–	N/A	N/A	C4000-98P	100
Septum for 9mm Cap	–	–	Ivory PTFE/Red Rubber	35	1.0	C4000-30	100
	–	–	Red PTFE/White Silicone/Red PTFE	45	1.0	C4000-40	100
	–	–	Blue PTFE/White Silicone, Pre-slit	55	1.0	C4000-55	100
	–	–	Red PTFE/White Silicone	50	1.0	C4000-60	100



National 9mm Screw Thread Caps and Septa (Continued)

Description	Cap Color	Cap Material	Septum	Hardness °shore	Thickness (mm)	Cat. No.	Pack of
9mm Open Top Cap, 6mm hole	Black	Polypropylene	Ivory PTFE/Red Rubber	35	1.0	C4000-51A	100
	Blue	Polypropylene	Ivory PTFE/Red Rubber	35	1.0	C4000-51B	100
	Green	Polypropylene	Ivory PTFE/Red Rubber	35	1.0	C4000-51G	100
	Red	Polypropylene	Ivory PTFE/Red Rubber	35	1.0	C4000-51R	100
	Yellow	Polypropylene	Ivory PTFE/Red Rubber	35	1.0	C4000-51Y	100
	Pink	Polypropylene	Ivory PTFE/Red Rubber	35	1.0	C4000-51P	100
	Black	Polypropylene	Red PTFE/White Silicone/Red PTFE	45	1.0	C4000-53A	100
	Blue	Polypropylene	Red PTFE/White Silicone/Red PTFE	45	1.0	C4000-53B	100
	Green	Polypropylene	Red PTFE/White Silicone/Red PTFE	45	1.0	C4000-53G	100
	Red	Polypropylene	Red PTFE/White Silicone/Red PTFE	45	1.0	C4000-53R	100
	Yellow	Polypropylene	Red PTFE/White Silicone/Red PTFE	45	1.0	C4000-53Y	100
	Pink	Polypropylene	Red PTFE/White Silicone/Red PTFE	45	1.0	C4000-53P	100
	Black	Polypropylene	Red PTFE/White Silicone	50	1.0	C4000-54A	100
	Blue	Polypropylene	Red PTFE/White Silicone	50	1.0	C4000-54B	100
	Green	Polypropylene	Red PTFE/White Silicone	50	1.0	C4000-54G	100
	Red	Polypropylene	Red PTFE/White Silicone	50	1.0	C4000-54R	100
	Yellow	Polypropylene	Red PTFE/White Silicone	50	1.0	C4000-54Y	100
	Pink	Polypropylene	Red PTFE/White Silicone	50	1.0	C4000-54P	100
	Black	Polypropylene	Blue PTFE/White Silicone, Pre-slit	55	1.0	C4000-55A	100
	Blue	Polypropylene	Blue PTFE/White Silicone, Pre-slit	55	1.0	C4000-55B	100
	Green	Polypropylene	Blue PTFE/White Silicone, Pre-slit	55	1.0	C4000-55G	100
	Red	Polypropylene	Blue PTFE/White Silicone, Pre-slit	55	1.0	C4000-55R	100
	Yellow	Polypropylene	Blue PTFE/White Silicone, Pre-slit	55	1.0	C4000-55Y	100
	Pink	Polypropylene	Blue PTFE/White Silicone, Pre-slit	55	1.0	C4000-55P	100
	Blue	Polypropylene	Ivory PTFE/Red Rubber, Pre-slit	45	1.0	C4000-57B	100
	Green	Polypropylene	Ivory PTFE/Red Rubber, Pre-slit	45	1.0	C4000-57G	100
	Black	Polypropylene	Bonded Red PTFE/White Silicone	45	1.2	C4000-64B	100
Gray	Polypropylene	Bonded Red PTFE/White Silicone, Pre-slit	45	1.2	C4000-75C	100	
Blue	Polypropylene	Bonded Natural PTFE/Clear Silicone	45	1.2	C4000-62B	100	
Pink	Polypropylene	Bonded Natural PTFE/Clear Silicone	45	1.2	C4000-62P	100	
Pink	Polypropylene	Bonded Natural PTFE/Clear Silicone, Pre-slit	45	1.2	C4000-72P	100	
9mm Solid Top Cap	Blue	Polypropylene	Ivory PTFE/Red Rubber	35	1.0	C4000-99	100

Trying to decide what closure is right for you?

Use our selection guide on **PAGE 2-053**



National 9mm Screw Vials Convenience Kits

- Save time during sample preparation
- Reduce the risk of contamination

Unassembled kits

- Includes 100 vials and 100 caps with pre-assembled septa
- Reusable two compartment trays protect vials and closure while keeping matching supplies together
- Clear trays make it easy to keep track of available supplies without opening containers

Assembled kits

- Include 100 vials with pre-attached caps and septa
- Packaged in convenient vial trays with clear covers or in economical polybags



Items not shown to scale

National 9mm Wide Opening Screw Thread Vials Convenience Kits

Kit Type	Glass	Patched	Cap Color	Septum	Vial Cat.No.	Cap Cat.No.	Cat . No.	Pack of
Convenience Kit	Clear	No	Blue	Ivory PTFE/Red Rubber	C4000-1	C4000-51B	C4000-80	100
	Clear	No	Pink	Ivory PTFE/Red Rubber	C4000-1	C4000-51P	C4000-80P	100
	Clear	Yes	Blue	Ivory PTFE/Red Rubber	C4000-1W	C4000-51B	C4000-80W	100
	Amber	Yes	Blue	Ivory PTFE/Red Rubber	C4000-2W	C4000-51B	C4000-82W	100
	Amber	Yes	Blue	Ivory PTFE/Red Rubber	C4000-2W	C4000-51P	C4000-82P	100
	Clear	Yes	Blue	Ivory PTFE/Red Rubber, Pre-slit	C4000-1W	C4000-57B	C4000-83W	100
	Clear	No	Blue	Red PTFE/White Silicone/Red PTFE	C4000-1	C4000-53B	C4000-86	100
	Clear	Yes	Blue	Red PTFE/White Silicone/Red PTFE	C4000-1W	C4000-53B	C4000-86W	100
	Amber	Yes	Blue	Red PTFE/White Silicone/Red PTFE	C4000-2W	C4000-53B	C4000-88W	100
	Clear	Yes	Black	Red PTFE/White Silicone	C4000-1W	C4000-54A	C4000-91W	100
	Clear	No	Blue	Red PTFE/White Silicone	C4000-1	C4000-54B	C4000-92	100
	Clear	No	Pink	Red PTFE/White Silicone	C4000-1	C4000-54P	C4000-92P	100
	Clear	Yes	Blue	Red PTFE/White Silicone	C4000-1W	C4000-54B	C4000-92W	100
	Amber	Yes	Blue	Red PTFE/White Silicone	C4000-2W	C4000-54B	C4000-94W	100
	Amber	Yes	Pink	Red PTFE/White Silicone	C4000-2W	C4000-54P	C4000-94P	100
	Polypropylene	No	Blue	Red PTFE/White Silicone	C4000-11	C4000-54B	C4000-87	100
	Clear	No	Blue	Blue PTFE/White Silicone, Pre-slit	C4000-1	C4000-55B	C4000-95	100
	Clear	Yes	Blue	Blue PTFE/White Silicone, Pre-slit	C4000-1W	C4000-55B	C4000-95W	100
	Clear	No	Blue	Blue PTFE/White Silicone, Pre-slit	C4000-LV1	C4000-55B	C4000-LV95	100
	Polypropylene	No	Blue	Blue PTFE/White Silicone, Pre-slit	C4000-11	C4000-55B	C4000-97	100
	Clear	Yes	Black	Bonded Red PTFE/White Silicone	C4000-1W	C4000-64B	C4000-78W	100
	Clear	Yes	Gray	Bonded Red PTFE/White Silicone, Pre-slit	C4000-1W	C4000-75C	C4000-93W	100
	Clear	No	Pink	Bonded Natural PTFE/Clear silicone, Pre-slit	C4000-1	C4000-72P	C4000-93P	100

National 9mm Wide Opening Screw Thread Vials Convenience Kits (Continued)

Kit Type	Glass	Patched	Cap Color	Septum	Vial Cat.No.	Cap Cat.No.	Cat. No.	Pack of
Assembled Kit	Clear	No	Blue	Ivory PTFE/Red Rubber	C4000-1	C4000-51B	C4000-180	100
	Clear	Yes	Blue	Ivory PTFE/Red Rubber	C4000-1W	C4000-51B	C4000-180W	100
	Amber	Yes	Blue	Ivory PTFE/Red Rubber	C4000-2W	C4000-51B	C4000-182W	100
	Clear	Yes	Blue	Ivory PTFE/Red Rubber, Pre-slit	C4000-1W	C4000-57B	C4000-183W	100
	Amber	Yes	Blue	Ivory PTFE/Red Rubber, Pre-slit	C4000-2W	C4000-57B	C4000-184W	100
	Clear	No	Blue	Red PTFE/White Silicone/Red PTFE	C4000-1	C4000-53B	C4000-186	100
	Clear	Yes	Blue	Red PTFE/White Silicone/Red PTFE	C4000-1W	C4000-53B	C4000-186W	100
	Clear	Yes	Red	Red PTFE/White Silicone/Red PTFE	C4000-1W	C4000-53R	C4000-186WR	100
	Amber	Yes	Blue	Red PTFE/White Silicone/Red PTFE	C4000-2W	C4000-53B	C4000-188W	100
	Clear	No	Blue	Red PTFE/White Silicone	C4000-1	C4000-54B	C4000-192	100
	Clear	Yes	Blue	Red PTFE/White Silicone	C4000-1W	C4000-54B	C4000-192W	100
	Amber	Yes	Blue	Red PTFE/White Silicone	C4000-2W	C4000-54B	C4000-194W	100
	Clear	Yes	Blue	Blue PTFE/White Silicone, Pre-slit	C4000-1W	C4000-55B	C4000-195W	100
	Amber	Yes	Blue	Blue PTFE/White Silicone, Pre-slit	C4000-2W	C4000-55B	C4000-196W	100

National 9mm Wide Opening Screw Thread Vial Storerooms

- Storerooms organize supplies and save valuable bench space
- Some storerooms are shipped fully stocked.
- 6 Drawer Mini-Storeroom holds 500 vials and closures
- 9 Drawer Storeroom holds 2000 vials and closures



Items not shown to scale

National 9mm Storeroom

Description	Glass	Patched	Cap Color	Septum	Vial Cat.No.	Cap/Septum Cat.No.	Cat. No.	Pack of
9 Drawer Storeroom , 2000 pieces Caps and Vials	Clear	No	Blue	Red PTFE/White Silicone/Red PTFE	C4000-1	C4000-53B	C4075-211	1
	Clear	Yes	Blue	Red PTFE/White Silicone/Red PTFE	C4000-1W	C4000-53B	C4075-213	1
	Clear	No	Blue	Red PTFE/White Silicone	C4000-1	C4000-54B	C4075-219	1
6 Drawer Mini-Storeroom – Cabinet Only	–	–	–	–	–	–	C4000-MS	1
9 Drawer Storeroom, Full Size - Cabinet Only	–	–	–	–	–	–	C4075-500	1

National 10mm Wide Opening Screw Thread Vials

2mL, 12x32mm 10mm Wide Opening Screw Thread Vials and Inserts

- 10-425 thread finish
- I-D vials feature a write-on patch with graduation for convenient sample identification
- Wide neck opening design, allows easy filling, requires Micro-Inserts with a diameter of 6mm
- Superior quality 33 expansion borosilicate clear (Type 1, Class A) or 51A amber (Type 1 Class B) glass
- Microsampling and High Recovery Vials allow maximum sample extraction without need for separate inserts
- Optional silanized (deactivated) glass provides optimal recovery of critical polar, labile or OH-interacting compounds*
- Polyspring inserts are self-aligning and provide a cushion against needle contact
- Precision point insert minimizes residual sample loss

Recommended for the following instruments:

- Jasco
- PerkinElmer
- Shimadzu
- Varian
- Waters

For autosampler compatibility look on pages **2-100 to 2-104**



National 10mm Wide Opening Screw Thread Vials and Inserts

Description	Glass	Patched	Dimension (mm)	Profile	Total Volume	Usable Volume	Residual (µL)	Cat. No.	Pack of
10-425 Screw Thread Vial	Clear	No	12x32	Flat Bottom	2.0mL	1.5mL	<170	C4010-1	100
	Clear	Yes	12x32	Flat Bottom	2.0mL	1.5mL	<170	C4010-1W	100
	Amber	No	12x32	Flat Bottom	2.0mL	1.5mL	<170	C4010-2	100
	Amber	Yes	12x32	Flat Bottom	2.0mL	1.5mL	<170	C4010-2W	100
10-425 Screw Thread MacroVial 350µL, Fused Insert	Clear	No	12x32	Insert Vial	450µL	350µL	<2	C4010-LV1	100
	Amber	No	12x32	Insert Vial	450µL	350µL	<2	C4010-LV2	100
10-425 Screw Thread Micro-V 1.5mL Tapered MicroVial with 150µL reservoir	Clear	No	12x32	Tapered Base	1.5mL	1.1mL	<4	C4010-V1	100
10-425 Screw Thread Vial, silanized*	Clear	No	12x32	Flat Bottom	2.0mL	1.5mL	<170	C4010-S1	100
	Clear	Yes	12x32	Flat Bottom	2.0mL	1.5mL	<170	C4010-S1W	100
	Amber	Yes	12x32	Flat Bottom	2.0mL	1.5mL	<170	C4010-S2W	100
10-425 Screw Thread	Polypropylene	No	12x32	Conical	600µL	400µL	<6	C4010-11	100
	Polypropylene	No	12x32	Reservoir Base	750µL	550µL	<70	C4010-14	100

