

Sample handling products

Our portfolio includes almost 1k Thermo Scientific vials and closures products designed for any instrument and any application. The following pages have been arranged by product line and vial size, allowing you to quickly find the most appropriate products for your lab.

For more information, visit thermofisher.com/vials

Featured products



SureStop 9mm vials

Removing any subjectivity around achieving the optimal compression when sealing a vial. Analytical results are improved as a result of the elimination of evaporation differences between samples.

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Chromacol Gold Grade vials

Choose from a large selection of Thermo Scientific™ Chromacol™ vials and closures to match your application and autosampler requirements. Including Thermo Scientific™ Chromacol™ GOLD Vials which provide highest levels of inertness to avoid adhesion at low concentrations for critical analytes.

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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.



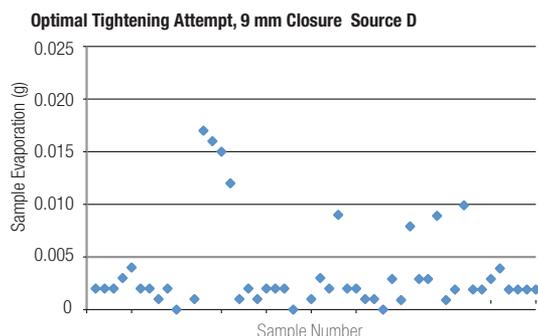
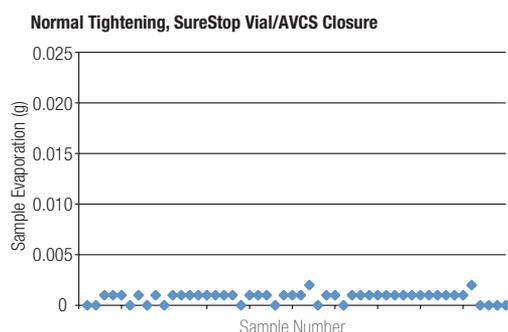
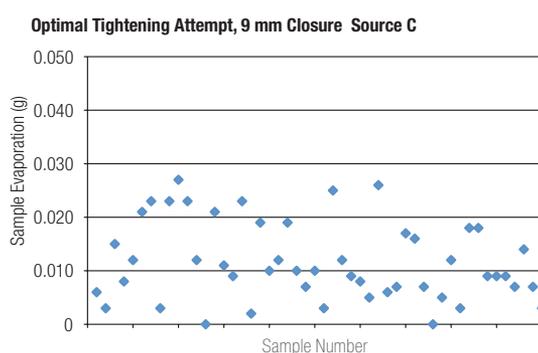
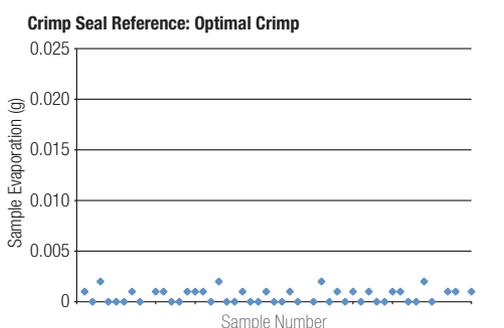
Cap tilt and septum displacement due to over tightening

