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WebSeal well plates

A comprehensive range of well plate solutions for high-density sample handling in chromatography.

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Vials and closures

Our portfolio contains the most comprehensive selection of vials and closures from microsampling to headspace to match all of your application and autosampler requirements. The portfolio focuses on improved sample security and integrity with the Thermo Scientific™ AVCS™ 9mm closures and the Thermo Scientific™ SureStop™ 9mm screw top vial range. Our portfolio of vials and closures assure you of uninterrupted productivity on every separation and analysis.

AVCS closures and SureStop vials

AVCS Closures together with SureStop vials significantly reduce the error rate of analysis that results from evaporation of the solvent in vials which are not sealed correctly.

thermofisher.com/surestop

National vials and closures

Choose from a large selection of Thermo Scientific™ National™ vials and closures to match your application and autosampler requirements.

thermofisher.com/national

MS certified vials

The first and only pre-cleaned, low particle, low background chromatography vial.

thermofisher.com/msvials

Chromacol vials and closures

Choose from a large selection of Thermo Scientific Chromacol vials and closures including GOLD Vials which provide highest levels of inertness to avoid adhesion at low concentrations and for critical analytes.

thermofisher.com/inertvials

Crimping and decrimping tools

Speed up your workflow with our tools for opening, closing and disposing of vials.

For more information, visit thermofisher.com/vials

AVCS closures and SureStop vials

Thermo Scientific™ AVCS Closures and SureStop™ Vials – The next generation of sample handling.

Top reasons why chemists should consider Advanced Vial Closure System (AVCS) Closures and SureStop Vials

Features of 9mm wide opening, integral membrane and solid top closures:

1. AVCS closures along with SureStop vials significantly reduce the error rate of analysis that results from evaporation of the solvent in improperly sealed vials.
2. Re-analysis costs are reduced, sample data integrity increases, and sample throughput increases.
3. No need to use bulky crimpers – AVCS closures with SureStop vials seal as well as crimp top vials.
4. The leveling feature of AVCS designed vials gives more autosampler compatibility with less autosampler interruptions, due to mishandled vials.
5. AVCS design allows for consistent sealing, eliminating user-to-user variance.
6. SureStop design provides a positive feedback closure that creates more consistent data, which for a researcher is almost as important as the actual result.



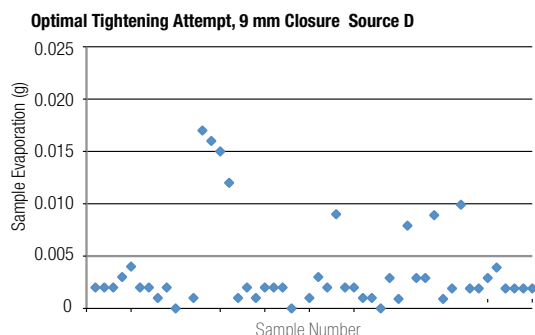
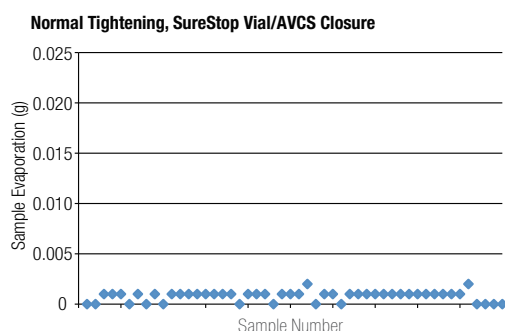
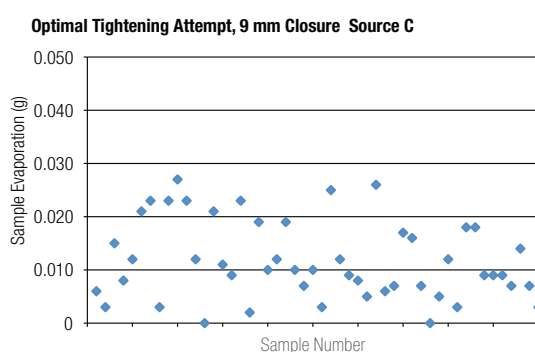
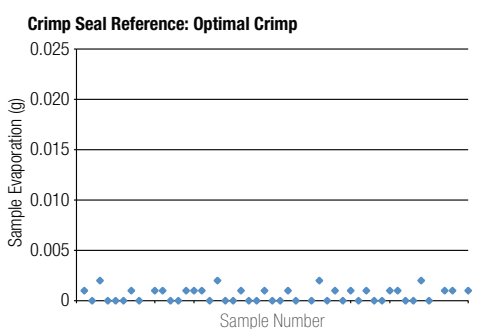
Examples of vial and closure misalignment/deformation. (A) SureStop vial self-aligning cap; (B) generic vial, cap tilt; (C) generic vial, septum dislodged; and (D) generic vial, deformed top.

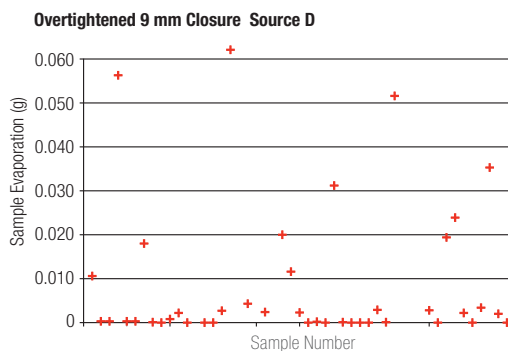
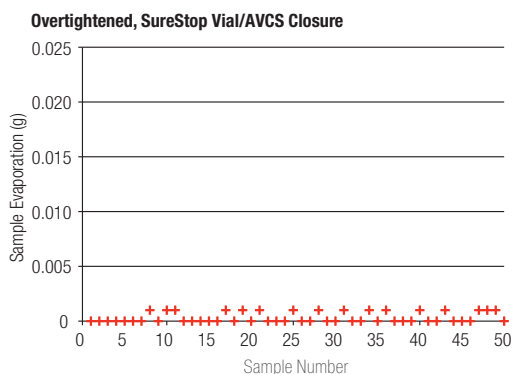
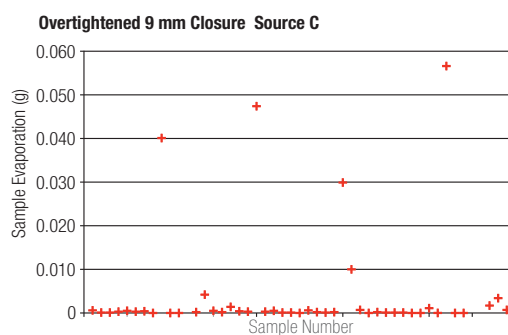
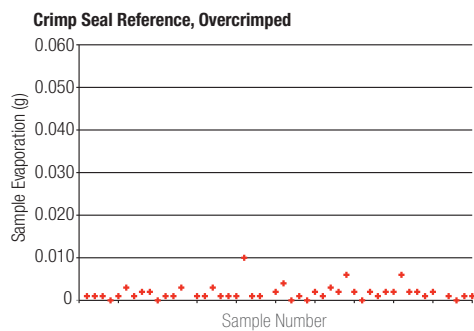


A study of the effects of the typical operator response to evaporative sample loss and septum dislodging during the use of 9 mm screw thread and 11 mm crimp vials and closures were conducted. Sample losses were measured for both overtightened vials and for vials perceived to be optimally tightened and these were compared to losses from new vials designed to provide a definite sealing point.

Test conditions

- 1.3 mL of pure methanol was added to each vial (always 50 in total)
- All vials were incubated at a temperature of 40 °C for 72 hours
- After 72 hours the final weight was taken and subtracted from the initial 40 °C temperature weight to yield the sample loss in grams





Are you currently using crimp caps?

Changing to AVCS closures and SureStop vials will provide the following benefits:

- The hassle of crimping is removed; crimping and de-capping tools are not required. Screw thread closures are easier to attach and remove reducing time required for sample prep. Additionally, there can be repetitive stress issues related to high volume crimping that will be alleviated with screw thread vials.
- AVCS closures and SureStop vials offer identical performance to crimp caps (based on solvent loss studies), which make SureStop products a viable alternative for GC use.
- AVCS and SureStop provides a “like crimped” product tightness and reliable quantification even for low boiling compounds; you remove user-to-user vial/closure sealing variability that results from user subjectivity of when they “think” the vial is properly sealed.

Are you currently using snap caps?

Changing to AVCS closures and SureStop vials will provide the following benefits:

- Positive feedback makes AVCS and SureStop as convenient to use as snap cap.
- Provides a fast closing alternative for volatile solvents/compounds of interest.
- Eliminates variable evaporation rates that can be caused by environmental conditions.

Are you currently using expensive bonded caps?

Changing to AVCS closures and SureStop vials will provide following benefits:

- Septum push through is eliminated with the AVCS screw-top closure and SureStop vial design. (See illustration below).
- Greater septa choice (bonded caps very limited in septa offering).
- AVCS closures and SureStop vials seal more securely than bonded caps
- AVCS closures and SureStop vials are considerably less expensive than bonded caps and vials.