* For information about silanized products see page **2-055**



National 10mm Wide Opening Screw Thread Vials and Inserts (Continued)

Description	Glass	Patched	Dimension (mm)	Profile	Total Volume	Usable Volume	Residual (μL)	Cat. No.	Pack of
350μL Insert	Clear	–	6x31	Pulled Point	400μL	350μL	<4	C4010-627L	100
300μL Insert	Clear	–	6x31	Pulled Point	375μL	300μL	<4	C4010-629	100
350μL Insert	Clear	–	6x31	Precision Point	400μL	350μL	<2	C4010-629L	100
300μL Insert, Graduation Marks	Polypropylene	–	6x30	Conical	325μL	250μL	<2	C4010-629P	100
300μL Polyspring Insert	Clear	–	6x30	Conical	375μL	300μL	<1	C4010-630	100
	Polypropylene	–	6x30	Conical	325μL	250μL	<2	C4010-630P	100
400μL MicroSert Insert	Clear	–	6x31	Flat Bottom	500μL	450μL	<25	C4011-631	500
	Polypropylene	–	6x31	Flat Bottom	500μL	450μL	<25	C4011-631P	500
300μL Insert, silanized*	Clear	–	6x31	Pulled Point	375μL	300μL	<4	C4010-S629	100
300μL Polyspring Insert, silanized*	Clear	–	6x30	Conical	375μL	300μL	<1	C4010-S630	100
400μL MicroSert Insert, silanized*	Clear	–	6x31	Flat Bottom	500μL	450μL	<25	C4011-S631	500
300μL Polyspring Insert, Kimshield*	Clear	–	6x29	Conical	375μL	300μL	<1	C4010-K630	100

* For information about silanized products see page **2-055**

Search thousands of applications at our chromatography resource center.

www.thermoscientific.com/chromatography

National 10-425 Wide Opening Screw Caps and Septa

- Open top caps are designed to be used with any of our 10mm septa
- Polypropylene caps are chemically inert and suitable for most chromatography applications
- Pre-assembled caps and septa are convenient and minimize contamination from handling
- Closures are shipped in sealed polybags to prevent contamination during transport



National 10-425 Wide Opening Screw Caps and Septa

Description	Cap Color	Cap Material	Septum	Hardness °shore	Thickness (mm)	Cat. No.	Pack of
10mm Open Top Cap, 8.5mm hole	Light Blue	Polypropylene	—	—	—	C4010-1A	100
	White	Polypropylene	—	—	—	C4010-98W	100
	Black	Polypropylene	—	—	—	C4010-98BLK	100
Septum for 10-425 Screw Caps	—	—	White Virgin PTFE, 0.01" Septum	53	0.25	C4010-10	1000
	—	—	Red PTFE/White Silicone, Soft Septum	50	1.3	C4010-35	100
	—	—	Red PTFE/White Silicone/Red PTFE Septum	45	1.3	C4010-40	100
	—	—	Blue PTFE/White Silicone, Pre-slit Septum	55	1.5	C4010-55	100
	—	—	Red PTFE/White Silicone Septum	45	1.3	C4010-60	100
10mm Open Top Cap, 8.5mm hole	Light Blue	Polypropylene	Ivory PTFE/Red Rubber	45	1.0	C4010-30A	100
	Black	Polypropylene	Red PTFE/White Silicone, Soft	45	1.3	C4010-35BLK	100
	White	Polypropylene	Red PTFE/White Silicone, Soft	45	1.3	C4010-35W	100
	Light Blue	Polypropylene	Red PTFE/White Silicone/Red PTFE	45	1.0	C4010-40A	100
	Light Blue	Polypropylene	Blue PTFE/White Silicone, Pre-slit	55	1.5	C4010-55A	100
	Black	Polypropylene	Blue PTFE/White Silicone, Pre-slit	55	1.5	C4010-55BLK	100
	Light Blue	Polypropylene	Red PTFE/White Silicone	50	1.3	C4010-60A	100
	Red	Polypropylene	Red PTFE/White Silicone	50	1.3	C4010-60AR	1000
	White	Polypropylene	Red PTFE/White Silicone	50	1.3	C4010-60AW	1000
	Black	Polypropylene	Red PTFE/White Silicone	50	1.3	C4010-60BLK	100
Light Blue	Polypropylene	Red PTFE/White Silicone, Star-slit	50	1.5	C4010-65A	100	
10mm Solid Top Cap, 8.5mm hole	White	Polyurethane	PTFE/PE Foam Liner	—	1.3	C4010-99	100

Trying to decide what closure is right for you?

Use our selection guide on **PAGE 2-053**



National 10mm Wide Opening Screw Thread Vials Convenience Kits

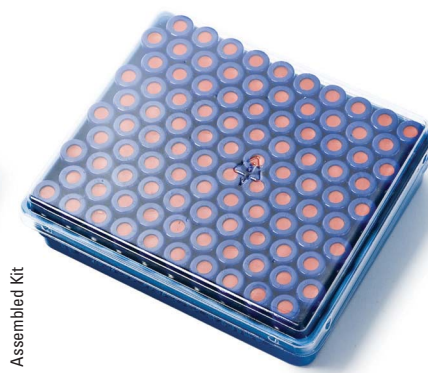
- Save time during sample preparation
- Reduce the risk of contamination

Unassembled kits

- Includes 100 vials and 100 caps with pre-assembled septa
- Reusable two compartment trays protect vials and closure while keeping matching supplies together
- Clear trays make it easy to keep track of available supplies without opening containers

Assembled kits

- Include 100 vials with pre-attached caps and septa
- Packaged in convenient vial trays with clear covers or in economical polybags



Items not shown to scale

National 10mm Wide Opening Screw Thread Vials Convenience Kits

Description	Glass	Patched	Cap Color	Septum	Vial Cat.No.	Cap Cat.No.	Cat. No.	Pack of
Convenience Kit	Clear	No	Light Blue	Red PTFE/White Silicone	C4010-1	C4010-60A	C4010-88	100
	Amber	Yes	Light Blue	Red PTFE/White Silicone	C4010-2W	C4010-60A	C4010-88AW	100
	Clear	Yes	Light Blue	Red PTFE/White Silicone	C4010-1W	C4010-60A	C4010-88W	100
	Clear	Yes	Light Blue	Red PTFE/White Silicone, Star-slit	C4010-1W	C4010-65A	C4010-93W	100
	Clear	No	White	Red PTFE/White Silicone, Soft	C4010-1	C4010-35W	C4010-95	100
	Clear	Yes	White	Red PTFE/White Silicone, Soft	C4010-1W	C4010-35W	C4010-95W	100
	Clear	Yes	Black	Blue PTFE/White Silicone, Pre-slit	C4010-1W	C4010-55BLK	C4010-97W	100
Assembled Kit	Clear	No	Light Blue	Red PTFE/White Silicone	C4010-1	C4010-60A	C4010-17	100
	Clear	Yes	Light Blue	Red PTFE/White Silicone	C4010-1W	C4010-60A	C4010-17W	100
	Clear	No	Light Blue	White Virgin PTFE, 0.01"	C4010-1	C4010-1A/C4010-10	C4010-21	100
	Clear	No	White	Red PTFE/White Silicone, Soft	C4010-1	C4010-35W	C4010-57	100
	Amber	No	White	Red PTFE/White Silicone, Soft	C4010-2	C4010-35W	C4010-57A	100
	Amber	Yes	White	Red PTFE/White Silicone, Soft	C4010-2W	C4010-35W	C4010-57AW	100
	Clear	Yes	White	Red PTFE/White Silicone, Soft	C4010-1W	C4010-35W	C4010-57W	100
	Clear	No	Black	Red PTFE/White Silicone, Soft	C4010-1	C4010-35BLK	C4010-67	100
	Amber	No	Black	Red PTFE/White Silicone, Soft	C4010-2	C4010-35BLK	C4010-67A	100
	Amber	Yes	Black	Red PTFE/White Silicone, Soft	C4010-2W	C4010-35BLK	C4010-67AW	100
	Clear	Yes	Black	Red PTFE/White Silicone, Soft	C4010-1W	C4010-35BLK	C4010-67W	100
	Assembled Kit, in Polybag	Amber	Yes	Light Blue	Red PTFE/White Silicone	C4010-2W	C4010-60A	C4010-017AW
Clear		Yes	Light Blue	Red PTFE/White Silicone	C4010-1W	C4010-60A	C4010-017W	100
Clear		No	Light Blue	Red PTFE/White Silicone/Red PTFE	C4010-1	C4010-40A	C4010-019	100
Clear		No	White	Red PTFE/White Silicone, Soft	C4010-1	C4010-35W	C4010-057	100
Amber		Yes	White	Red PTFE/White Silicone, Soft	C4010-2W	C4010-35W	C4010-057AW	100

National 11mm Crimp Top Vials

2mL, 12x32, Crimp Top Vials and Inserts

**Recommended
for most brands...**

For autosampler compatibility look
on pages **2-100 to 2-104**

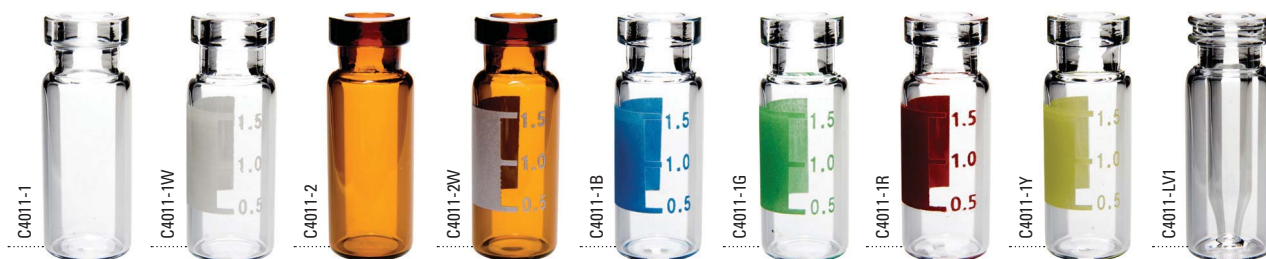
- Superior quality 33 expansion borosilicate clear (Type 1, Class A) or 51A amber (Type 1 Class B) glass
- I-D vials feature a write-on patch with graduation for convenient sample identification
- Standard opening requires Micro-Inserts with a diameter of 5mm
- Wide neck opening design, allows easy filling, requires Micro-Inserts with a diameter of 6mm
- Microsampling and High Recovery Vials allow maximum sample extraction without need for separate inserts
- Optional silanized (deactivated) glass provides optimal recovery of critical polar, labile or OH-interacting compounds*
- Polyspring inserts are self-aligning and provide a cushion against needle contact
- Precision point insert minimizes residual sample loss
- Pulled point inserts are an economical choice for noncritical applications
- Glastic vial features a glass insert pre-inserted inside of a clear TPX vial



National 11mm Standard Opening Crimp Top Vials and Inserts

Description	Glass	Patched	Dimension (mm)	Profile	Total Volume	Usable Volume	Residual (µL)	Cat. No.	Pack of
11mm Standard Opening Crimp Top Vial	Clear	No	12x32	Flat Bottom	2mL	1.5mL	<170	C4012-1	100
	Clear	Yes	12x32	Flat Bottom	2mL	1.5mL	<170	C4012-1W	100
	Amber	No	12x32	Flat Bottom	2mL	1.5mL	<170	C4012-2	100
	Amber	Yes	12x32	Flat Bottom	2mL	1.5mL	<170	C4012-2W	100
11mm Standard Opening Crimp /Snap Top Vial 150µL Clear Solid Glass Microvial	Clear	No	12x32	Narrow Conical	425µL	200µL	<2	C4012-10	12
11mm - Crimp/Snap Glastic Glass Insert/TPX Vial	Clear	No	12x32	Insert Vial	475µL	350µL	<4	C4012-15	100
200µL MicroSert Insert	Clear	–	5x31	Flat Bottom	250µL	200µL	<12	C4012-465	500
150µL Polyspring Insert	Clear	–	5x29	Pulled point	200µL	175µL	<1	C4012-530	100
150µL Insert	Clear	–	5x29	Pulled point	200µL	175µL	<3	C4012-529	100
200µL Insert	Clear	–	5x31	Pulled point	200µL	170µL	<2	C4012-529L	100
125µL Polyspring Insert	Polypropylene	–	5x29	Precision point	175µL	125µL	<2	C4012-530P	100
150µL Polyspring Insert, silanized*	Clear	–	5x29	Pulled point	200µL	175µL	<1	C4012-S530	100

* For information about silanized products see page **2-055**



National 11mm Wide Opening Crimp Top Vials and Inserts (Continued)

Description	Glass	Patched	Dimension (mm)	Profile	Total Volume	Usable Volume	Residual (µL)	Cat. No.	Pack of
11mm Crimp Top Vial, Wide Opening	Clear	No	12x32	Flat Bottom	2mL	1.5mL	<170	C4011-1	100
	Clear	Yes	12x32	Flat Bottom	2mL	1.5mL	<170	C4011-1W	100
	Amber	No	12x32	Flat Bottom	2mL	1.5mL	<170	C4011-2	100
	Amber	Yes	12x32	Flat Bottom	2mL	1.5mL	<170	C4011-2W	100
11mm Crimp Top ColorBand Vial, Wide Opening	Clear	Blue*	12x32	Flat Bottom	2mL	1.5mL	<170	C4011-1B	100
	Clear	Green*	12x32	Flat Bottom	2mL	1.5mL	<170	C4011-1G	100
	Clear	Red*	12x32	Flat Bottom	2mL	1.5mL	<170	C4011-1R	100
	Clear	Yellow*	12x32	Flat Bottom	2mL	1.5mL	<170	C4011-1Y	100
11mm Crimp/Snap MacroVial 250µL, Fused Insert	Clear	No	12x32	Fused Conical	500µL	350µL	<2	C4011-LV1	100

* ColorBand vials are designed to provide full sample color coding for autosamplers with optical vial detection. Use the optimum cap for your instrument without sacrificing your color coding scheme.