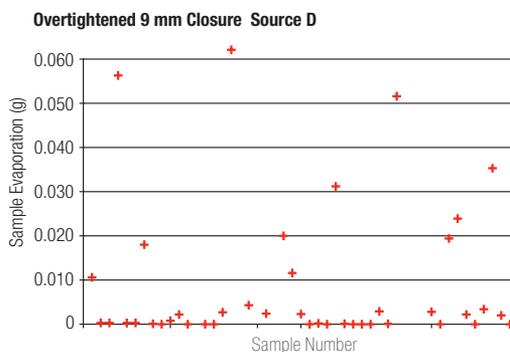
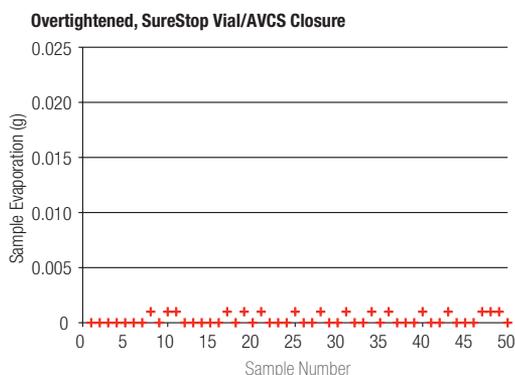
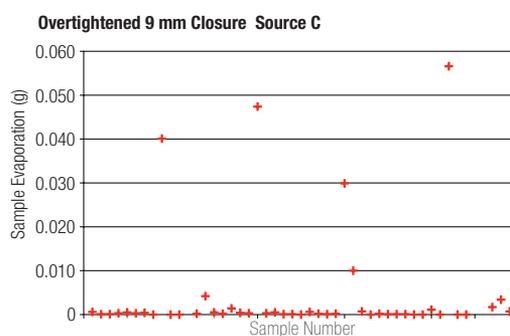
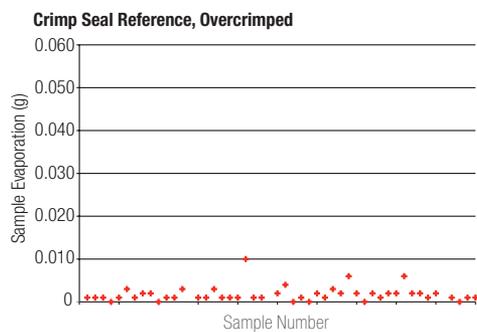
SureStop provides optimal cap positioning

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

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



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

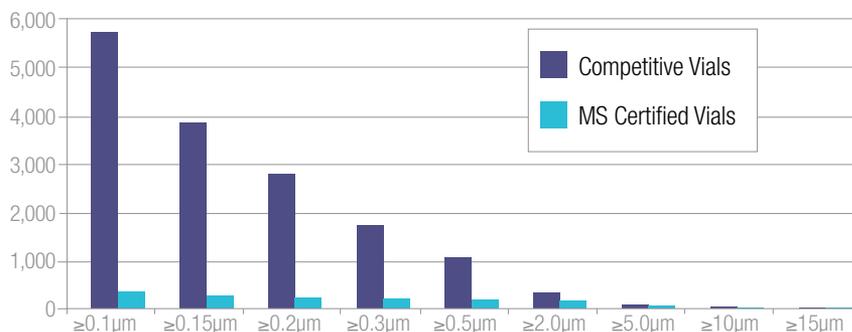
traditionally been of little concern when GC inlet liners or HPLC guard columns are used. GC techniques employing on-column injection create the need for a sample vial with minimal background particulates to prevent an accumulation of foreign material at the head of the column that might adversely affect 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, silanized | 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 |
| 8mm Open Top Cap, 5.5mm hole | 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

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

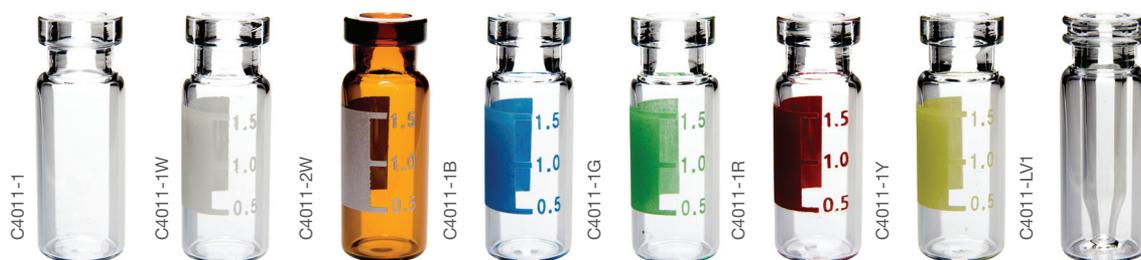
2mL, 12x32, crimp top vials and inserts

- 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



Convenience Kit

Assembled kits

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



Assembled Kit



Convenience Kit

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](https://www.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](https://www.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 | 23x75 | Square Rim | Flat Bottom | 21.5 | 20 | C4020-25 | 1000 |
| | Clear | 30x60 | Beveled Edge | Flat Bottom | 27 | 25 | C4020-27 | 1000 |
| | Clear | 22.5x46 | Screw Thread | Round Bottom | 12 | 10 | C4020-180 | 125 |
| | Clear | 22.5x76 | Screw Thread | Round Bottom | 21 | 20 | C4020-18 | 125 |