Non-AVCS push through examples

AVCS no push through

For more information, visit thermofisher.com/surestop

Chromacol GOLD vials

	Volume	Description	Cat. No	Pack of
8 mm Crimp-Top Clear GOLD Grade Vials (to be used with 8mm Crimp Closures)	0.1 mL	SCI-VI™ Crimp Top Inert Vial, Round Bottom	01-CVG	500
	0.2 mL	SCI-VI™ Crimp Top Inert Vial, Tapered	02-CTVG	500
	0.3 mL	SCI-VI™ Crimp Top Inert Vial, Round Bottom	03-CVG	500
8-425 Screw Thread Clear GOLD Grade Vials, 12 × 32 mm (to be used with 8-425 Screw Thread Closures)	2 mL	Screw Thread Inert Vial, Standard Opening	2-SVG	500
	1.1 mL	Screw Thread Inert Vial, Conical	1.1-STVG	500
9 mm Screw Thread Clear GOLD Grade Vials, 12 × 32 mm (to be used with 9 mm Screw Thread Closures)	2 mL	Screw Tread SureStop Inert Vial, with Patch and Wide Opening	2-SVWGK	100
	0.2mL	Screw Tread Inert Vial, with Patch and Fused Insert	02-FISVG	500
11 mm Crimp Top Clear GOLD Grade Vials, 12 × 32 mm (to be used with 11 mm Crimp Closures)	2 mL	Crimp Top Inert Vial, Wide Opening	2-CVG	500
	1.1 mL	Crimp Top Inert Vial, Conical	1.1-CTVG	500
	0.2 mL	Crimp Top Inert Vial, with Patch and Fused Insert	02-FIVG	500
Micro Insert GOLD Grade for Wide Opening Vials	0.2mL	Conical Inert Glass Insert for Wide Opening Vials	02-MTVWG	1000

For more information, visit thermofisher.com/inertvials

Premium vials and closures

8mm Screw vials and closures

8-425 thread finish, standard opening, 2mL, 12x32mm

- Superior quality 1st hydrolytic class glass (Type 1) in clear and amber, meets all requirements of Pharm. US, EU, JPN
- Open top caps are designed to be used with any of our 8mm septa
- Polypropylene caps are chemically inert and suitable for most chromatography applications
- Flanged caps are particularly suitable for many Japanese autosamplers
- Pre-assembled caps and septa are convenient and minimize contamination from handling



8mm, 2mL, 12x32mm standard opening screw thread vials and inserts

Description	Glass	Patched	Dimension (mm)	Profile	Total Volume (mL)	Usable Volume (mL)	Residual (µL)	Cat. No.	Pack of
8-425 Screw Thread Vial	Clear	Yes	12x32	Flat Bottom	2.0	1.5	<170	60180-508	100
	Amber	Yes	12x32	Flat Bottom	2.0	1.5	<170	60180-560	100

8-425 screw thread caps and septa

Description	Cap Color	Cap Material	Septum	Hardness °shore	Thickness (mm)	Cat. No.	Pack of
5mm Open Top Screw Cap, 8-425 thread, 5mm hole	Black	Polypropylene	–	–	–	60180-514	100
5mm Open Top Screw Cap, flanged, 8-425 thread, 5mm hole	Pink	Polypropylene	–	–	–	60180-660	100
Septum for 8-425 Screw Caps	–	–	Blue Silicone/PTFE	30	1.1	60180-515	500
	–	–	White Silicone/Red PTFE	50	1.5	60180-562	100
5mm Open Top Screw Cap with flange, 8-425 thread, 5mm hole	Pink	Polypropylene	Red PTFE/White Silicone	45	1.3	60180-661	100
	Pink	Polypropylene	Blue PTFE/White Silicone, Pre-slit	55	0.9	60180-662	100
5mm Open Top Screw Cap, 8-425 thread, 5mm hole	Pink	Polypropylene	Ivory PTFE/Red Rubber	45	1.0	60180-665	100
	Pink	Polypropylene	Red PTFE/White Silicone/Red PTFE	45	1.0	60180-666	100
	Pink	Polypropylene	Red PTFE/White Silicone	45	1.3	60180-667	100

For more information, visit [thermofisher.com/vials](https://www.thermofisher.com/vials)

8mm standard opening screw thread vial convenience kits

- Includes 100 vials and 100 caps with pre-assembled septa
- Caps feature pre-inserted septa for added convenience during sample preparation

8mm 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, Standard Opening Screw Vial	Clear	Yes	Black	Blue Silicone/PTFE	60180-508	60180-514/60180-515	60180-596	1000
	Clear	Yes	Black	Red PTFE/White Silicone	60180-508	60180-514/60180-562	60180-600	100

9mm wide opening screw thread vials and closures

- Superior quality 1st hydrolytic class glass (Type 1) in clear and amber, meets all requirements of Pharm. US, EU, JPN
- Microsampling and High Recovery Vials allow maximum sample extraction without need for separate inserts
- Easy-on, easy-off convenience with just one turn
- Caps with bonded septa resist dislodging during injection when using large diameter blunt needles
- Closures have the profile of a crimp or snap closure for compatibility with robotic autosamplers



* This vial fits Thermo Scientific AS 3000 and TriPlus only

9mm wide opening screw thread vials

Description	Glass	Patched	Dimension (mm)	Profile	Total Volume (mL)	Usable Volume (mL)	Residual (µL)	Cat. No.	Pack of
9mm Screw Thread Thermo Scientific™ Micro+ Vial 300µL, Fused Insert	Clear	Yes	12x32	Insert Vial	0.3	250µL	<3	60180-507	100
9mm Screw Thread Vial	Clear	Yes	12x32	Flat Bottom	2.0	1.5	<170	60180-509	100
	Clear	No	12x32	Flat Bottom	2.0	1.5	<170	60180-723	1000
	Amber	Yes	12x32	Flat Bottom	2.0	1.5	<170	60180-561	100
	Amber	Yes	12x32	Flat Bottom	2.0	1.5	<170	60180-724	1000
	Clear	No	15x46	Flat Bottom	4.0	3.5	<500	60180-510	125



9mm short screw thread vial closures

Description	Cap Color	Cap Material	Septum	Hardness shore	Thickness (mm)	Cat. No.	Pack of
9mm Open Top Short Screw Cap, 6mm hole	Blue	Polypropylene	Clear PTFE/Blue Silicone	30	1.0	60180-516	100
	Blue	Polypropylene	Red PTFE/White Silicone	55	1.0	60180-729	1000
	Blue	Polypropylene	Ivory PTFE/Red Rubber	45	1.0	60180-728	1000
	Pink	Polypropylene	Red PTFE/White Silicone	55	1.0	60180-671	100
	Pink	Polypropylene	Ivory PTFE/Red Rubber	45	1.0	60180-669	100
	Pink	Polypropylene	Red PTFE/White Silicone/Red PTFE	45	1.0	60180-670	100
	Pink	Polypropylene	Blue PTFE/White Silicone, Pre-slit	55	1.0	60180-672	100

9mm convenience kits

- Includes 100 vials and 100 caps with pre-assembled septa
- Caps feature pre-inserted septa for added convenience during sample preparation

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, Wide Open Short Screw Vial	Clear	Yes	Blue	Blue Silicone/PTFE	60180-509	60180-516	60180-599	100
	Amber	No	Pink	Red PTFE/White Silicone	60180-724	60180-671	60180-698	100



For more information, visit [thermofisher.com/vials](https://www.thermofisher.com/vials)

Items not shown to scale

11mm wide opening crimp top vials, 2mL, 12x32mm and closures

- Superior quality 1st hydrolytic class glass (Type 1) in clear and amber meets all requirements of Pharm. US, EU, JPN
- Aluminum crimp seals with prefitted septa for all 11mm crimp top and snap cap vials
- Pre-assembled caps and septa are convenient and minimize contamination from handling
- Aluminum seals must be applied with a crimping tool



11mm wide opening crimp top vials, 2ml, 12x32mm

Description	Glass	Patched	Dimension (mm)	Profile	Total Volume (mL)	Usable Volume (mL)	Residual (µL)	Cat. No.	Pack of
11mm Crimp Top Vial, Wide Opening	Clear	Yes	12x32	Flat Bottom	2.0	1.5	<170	60180-502	100

11mm crimp top vial closures

Description	Cap Color	Cap Material	Septum	Hardness shore	Thickness (mm)	Cat. No.	Pack of
11mm Crimp Cap, 6mm center hole	Blue	Aluminum	Blue Silicone/Red PTFE	20	1.4	60180-526	100

11mm crimp top convenience kits

- Includes 100 vials and 100 caps with pre-assembled septa
- Caps feature pre-assembled septa for added convenience during sample preparation

11mm crimp top convenience kits

Kit Type	Glass	Patched	Cap Color	Septum	Vial Cat. No.	Cap Cat. No.	Cat. No.	Pack of
Convenience Kit, Wide Opening Crimp Top Vial	Clear	Yes	Blue	Blue Silicone/Red PTFE	60180-502	60180-526	60180-597	100

11mm crimping tool

Description	Use	Cat. No.	Pack of
Manual Crimper	Attaches 11mm aluminum crimp seals	60180-543	1

11mm snap cap vials, wide opening, 2ml, 12x32mm and closures

- Superior quality 1st hydrolytic class glass (Type 1) in clear and amber, meets all requirements of Pharm. US, EU, JPN
- Crimp/Snap vials can be used with snap caps or aluminum crimp seal closures
- Snap Caps eliminate the need for crimping or decrimping tools
- Polyethylene caps are chemically inert and suitable for most chromatography applications



11mm snap cap vials, wide opening, 2ml, 12x32mm

Description	Glass	Patched	Dimension (mm)	Profile	Total Volume (mL)	Usable Volume (mL)	Residual (µL)	Cat. No.	Pack of
11mm Crimp/Snap Vial	Clear	No	12x32	Flat Bottom	2.0	1.5	<170	60180-710	1000

11mm snap cap vial closures

Description	Cap Color	Cap Material	Septum	Hardness shore	Thickness (mm)	Cat. No.	Pack of
11mm Snap Cap, 6mm hole	Pink	Polyethylene	Clear PTFE/Synthetic Red Rubber	60	1.0	60180-676	100
	Pink	Polyethylene	Red PTFE/White Silicone	45	1.3	60180-677	100
	Pink	Polyethylene	Red PTFE/White Silicone, Star-slit	45	1.3	60180-678	100

For more information, visit thermofisher.com/vials

20mm headspace crimp top vials and closures

- Superior quality 1st hydrolytic class glass (Type 1) in clear and amber, meets all requirements of Pharm. US, EU, JPN