National 11mm Crimp Top Vials and Inserts (Continued)

Description	Glass	Patched	Dimension (mm)	Profile	Total Volume	Usable Volume	Residual (µL)	Cat. No.	Pack of
11mm Crimp Top MacroVial 250µL, Fused Insert	Clear	Yes	12x32	Fused Conical	500µL	350µL	<2	C4011-LV1W	100
11mm Crimp/Snap MacroVial 250µL, Fused Insert	Amber	No	12x32	Fused Conical	500µL	350µL	<2	C4011-LV2	100
11mm Crimp Top MacroVial 250µL, Fused Insert	Amber	Yes	12x32	Fused Conical	500µL	350µL	<2	C4011-LV2W	100
11mm Crimp Top Solid Glass MicroVials	Clear	No	12x32	Conical Base	650µL	500µL	<5	C4011-10	12
11mm Crimp Top Micro-V Microsampling Vial, 15µL Reservoir	Clear	No	12x32	High Recovery	1.5mL	1.1mL	<4	C4011-V1	100
11mm Crimp Top 1.5mL High Recovery MicroVial	Clear	No	12x32	High Recovery	1.7mL	1.3mL	<4	C4011-9	100
11mm Crimp Top, Wide Opening, silanized*	Clear	No	12x32	Flat Bottom	2mL	1.5mL	<170	C4011-S1	100
	Clear	Yes	12x32	Flat Bottom	2mL	1.5mL	<170	C4011-S1W	100
	Amber	Yes	12x32	Flat Bottom	2mL	1.5mL	<170	C4011-S2W	100
11mm Crimp/Snap 250µL MicroVial	Polypropylene	No	12x32	Conical Base	475µL	300µL	<2	C4011-13	100
11mm Crimp/Snap 600µL MicroVial	Polypropylene	No	12x32	Conical Base	600µL	400µL	<4	C4011-16	100
11mm Crimp/Snap 800µL MicroVial	Polypropylene	No	12x32	Conical Base	800µL	600µL	<6	C4011-11	100

* For information about silanized products see page 2-055



National 11mm Crimp Top Vials and Inserts (Continued)

Description	Glass	Patched	Dimension (mm)	Profile	Total Volume	Usable Volume	Residual (µL)	Cat. No.	Pack of
11mm Crimp/Snap 850µL AP-2000 MaxVial	Polypropylene	No	12x32	High Recovery	825µL	650µL	<8	C4011-15	1000
11mm Crimp/Snap 1mL Vial	Polypropylene	No	12x32	Flat Bottom	1000µL	800µL	<80	C4011-14	100
11mm Crimp/Snap 1mL TPX High Recovery Vial	TPX	No	12x32	High Recovery	1000µL	750µL	<8	C4011-24	100
350µL Insert	Clear	-	6x31	Pulled Point	400µL	350µL	<4	C4010-627L	100
300µL Insert	Clear	-	6x31	Pulled Point	375µL	300µL	<4	C4010-629	100
350µL Insert	Clear	-	6x31	Precision Point	400µL	350µL	<2	C4010-629L	100
300µL Insert, Graduation Marks	Polypropylene	-	6x30	Conical	325µL	250µL	<2	C4010-629P	100
300µL Polyspring Insert	Clear	-	6x30	Conical	375µL	300µL	<1	C4010-630	100
	Polypropylene	-	6x30	Conical	325µL	250µL	<2	C4010-630P	100
400µL MicroSert Insert	Clear	-	6x31	Flat Bottom	500µL	450µL	<25	C4011-631	500
	Polypropylene	-	6x31	Flat Bottom	500µL	450µL	<25	C4011-631P	500
300µL Insert, silanized*	Clear	-	6x31	Pulled Point	375µL	300µL	<4	C4010-S629	100
300µL Polyspring Insert, silanized*	Clear	-	6x29	Conical	375µL	300µL	<1	C4010-S630	100
400µL MicroSert Insert, silanized*	Clear	-	6x31	Flat Bottom	500µL	450µL	<25	C4011-S631	500
300µL Polyspring Insert, Kimshield*	Clear	-	6x29	Conical	375µL	300µL	<1	C4010-K630	100

* For information about silanized products see page **2-055**

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» Visit **PAGE 4-032**

National 11mm Crimp Top Closures

- Pre-assembled caps and septa are convenient and minimize contamination from handling
- Aluminum crimp closures provide a secure leak-resistant seal
- Aluminum seals must be applied with a crimping tool
- Closures are shipped in sealed polybags to prevent contamination during transport
- Synthetic PTFE/Red Rubber seal is specially formulated for improved background performance



National 11mm Crimp Top Closures

Description	Cap Color	Cap Material	Septum	Hardness °shore	Thickness (mm)	Cat. No.	Pack of
11mm Crimp Cap, 5.5mm hole	Silver	Aluminum	Clear PTFE/Red Rubber	60	1.0	C4011-1AP	100
	Silver	Aluminum	Clear PTFE/Red Rubber	60	1.0	C4011-1A	1000
	Blue	Aluminum	Clear PTFE/Red Rubber	60	1.0	C4011-98B	100
	Green	Aluminum	Clear PTFE/Red Rubber	60	1.0	C4011-98G	100
	Red	Aluminum	Clear PTFE/Red Rubber	60	1.0	C4011-98R	100
	Yellow	Aluminum	Clear PTFE/Red Rubber	60	1.0	C4011-98Y	100
11mm Crimp Cap, 5.5mm hole	Silver	Aluminum	Red PTFE/White Silicone/Red PTFE	45	1.0	C4011-2A	100
	Silver	Aluminum	Red PTFE/White Silicone	45	1.3	C4011-4A	100
	Blue	Aluminum	Red PTFE/White Silicone	45	1.3	C4011-4B	100
	Green	Aluminum	Red PTFE/White Silicone	45	1.3	C4011-4G	100
	Red	Aluminum	Red PTFE/White Silicone	45	1.3	C4011-4R	100
	Silver	Aluminum	Solid PTFE Disk	53	0.25	C4011-6A	1000
11mm Crimp Cap, 5.5mm hole, Mixed Color, 200 each	Silver	Aluminum	PTFE/Synthetic Red Rubber	65	1.0	C4011-7A	100
	Blue	Aluminum	PTFE/Synthetic Red Rubber	65	1.0	C4011-7B	1000
	Green	Aluminum	PTFE/Synthetic Red Rubber	65	1.0	C4011-7G	1000
	Red	Aluminum	PTFE/Synthetic Red Rubber	65	1.0	C4011-7R	1000
	Yellow	Aluminum	PTFE/Synthetic Red Rubber	65	1.0	C4011-7Y	1000
	Silver, Blue, Green, Red, Yellow	Aluminum	PTFE/Synthetic Red Rubber	65	1.0	C4011-7K	1000

Trying to decide what closure is right for you?

Use our selection guide on **PAGE 2-053**



National 11mm Crimp Top Crimping and Decrimping Tools

- Crimping tools provide a reproducible, secure vial closure
- Manual de-crimping tools allow easy removal of aluminum seals without breakage
- Decapping pliers are an economical choice for small quantities of vials
- Clean room crimpers and decrimpers can be autoclaved



Items not shown to scale

National 11mm Crimp Top Crimping and Decrimping Tools

Description	Use	Cat. No.	Pack of
Manual Crimper	Attaches 11mm aluminum crimp seals	C4012-100	1
Decapping Pliers	Removes 11mm aluminum crimp seals, Protective gloves recommended	C4012-101	1
Manual Decrimper	Removes 11mm aluminum crimp seals	C4012-102	1
Manual stainless steel Cleanroom Crimper	Attaches 11mm crimp seals	C4012-100SS	1
Manual stainless steel Cleanroom Decrimper	Removes 11mm crimp seals without vial damage	C4012-102SS	1

For electronic crimpers and decappers look on page **2-094**

National 11mm Crimp Top Convenience Kits

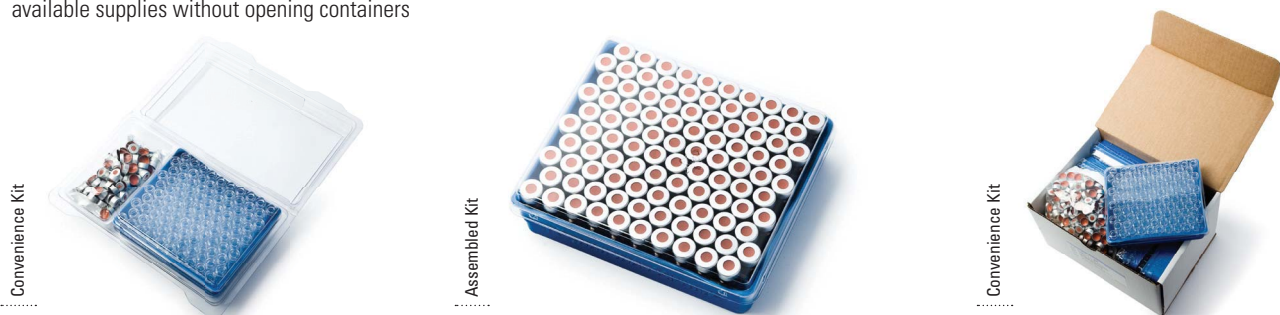
- Save time during sample preparation
- Reduce the risk of contamination

Unassembled kits

- Includes 100 vials and 100 caps with pre-assembled septa
- Reusable two compartment trays protect vials and closure while keeping matching supplies together
- Clear trays make it easy to keep track of available supplies without opening containers

Assembled kits

- Include 100 vials with pre-attached caps and septa
- Packaged in convenient vial trays with clear covers or in economical polybags



Items not shown to scale

National 11mm Crimp Top Convenience Kits

Kit Type	Glass	Patched	Cap Color	Septum	Vial Cat.No.	Cap Cat.No.	Cat. No.	Pack of
Convenience Kit, Standard Opening Crimp Top Vial	Clear	No	Silver	Clear PTFE/Red Rubber	C4012-1	C4011-1AHP	C4012-88	500
	Amber	No	Silver	Clear PTFE/Red Rubber	C4012-2	C4011-1AHP	C4012-88A	500
Convenience Kit, Wide Opening Crimp Top Vial	Clear	No	Silver	Clear PTFE/Red Rubber	C4011-1	C4011-1AP	C4011-87	100
	Clear	Yes	Silver	Clear PTFE/Red Rubber	C4011-1W	C4011-1AP	C4011-87W	100
	Amber	Yes	Silver	Clear PTFE/Red Rubber	C4011-2W	C4011-1AP	C4011-87AW	100
	Clear	No	Silver	Clear PTFE/Red Rubber	C4011-1	C4011-1AP	C4011-88	500
	Clear	Yes	Silver	Clear PTFE/Red Rubber	C4011-1W	C4011-1AP	C4011-88W	500
	Clear	No	Silver	PTFE/Synthetic Red Rubber	C4011-1	C4011-7A	C4011-89W	100
Kit includes PolySpring Tapered Insert for small sample volumes	Clear	No	Silver	Clear PTFE/Red Rubber	C4011-1/ C4010-630	C4011-1AP	C4011-95	100
Assembled Kit, Wide Opening Crimp Top Vial, Nitrogen purged	Clear	No	Silver	Clear PTFE/Red Rubber	C4011-1	C4011-1AP	C4011-1CV	100
	Amber	Yes	Silver	Clear PTFE/Red Rubber	C4011-2W	C4011-1AP	C4011-2WCV	100

National 11mm Crimp Top Vial Storerooms

- Storerooms organize supplies and save valuable bench space
- 6 Drawer Mini-Storeroom holds 500 vials and closures
- 9 Drawer Storeroom holds 2000 vials and closures.