National headspace caps and septa

- Aluminum seals are available in standard center hole 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

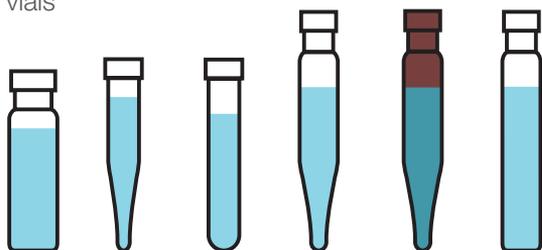
*60% to scale

| 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



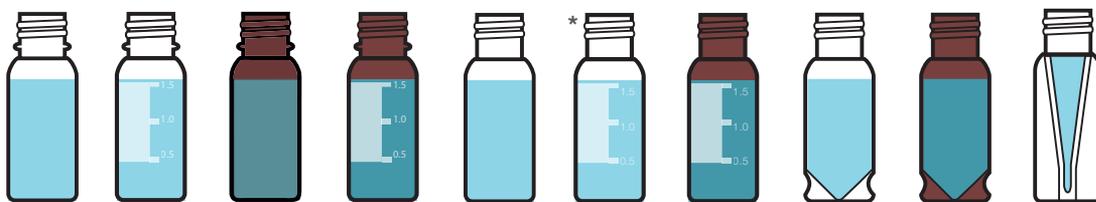
| | | | | | | |
|-------------------------------|---------|------------|------------|-----------|-----------|-----------|
| Part No. | C4008-1 | C4008-632C | C4008-632R | C4008-739 | C4008-740 | C4008-741 |
| Dimensions | 8x30 | 6x32 | 6x32 | 7x40 | 7x40 | 7x40 |
| Common Description | 0.8mL | 0.2mL | 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



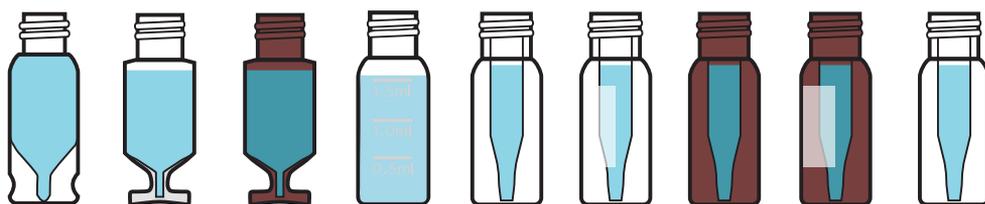
| | | | | | | |
|-------------------------------|---------|----------|---------|----------|----------|----------|
| Part No. | C4013-1 | C4013-1W | C4013-2 | C4013-2W | C4013-11 | C4013-13 |
| Common Description | 2mL | 2mL | 2mL | 2mL | 250µL | 600µL |
| Approx. Total Capacity | 1.9mL | 1.9mL | 1.9mL | 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 |

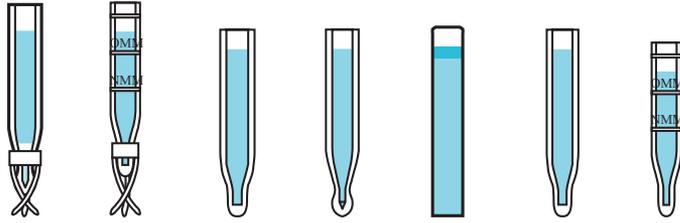
Target DP 9mm screw vials 12x32mm



| | | | | | | | | | |
|-------------------------------|-----------|----------|----------|----------|-----------|------------|-----------|------------|------------|
| 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