Applications:

Recommended for operation of Thermo Scientific™ TriPlus™ HS Autosampler

Clear glass vials with 20mm crimp seal finish are designed to fit most headspace autosamplers



Images shown are 70% to scale

20mm crimp top headspace vials

Description	Glass	Patched	Dimension (mm)	Finish	Profile	Total Volume (mL)	Usable Volume (mL)	Cat. No.	Pack of
20mm Headspace Crimp Vial	Clear	Yes	22.5x46	Beveled Edge	Round Bottom	12	10	60180-504	125
	Clear	Yes	22.5x75	Beveled Edge	Round Bottom	21	20	60180-506	125
	Clear	No	22.5x75	Beveled Edge	Round Bottom	21	20	60180-741	1000



Images shown are 70% to scale

20mm crimp top vial closures

Description	Cap Color	Cap Material	Septum	Hardness shore	Thickness (mm)	Cat. No.	Pack of
20mm Crimp Cap, 8mm hole	Silver	Aluminum	20mm Gray Chlorobutyl/Gray PTFE	52	3.0	60180-513	100
20mm Crimp Cap, 9.5mm hole	Silver	Aluminum	Natural PTFE/Blue Silicone	45	3.2	60180-511	100
20mm Composite Magnetic Crimp Cap, 8mm hole	Blue	Alu/Tinplate	Natural PTFE/Blue Silicone	45	3.2	60180-520	100

20mm crimping and decrimping tools

Description	Use	Cat. No.	Pack of
Manual Crimper	Attaches 20mm crimp seals	60180-544	1
Manual Decrimper	Removes 20mm crimp seals without vial damage	60180-557	1

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 (1st hydrolytic class glass (Type 1) in clear and amber, meets all requirements of Pharm. US, EU, JPN)
- 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

For more information, visit [thermofisher.com/national](https://www.thermofisher.com/national)



MS certified vials

The first and only pre-cleaned, low particle, low background chromatography vial

When your instrumentation, sample handling and methodology is pushing the limits, a chromatography vial that can keep up is essential

- The only chromatography vials pre-cleaned to provide unmatched consistency
- The first low particle, low background chromatography vials
- Pre-cleaned vial packaging protects the product integrity
- Tested and certified for up to 15 critical physical characteristics affecting vial performance
- Positive ESI LC-MS and GC-MS chromatograms included in each pack

Low particle background

The presence of inorganic sub-micron particles in all glass vials as a byproduct of the manufacturing process is a little known phenomenon that has not been extensively studied. Gas chromatographers depend on injection port liners to act as traps for particulates while the HPLC chromatographer takes extensive steps to eliminate them during sample preparation. This has been an effective strategy for routine analytical methods, but the need to work with even lower concentrations of analytes creates the possibility of interactions with compounds of interest.

Thermo Scientific MS Certified Vials undergo a proprietary cleaning process that greatly reduces the background particulates along with their potential effect on high sensitivity chromatography. The table gives a comparison of the particle distribution obtained from an analysis of standard vials versus the Thermo Scientific MS Certified Vials. All MS Certified Vials are processed and tested for background particulates. A typical vial that has not been processed can exhibit particle counts exceeding 5000 particles per mL with the highest counts occurring in the range below 0.5 μ m. This has

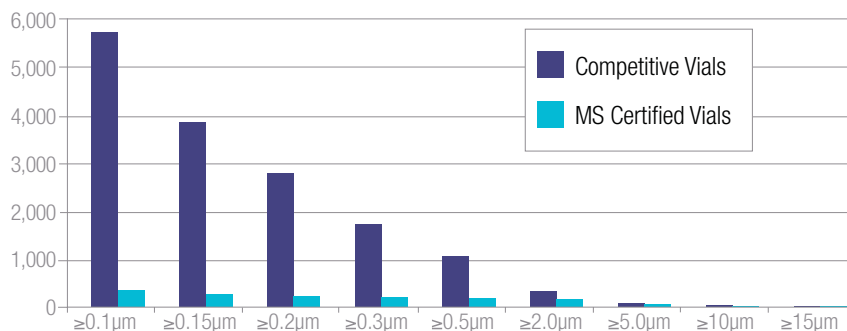
traditionally been of little concern when GC inlet liners or HPLC guard columns are used. GC techniques employing on-column injection create the need for a sample vial with minimal background particulates to prevent an accumulation of foreign material at the head of the column that might adversely affect a separation. Similarly newer techniques employing finely packed HPLC columns, capillary columns and direct connection of the analytical column to

the sample valve also require the elimination of as much particulate matter as possible from the sample stream.

The table below shows the results obtained from particulate analysis of a typical unprocessed vial compared to the Thermo Scientific MS Certified Vials. The processed vial shows a significant reduction in total particle counts.

VIAL	$\geq 0.1\mu\text{m}$	$\geq 0.15\mu\text{m}$	$\geq 0.2\mu\text{m}$	$\geq 0.2\mu\text{m}$	$\geq 0.5\mu\text{m}$	$\geq 2.0\mu\text{m}$	$\geq 5.0\mu\text{m}$	$\geq 10\mu\text{m}$	$\geq 15\mu\text{m}$
Competitive Vials	5,677	3,809	2,755	1,709	1,051	307	76	4	0
Thermo Scientific Vials	356	264	218	192	176	160	45	8	3

Typical Cumulative Particle Counts



For more information, visit thermofisher.com/msvials

MS certified vials kits

Unassembled and assembled vial kits

Kit Type	Glass	Patched	Cap Color	Septum	Cat. No.	Pack of
Convenience Kit, 9mm SureStop Screw Vial, 2mL with AVCS Closure	Clear	Yes	Blue	Blue Silicone/PTFE	MSCERT5000-34W	100
	Amber	Yes	Blue	Blue Silicone/PTFE	MSCERT5000-35W	100
	Clear	Yes	Blue	Blue Silicone/PTFE, Pre-slit	MSCERT5000-40W	100
	Amber	Yes	Blue	Blue Silicone/PTFE, Pre-slit	MSCERT5000-41W	100
Convenience Kit, 9mm 200µL Fused Insert Screw Vial	Clear	Yes	Blue	Bonded Clear PTFE/Clear Silicone	MSCERT5000-30LVW	100
Convenience Kit, 9mm 350µL Fused Insert Screw Vial	Clear	Yes	Blue	Bonded Clear PTFE/Clear Silicone	MSCERT5000-31LVW	100
Convenience Kit, 9mm Wide Opening 1.5mL Total Recovery Screw Vial with 10µL Reservoir	Clear	No	Blue	Bonded Clear PTFE/Clear Silicone	MSCERT5000-33TR	100
Convenience Kit, 9mm Wide Opening Screw Vial, 2mL	Clear	Yes	Blue	Bonded Clear PTFE/Clear Silicone	MSCERT5000-341W	100
	Amber	Yes	Blue	Bonded Clear PTFE/Clear Silicone	MSCERT5000-351W	100
Convenience Kit, 9mm 200µL Fused Insert Screw Vial	Clear	Yes	Gray	Bonded Clear PTFE/Clear Silicone, Pre-slit	MSCERT5000-36LVW	100
Convenience Kit, 9mm 350µL Fused Insert Screw Vial	Clear	Yes	Gray	Bonded Clear PTFE/Clear Silicone, Pre-slit	MSCERT5000-37LVW	100
Convenience Kit, 9mm Wide Opening 1.7mL High Recovery Screw Vial with 30µL Reservoir	Clear	No	Gray	Bonded Clear PTFE/Clear Silicone, Pre-slit	MSCERT5000-38	100
Convenience Kit, 9mm Wide Opening 1.5mL Total Recovery Screw Vial with 10µL Reservoir	Clear	No	Gray	Bonded Clear PTFE/Clear Silicone, Pre-slit	MSCERT5000-39TR	100
Convenience Kit, 9mm Wide Opening Screw Vial, 2mL	Clear	Yes	Gray	Bonded Clear PTFE/Clear Silicone, Pre-slit	MSCERT5000-401W	100
	Amber	Yes	Gray	Bonded Clear PTFE/Clear Silicone, Pre-slit	MSCERT5000-411W	100
Convenience Kit, 9mm Wide Opening Screw Vial, 2mL, sterilized	Clear	Yes	Blue	Bonded Clear PTFE/Clear Silicone	MSCERT5000-S34W	100
	Amber	Yes	Blue	Bonded Clear PTFE/Clear Silicone	MSCERT5000-S35W	100
	Clear	Yes	Gray	Bonded Clear PTFE/Clear Silicone, Pre-slit	MSCERT5000-S40W	100
	Amber	Yes	Gray	Bonded Clear PTFE/Clear Silicone, Pre-slit	MSCERT5000-S41W	100
Assembled Kit, 9mm Wide Opening Screw Vial, 2mL	Clear	Yes	Blue	Bonded Clear PTFE/Clear Silicone	MSCERT5000-134W	100
	Amber	Yes	Blue	Bonded Clear PTFE/Clear Silicone	MSCERT5000-135W	100
Assembled Kit, 13-425 Screw Vial, 4mL	Clear	Yes	Black	Bonded Clear PTFE/Clear Silicone	MSCERT4015-135W	100