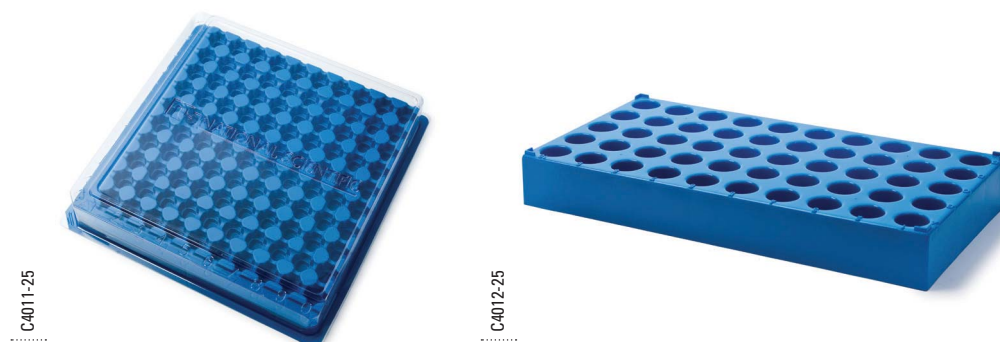
Items not shown to scale

National 11mm Crimp Top Vial Storerooms

Description	Glass	Patched	Cap Color	Septum	Vial Cat.No.	Cap Cat.No.	Cat. No.	Pack of
6 Drawer Mini-Storeroom, 500 pieces Caps and Vials	Clear	Yes	Silver	Clear PTFE/Red Rubber	C4011-1W	C4011-1AP	C4011-688W	1
6 Drawer Mini-Storeroom – Cabinet Only	–	–	–	–	–	–	C4000-MS	1
9 Drawer Storeroom – Cabinet Only	–	–	–	–	–	–	C4075-500	1

National 11mm Crimp Top Vial Racks

- Polypropylene vial racks are resistant to most solvents
- Racks feature alphanumeric indexing for easier vial identification
- Racks can be stacked for efficient storage



Items not shown to scale

National 11mm Crimp Top Vial Racks

Description	Capacity	Cat. No.	Pack of
Polystyrene storage rack for 12x32mm vials with clear lid	100 vials, 10x10	C4011-25	1
Polypropylene storage rack for 12 x 32mm vials, no lid	50 vials, 5x10	C4012-25	1

National 11mm Wide Opening Snap-It Vials

2mL, 12x32mm Wide Opening Snap-It Vials and Inserts

Recommended for most brands of instruments:

For autosampler compatibility look on pages **2-100 to 2-104**

- Superior quality 33 expansion borosilicate clear (Type 1, Class A) or 51A amber (Type 1 Class B) glass
- I-D vials feature a write-on patch with graduation for convenient sample identification
- Wide neck opening design, allows easy filling, requires Micro-Inserts with a diameter of 6mm
- Microsampling and High Recovery Vials allow maximum sample extraction without need for separate inserts
- Optional silanized (deactivated) glass provides optimal recovery of critical polar, labile or OH-interacting compounds*
- Polyspring inserts are self-aligning and provide a cushion against needle contact
- Precision point insert minimizes residual sample loss
- Pulled point inserts are an economical choice for noncritical applications
- Glastic vial features a glass insert pre-inserted inside of a clear TPX vial
- Snap-It vials can be used with snap caps or aluminum crimp seal closures



National 11mm Wide Opening Snap-It Vials and Inserts

Description	Glass	Patched	Dimension (mm)	Profile	Total Volume	Usable Volume	Residual (µL)	Cat. No.	Pack of
11mm Snap-It Vial	Clear	No	12x32	Flat Bottom	2mL	1.5mL	<170	C4011-5	100
	Clear	Yes	12x32	Flat Bottom	2mL	1.5mL	<170	C4011-5W	100
	Amber	No	12x32	Flat Bottom	2mL	1.5mL	<170	C4011-6	100
	Amber	Yes	12x32	Flat Bottom	2mL	1.5mL	<170	C4011-6W	100
11mm Snap-It MacroVial 250µL, Fused Insert	Clear	No	12x32	Fused Conical	500µL	350µL	<2	C4011-LV1	100
	Amber	No	12x32	Fused Conical	500µL	350µL	<2	C4011-LV2	100
11mm Snap-It High Recovery MicroVial, 1.5mL	Clear	No	12x32	High Recovery	1.7mL	1.3mL	<4	C4011-4	100
11mm Snap-It Vial, silanized*	Clear	No	12x32	Flat Bottom	2mL	1.5mL	<170	C4011-S5	100
	Clear	Yes	12x32	Flat Bottom	2mL	1.5mL	<170	C4011-S5W	100
	Amber	Yes	12x32	Flat Bottom	2mL	1.5mL	<170	C4011-S6W	100
	Clear	No	12x32	High Recovery	1.5mL	1.1mL	<4	C4011-S4	100
11mm Snap-It Vial, Total Recovery with 10µL Reservoir	Clear	No	12x32	Deep Well Base	1.5mL	1.2mL	<1	C4011-9TR	100
11mm Snap-It 250µL MicroVial	Polypropylene	No	12x32	Conical Base	475µL	300µL	<2	C4011-13	100

* For information about silanized products see page **2-055**



National 11mm Wide Opening Snap-It Vials and Inserts (Continued)

Description	Glass	Patched	Dimension (mm)	Profile	Total Volume	Usable Volume	Residual (µL)	Cat. No.	Pack of
11mm Snap-It 600µL MicroVial	Polypropylene	No	12x32	Conical Base	600µL	400µL	<4	C4011-16	100
11mm Snap-It 800µL MicroVial	Polypropylene	No	12x32	Conical Base	800µL	600µL	<6	C4011-11	100
11mm Snap-It 850µL AP-2000 MaxVial	Polypropylene	No	12x32	High Recovery	825µL	650µL	<8	C4011-15	1000
11mm Snap-It 1mL Vial	Polypropylene	No	12x32	Flat Bottom	1000µL	800µL	<80	C4011-14	100
11mm Snap-It 1mL TPX High Recovery Vial	TPX	No	12x32	High Recovery	1000µL	750µL	<8	C4011-24	100
11mm Snap-It Glastic Glass Insert/TPX Vial	Clear	No	12x32	Insert Vial	475µL	350µL	<4	C4012-15	100



National 11mm Wide Opening Snap-It Vials and Inserts (Continued)

Description	Glass	Patched	Dimension (mm)	Profile	Total Volume	Usable Volume	Residual (µL)	Cat. No.	Pack of
350µL Insert	Clear	-	6x31	Pulled Point	400µL	350µL	<4	C4010-627L	100
300µL Insert	Clear	-	6x31	Pullet Point	375µL	300µL	<4	C4010-629	100
350µL Insert	Clear	-	6x31	Precision Point	400µL	350µL	<2	C4010-629L	100
300µL Insert, Graduation Marks	Polypropylene	-	6x30	Conical	325µL	250µL	<2	C4010-629P	100
300µL Polyspring Insert	Clear	-	6x30	Conical	375µL	300µL	<1	C4010-630	100
	Polypropylene	-	6x30	Conical	325µL	250µL	<2	C4010-630P	100
400µL MicroSert Insert	Clear	-	6x31	Flat Bottom	500µL	450µL	<25	C4011-631	500
	Polypropylene	-	6x31	Flat Bottom	500µL	450µL	<25	C4011-631P	500
300µL Insert, silanized*	Clear	-	6x31	Pulled Point	375µL	300µL	<4	C4010-S629	100
300µL Polyspring Insert, silanized*	Clear	-	6x29	Conical	375µL	300µL	<1	C4010-S630	100
400µL MicroSert Insert, silanized*	Clear	-	6x31	Flat Bottom	500µL	450µL	<25	C4011-S631	500
300µL Polyspring Insert, Kimshield*	Clear	-	6x29	Conical	375µL	300µL	<1	C4010-K630	100

* For information about silanized products see page **2-055**

National 11mm Wide Opening Snap-It Caps and Septa

- Fully compatible with all Snap-It vials
- Snap-It caps are easy to apply and easy to remove
- Pre-assembled caps and septa are convenient and minimize contamination from handling
- Snap-It caps eliminate the need for crimping or de-capping tools
- Polyethylene caps are chemically inert and suitable for most chromatography applications
- Closures are shipped in sealed polybags to prevent contamination during transport
- Integral Molded Polyethylene cap is an economical choice for routine HPLC applications, but with low sealing property and zero resealing capacity



National 11mm Snap-It Caps and Septa

Description	Cap Color	Cap Material	Septum	Hardness °shore	Thickness (mm)	Cat. No.	Pack of
11mm Snap-It Cap, thinned penetration area	Clear	Polyethylene	Integral Molded In Polyethylene	–	–	C4011-50	100
	Blue	Polyethylene	Integral Molded In Polyethylene	–	–	C4011-50B	100
	Green	Polyethylene	Integral Molded In Polyethylene	–	–	C4011-50G	100
	Red	Polyethylene	Integral Molded In Polyethylene	–	–	C4011-50R	100
11mm Snap-It Cap, 6mm hole	Clear	Polyethylene	Clear PTFE/Synthetic Red Rubber	60	1.0	C4011-51	100
	Blue	Polyethylene	Clear PTFE/Synthetic Red Rubber	60	1.0	C4011-51B	100
	Black	Polyethylene	Clear PTFE/Synthetic Red Rubber	60	1.0	C4011-51BLK	100
	Green	Polyethylene	Clear PTFE/Synthetic Red Rubber	60	1.0	C4011-51G	100
	Pink	Polyethylene	Clear PTFE/Synthetic Red Rubber	60	1.0	C4011-51P	100
	Red	Polyethylene	Clear PTFE/Synthetic Red Rubber	60	1.0	C4011-51R	100
	Clear	Polyethylene	White Virgin PTFE, 0.01"	53	0.25	C4011-52	100
	Blue	Polyethylene	White Virgin PTFE, 0.01"	53	0.25	C4011-52B	100
	Green	Polyethylene	White Virgin PTFE, 0.01"	53	0.25	C4011-52G	100
	Red	Polyethylene	White Virgin PTFE, 0.01"	53	0.25	C4011-52R	100
	Yellow	Polyethylene	White Virgin PTFE, 0.01"	53	0.25	C4011-52Y	100
	Clear	Polyethylene	Red PTFE/White Silicone/Red PTFE	45	1.0	C4011-53	100
	Blue	Polyethylene	Red PTFE/White Silicone/Red PTFE	45	1.0	C4011-53B	100
	Red	Polyethylene	Red PTFE/White Silicone/Red PTFE	45	1.0	C4011-53R	100
	Yellow	Polyethylene	Red PTFE/White Silicone/Red PTFE	45	1.0	C4011-53Y	100
	Clear	Polyethylene	Red PTFE/White Silicone	50	1.3	C4011-54	100
	Blue	Polyethylene	Red PTFE/White Silicone	50	1.3	C4011-54B	100
	Black	Polyethylene	Red PTFE/White Silicone	50	1.3	C4011-54BLK	100
	Green	Polyethylene	Red PTFE/White Silicone	50	1.3	C4011-54G	100
	Pink	Polyethylene	Red PTFE/White Silicone	50	1.3	C4011-54P	100
	Red	Polyethylene	Red PTFE/White Silicone	50	1.3	C4011-54R	100
	Yellow	Polyethylene	Red PTFE/White Silicone	50	1.3	C4011-54Y	100
	Clear	Polyethylene	Blue PTFE/White Silicone, Pre-slit	55	1.0	C4011-55	100
	Blue	Polyethylene	Blue PTFE/White Silicone, Pre-slit	55	1.0	C4011-55B	100
	Black	Polyethylene	Blue PTFE/White Silicone, Pre-slit	55	1.0	C4011-55BLK	100
	Green	Polyethylene	Blue PTFE/White Silicone, Pre-slit	55	1.0	C4011-55G	100
	Red	Polyethylene	Blue PTFE/White Silicone, Pre-slit	55	1.0	C4011-55R	100
	Yellow	Polyethylene	Blue PTFE/White Silicone, Pre-slit	55	1.0	C4011-55Y	100
Clear	Polyethylene	Red PTFE/White Silicone, Star-slit	45	1.3	C4011-59	100	
Pink	Polyethylene	Red PTFE/White Silicone, Y-cut	45	1.3	C4011-67P	100	

National 11mm Wide Opening Snap-It Cap Convenience Kits

- Save time during sample preparation
- Reduce the risk of contamination

Unassembled kits

- Includes 100 vials and 100 caps with pre-assembled septa
- Reusable two compartment trays protect vials and closure while keeping matching supplies together
- Clear trays make it easy to keep track of available supplies without opening containers



Items not shown to scale

National 11mm Wide Opening Snap-It Cap Convenience Kits

Kit Type	Glass	Patched	Cap Color	Septum	Vial Cat.No.	Cap Cat.No.	Cat. No.	Pack of
Convenience Kit, Wide Opening Snap Cap Vial	Clear	No	Clear	Clear PTFE/Red Rubber	C4011-5	C4011-51	C4011-72	100
	Clear	No	Pink	Clear PTFE/Red Rubber	C4011-5	C4011-51P/60180-676	C4011-72P	100
	Amber	Yes	Clear	Clear PTFE/Red Rubber	C4011-6W	C4011-51	C4011-72AW	100
	Clear	No	Clear	Red PTFE/White Silicone	C4011-5	C4011-54	C4011-73	100
	Clear	Yes	Clear	Red PTFE/White Silicone	C4011-5W	C4011-54	C4011-73W	100
	Clear	No	Pink	Red PTFE/White Silicone	C4011-5	C4011-54P	C4011-73P	100
	Clear	No	Pink	Red PTFE/White Silicone/Red PTFE, Y-cut	C4011-5	C4011-67P	C4011-78P	100



National 13mm Snap/Crimp Vials

4mL, 15x45mm Snap/Crimp Cap Vials and Inserts

- Superior quality 33 expansion borosilicate clear (Type 1, Class A) Vials feature a 13mm crimp/snap-ring finish – use with 13mm Aluminum Seals or Kim-Snap Closures
- Polyspring inserts are self-aligning and provide a cushion against needle contact



Recommended for the following instruments:

- Dionex
- Shimadzu
- Spark Holland
- Varian
- VWR (Merck)/Hitachi
- Waters (Wisp 48 Position Carousel)

For autosampler compatibility look on pages **2-100** to **2-104**

National 13mm Snap/Crimp Cap Vials and Inserts

Description	Glass	Patched	Dimension (mm)	Profile	Total Volume	Usable Volume	Residual (µL)	Cat. No.	Pack of
13mm Crimp/Snap Vial	Clear	No	15x45	Flat Bottom	4.8mL	4.25mL	<800µL	C4015-4	100
800µL Polyspring Conical Insert	Clear	–	8x38	Pulled Point	950µL	800µL	<9µL	C4015-638	100
350µL Conical Insert	Clear	–	6x40	Pulled Point	375µL	300µL	<8µL	C4015-643	100
Metal spring for glass inserts in 4mL vials	–	–	–	–	–	–	–	C4015-640	100