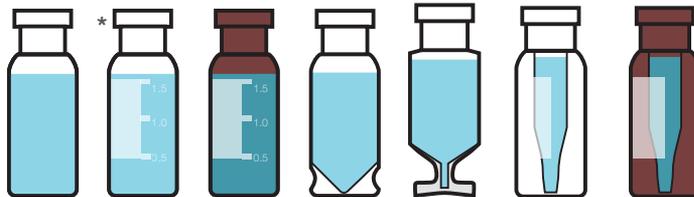
| Part No. | C4010-630 | C4010-630P | C4010-627L | C4010-629L | C4011-631 | C4010-629 | C4010-629P |
|------------------------|-----------|------------|------------|------------|-----------|-----------|------------|
| Dimensions | 6x29mm | 6x30mm | 6x31mm | 6x31mm | 6x31mm | 6x29mm | 6x30mm |
| Common 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



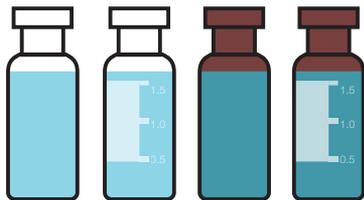
| Part No. | C4010-1 | C4010-1W | C4010-2 | C4010-2W | C4010-LV1 | C4010-LV2 | C4010-11 | C4010-14 |
|------------------------|---------|----------|---------|----------|-----------|-----------|----------|----------|
| Common Description | 2mL | 2mL | 2mL | 2mL | 350µL | 350µL | 250µL | 700µL |
| Approx. 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



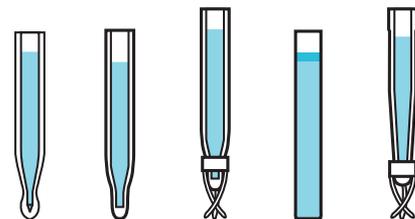
| Part No. | C4011-1 | C4011-1W | C4011-2W | C4011-9 | C4011-V1 | C4011-LV1W | C4011-LV2W |
|------------------------|---------|----------|----------|---------|----------|------------|------------|
| Common Description | 2mL | 2mL | 2mL | 1.5mL | 1.5mL | 250µL | 250µL |
| Approx. Total Capacity | 2mL | 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



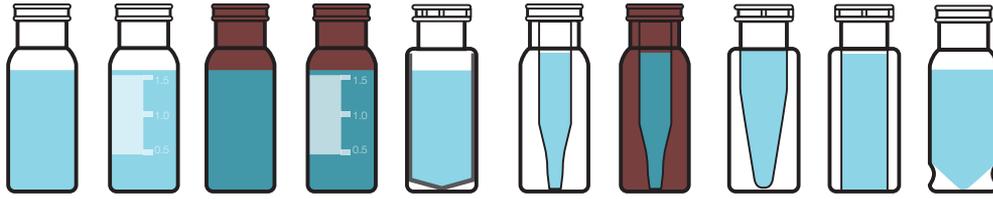
| Part No. | C4012-1 | C4012-1W | C4012-2 | C4012-2W |
|------------------------|---------|----------|---------|----------|
| Common Description | 2mL | 2mL | 2mL | 2mL |
| Approx. Total Capacity | 2mL | 2mL | 2mL | 2mL |
| Rec. Usable Volume | 1.5mL | 1.5mL | 1.5mL | 1.5mL |
| Residual Volume | <170µL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

Standard microvolume inserts



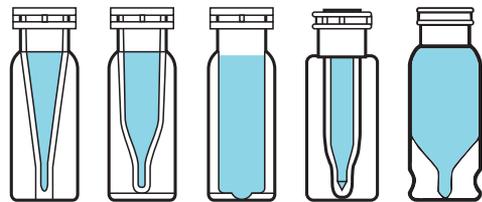
| Part No. | C4012-529 | C4012-529L | C4012-530 | C4012-465 | C4012-530P |
|------------------------|-----------|------------|-----------|-----------|------------|
| Dimensions | 5x29mm | 5x31mm | 5x29mm | 5x31mm | 5x30mm |
| Common Description | 150µL | 150µL | 150µL | 200µL | 125µL |
| Approx. Total 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