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 1st hydrolytic class glass (Type 1) in clear and amber
- 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 vials and closures 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 SureStop Vial, 2mL	Clear	Yes	Blue	Red PTFE/White Silicone	C5000-1W	C5000-54B	CERT5000-578W	100
	Amber	Yes	Blue	Red PTFE/White Silicone	C5000-2W	C5000-54B	CERT5000-575W	100
	Clear	Yes	Blue	Blue PTFE/White Silicone, Pre-slit	C5000-1W	C5000-55B	CERT5000-593W	100
	Clear	Yes	Blue	Ivory PTFE/Red Rubber	C4000-1W	C5000-51B	CERT5000-80W	100
	Amber	Yes	Blue	Ivory PTFE/Red Rubber	C4000-2W	C5000-51B	CERT5000-82W	100
	Clear	Yes	Blue	Red PTFE/White Silicone	C4000-1W	C5000-54B	CERT5000-92W	100
Convenience Kit, Certified 9mm Wide Opening High Recovery Screw Vial, 1.7mL	Clear	No	Black	Bonded Red PTFE/White Silicone	C4000-9	C5000-64B	CERT5000-992	100
Convenience Kit, Certified 9mm Wide Opening Screw Vial, 2mL	Clear	Yes	Black	Bonded Red PTFE/White Silicone	C4000-1W	C5000-64B	CERT5000-78W	100
	Amber	Yes	Black		C4000-2W	C5000-64B	CERT5000-75W	100
Convenience Kit, Certified 9mm Screw Vial, 350µL Fused Insert	Clear	Yes	Black	Bonded Red PTFE/White Silicone	C4000-LV1W	C5000-64B	CERT5000-69LV	100
	Amber	Yes	Black		C4000-LV2W	C5000-64B	CERT5000-72LV	100
Convenience Kit, Certified 10-425 Screw Vial, 2mL	Clear	Yes	Black	Bonded Red PTFE/White Silicone	C4015-11W	C4010-68A	CERT4010-91	100
Assembled Kit, Certified 9mm Wide Opening Screw Vial, 2mL	Clear	Yes	Gray	Bonded Red PTFE/White Silicone, Pre-slit	C4000-1W	C5000-75C	CERT5000-193W	100

For more information, visit [thermofisher.com/national](https://www.thermofisher.com/national)

National 8mm crimp top vials

- Superior quality type 1 borosilicate clear and amber glass
- Low volume sample vials for 6mm, 7mm and 8mm autosampler trays
- 8mm crimp top seal minimizes exposure between sample solvent and septum
- A support sleeve may be required for some autosamplers



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	7x40	Conical Base	575	450	<2	C4008-740	100
	Clear	No	7x40	Flat Base	775	650	<70	C4008-741	100
	Clear	No	8x30	Flat Base	800	800	<80	C4008-1	200

For more information, visit thermofisher.com/national

National 8mm crimp top 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 center 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
Manual Decrimper	Removes 8mm aluminum crimp seals without vial damage	C4008-102	1

National standard opening screw thread vials

2mL, 12x32mm, 8mm standard opening screw thread vials and inserts

- 8-425 screw thread finish
- I.D. vials feature a write-on patch with graduation for convenient sample identification
- Superior quality 1st hydrolytic class glass (Type 1) in clear and amber
- 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



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 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	<1	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 more information, visit thermofisher.com/national

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, Hitachi and Tosoh autosamplers
- Pre-assembled caps and septa are convenient and minimize contamination from handling
- Closures are shipped in sealed polybags to prevent contamination during transport



National 8-425 screw thread caps and septa1

Description	Cap Color	Cap Material	Septum	Hardness shore	Thickness (mm)	Cat. No.	Pack of
8mm Open Top Cap 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
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	100
	Black	Polypropylene	Red PTFE/White Silicone/Red PTFE	45	1.00	C4013-40A	100
	Black	Polypropylene	Red PTFE/White Silicone	45	1.30	C4013-60A	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
	Yellow	Polypropylene	Red PTFE/White Silicone	50	1.30	C4013-63Y	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
	Black	Phenol	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
8mm Open Top Cap, 5.5mm hole	Black	Polypropylene	Bonded Red PTFE/White Silicone, Pre-slit	45	1.30	C4013-69A	100

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
	Amber	No	Black	Red PTFE/White Silicone	C4013-2	C4013-60A	C4013-17	100
	Clear	Yes	Black, flanged	Red PTFE/White Silicone, Pre-slit	C4013-1W	C4013-77A	C4013-95W	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	No	Black, flanged	Red PTFE/White Silicone	C4013-1	C4013-63A	C4013-57	100
	Clear	No	White, flanged	Red PTFE/White Silicone	C4013-1	C4013-63W	C4013-58	100
	Clear	No	Black, phenolic	Red PTFE/White Silicone	C4013-1	C4013-74A	C4013-492A	100
	Amber	No	Black, phenolic	Red PTFE/White Silicone	C4013-2	C4013-74A	C4013-494A	100
Assembled Kit, in Polybag	Clear	No	Black	White Virgin PTFE, 0.01"	C4013-1	C4013-1A/ C4013-10	C4013-010A	100

For more information, visit [thermofisher.com/national](https://www.thermofisher.com/national)

National Target DP 9mm wide opening screw thread vials

2mL, 12x32mm, 9mm wide opening short screw thread vials and inserts

- C5000 SureStop 9mm vials as part of the Advanced Vial Closure System (AVCS) offer the sealing and performance characteristics of a crimp top vial and remove any subjectivity achieving optimal seal compression closing a vial by incorporating a definite stop point into the design of the vial finish. They should be used with AVCS C5000 closures in order to get the best possible performance.
- 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 1st hydrolytic class glass (Type 1) in clear and amber
- Microsampling and High Recovery Vials allow maximum sample extraction without need for separate inserts
- Available silanized (deactivated) for optimal recovery of critical polar compounds
- Polyspring inserts are self-aligning and provide a cushion against needle contact
- Precision point insert minimizes residual sample loss



National 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 SureStop Vial (AVCS)	Clear	No	12x32	Flat Bottom	2.0mL	1.5mL	<170	C5000-1	100
	Clear	Yes	12x32	Flat Bottom	2.0mL	1.5mL	<170	C5000-1W	100
	Amber	No	12x32	Flat Bottom	2.0mL	1.5mL	<170	C5000-2	100
	Amber	Yes	12x32	Flat Bottom	2.0mL	1.5mL	<170	C5000-2W	100
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
	Clear PP	Graduated	12x32	Flat Bottom	2.0mL	1.5mL	<170	C4000-14	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



National Target DP 9mm wide opening screw thread vials and inserts (continued)

Description	Glass	Patched	Dimension (mm)	Profile	Total Volume	Usable Volume	Residual (µL)	Cat. No.	Pack of
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 Vial, High Recovery, silanized*, with 30µL Reservoir	Clear	No	12x32	Tapered Base	1.7mL	1.3mL	<4	C4000-S9	100
9mm Target DP 300µL 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	-	6x29	Conical	375µL	300µL	<1	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	-	6x29	Conical	375µL	300µL	<1	C4010-630	100
	Polypropylene	-	6x30	Conical	325µL	250µL	<2	C4010-630P	100
400µL MicroSert Insert	Clear	-	6x31	Flat Bottom	500µL	400µL	<25	C4011-631	100
300µL Insert, silanized*	Clear	-	6x29	Conical	375µL	300µL	<1	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	400µL	<25	C4011-S631	500
300µL Polyspring Insert, Kimshield	Clear	-	6x29	Conical	375µL	300µL	<1	C4010-K630	100

**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

C5000 closures featuring AVCS technology (Advanced Vial Closure System)



- Elimination of septum “push-through”
- Increased sealing capability
- Improved autosampler compatibility
- Flexibility to select the best septum for your instrument and applications
- Cost efficient alternative to caps with bonded septa
- Optimized ergonomics, fine texturing and evenly spaced ribbing for superior handling

Further features are:

- 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 Screw Cap, 6mm hole	Blue	Polypropylene	–	N/A	N/A	C5000-98B	100
Septum for 9mm Screw Thread 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
9mm Open Top Cap, 6mm hole	Blue	Polypropylene	Soft septum, PTFE/Blue Silicone	30	1.0	C5000-44B	100
	Blue	Polypropylene	Soft septum, PTFE/Blue Silicone, Pre-slit	30	1.0	C5000-45B	100
	Black	Polypropylene	Ivory PTFE/Red Rubber	45	1.0	C5000-51A	100
	Blue	Polypropylene	Ivory PTFE/Red Rubber	45	1.0	C5000-51B	100
	Green	Polypropylene	Ivory PTFE/Red Rubber	45	1.0	C5000-51G	100
	Red	Polypropylene	Ivory PTFE/Red Rubber	45	1.0	C5000-51R	100
	Yellow	Polypropylene	Ivory PTFE/Red Rubber	45	1.0	C5000-51Y	100
	Pink	Polypropylene	Ivory PTFE/Red Rubber	45	1.0	C5000-51P	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	Red PTFE/White Silicone/Red PTFE	50	1.0	C5000-53A	100
	Blue	Polypropylene	Red PTFE/White Silicone/Red PTFE	50	1.0	C5000-53B	100
	Green	Polypropylene	Red PTFE/White Silicone/Red PTFE	50	1.0	C5000-53G	100
	Red	Polypropylene	Red PTFE/White Silicone/Red PTFE	50	1.0	C5000-53R	100
	Yellow	Polypropylene	Red PTFE/White Silicone/Red PTFE	50	1.0	C5000-53Y	100
	Black	Polypropylene	Red PTFE/White Silicone	55	1.0	C5000-54A	100
	Blue	Polypropylene	Red PTFE/White Silicone	55	1.0	C5000-54B	100
	Green	Polypropylene	Red PTFE/White Silicone	55	1.0	C5000-54G	100
	Red	Polypropylene	Red PTFE/White Silicone	55	1.0	C5000-54R	100
	Yellow	Polypropylene	Red PTFE/White Silicone	55	1.0	C5000-54Y	100
	Pink	Polypropylene	Red PTFE/White Silicone	55	1.0	C5000-54P	100
	Black	Polypropylene	Blue PTFE/White Silicone, Pre-slit	55	1.0	C5000-55A	100
	Blue	Polypropylene	Blue PTFE/White Silicone, Pre-slit	55	1.0	C5000-55B	100
	Green	Polypropylene	Blue PTFE/White Silicone, Pre-slit	55	1.0	C5000-55G	100
	Red	Polypropylene	Blue PTFE/White Silicone, Pre-slit	55	1.0	C5000-55R	100
	Yellow	Polypropylene	Blue PTFE/White Silicone, Pre-slit	55	1.0	C5000-55Y	100
	Pink	Polypropylene	Blue PTFE/White Silicone, Pre-slit	55	1.0	C5000-55P	100
	Blue	Polypropylene	Ivory PTFE/Red Rubber, Pre-slit	45	1.0	C5000-57B	100
	Green	Polypropylene	Ivory PTFE/Red Rubber, Pre-slit	45	1.0	C5000-57G	100
	9mm Cap with Integral PP Membrane	Clear	Polypropylene	Polypropylene	N/A	N/A	C5000-50
Blue		Polypropylene	Polypropylene	N/A	N/A	C5000-50B	100
9mm Solid Top Cap	Blue	Polypropylene	Ivory PTFE/Red Rubber	45	1.0	C5000-99B	100
9mm Open Top Cap, 6mm hole	Black	Polypropylene	Bonded Red PTFE/White Silicone	45	1.0	C5000-64B	100
	Gray	Polypropylene	Bonded Red PTFE/White Silicone, Pre-slit	45	1.0	C5000-75C	100
	Blue	Polypropylene	Bonded Natural PTFE/Clear Silicone	45	1.3	C5000-62B	100
Magnetic 9mm Open Top Cap, 6mm hole	Blue	Polypropylene	Soft septum, PTFE/Blue Silicone	30	1.0	C5000-46M	100
9mm Open Top Cap, 6mm hole	Blue	Polypropylene	Solid Aluminum Disk with Silicone sealing ring		0.06	C5000-56AL	100