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National 13mm Snap/Crimp Caps and Septa

- Pre-assembled caps and septa are convenient and minimize contamination from handling
- 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
- Kim-Snap closures provide a tight seal without the need of a crimper



National 13mm Snap/Crimp Caps and Septa

Description	Cap Color	Cap Material	Septum	Hardness °shore	Thickness (mm)	Cat. No.	Pack of
13mm Kim-Snap Closure	Clear	Polypropylene	White Virgin PTFE, 0.01"	53	0.25	C4015-52	100
	Clear	Polypropylene	Red PTFE/White Silicone	45	1.3	C4015-54	100
13mm Crimp Cap, 6mm hole	Silver	Aluminum	Clear PTFE/Synthetic Red Rubber	65	1.3	C4015-1AP	144

National 13mm Snap/Crimp Crimping and Decrimping Tools

- Crimping tools provide a reproducible, secure vial closure
- Manual de-crimping tools allow easy removal of aluminum seals without breakage
- Decapping pliers are an economical choice for small quantities of vials
- Clean room crimpers and decrimpers can be autoclaved



Items not shown to scale

National 13mm Snap/Crimp Crimping and Decrimping Tools

Description	Use	Cat. No.	Pack of
Manual Crimper	Attaches 13mm aluminum crimp seals	C4013-100	1
Decapping Pliers	Removes 13mm aluminum crimp seals, Protective gloves recommended	C4013-101	1
Manual Decrimper	Removes 13mm aluminum crimp seals	C4013-102	1
Manual stainless steel Cleanroom Crimper	Attaches 13mm crimp seals	C4013-100SS	1
Manual stainless steel Cleanroom Decrimper	Removes 13mm crimp seals without vial damage	C4013-102SS	1

For electronic crimpers and decappers look on page **2-094**

National 4mL Screw Thread Vials

4mL, 15x45mm Screw Thread Vials and Inserts

- 13-425 thread finish
- I-D vials feature a write-on patch with graduation for convenient sample identification
- Superior quality 33 expansion borosilicate clear (Type 1, Class A) or 51A amber (Type 1, Class B) glass
- Microsampling and High Recovery Vials allow maximum sample extraction without need for separate inserts
- Optional silanized (deactivated) glass provides optimal recovery of critical polar, labile or OH-interacting compounds*
- Polyspring inserts are self-aligning and provide a cushion against needle contact

Recommended for the following instruments:

- Dionex
- Shimadzu
- Spark Holland
- Varian
- VWR (Merck)/Hitachi
- Waters (Wisp 48 Position Carousel)

For autosampler compatibility look on pages **2-100 to 2-104**



National 4mL Thread Vials and Inserts

Description	Glass	Patched	Dimension (mm)	Profile	Total Volume	Usable Volume	Residual (µL)	Cat. No.	Pack of
13-425 Screw Thread Vial	Clear	No	15x45	Flat Bottom	4mL	4mL	<800	C4015-1	100
	Clear	Yes	15x45	Flat Bottom	4mL	4mL	<800	C4015-11W	100
	Amber	No	15x45	Flat Bottom	4mL	4mL	<800	C4015-2	100
	Amber	Yes	15x45	Flat Bottom	4mL	4mL	<800	C4015-2W	100
13-425 Screw Thread AP2000 High Recovery Vial	Clear	No	15x45	Tapered Base	3.5mL	3.5mL	<15	C4015-9	100
	Polypropylene	No	15x45	Tapered Base	2.5mL	2mL	<15	C4015-14	100
13-425 Screw Thread Vial, silanized*	Clear	No	15x45	Flat Bottom	4mL	4mL	<800	C4015-S1	100
800µL Polyspring Conical Insert	Clear	–	8x38	Pulled Point	950µL	800µL	<9	C4015-638	100
350µL Conical Insert	Clear	–	6x40	Pulled Point	375µL	300µL	<8	C4015-643	100
Metal spring for glass inserts in 4mL vials	–	–	–	–	–	–	–	C4015-640	100

* For information about silanized products see page **2-055**

National 13-425 Screw Thread Caps and Septa

- Polypropylene caps are chemically inert and suitable for most chromatography applications
- Phenolic resin caps perform well at high temperatures and are compatible with exposure to corrosives
- Open top caps are designed to be used with any of our 13mm septa
- Pre-assembled caps and septa are convenient and minimize contamination from handling
- Caps with bonded septa resist dislodging during injection when using large diameter blunt needles
- Integral Molded Polypropylene cap is an economical choice when septum resealing is not required



Images shown are 70% to scale

National 13-425 Screw Thread Caps and Septa

Description	Cap Color	Cap Material	Septum	Hardness °shore	Thickness (mm)	Cat. No.	Pack of
13mm Open Top Screw Cap, 13-425 thread, 8.5mm hole	Black	Polypropylene	–	–	–	C4015-1A	100
	White	Polypropylene	–	–	–	C4015-1W	100
	Black	Phenolic	–	–	–	C4015-66	1000
Septum for 13-425 Screw Caps	–	–	White Virgin PTFE, 0.01"	53	0.25	C4015-10	1000
	–	–	Ivory PTFE/Red Rubber	35	1.5	C4015-30	100
	–	–	Red PTFE/White Silicone/Red PTFE	55	1.25	C4015-40	100
	–	–	Red PTFE/White Silicone, Soft	45	1.5	C4015-45	100
	–	–	Red PTFE/White Silicone	50	1.5	C4015-60	100
	–	–	Ivory PTFE/White Silicone	45	1.5	C4015-61	1000
13mm Open Top Screw Cap, 13-425 thread, 8.5mm hole	Black	Polypropylene	Ivory PTFE/Red Rubber	35	1.5	C4015-30A	100
	Black	Polypropylene	Red PTFE/White Silicone/Red PTFE	55	1.25	C4015-40A	100
	White	Polypropylene	Red PTFE/White Silicone, Soft	65	1.5	C4015-45W	100
	Black	Polypropylene	Blue PTFE/White Silicone, Pre-slit	55	1.5	C4015-55BLK	100
	White	Polypropylene	Blue PTFE/White Silicone, Pre-slit	55	1.5	C4015-55W	100
	Black	Polypropylene	Red PTFE/White Silicone	60	1.5	C4015-75A	100
	White	Polypropylene	Red PTFE/White Silicone	60	1.5	C4015-75W	100
13mm Single Piece Screw Cap, 13-425 thread	Natural	Polypropylene	Integral Molded Polypropylene	–	0.25	C4015-5A	100
13mm Open Top Screw Cap, 13-425 thread, 8.5mm hole	Black	Phenolic	Red PTFE/White Silicone	60	1.5	C4015-66A	100
13mm Urea Solid Top Storage Cap, 13-425 thread	White	Polypropylene	PTFE/Foam Urethane Liner	–	1.25	B7815-13	100
13mm Open Top Screw Cap, 13-425 thread, 8.5mm hole	Black	Polypropylene	Bonded Red PTFE/White Silicone	45	1.5	C4015-67A	100

National 4mL Screw Thread Convenience Kits

- Save time during sample preparation
- Reduce the risk of contamination

Unassembled kits

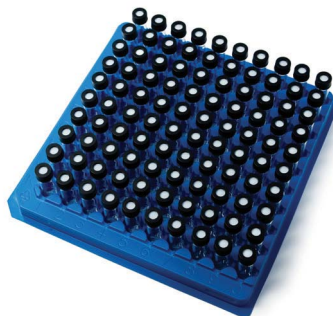
- Includes 100 vials and 100 caps with pre-assembled septa



C4015-88

Assembled kits

- Include 100 vials with pre-attached caps and septa
- Packaged in convenient vial trays with clear covers or in economical polybags



C4015-21



C4015-017

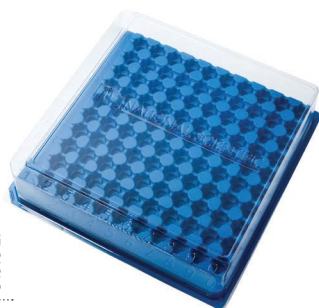
Items not shown to scale

National 4mL Screw Thread Convenience Kits

Kit Type	Glass	Patched	Cap Color	Septum	Vial Cat.No.	Cap/Septum Cat.No.	Cat. No.	Pack of
Convenience Kit	Clear	No	Black	Red PTFE/White Silicone	C4015-1	C4015-75A	C4015-88	100
	Amber	Yes	Black	Red PTFE/White Silicone	C4015-2W	C4015-75A	C4015-88AW	100
Assembled Kit	Clear	No	Black	White Virgin PTFE, 0.01"	C4015-1	C4015-1A/C4015-10	C4015-21	100
	Clear	No	Black	Red PTFE/White Silicone	C4015-1	C4015-75A	C4015-17	100
	Amber	No	Black	Red PTFE/White Silicone	C4015-2	C4015-75A	C4015-17A	100
	Amber	Yes	Black	Red PTFE/White Silicone	C4015-2W	C4015-75A	C4015-17AW	100
	Clear	Yes	Black	Red PTFE/White Silicone	C4015-11W	C4015-75A	C4015-17W	100
	Clear	No	Black	PTFE/Red Rubber	C4015-1	C4015-66/73816T-13P	C4015-482A	100
Assembled Kit, in Polybag	Clear	No	Black	Red PTFE/White Silicone	C4015-1	C4015-75A	C4015-017	100
	Amber	No	Black	Red PTFE/White Silicone	C4015-2	C4015-75A	C4015-017A	100
	Clear	Yes	Black	Red PTFE/White Silicone	C4015-11W	C4015-75A	C4015-017W	100

National 4mL Screw Top Vial Racks

- Polypropylene vial racks are resistant to most solvents
- Racks feature alphanumeric indexing for easier vial identification
- Racks can be stacked for efficient storage



C4015-27



C4015-25

Items not shown to scale

National 4mL Screw Thread Vial Racks

Description	Capacity	Cat. No.	Pack of
Polystyrene storage rack for 15x45mm vials with clear lid	100 vials, 10x10	C4015-27	1
Polypropylene storage rack for 15x45mm vials, no lid	50 vials, 5x10	C4015-25	1

National Shell Vials and Inserts

- Superior quality type 1 borosilicate and amber glass
- Polyethylene SepCap with starburst center design eases syringe needle penetration
- Convenient vial kits include equal quantities of vials and caps
- Polyspring inserts are self-aligning and provide a cushion against needle contact
- Microsampling vials allow maximum sample extraction without need for separate inserts

Recommended for the following instruments:

- Alcott
- Gilson
- Shimadzu
- Waters (Wisp 96 respectively 48 Position Carousel)

For autosampler compatibility look on pages **2-100 to 2-104**



National Shell Vials and Inserts

Description	Glass	Patched	Dimension (mm)	Profile	Total Volume	Usable Volume	Residual (µL)	Cat. No.	Pack of
1mL Shell Vial with SepCap	Clear	No	8x40	Flat Bottom	1.25mL	1mL	<80	C4015-96	200
	Amber	No	8x40	Flat Bottom	1.25mL	1mL	<80	C4015-99	200
	Polypropylene	No	8x40	Flat Bottom	1.25mL	1mL	<80	C4015-95P	250
250µL Polyspring Conical Insert	Clear	–	5x34	Pulled Point	250µL	210µL	<3	C4015-96A	100
300µL Polyspring Conical Insert	Polypropylene	–	5x29	Precision Point	275µL	250µL	<3	C4015-96PA	100
0.7mL Accuform Shell Vial with SepCap	Polypropylene	No	8x40	Tapered Base	0.90mL	0.7mL	<8	C4015-94	1000
2mL Shell Vial with SepCap	Clear	No	12x32	Flat Bottom	2.4mL	1.8mL	<200	C4011-80	200
	Polypropylene	No	12x32	Flat Bottom	2.4mL	1.8mL	<200	C4011-77P	1000
4mL Shell Vial with SepCap	Clear	No	15x45	Flat Bottom	5.5mL	4mL	<800	C4015-48	100
	Polypropylene	No	15x45	Flat Bottom	5.5mL	4mL	<800	C4015-47P	100
800µL Polyspring Conical Insert	Clear	–	6x38	Pulled Point	950µL	800µL	<9	C4015-638	100
3mL Accuform Shell Vial with SepCap	Polypropylene	No	15x45	Tapered Base	3.75mL	2.9mL	<8	C4015-46P	1000
Positive Displacement Vial for Alcott with PE Plug Cap	Clear	No	8x35	Flat Bottom	1mL	900µL	–	C4008-50	1000

National Headspace Vials

- Superior quality (Type 1, Class A) glass
- Headspace vials are available with either a round or flat base.
- Round bottom vials are compatible with most autosamplers and more easily handled by robotic arms that lift the vial from the tray
- Flat bottom vials maximize heating efficiency in manual headspace sampling and are required for use in some instrument models
- Vials feature beveled or square edge finish
- The bevel edge on the lip of the vial provides additional sealing power for greater leak resistance under high pressure.

Recommended for most brands of instruments.