For more information, visit [thermofisher.com/national](https://www.thermofisher.com/national)

National 9mm 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

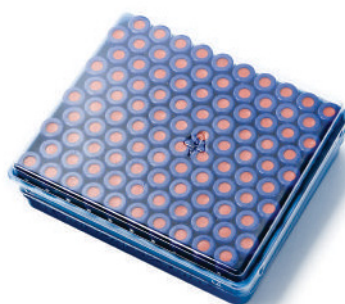
Assembled kits

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

Convenience Kit



Assembled Kit



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
SureStop Convenience Kit	Clear	No	Blue	Ivory PTFE/Red Rubber	C5000-1	C5000-51B	C5000-580	100
	Clear	Yes	Blue	Ivory PTFE/Red Rubber	C5000-1W	C5000-51B	C5000-580W	100
	Clear	No	Blue	Red PTFE/White Silicone	C5000-1	C5000-54B	C5000-592	100
	Clear	Yes	Blue	Red PTFE/White Silicone	C5000-1W	C5000-54B	C5000-592W	100
	Clear	Yes	Blue	Red PTFE/White Silicone/Red PTFE	C5000-1W	C5000-53B	C5000-586W	100
	Clear	Yes	Blue	Blue PTFE/White Silicone, Pre-slit	C5000-1W	C5000-55B	C5000-595W	100
AVCS Convenience Kit	Clear	No	Blue	Ivory PTFE/Red Rubber	C4000-1	C5000-51B	C5000-80	100
	Clear	Yes	Blue	Ivory PTFE/Red Rubber	C4000-1W	C5000-51B	C5000-80W	100
	Amber	Yes	Pink	Ivory PTFE/Red Rubber	C4000-2W	C5000-51P	C5000-82P	100
	Amber	Yes	Blue	Ivory PTFE/Red Rubber	C4000-2W	C5000-51B	C5000-82W	100
	Clear	Yes	Blue	Ivory PTFE/Red Rubber, Pre-slit	C4000-1W	C5000-57B	C5000-83W	100
	Clear	No	Blue	Red PTFE/White Silicone/Red PTFE	C4000-1	C5000-53B	C5000-86	100
	Clear	Yes	Blue	Red PTFE/White Silicone/Red PTFE	C4000-1W	C5000-53B	C5000-86W	100
	Amber	Yes	Blue	Red PTFE/White Silicone/Red PTFE	C4000-2W	C5000-53B	C5000-88W	100
	Polypropylene	No	Blue	Red PTFE/White Silicone	C4000-11	C5000-54B	C5000-87	100
	Clear	Yes	Black	Red PTFE/White Silicone	C4000-1W	C5000-54A	C5000-91W	100
	Clear	No	Blue	Red PTFE/White Silicone	C4000-1	C5000-54B	C5000-92	100
	Clear	No	Pink	Red PTFE/White Silicone	C4000-1	C5000-54P	C5000-92P	100
	Clear	Yes	Blue	Red PTFE/White Silicone	C4000-1W	C5000-54B	C5000-92W	100
	Amber	Yes	Blue	Red PTFE/White Silicone	C4000-2W	C5000-54B	C5000-94W	100
	Clear	No	Blue	Blue PTFE/White Silicone, Pre-slit	C4000-1	C5000-55B	C5000-95	100
	Clear	Yes	Blue	Blue PTFE/White Silicone, Pre-slit	C4000-1W	C5000-55B	C5000-95W	100
Clear	No	Blue	Blue PTFE/White Silicone, Pre-slit	C4000-LV1	C5000-55B	C5000-LV95	100	
Polypropylene	No	Blue	Blue PTFE/White Silicone, Pre-slit	C4000-11	C5000-55B	C5000-97	100	
Convenience Kit	Clear	Yes	Black	Bonded Red PTFE/White Silicone	C4000-1W	C5000-64B	C5000-78W	100
	Clear	Yes	Gray	Bonded Red PTFE/White Silicone, Pre-slit	C4000-1W	C5000-75C	C5000-93W	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 AVCS Kit	Clear	No	Blue	Ivory PTFE/Red Rubber	C4000-1	C5000-51B	C5000-180	100
	Clear	Yes	Blue	Ivory PTFE/Red Rubber	C4000-1W	C5000-51B	C5000-180W	100
	Amber	Yes	Blue	Ivory PTFE/Red Rubber	C4000-2W	C5000-51B	C5000-182W	100
	Clear	Yes	Blue	Ivory PTFE/Red Rubber, Pre-slit	C4000-1W	C5000-57B	C5000-183W	100
	Amber	Yes	Blue	Ivory PTFE/Red Rubber, Pre-slit	C4000-2W	C5000-57B	C5000-184W	100
	Clear	No	Blue	Red PTFE/White Silicone/Red PTFE	C4000-1	C5000-53B	C5000-186	100
	Clear	Yes	Blue	Red PTFE/White Silicone/Red PTFE	C4000-1W	C5000-53B	C5000-186W	100
	Clear	Yes	Red	Red PTFE/White Silicone/Red PTFE	C4000-1W	C5000-53R	C5000-186WR	100
	Amber	Yes	Blue	Red PTFE/White Silicone/Red PTFE	C4000-2W	C5000-53B	C5000-188W	100
	Clear	No	Blue	Red PTFE/White Silicone	C4000-1	C5000-54B	C5000-192	100
	Clear	Yes	Blue	Red PTFE/White Silicone	C4000-1W	C5000-54B	C5000-192W	100
	Amber	Yes	Blue	Red PTFE/White Silicone	C4000-2W	C5000-54B	C5000-194W	100
	Clear	Yes	Blue	Blue PTFE/White Silicone, Pre-slit	C4000-1W	C5000-55B	C5000-195W	100
	Amber	Yes	Blue	Blue PTFE/White Silicone, Pre-slit	C4000-2W	C5000-55B	C5000-196W	100

C4000-MS



: shown to scale

National 9mm wide opening screw thread vial storerooms

- Storerooms organize supplies and save valuable bench space

National 9mm wide opening screw thread vial storerooms

Description	Glass	Patched	Cap Color	Septum	Vial Cat. No.	Cap/Septum Cat. No.	Cat. No.	Pack of
6 Drawer Mini-Storeroom – Cabinet Only	–	–	–	–	–	–	C4000-MS	1

For more information, visit thermofisher.com/national

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 1st hydrolytic class glass (Type 1) in clear and amber
- 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



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 Vial, Silanized	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 Vial	Polypropylene	No	12x32	Conical	600µL	400µL	<6	C4010-11	100
	Polypropylene	No	12x32	Reservoir Base	750µL	550µL	<70	C4010-14	100



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	–	6x29	Conical	375µL	300µL	<1	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	–	6x29	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
300µL Insert, silanized	Clear	–	6x29	Conical	375µL	300µL	<1	C4010-S629	100
300µL Polyspring Insert, silanized	Clear	–	6x29	Conical	375µL	300µL	<1	C4010-S630	100

For more information, visit [thermofisher.com/national](https://www.thermofisher.com/national)

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
10mm Open Top Cap, 8.5mm hole	-	-	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 SiliconeS	50	1.5	C4010-60BLK	100
Light Blue	Polypropylene	Red PTFE/White Silicone, Star-slit	50	1.5	C4010-65A	100	
10mm Solid Top Cap	White	Polyurethane	PTFE/PE Foam Liner	-	1.3	C4010-99	100

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



National 10mm wide opening screw thread vials convenience kits

Items not shown to scale

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	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	White	Red PTFE/White Silicone, Soft	C4010-1	C4010-35W	C4010-57	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
	Amber	No	Black	Red PTFE/White Silicone, Soft	C4010-2	C4010-35BLK	C4010-67A	100
Assembled Kit, in Polybag	Amber	Yes	Light Blue	Red PTFE/White Silicone	C4010-2W	C4010-60A	C4010-017AW	100

National 11mm crimp top vials

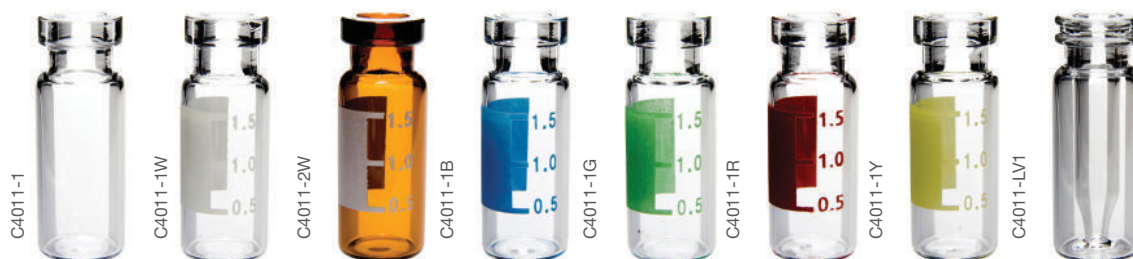
2mL, 12x32, crimp top vials and inserts

- Superior quality 1st hydrolytic class glass (Type 1) in clear and amber
- I.D. vials feature a write-on patch with graduation for convenient sample identification
- Standard opening vials require Micro-Inserts with a diameter of 5mm
- Wide opening vials, allow easy filling, require 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
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



National 11mm wide opening crimp top vials and inserts

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	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 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



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	–	6x29	Conical	375μL	300μL	<1	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	–	6x29	Conical	375μL	300μL	<1	C4010-630	100
	Polypropylene	–	6x30	Conical	325μL	250μL	<2	C4010-630P	100
400μL MicroSert Insert	Clear	–	6x31	Flat Bottom	500μL	400μL	<25	C4011-631	500
300μL Insert, silanized	Clear	–	6x29	Conical	375μL	300μL	<1	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	400μL	<25	C4011-S631	500

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
- First crimp cap with assembled aluminum liner for analysis of elastomers, polymers, phthalates, halogenated compounds and silicones
- First crimp cap with tight PTFE sealing disk due to additional silicone ring



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/Natural Red Rubber	60	1.0	C4011-1AP	100
	Silver	Aluminum	Clear PTFE/Natural Red Rubber	60	1.0	C4011-1A	1000
	Blue	Aluminum	Clear PTFE/Natural Red Rubber	60	1.0	C4011-98B	100
	Green	Aluminum	Clear PTFE/Natural Red Rubber	60	1.0	C4011-98G	100
	Red	Aluminum	Clear PTFE/Natural Red Rubber	60	1.0	C4011-98R	100
	Yellow	Aluminum	Clear PTFE/Natural Red Rubber	60	1.0	C4011-98Y	100
	Silver	Aluminum	Red PTFE/White Silicone/Red PTFE	45	1.0	C4011-2A	100
11mm Crimp Cap, 5.5mm hole, Mixed Color, 200 each	Silver	Aluminum	Red PTFE/White Silicone	45	1.3	C4011-4A	100
	Blue	Aluminum	Red PTFE/White Silicone	45	1.3	C4011-4B	100
	Red	Aluminum	Red PTFE/White Silicone	45	1.3	C4011-4R	100
	Silver	Aluminum	Solid PTFE Disk	53	0.25	C4011-6A	1000
	Silver	Aluminum	PTFE/Synthetic Red Rubber	35	1.0	C4011-7A	100
	Blue	Aluminum	PTFE/Synthetic Red Rubber	35	1.0	C4011-7B	1000
	Green	Aluminum	PTFE/Synthetic Red Rubber	35	1.0	C4011-7G	1000
Red	Aluminum	PTFE/Synthetic Red Rubber	35	1.0	C4011-7R	1000	
11mm Crimp Cap, 5.5mm hole, Mixed Color, 200 each	Silver, Blue, Green, Red, Yellow	Aluminum	PTFE/Synthetic Red Rubber	35	1.0	C4011-7K	1000

For more information, visit thermofisher.com/national

National 11mm crimping and decrimping tools

- Crimping tools provide a reproducible, secure vial closure
- Manual decrimping tools allow easy removal of aluminum seals without breakage
- Clean room crimpers and decrimpers can be autoclaved



Items not shown to scale

National 11mm crimping and decrimping tools

Description	Use	Cat. No.	Pack of
Manual Crimper	Attaches 11mm aluminum crimp seals	C4012-100	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 decrimpers look on page 2-091

National 11mm crimp top convenience kits

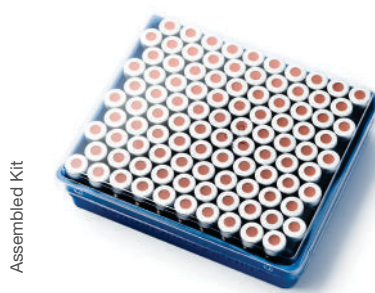
- Save time during sample preparation
- Reduce the risk of contamination

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
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
	Clear	No	Silver	Clear PTFE/Red Rubber	C4011-1	C4011-1AP	C4011-88	500
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
PVC storage rack for 12x32mm vials with clear lid	100vials, 10x10	C4011-25A	1
Polypropylene storage rack for 12x32mm vials, no lid, reusable	50 vials, 5x10	C4012-25	1

For more information, visit thermofisher.com/national

National 11mm wide opening Snap-It vials

2mL, 12x32mm wide opening Thermo Scientific™ Snap-It vials and inserts

- Superior quality 1st hydrolytic class glass (Type 1) in clear and amber
- 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



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



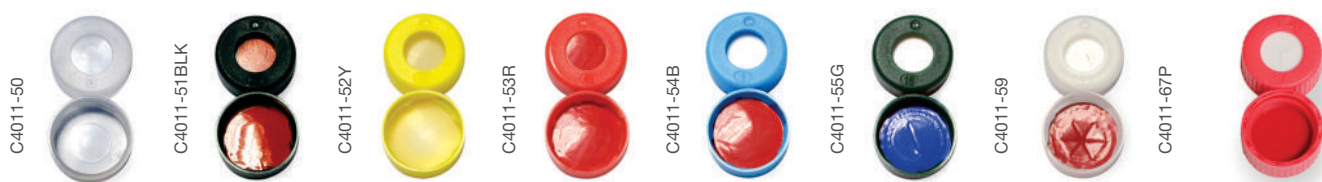
National 11mm wide opening snap-it vials and inserts (continued)

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	-	6x29	Conical	375µL	300µL	<1	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	-	6x29	Conical	375µL	300µL	<1	C4010-630	100
400µL MicroSert Insert	Clear	-	6x31	Flat Bottom	500µL	400µL	<25	C4011-631	500
300µL Insert, silanized	Clear	-	6x29	Conical	375µL	300µL	<1	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	400µL	<25	C4011-S631	500

For more information, visit [thermofisher.com/national](https://www.thermofisher.com/national)

National 11mm wide opening Snap-It caps and septa

- Redesign of locking tabs provides easier application and removal of caps
- Enlarged open area allows for needle penetration across the entire vial opening
- Textured outer surface for easier gripping and improved detection by autosamplers with optical vial sensors
- 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
	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	1.0	C4011-54	100
	Blue	Polyethylene	Red PTFE/White Silicone	50	1.0	C4011-54B	100
Black	Polyethylene	Red PTFE/White Silicone	50	1.0	C4011-54BLK	100	
Green	Polyethylene	Red PTFE/White Silicone	50	1.0	C4011-54G	100	

National 11mm Snap-It caps and septa (continued)

Description	Cap Color	Cap Material	Septum	Hardness shore	Thickness (mm)	Cat. No.	Pack of
11mm Snap-It Cap, 6mm hole	Red	Polyethylene	Red PTFE/White Silicone	50	1.0	C4011-54R	100
	Yellow	Polyethylene	Red PTFE/White Silicone	50	1.0	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
	Orange	Polyethylene	Red PTFE/White Silicone, Star-slit	55	1.0	C4011-590OR	1000

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	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

For more information, visit thermofisher.com/national

National 13mm crimp/snap vials

4mL, 15x45mm crimp/snap cap vials and inserts

- Superior quality 1st hydrolytic class glass (Type 1) in clear feature a 13mm crimp/snap-ring finish – use with 13mm aluminum Seals or Thermo Scientific™ National™ Target™ Kim-Snap™ Closures
- Polyspring inserts are self-aligning and provide a cushion against needle contact



National 13mm crimp/snap 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

National 13mm crimp/snap 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 crimp/snap caps and septa

Description	Cap Color	Cap Material	Septum	Hardness °shore	Thickness (mm)	Cat. No.	Pack of
13mm Crimp Cap, 6mm hole	Silver	Aluminum	Clear PTFE/Synthetic Red Rubber	65	1.3	C4015-1AP	144

National 13mm crimp/snap crimping and decrimping tools

- Crimping tools provide a reproducible, secure vial closure
- Manual decrimping tools allow easy removal of aluminum seals without breakage
- Clean room crimpers and decrimpers can be autoclaved



Items not shown to scale

National 13mm crimp/snap crimping and decrimping tools

Description	Use	Cat. No.	Pack of
Manual Crimper	Attaches 13mm aluminum crimp seals	C4013-100	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 decrimpers look on page 2-091

For more information, visit thermofisher.com/national

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 1st hydrolytic class glass (Type 1) in clear and amber
- 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



National 4ml screw 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	15.25x45	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

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



National 13-425 screw thread caps and septa

Images shown are 70% to scale

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
Septum for 13-425 Screw Caps	–	–	White Virgin PTFE, 0.01"	53	0.25	C4015-10	1000
	–	–	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
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	45	1.5	C4015-45W	100
	Black	Polypropylene	Blue PTFE/White Silicone, Pre-slit	55	1.5	C4015-55BLK	100
	Black	Polypropylene	Red PTFE/White Silicone	60	1.5	C4015-75A	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	Phenol	Red PTFE/White Silicone	60	1.5	C4015-66A	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

For more information, visit thermofisher.com/national

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



National 4ml screw thread convenience kits

Items not shown to scale

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
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