For autosampler compatibility look on pages **2-100 to 2-104**



Images shown are 90% to scale

National 20mm Crimp Top Headspace Vials

Description	Glass	Dimension (mm)	Finish	Profile	Total Volume (mL)	Usable Volume (mL)	Cat. No.	Pack of
20mm Headspace Crimp Vial	Clear	22x38	Beveled Edge	Flat Bottom	9	6	C4020-60	1000
	Clear	22x38	Square Rim	Flat Bottom	9	6	C4020-6	1000
	Clear	23x46	Beveled Edge	Flat Bottom	12.5	10	C4020-10	100
	Clear	23x46	Beveled Edge	Round Bottom	12.5	10	C4020-210	100
	Clear	23x46	Square Rim	Flat Bottom	12.5	10	C4020-410	1000
	Clear	23x75	Beveled Edge	Flat Bottom	21.5	20	C4020-20	100
	Clear	23x75	Beveled Edge	Round Bottom	21	20	C4020-2	100
	Clear	23x75	Square Rim	Flat Bottom	21.5	20	C4020-25	1000
	Clear	30x60	Beveled Edge	Flat Bottom	27	25	C4020-27	1000
18mm Screw Top Headspace Vial	Clear	22.5x46	Screw Thread	Round Bottom	12	10	C4020-180	125
	Clear	22.5x76	Screw Thread	Round Bottom	21	20	C4020-18	125

National Headspace Caps and Septa

- Aluminum seals are available in standard center hole, pressure release and tear-off
- Pressure release seals are designed to open when internal pressure exceeds 3.0±0.5bar
- Use magnetic tinplate seals with CTC/Leap Technologies, Gerstel and other magnetic transport autosamplers
- Pre-assembled caps and septa are convenient and minimize contamination from handling



Images shown are 50% to scale

National 20mm Crimp Top Headspace Caps and Septa

Description	Cap Color	Cap Material	Septum	Hardness °shore	Thickness (mm)	Cat. No.	Pack of
20mm Crimp Cap, 9.5mm hole	Silver	Aluminum	–	–	–	C4020-3A	1000
20mm Tear-off Crimp Cap	Silver	Aluminum	–	–	–	C4020-5A	1000
20mm Pressure Release Crimp Cap, 7.5mm hole	Silver	Aluminum	–	–	–	C4020-6A	1000
Septum for 20mm Crimp Caps	–	–	20mm Gray Butyl Stopper	37	–	C4020-30	1000
	–	–	20mm Tan PTFE/White Silicone	45	3.2	C4020-32	100
	–	–	20mm Gray PTFE/Red Rubber	50	3.0	C4020-34	100
	–	–	20mm Gray PTFE/Black Butyl Molded	50	3.0	C4020-36	100
	–	–	Unfaced Black Rubber	55	3.0	C4020-40	100
20mm Crimp Cap, 9.5mm hole	Silver	Aluminum	Gray PTFE/Red Rubber	50	3.0	C4020-34A	100
20mm Pressure Release Crimp Cap, 8mm hole	Silver	Aluminum-PR	Gray PTFE/Red Rubber	50	3.0	C4020-34AP	100
20mm Crimp Cap, 9.5mm hole	Silver	Aluminum	Clear PTFE/Gray Butyl Rubber	50	3.0	C4020-39A	100
20mm Pressure Release Crimp Cap, 8mm hole	Silver	Aluminum-PR	Clear PTFE/Gray Butyl Rubber	50	3.0	C4020-43AP	100
20mm Crimp Cap, 9.5mm hole	Silver	Aluminum	Gray PTFE/Gray Butyl Rubber, Pharmafix	50	3.0	C4020-36A	100
20mm Pressure Release Crimp Cap, 8mm hole	Silver	Aluminum-PR	Gray PTFE/Gray Butyl Rubber, Pharmafix	50	3.0	C4020-36AP	100
20mm Crimp Cap, 9.5mm hole	Silver	Aluminum	Tan PTFE/White Silicone	45	3.2	C4020-32A	100
20mm Pressure Release Crimp Cap, 8mm hole	Silver	Aluminum-PR	Tan PTFE/White Silicone	45	3.2	C4020-32AP	100
20mm Magnetic Crimp Cap, 5mm hole	Gold	Tin-plated	Clear PTFE/Translucent Blue Silicone	45	3.0	C4020-38A	100
20mm Magnetic Crimp Cap, 8mm hole	Gold	Tin-plated	Clear PTFE/Translucent Blue Silicone	45	3.0	C4020-42A	100
20mm Pressure Release Crimp Cap, 7.5mm hole	Silver	Aluminum-PR	Clear PTFE/Translucent Blue Silicone	45	3.0	C4020-42AP	100
18mm Magnetic Screw Cap, 8mm hole	Silver	Steel	18mm Blue Silicone/Natural PTFE	45	3.0	C4020-46	125
18mm Magnetic Screw Cap, 8mm hole, SPME	Silver	Steel	18mm Blue Silicone/PTFE, not prefitted	30	1.0	C4020-48	125

Trying to decide what septum is right for you?

Use our selection guide on **PAGE 2-053**



National 20mm Crimp Top Headspace Unassembled Convenience Kits

- Include matched quantities of vials and silver aluminum seals with prefitted septa
- Caps feature pre-inserted septa for added convenience during sample preparation
- Convenience kits save time during sample preparation



Item not shown to scale

National 20mm Crimp Top Headspace Unassembled Convenience Kits

Kit Type	Glass	Cap Color	Septum	Vial Cat.No.	Cap Cat.No.	Cat. No.	Pack of
Convenience Kit, 20mm Headspace Crimp Vial, Beveled Edge, Round Bottom, Pressure Release Crimp Cap, 7.5mm hole	Clear	Silver	Gray PTFE/Black Butyl Rubber, Pharmafix	C4020-2	C4020-36AP	C4020-139	100
	Clear	Silver	Tan PTFE/White Silicone	C4020-2	C4020-32AP	C4020-320	1000

National 20mm Crimp Top Headspace Crimping and Decrimping Tools

- Crimping tools provide a reproducible, secure vial closure
- Manual decrimping tools allow easy removal of aluminum seals without breakage
- Decapping pliers are an economical choice for small quantities of vials
- Clean room crimpers and decrimpers can be autoclaved



Items not shown to scale

National 20mm Crimp Top Headspace Crimping and Decrimping Tools:

Description	Use	Cat. No.	Pack of
Manual Crimper	Attaches 20mm crimp seals	C4020-100	1
Decapping Pliers	Removes 20mm crimp seals, Protective gloves recommended	C4020-101	1
Manual Decrimper	Removes 20mm crimp seals	C4020-102	1
Manual stainless steel Cleanroom Crimper	Attaches 20mm crimp seals	C4020-100SS	1
Manual stainless steel Cleanroom Decrimper	Removes 20mm crimp seals without vial damage	C4020-102SS	1

For electronic crimpers and decappers look on page **2-094**

National Sample Storage Screw Thread Vials

Sample Storage Screw Thread Vials, Caps and Septa

- Capacity ranges from 2-40mL
- Superior quality 33 expansion borosilicate clear (Type 1, Class A) or 51A amber (Type 1, Class B) glass
- Eliminate leaching of ions
- Provide consistent pH for duration of sample storage life
- PTFE-Lined Solid-top storage caps
- PTFE on film/foam backing offers broad chemical resistance
- Not autoclavable



Images shown are 70% to scale

National Sample Storage Screw Thread Vials

Description	Glass	Patched	Dimension (mm)	Profile	Total Volume (mL)	Capacity (DRAMS)	Cat. No.	Pack of
8-425 Screw Vial	Clear	No	12x32	Flat Bottom	2	0.5	B7999-1	100
13-425 Screw Vial	Clear	No	12x45	Flat Bottom	4	1	B7999-2	100
15-425 Screw Vial	Clear	No	17x60	Flat Bottom	8	2	B7999-3	200
15-425 Screw Vial	Clear	No	19x65	Flat Bottom	12	3	B7999-12	200
18-400 Screw Vial	Clear	No	21x70	Flat Bottom	16	4	B7999-4	200
20-400 Screw Vial	Clear	No	23x85	Flat Bottom	22	6	B7999-5	200
24-400 Screw Vial	Clear	No	28x95	Flat Bottom	40	8	B7999-6	100
13-425 Screw Vial	Amber	No	12x45	Flat Bottom	4	1	B7999-2A	100
15-425 Screw Vial	Amber	No	17x60	Flat Bottom	8	2	B7999-3A	200
15-425 Screw Vial	Amber	No	19x65	Flat Bottom	12	3	B7999-12A	200
18-400 Screw Vial	Amber	No	21x70	Flat Bottom	16	4	B7999-4A	200
24-400 Screw Vial	Amber	No	28x95	Flat Bottom	40	8	B7999-6A	100



Images shown are 70% to scale

National Sample Storage Screw Thread Caps and Septa

Description	Cap Color	Cap Material	Septum	Hardness °shore	Thickness (mm)	Cat. No.	Pack of
8-425 Screw Cap	White	Urethane	PTFE/Foam Urethane Liner	75	1.3	B7815-8	100
13-425 Screw Cap	White	Urethane	PTFE/Foam Urethane Liner	75	1.3	B7815-13	100
15-425 Screw Cap	White	Polypropylene	PTFE/Foam Urethane Liner	75	1.3	B7815-15	100
18-400 Screw Cap	White	Polypropylene	PTFE/Foam Urethane Liner	75	1.3	B7815-18	100
20-400 Screw Cap	White	Polypropylene	PTFE/Foam Urethane Liner	75	1.3	B7815-20	100
24-400 Screw Cap	White	Polypropylene	PTFE/Foam Urethane Liner	75	1.3	B7815-24	100
Septa for 8-425 Screw Cap	–	–	0.01" White PTFE/0.09" Clear Silicone	50	1.5	B7995-8	100
Septa for 13-425 Screw Cap	–	–	0.01" White PTFE/0.09" Clear Silicone	50	1.5	B7995-13	100
Septa for 15-425 Screw Cap	–	–	0.01" White PTFE/0.09" Clear Silicone	50	1.5	B7995-15	100
Septa for 18-400 Screw Cap	–	–	0.01" White PTFE/0.09" Clear Silicone	50	1.5	B7995-18	100
Septa for 20-400 Screw Cap	–	–	0.01" White PTFE/0.09" Clear Silicone	50	1.5	B7995-20	100
Septa for 24-400 Screw Cap	–	–	0.01" White PTFE/0.09" Clear Silicone	50	1.5	B7995-24	100
Septa for 24-400 Screw Cap	–	–	0.005" White PTFE/0.120" Clear Silicone	50	3.3	B7995-26	100
Open top 8-425 Screw Cap	Black	Polypropylene	–	–	–	B7807-8	100
Open top 13-425 Screw Cap	Black	Polypropylene	–	–	–	B7807-13	100
Open top 15-425 Screw Cap	Black	Polypropylene	–	–	–	B7807-15	100
Open top 18-400 Screw Cap	Black	Polypropylene	–	–	–	B7807-18	100
Open top 20-400 Screw Cap	Black	Polypropylene	–	–	–	B7807-20	100
Open top 24-400 Screw Cap	White	Polypropylene	–	–	–	B7807-24	100

National Sample Storage Unassembled Convenience Kits

- Convenience kits save time during sample preparation
- Solid top convenience kits include matched quantities of vials and screw caps with pre-assembled septa
- Open top convenience kits contain shrink-wrapped vials and separately packaged caps and septa in polybags



B7990-2



B7800-20

Items not shown to scale

National Sample Storage Unassembled Convenience Kits

Kit Type	Glass	Total Volume (mL)	Cap Color	Cap Material	Septum	Vial Cat.No.	Cap/Septum Cat.No.	Cat. No.	Pack of
Screw Vial Convenience Kit, Solid-top Cap	Clear	2	White	Urethane	PTFE/Polyethylene Foam Liner	B7999-1	B7815-8	B7800-1	100
	Clear	4	White	Urethane		B7999-2	B7815-13	B7800-2	100
	Clear	8	White	Polypropylene	B7999-3	B7815-15	B7800-3	200	
	Clear	12	White	Polypropylene	B7999-12	B7815-15	B7800-12	200	
	Clear	16	White	Polypropylene	B7999-4	B7815-18	B7800-4	200	
	Clear	22	White	Polypropylene	B7999-5	B7815-20	B7800-5	200	
	Clear	40	White	Polypropylene	B7999-6	B7815-24	B7800-6	100	
	Amber	2	White	Urethane	B7999-1A	B7815-8	B7800-1A	100	
	Amber	4	White	Urethane	B7999-2A	B7815-13	B7800-2A	100	
	Amber	8	White	Polypropylene	B7999-3A	B7815-15	B7800-3A	200	
	Amber	12	White	Polypropylene	B7999-12A	B7815-15	B7800-12A	200	
	Amber	16	White	Polypropylene	B7999-4A	B7815-18	B7800-4A	200	
	Amber	40	White	Polypropylene	B7999-6A	B7815-24	B7800-6A	100	
	Screw Vial Assembled Kit, Solid-top Cap	Clear	20	White	Polypropylene	0.01" White PTFE/0.05" Clear Silicone	B7920-VO	B7815-24	B7800-20
Amber		20	White	Polypropylene	B7921-VO	B7815-24	B7800-20A	100	
Screw Vial Convenience Kit, Open top Cap	Clear	2	Black	Polypropylene	0.01" White PTFE/0.05" Clear Silicone	B7999-1	B7807-8/B7995-8	B7990-1	100
	Clear	4	Black	Polypropylene		B7999-2	B7807-13/B7995-13	B7990-2	100
	Clear	8	Black	Polypropylene		B7999-3	B7807-15/B7995-15	B7990-3	200
	Clear	12	Black	Polypropylene		B7999-12	B7807-15/B7995-15	B7990-12	200
	Clear	16	Black	Polypropylene		B7999-4	B7807-18/B7995-18	B7990-4	200
	Clear	22	Black	Polypropylene		B7999-5	B7807-20/B7995-20	B7990-5	200
	Clear	40	White	Polypropylene	B7999-6	B7807-24/B7995-24	B7990-6	100	
	Amber	2	Black	Polypropylene	B7999-1A	B7807-8/B7995-8	B7990-1A	100	
	Amber	4	Black	Polypropylene	B7999-2A	B7807-13/B7995-13	B7990-2A	100	
	Amber	12	Black	Polypropylene	B7999-12A	B7807-15/B7995-15	B7990-12A	200	
	Amber	40	White	Polypropylene	B7999-6A	B7807-24/B7995-24	B7990-6A	100	