National 4mL screw thread 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
PVC storage rack for 15x45mm vials with clear lid	100vials, 10x10	C4015-27A	1
Polypropylene storage rack for 15x45mm vials, no lid, reusable	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)



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
Positive Displacement Vial for Alcott with PE Plug Cap	Clear	No	8x35	Flat Bottom	1mL	900µL	-	C4008-50	1000

National headspace vials

- Superior quality 1st hydrolytic class glass (Type 1)
- 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



National headspace vials

Images shown are 90% to scale

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	23x75	Beveled Edge	Flat Bottom	21.5	20	C4020-20	100
	Clear	23x75	Beveled Edge	Round Bottom	21.5	20	C4020-2	100
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
	Clear	23x75	Square Rim	Flat Bottom	21.5	20	C4020-25	1000
	Clear	30x60	Beveled Edge	Flat Bottom	27	25	C4020-27	1000

National headspace caps and septa

- Aluminum seals are available in standard center hole and pressure release versions
- Pressure release seals (Aluminum-PR) 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 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-PR	-	-	-	C4020-6A	1000
Septum for 20mm Crimp Caps	-	-	20mm Gray Bromobutyl 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	2.0	C4020-47	125
18mm Magnetic Screw Cap, 8mm hole, SPME	Silver	Steel	18mm Blue Silicone/PTFE, not prefitted	30	1.0	C4020-48	125

National 20mm crimp top headspace unassembled convenience kits

- Include matched quantities of vials and silver aluminum seals with pre-assembled septa
- 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 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 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 decrimpers look on page 2-091

Sample storage screw thread vials, caps and septa

- Capacity ranges from 2-40mL
- Superior quality 1st hydrolytic class glass (Type 1) in clear and amber
- Eliminate leaching of ions
- Provide consistent pH for duration of sample storage life
- PTFE-Lined Solid-top storage caps
- PTFE film/PE 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	15x45	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
8-425 Screw Vial	Amber	No	12x32	Flat Bottom	2	0.5	B7999-1A	100
13-425 Screw Vial	Amber	No	15x45	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/PE Foam Liner	75	1.3	B7815-8	100
13-425 Screw Cap	White	Urethane	PTFE/PE Foam Liner	75	1.3	B7815-13	100
15-425 Screw Cap	White	Polypropylene	PTFE/PE Foam Liner	75	1.3	B7815-15	100
18-400 Screw Cap	White	Polypropylene	PTFE/PE Foam Liner	75	1.3	B7815-18	100
20-400 Screw Cap	White	Polypropylene	PTFE/PE Foam Liner	75	1.3	B7815-20	100
24-400 Screw Cap	White	Polypropylene	PTFE/PE Foam Liner	75	1.3	B7815-24	100
Septum for 13-425 Screw Cap	-	-	0.01" White PTFE/0.05" Clear Silicone	50	1.5	B7995-13	100
Septum for 15-425 Screw Cap	-	-	0.01" White PTFE/0.09" Clear Silicone	50	2.6	B7995-15	100
Septum for 18-400 Screw Cap	-	-	0.01" White PTFE/0.05" Clear Silicone	50	1.5	B7995-18	100
Septum for 20-400 Screw Cap	-	-	0.01" White PTFE/0.05" Clear Silicone	50	1.5	B7995-20	100
Septum for 24-400 Screw Cap	-	-	0.01" White PTFE/0.09" Clear Silicone	50	2.6	B7995-24	100
Septum for 24-400 Screw Cap	-	-	0.013" White PTFE/0.120" Clear Silicone	50	3.3	B7995-26	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 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 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	PTFE/ Polyethylene Foam Liner	B7920-VO	B7815-24	B7800-20	100
	Amber	20	White	Polypropylene		B7921-VO	B7815-24	B7800-20A	100
0.01" White PTFE/ 0.05" Clear Silicone	Clear	4	Black	Polypropylene	0.01" White PTFE/ 0.05" Clear Silicone	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	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	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

For more information, visit thermofisher.com/national

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-assembled 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)	Dimension (mm)	Septum	Cat. No.	Pack of
EPA Screw Vial Convenience Kit	Clear	40	28x95	0.01" White PTFE/0.09" Clear Silicone	B7950-B	100
EPA Screw Vial Assembled Kit	Clear	40	28x95	0.01" White PTFE/0.09" Clear Silicone	B7950	100
	Amber	40	28x95	0.01" White PTFE/0.09" Clear Silicone	B7951	100
	Clear	20	28x57	0.01" White PTFE/0.09" Clear Silicone	B7920	100
	Amber	20	28x57	0.01" White PTFE/0.09" Clear Silicone	B7921	100



B7950-VO

B7951-VO



B7950-1A

B7995-24

National EPA screw vials, caps and septa

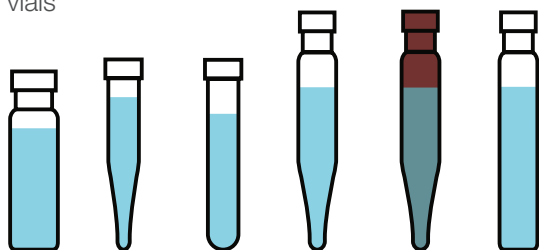
*60% to scale

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
Septum for 24-400 Screw Cap	-	-	-	-	0.01" White PTFE/0.09" Clear Silicone	B7995-24	100

National vial reference chart

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

8mm crimp top vials



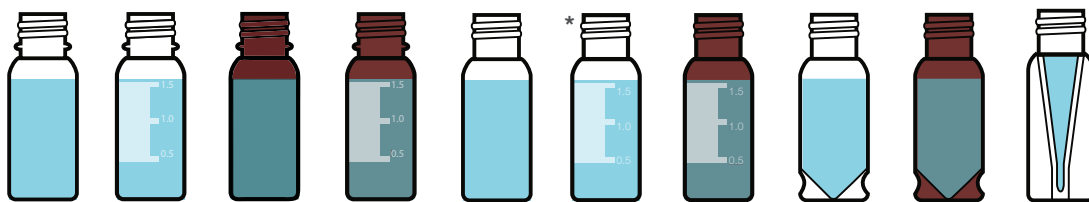
Part No.	C4008-1	C4008-632C	C4008-632R	C4008-739	C4008-740	C4008-741
Dimensions	8x30	6x32	6x32	7x40	7x40	7x40
Common Description	0.8mL	0.2mL	0.3mL	0.7mL	0.7mL	0.8mL
Approx. Total Capacity	1mL	250µL	325µL	575µL	575µL	775µL
Rec. Usable Volume	0.8mL	200µL	250µL	450µL	450µL	650µL
Residual Volume	<80µL	<3µL	<6µL	<2µL	<2µL	<70µL
Composition	Glass	Glass	Glass	Glass	Amber	Glass

Standard-opening 8-425 screw thread vials – 12x32mm



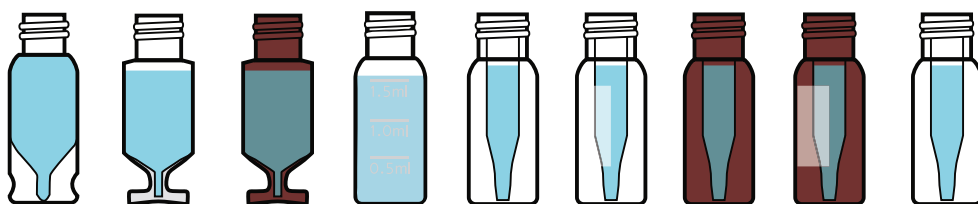
Part No.	C4013-1	C4013-1W	C4013-2	C4013-2W	C4013-11	C4013-13
Common Description	2mL	2mL	2mL	2mL	250µL	600µL
Approx. Total Capacity	1.9mL	1.9mL	1.9mL	1.9mL	475µL	850µL
Rec. Usable Volume	1.5mL	1.5mL	1.5mL	1.5mL	250µL	675µL
Residual Volume	<170µL	<170µL	<170µL	<170µL	<3µL	<8µL
Composition	Glass	Glass	Amber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

Target DP 9mm screw vials 12x32mm



Part No.	C5000-1	C5000-1W	C5000-2	C5000-2W	C4000-1	C4000-1W	C4000-2W	C4000-9	C4000-9A	C4000-11
Common Description	2mL	2mL	2mL	2mL	2mL	2mL	2mL	1.5mL	1.5mL	450µL
Approx. Total Capacity	2mL	2mL	2mL	2mL	2mL	2mL	2mL	1.7mL	1.7mL	250µL
Rec. Usable Volume	1.5mL	1.5mL	1.5mL	1.5mL	1.5mL	1.5mL	1.5mL	1.3mL	1.3mL	250µL
Residual Volume	<170µL	<170µL	<170µL	<170µL	<170µL	<170µL	<170µL	<4µL	<4µL	<1µL
Composition	Glass	Glass	Amber	Amber	Glass	Glass	Amber	Glass	Amber	PolyPro

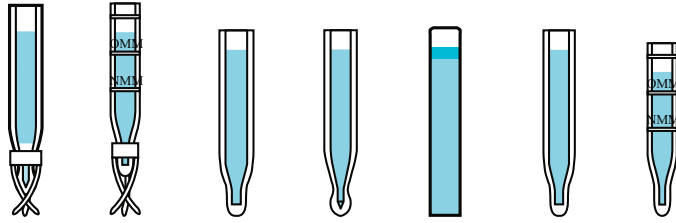
Target DP 9mm screw vials 12x32mm



Part No.	C4000-9TR	C4000-V1	C4000-V2	C4000-14	C4000-LV1	C4000-LV1W	C4000-LV2	C4000-LV2W	C4000-LV3W
Common Description	1.5mL	1.5mL	1.5mL	2mL	350µL	350µL	350µL	350µL	200µL
Approx. Total Capacity	1.5mL	1.4mL	1.4mL	2mL	475µL	475µL	475µL	475µL	375µL
Rec. Usable Volume	1.2mL	1.0mL	1.0mL	1.5mL	350µL	350µL	350µL	350µL	240µL
Residual Volume	<1µL	<4µL	<4µL	<180µL	<2µL	<2µL	<2µL	<2µL	<1µL
Composition	Glass	Glass	Amber	Clear PP	Glass	Glass	Amber	Amber	Glass

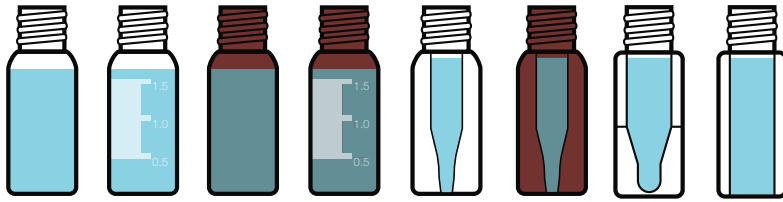
Target DP microvolume inserts

*Drawing is valid for: C4011-1B, C4011-1G, C4011-1R, C4011-1Y
Images shown are 80% to scale



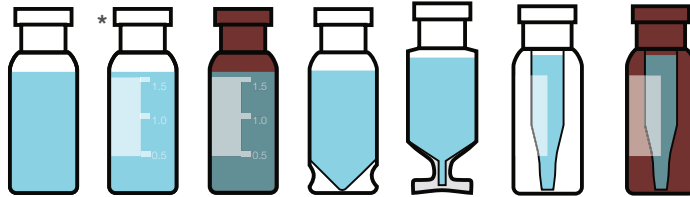
Part No.	C4010-630	C4010-630P	C4010-627L	C4010-629L	C4011-631	C4010-629	C4010-629P
Dimensions	6x29mm	6x30mm	6x31mm	6x31mm	6x31mm	6x29mm	6x30mm
Common Description	300µL	300µL	350µL	350µL	400µL	300µL	300µL
Approx. Total Capacity	375µL	325µL	400µL	400µL	500µL	375µL	325µL
Rec. Usable Volume	300µL	250µL	350µL	350µL	400µL	300µL	250µL
Residual Volume	<1µL	<2µL	<4µL	<2µL	<25µL	<4µL	<2µL
Composition	Glass	Polypro	Glass	Glass	Glass	Glass	Polypro

10mm wide opening screw thread vials – 12x32mm



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

11mm wide opening crimp top vials



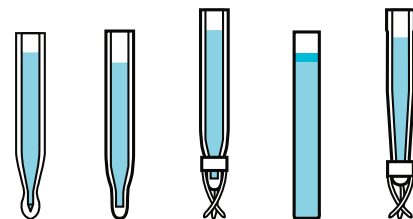
Part No.	C4011-1	C4011-1W	C4011-2W	C4011-9	C4011-V1	C4011-LV1W	C4011-LV2W
Common Description	2mL	2mL	2mL	1.5mL	1.5mL	250µL	250µL
Approx. Total Capacity	2mL	2mL	2mL	1.7mL	1.5mL	500µL	500µL
Rec. Usable Volume	1.5mL	1.5mL	1.5mL	1.3mL	1.1mL	350µL	350µL
Residual Volume	<170µL	<170µL	<170µL	<4µL	<4µL	<2µL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

11mm standard-opening crimp vials
12x32mm



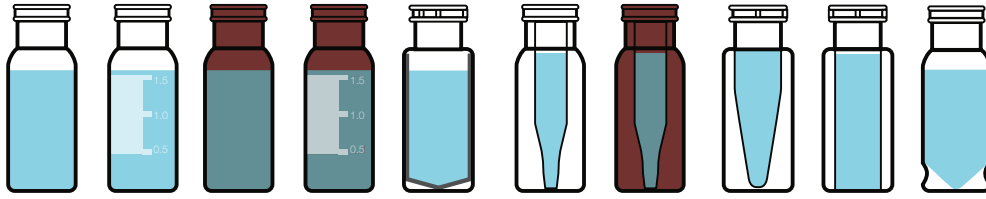
Part No.	C4012-1	C4012-1W	C4012-2	C4012-2W
Common Description	2mL	2mL	2mL	2mL
Approx. Total Capacity	2mL	2mL	2mL	2mL
Rec. Usable Volume	1.5mL	1.5mL	1.5mL	1.5mL
Residual Volume	<170µL	<170µL	<170µL	<170µL
Composition	Glass	Glass	Amber	Amber

Standard microvolume inserts



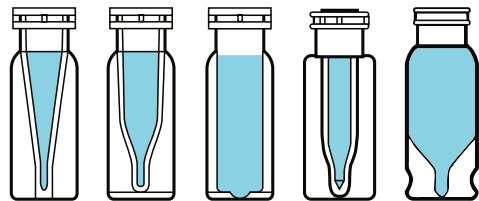
Part No.	C4012-529	C4012-529L	C4012-530	C4012-465	C4012-530P
Dimensions	5x29mm	5x31mm	5x29mm	5x31mm	5x30mm
Common Description	150µL	150µL	150µL	200µL	125µL
Approx. Total Capacity	200µL	200µL	200µL	250µL	175µL
Rec. Usable Volume	175µL	170µL	170µL	200µL	150µL
Residual Volume	<3µL	<2µL	<1µL	<12µL	<2µL
Composition	Glass	Glass	Glass	Glass	Polypro

11mm Snap-It-vials – 12x32mm



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

11mm Snap-It-vials – 12x32mm



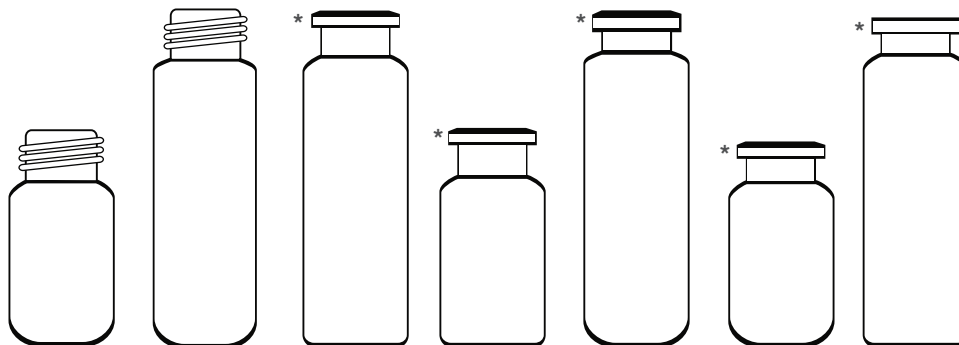
Part No.	C4011-13	C4011-16	C4011-15	C4012-15	C4011-
Common	250µL	600µL	850µL	250µL	9TR
Description	475µL	600µL	825µL	475µL	1.5mL
Approx. Total	300µL	400µL	650µL	350µL	1.5mL
Capacity	<2µL	<4µL	<8µL	<4µL	1.2mL
Rec. Usable	Polypro	Polypro	Polypro	Glastic	<1µL
Volume					
Residual Volume					
Composition					

Headspace vials



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

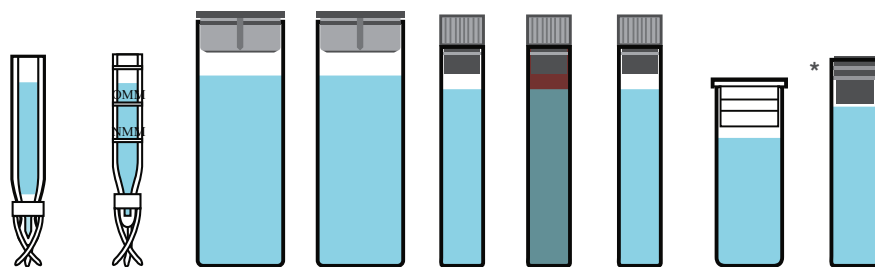
Headspace vials



Part No.	C4020-180	C4020-18	C4020-20	C4020-10	C4020-2	C4020-210	C4020-25
Common	10mL	20mL	20mL	10mL	20mL	10mL	20mL
Description	12mL	21mL	21.5mL	12.5mL	21.5mL	12.5mL	21.5mL
Approx. Total	Glass	Glass	Glass	Glass	Glass	Glass	Glass
Capacity							
Composition							

Images shown are 80% to scale
* 60% to scale

Shell vials and inserts



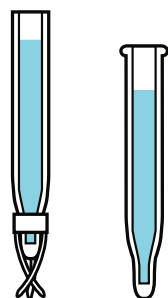
Part No.	C4015-96A	C4015-96PA	C4015-48	C4015-47P	C4015-96	C4015-99	C4015-95P	C4011-80	C4008-50
Dimensions	5x34mm	5x29mm	-	-	-	-	-	-	8x35mm
Common	250µL	275µL	4mL	4mL	1mL	1.25mL	1mL	2mL	1mL
Description	375µL	375µL	5.5mL	5.5mL	1.25mL	1mL	1.25mL	2.4mL	1mL
Approx. Total	210µL	250µL	<800µL	<800µL	1mL	<80µL	1mL	1.8mL	850µL
Capacity	<3µL	<3µL	Glass	Polypro	<80µL	Amber	<80µL	<200µL	-
Rec. Usable	Glass	PolyPro			Glass		PolyPro	Glass	Glass
Volume									
Residual Volume									
Composition									

15x45mm screw thread vials



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

Microvolume inserts for 15x45mm 4ml vials



Part No.	C4015-638	C4015-643
Dimensions	6x38mm	6x42mm
Common	700µL	500µL
Description	950µL	375µL
Approx. Total	800µL	300µL
Capacity	<9µL	<8µL
Rec. Usable	Glass	Glass
Volume		
Residual Volume		
Composition		

Images shown are 80% to scale

*50% to scale

* Positive Displacement Vial for Alcott 708