National EPA Screw Vials

EPA Screw Vial Convenience Kits

- Convenience kits save time during sample preparation
- Unassembled convenience kits include shrink-wrapped vials and separately packaged caps and septa in polybags
- Assembled kits include vials with pre-attached caps and septa
- Recommended for discrete water sampling under EPA 40 CFR 136 "Guidelines for Establishing Test Procedures for the Analysis of Pollutants" and EPA 40 CFR 141 "National Interim Primary Drinking Water Regulations: Control of Trihalomethanes in Drinking Water"



B7920

Items not shown to scale

National EPA Screw Vial Convenience Kits

Kit Type	Glass	Total Volume (mL)	Class	Septum	Cat. No.	Pack of
EPA Screw Vial Convenience Kit	Clear	40	100	0.01" White PTFE/0.09" Clear Silicone	B7950-B	100
EPA Screw Vial Assembled Kit	Clear	40	100	0.01" White PTFE/0.09" Clear Silicone	B7950	100
	Amber	40	100	0.01" White PTFE/0.09" Clear Silicone	B7951	100
	Clear	20	100	0.01" White PTFE/0.09" Clear Silicone	B7920	100
	Amber	20	100	0.01" White PTFE/0.09" Clear Silicone	B7921	100
EPA Screw Vial Assembled Kit	Clear	40	200	0.01" White PTFE/0.09" Clear Silicone	B7950-C	72



B7950-VO

B7951-VO



B7950-1A

B7995-24

* 60% to scale

National EPA Screw Vials, Caps and Septa

Description	Glass	Cap Color	Dimension (mm)	Total Volume (mL)	Material	Cat. No.	Pack of
24-400 EPA Screw Vial	Clear	—	28x95	40	—	B7950-VO	100
	Amber	—	28x95	40	—	B7951-VO	100
24-400 EPA Screw Cap	—	White	—	—	Polypropylene	B7950-1A	100
Septa for 24-400 Screw Cap	—	—	—	—	0.01" White PTFE/0.09" Clear Silicone	B7995-24	100

Septum Selection Guide

Septa for use with general chromatography vials

PTFE/Natural Red Rubber

PTFE Natural Red Rubber are moderately priced 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/RR.

PTFE/Synthetic Red Rubber Septa: (PTFE/RR)

PTFE/Red Rubber septa are the most popular and economical choice for general GC and HPLC applications. Used primarily for routine analysis in gas chromatography with FID, TCD and FPD detectors, PTFE/Red Rubber septa offer moderate resealability and excellent chemical inertness before puncture. The low durometer of red rubber allows for easy needle penetration even with thin bore GC needles. PTFE/Red Rubber septa are not recommended for multiple injections or retention of samples for further analysis.

Note: C4000-30 and C4000-51 Series feature high-quality red rubber with a thin 0.003" layer of PTFE. C4011-1A, C4011-98 Series, C4011-51 Series, C4008-1A Series, and C4008-98 Series feature high-quality medium durometer red rubber with a thin (0.015") layer of PTFE.

PTFE/High Performance Red Rubber

PTFE Red Rubber is a highly pure synthetic red rubber septum that provides a reduced background level for specific GC applications, employing sensitive detectors such as ECD or NPD. PTFE Red Rubber has resealing characteristics similar to PTFE/Red Rubber and is pre-inserted into an aluminum seal.

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) meeting requirements of various needle types.

Pre-slit PTFE/Silicone Septa

A PTFE/Silicone septum is provided with a thin 0.005" PTFE layer laminated to highly pure silicone, and 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 Shimadzu, Hitachi, and other autosamplers with thin gauge needles. 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 provide superior performance with Agilent 1050, 1090, 1100, or any autosampler employing a large diameter, blunt-tip needle.

PTFE Septa

A solid disk of 0.010" thick PTFE offers superior chemical inertness against the most aggressive solvents. The thin membrane allows for easy penetration by most needles. PTFE septa are not resealable and should be used with relatively short cycle times or single injection methods.

Polyethylene (PE) Septa/Integral Molded Closures/Caps/Stoppers:

Chemically resistant polyethylene septa are usually molded into single-piece caps. The surface for needle penetration is 0.01" thick, allowing for use with thin gauge needles. Polyethylene septa are not resealable and are intended for single injection use.

Polypropylene (PP) Septa: /Integral Molded Closures/Caps/Stoppers:

Chemically resistant polypropylene septa are available molded into single piece caps or as 0.01" thick disks. The surface for needle penetration is 0.01" thick, allowing for use with thin gauge needles. Polypropylene septa are not resealable and are intended for single injection use.

Septum Selection Guide

20mm Headspace Septa

Gray Butyl Stopper: (C4020-30)

An economical septum for lower temperature (125°C) or low-pressure applications. Gray Butyl stoppers do not provide a PTFE barrier and are not suitable for use with alkanes, benzene, chlorinated solvents or cyclohexane.

Gray PTFE/Red Rubber Septa: (C4020-34)

Good solvent resistance, good resealing characteristics, resistant to coring. An economical choice where a PTFE barrier is desired.

PTFE/White Silicone PurePack Septa: (C4020-32)

Excellent choice for volatiles. Septa are packed in a glass PurePak jar to assure low background, low permeability, and the highest performance of any headspace septum. PTFE/Silicone septa provide excellent resealing characteristics and broad chemical compatibility.

Gray PTFE/Molded Black Butyl Septa (Pharmafix Style): (C4020-36)

C4020-36 is a molded septum featuring a PTFE-faced center surface that does not extend to the edges of the septum. The PTFE center area provides good resistance to a wide variety of solvents. The center puncture area is resistant to coring and will reseal after several punctures. The black butyl outer sealing edge conforms well to the rim of the vial affecting a more positive seal.

Black Rubber Septa: (C4020-40)

Black Rubber septa are molded from a higher density rubber compound compared to the standard red rubber. This septum has characteristics similar to the Gray Butyl stopper. The Black Rubber septum is an economical choice for applications where reduced levels of vapor penetration are desired.

Temperature Stability Chart

	min. Temp °C	max. Temp °C	min. Temp °F	max. Temp °F
PTFE/Natural Red Rubber	-10	+85	14	+185
PTFE/Synthetic Red Rubber Septa: (PTFE/RR)	-30	+110	-22	+230
PTFE/ High Performance Red Rubber Septa	-40	+110	-40	+230
PTFE/Silicone Septa: (T/S)	-60	+200	-76	+392
PTFE/Silicone/PTFE Septa: (T/S/T)	-60	+200	-76	+392
PTFE Septa	-200	+250	-328	+482
Polyethylene (PE)	-50	+80	-58	+176
Polypropylene (PP)	0	+121	32	+250
Butyl/Chlorobutyl/Bromobutyl Stopper or Septa	-20	+125	-4	+257
Gray PTFE/Red Rubber	-40	+120	-40	+248
PTFE/White Silicone PurePack Septa	-60	+200	-76	+392
Gray PTFE/Molded Black Butyl (Pharmafix) Septa	-20	+125	-4	+257
Black Rubber Septa	-20	+100	-4	+212

eVol is the worlds first analytical syringe

 Visit **PAGE 1-054**



Deactivated Glass Vials and Inserts

We use only the highest-quality glass to manufacture vials and inserts. Clear and Amber glass tubes have been selected for their consistent composition, dimensional stability and cleanliness. The vast majority of chemical compounds demonstrate no interaction with our standard, un-treated glass products. Strongly polar compounds present at trace concentrations may exhibit lower than expected recoveries due to interactions with Si-OH active sites that are present in all borosilicate glass. The use of a deactivated sample vial is recommended for these samples.

We employ two methods of surface treatment to produce a deactivated product for those instances where a specific compound displays an undesirable interaction with the standard glass product. Most reactive compounds will give a similar improvement in results for either deactivation method.

A few compounds will give a better result in one treatment compared to the other. We recommend that compound recovery be first evaluated in our standard glass product, followed by the silanized product and finally in our Kimshield deactivated product.

The following are general descriptions of the glass deactivation treatments available.

Silanized Products:

Silanized glassware is the most widely applicable and popular deactivation method in use for improving the recovery of reactive compounds from glass vials and inserts. A proprietary methylating agent is introduced by vapor phase deposition onto the surface of the glassware. Our controlled vapor phase deposition process assures complete and uniform surface coverage. Silanization lowers the surface tension of the glass and forms a hydrophobic barrier that discourages leaching of trace glass constituents into aqueous solutions and adsorption of trace sample components onto the surface of the glass. Vapor phase deposition leaves no liberated acids or other residues that are common with other treatment methods. Our automated silanization process assures that every vial will be consistently treated – leaving a minimum of unreacted silanol groups.

Kimshield Deactivation:

Kimshield Deactivation is also a vapor deposition method employing a proprietary silicone fluid to coat the surface of the glass. Kimshield deactivation lowers the surface tension of the glass and forms a hydrophobic barrier similar to silanization, but with a slightly different functionality.

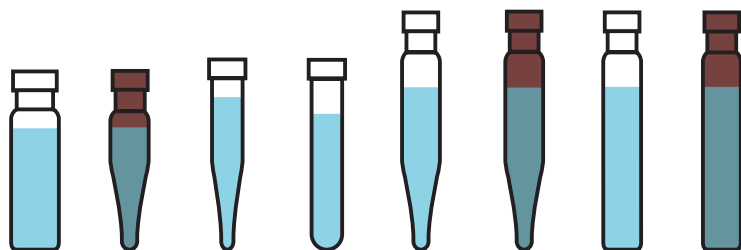
As with Silanized products, Kimshield deactivated vials and inserts do not release acids, solvents or other residues. Kimshield deactivation is slightly less durable compared to Silanization, but will withstand exposure to most solvents that are compatible with borosilicate glass.



National Vial Reference Chart

* Drawing is valid for: C4000-1B, C4000-1G, C4000-1R, C4000-1Y
 Images shown are 80% to scale

8mm CrimpTop Vials



	C4008-1	C4008-730	C4008-632C	C4008-632R	C4008-739	C4008-740	C4008-741	C4008-742
Part No.	C4008-1	C4008-730	C4008-632C	C4008-632R	C4008-739	C4008-740	C4008-741	C4008-742
Dimensions	8 x 30	7 x 30	6 x 32	6 x 32	7 x 40	7 x 40	7 x 40	7 x 40
Common Description	0.8mL	0.5mL	0.2mL	0.3mL	0.7mL	0.7mL	0.8mL	0.8mL
Approx. Total Capacity	1mL	550µL	250µL	325µL	575µL	575µL	775µL	775µL
Rec. Usable Volume	0.8mL	400µL	200µL	250µL	450µL	450µL	650µL	650µL
Residual Volume	<80µL	<3µL	<3µL	<6µL	<2µL	<2µL	<70µL	<70µL
Composition	Glass	Amber	Glass	Glass	Glass	Amber	Glass	Amber

Standard-Opening Screw Thread Vials - 12 x 32mm



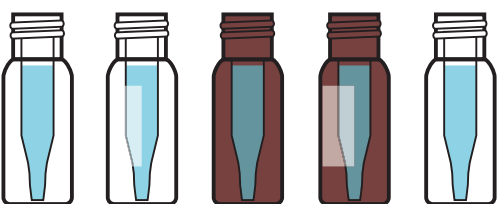
	C4013-1	C4013-1W	C4013-2	C4013-2W	C4013-11	C4013-12	C4013-13
Part No.	C4013-1	C4013-1W	C4013-2	C4013-2W	C4013-11	C4013-12	C4013-13
Common Description	2mL	2mL	2mL	2mL	250µL	100µL	600µL
Approx. Total Capacity	1.9mL	1.9mL	1.9mL	1.9mL	475µL	400µL	850µL
Rec. Usable Volume	1.5mL	1.5mL	1.5mL	1.5mL	250µL	200µL	675µL
Residual Volume	<170µL	<170µL	<170µL	<170µL	<3µL	<2µL	<8µL
Composition	Glass	Glass	Amber	Amber	Polypro	Glass	Polypro

Target DP 9mm Screw Vials 12 x 32mm



	C4000-1	C4000-1W	C4000-2W	C4000-9	C4000-9A	C4000-11	C4000-9TR	C4000-V1	C4000-V2	C4000-12
Part No.	C4000-1	C4000-1W	C4000-2W	C4000-9	C4000-9A	C4000-11	C4000-9TR	C4000-V1	C4000-V2	C4000-12
Common Description	2mL	2mL	2mL	1.5mL	1.5mL	450µL	1.5mL	1.5mL	1.5mL	2mL
Approx. Total Capacity	2mL	2mL	2mL	1.7mL	1.7mL	250µL	1.5mL	1.4mL	1.4mL	2mL
Rec. Usable Volume	1.5mL	1.5mL	1.5mL	1.3mL	1.3mL	250µL	1.2mL	1.0mL	1.0mL	1.5mL
Residual Volume	<170 µL	<170µL	<170µL	<4µL	<4µL	<1µL	<1µL	<4µL	<4µL	<180 µL
Composition	Glass	Glass	Amber	Glass	Amber	PolyPro	Glass	Glass	Amber	Amber PP

Target DP 9mm Screw Vials 12 x 32mm

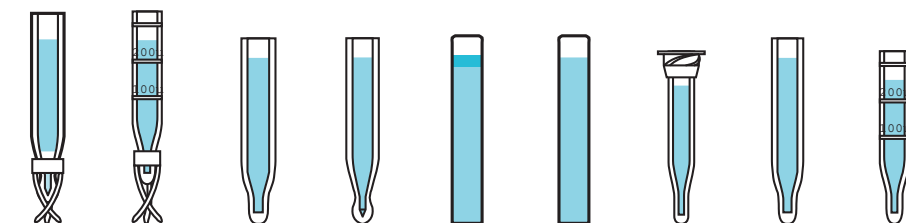


	C4000-LV1	C4000-LV1W	C4000-LV2	C4000-LV2W	C4000-LV3W
Part No.	C4000-LV1	C4000-LV1W	C4000-LV2	C4000-LV2W	C4000-LV3W
Common Description	350µL	350µL	350µL	350µL	200µL
Approx. Total Capacity	475µL	475µL	475µL	475µL	375µL
Rec. Usable Volume	350µL	350µL	350µL	350µL	240µL
Residual Volume	<2µL	<2µL	<2µL	<2µL	<1µL
Composition	Glass	Glass	Amber	Amber	Glass

Target DP Microvolume Inserts

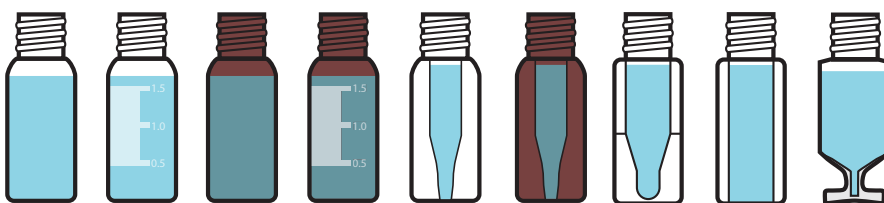
*Drawing is valid for: C4011-1B, C4011-1G, C4011-1R, C4011-1Y

Images shown are 80% to scale



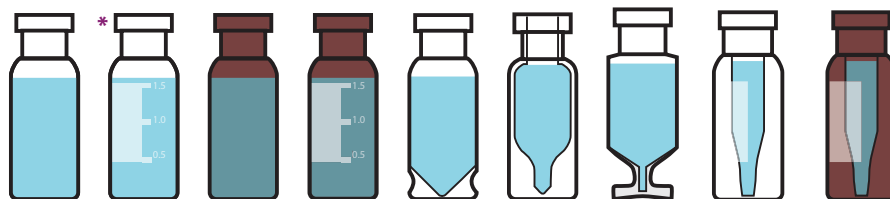
	C4010-630	C4010-630P	C4010-627L	C4010-629L	C4011-631	C4011-631P	C4010-630TS	C4010-629	C4010-629P
Part No.	C4010-630	C4010-630P	C4010-627L	C4010-629L	C4011-631	C4011-631P	C4010-630TS	C4010-629	C4010-629P
Dimensions	6 x 31mm	6 x 30mm	6 x 31mm	6 x 31mm	6 x 31mm	6 x 31mm	6 x 29mm	6 x 30mm	6 x 30mm
Common Description	300µL	300µL	350µL	350µL	400µL	300µL	150µL	300 µL	300 µL
Approx. Total Capacity	375µL	325µL	400µL	400µL	500µL	500µL	450µL	375 µL	325 µL
Rec. Usable Volume	300µL	250µL	350µL	350µL	400µL	400µL	325µL	300 µL	250 µL
Residual Volume	<1µL	<2µL	<4µL	<2µL	<25µL	<25µL	<3µL	<4 µL	<2 µL
Composition	Glass	Polypro	Glass	Glass	Glass	Polypro	Glass	Glass	Polypro

10mm Wide Opening Screw Thread Vials - 12 x 32mm



	C4010-1	C4010-1W	C4010-2	C4010-2W	C4010-LV1	C4010-LV2	C4010-11	C4010-14	C4010-V1
Part No.	C4010-1	C4010-1W	C4010-2	C4010-2W	C4010-LV1	C4010-LV2	C4010-11	C4010-14	C4010-V1
Common Description	2mL	2mL	2mL	2mL	350µL	450µL	250µL	700µL	1.5mL
Approx. Total Capacity	2mL	2mL	2mL	2mL	450µL	450µL	600µL	750µL	1.5mL
Rec. Usable Volume	1.5mL	1.5mL	1.5mL	1.5mL	350µL	350µL	400µL	550µL	1.1mL
Residual Volume	<170µL	<170µL	<170µL	<170µL	<2µL	<2µL	<4µL	>70µL	<4mL
Composition	Glass	Glass	Amber	Amber	Glass	Amber	Polypro	Polypro	Glass

11mm Wide Opening Crimp Top Vials



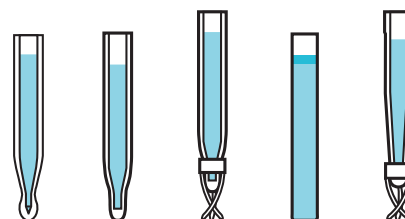
	C4011-1	C4011-1W	C4011-2	C4011-2W	C4011-9	C4011-10	C4011-V1	C4011-LV1W	C4011-LV2W
Part No.	C4011-1	C4011-1W	C4011-2	C4011-2W	C4011-9	C4011-10	C4011-V1	C4011-LV1W	C4011-LV2W
Common Description	2mL	2mL	2mL	2mL	1.5mL	400µL	1.5mL	250µL	250µL
Approx. Total Capacity	2mL	2mL	2mL	2mL	1.7mL	650µL	1.5mL	500µL	500µL
Rec. Usable Volume	1.5mL	1.5mL	1.5mL	1.5mL	1.3mL	500µL	1.1mL	350µL	350µL
Residual Volume	<170µL	<170µL	<170µL	<170µL	<4µL	<5µL	<4µL	<2µL	<2µL
Composition	Glass	Glass	Amber	Amber	Glass	Glass	Glass	Glass	Amber

11mm Standard-Opening Crimp Vials 12 x 32mm



	C4012-1	C4012-1W	C4012-2	C4012-2W	C4012-10
Part No.	C4012-1	C4012-1W	C4012-2	C4012-2W	C4012-10
Common Description	2mL	2mL	2mL	2mL	100µL
Approx. Total Capacity	2mL	2mL	2mL	2mL	425µL
Rec. Usable Volume	1.5mL	1.5mL	1.5mL	1.5mL	200µL
Residual Volume	<170µL	<170µL	<170µL	<170µL	<2µL
Composition	Glass	Glass	Amber	Amber	Glass

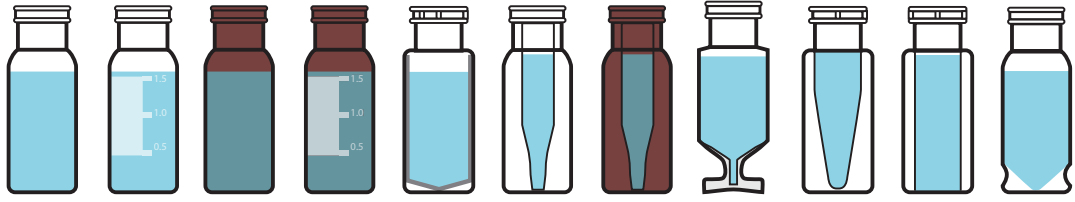
Standard Microvolume Inserts



	C4012-529	C4012-529L	C4012-530	C4012-465	C4012-530P
Part No.	C4012-529	C4012-529L	C4012-530	C4012-465	C4012-530P
Dimensions	5 x 29mm	5 x 31mm	5 x 29mm	5 x 31mm	5 x 30mm
Common Description	150µL	150µL	150µL	200µL	125µL
Approx. Total Capacity	200µL	200µL	200µL	250µL	175µL
Rec. Usable Volume	175µL	170µL	170µL	200µL	150µL
Residual Volume	<3µL	<2µL	<1µL	<12µL	<2µL
Composition	Glass	Glass	Glass	Glass	Polypro

National Vials Comparison Chart

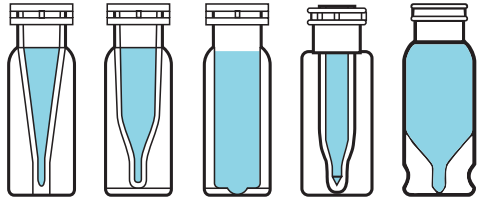
11mm Snap-It-Vials - 12 x 32mm



Part No.	C4011-5	C4011-5W	C4011-6	C4011-6W	C4011-24	C4011-LV1	C4011-LV2	C4011-V5	C4011-11	C4011-14	C4011-4
Common Description	2mL	2mL	2mL	2mL	700µL	350µL	350µL	1.5mL	450µL	3700µL	1.5mL
Approx. Total Capacity	2mL	2mL	2mL	2mL	1000µL	500µL	500µL	1.5mL	800µL	1000µL	1.7mL
Rec. Usable Volume	1.5mL	1.5mL	1.5mL	1.5mL	750µL	350µL	350µL	1.1mL	600µL	800µL	1.3mL
Residual Volume	<170µL	<170µL	<170µL	<170µL	<8µL	<2µL	<2µL	<4µL	<6µL	<80µL	<4µL
Composition	Glass	Glass	Amber	Amber	TPX	Glass	Amber	Glass	Polypro	Polypro	Glass

11mm Snap-It-Vials - 12 x 32mm

Headspace Vials



Part No.	C4011-13	C4011-16	C4011-15	C4012-15	C4011-9TR
Common Description	250µL	600µL	850µL	250µL	1.5mL
Approx. Total Capacity	475µL	600µL	825µL	475µL	1.5mL
Rec. Usable Volume	300µL	400µL	650µL	350µL	1.2mL
Residual Volume	<2µL	<4µL	<8µL	<4µL	<1µL
Composition	Polypro	Polypro	Polypro	Glastic	Glass



Part No.	C4020-6	C4020-60	C4020-27
Common Description	6mL	6mL	27mL
Approx. Total Capacity	9mL	9mL	27mL
Composition	Glass	Glass	Glass

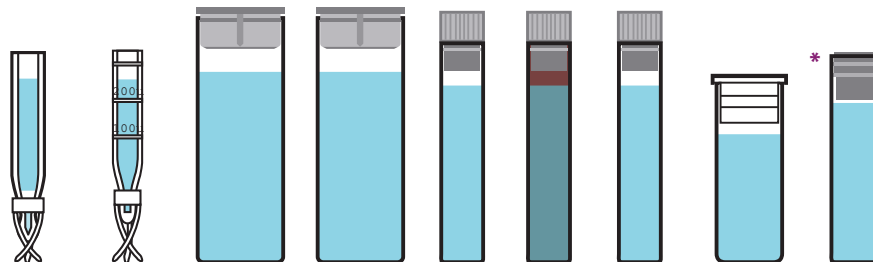
Headspace Vials



Part No.	C4020-20	C4020-10	C4020-2	C4020-210	C4020-25	C4020-410
Common Description	20mL	10mL	20mL	10mL	20mL	10mL
Approx. Total Capacity	21mL	12mL	21.5mL	12mL	21.5mL	12.5mL
Composition	Glass	Glass	Glass	Glass	Glass	Glass

Images shown are 80% to scale

Shell Vials and Inserts



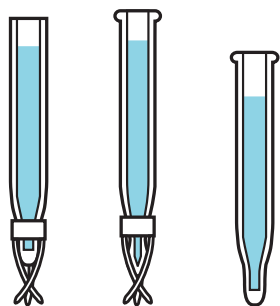
Part No.	C4015-96A	C4015-96PA	C4015-48	C4015-47P	C4015-96	C4015-99	C4015-95P	C4011-80	C4008-50
Dimensions	5 x 34mm	5 x 29mm	—	—	—	—	—	—	8 x 35mm
Common Description	250 µL	275 µL	4mL	4mL	1mL	1mL	1mL	2mL	1mL
Approx. Total Capacity	375 µL	375 µL	5.5mL	5.5mL	1.25mL	1.25mL	1.25mL	2.4mL	1mL
Rec. Usable Volume	210 µL	250 µL	4mL	4mL	1mL	1mL	1mL	1.8mL	850µL
Residual Volume	<3 µL	<3 µL	<800µL	<800 µL	<80µL	<80µL	<80µL	<200µL	—
Composition	Glass	PolyPro	Glass	Polypro	Glass	Amber	PolyPro	Glass	Glass

15 x 45mm Screw Thread Vials



Part No.	C4015-1	C4015-11W	C4015-2	C4015-2W	C4015-9	C4015-14
Common Description	4mL	4mL	4mL	4mL	3.5mL	2.5mL
Approx. Total Capacity	5.2mL	5.2mL	5.2mL	5.2mL	4.5mL	2.5mL
Rec. Usable Volume	4mL	4mL	4mL	4mL	3.5mL	2mL
Residual Volume	<800µL	<800µL	<800µL	<800µL	<15µL	<15µL
Composition	Glass	Glass	Amber	Amber	Glass	Polypro

Microvolume Inserts for 15 x 45mm 4mL Vials



Part No.	C4015-638	C4015-641	C4015-643
Dimensions	6 x 38mm	6 x 41mm	6 x 42mm
Common Description	700µL	500µL	500µL
Approx. Total Capacity	950µL	575µL	375µL
Rec. Usable Volume	800µL	500µL	300µL
Residual Volume	<9µL	<6µL	<8µL
Composition	Glass	Glass	Glass

TOC Vials



Part No.	C4011-1296
Common Description	5mL
Approx. Total Capacity	5mL
Composition	Glass

Images shown are 80% to scale
 * 50% to scale
 * Positive Displacement Vial for Alcott 708