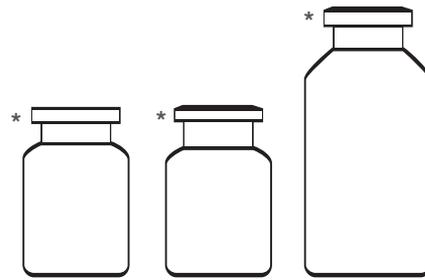
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|------------------------|---------|----------|---------|----------|----------|-----------|-----------|----------|----------|---------|
| Part No. | C4011-5 | C4011-5W | C4011-6 | C4011-6W | C4011-24 | C4011-LV1 | C4011-LV2 | C4011-11 | C4011-14 | 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



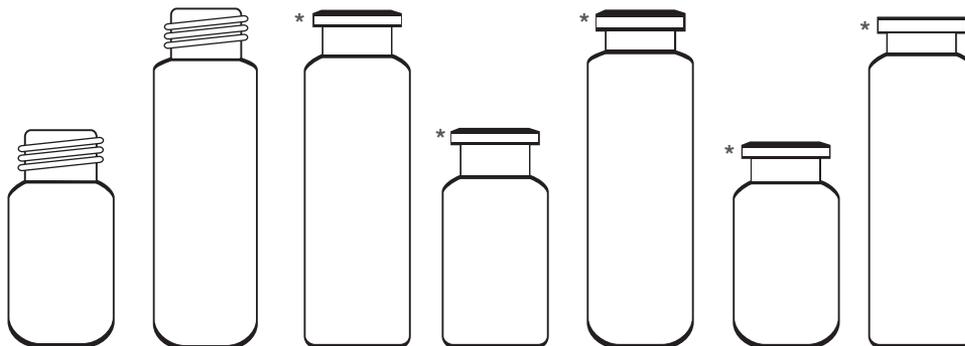
| | | | | | |
|------------------------|----------|----------|----------|----------|--------|
| Part No. | C4011-13 | C4011-16 | C4011-15 | C4012-15 | C4011- |
| Common | 250µL | 600µL | 850µL | 250µL | 9TR |
| Description | 475µL | 600µL | 825µL | 475µL | 1.5mL |
| Approx. Total | 300µL | 400µL | 650µL | 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 | | | |

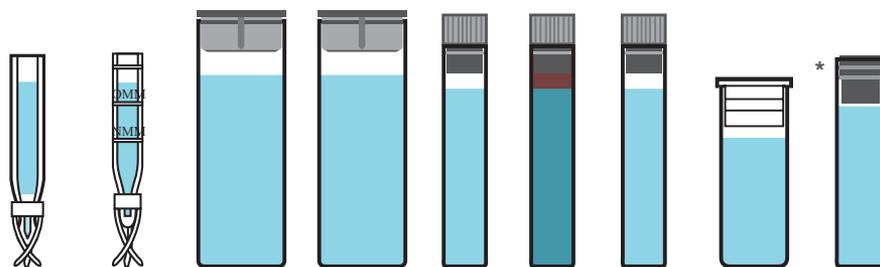
Headspace vials



| | | | | | | | |
|----------------------|-----------|----------|----------|----------|---------|-----------|----------|
| 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 | | | | | | | |

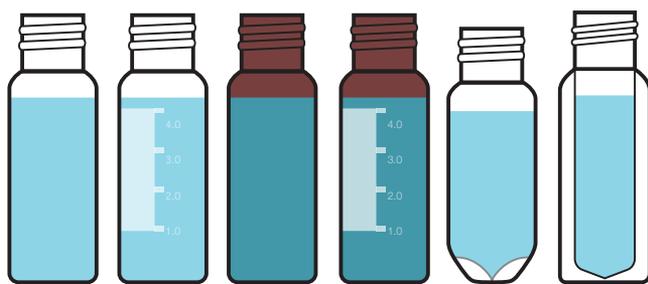
Images shown are 80% to scale
 * 60% to scale

Shell vials and inserts



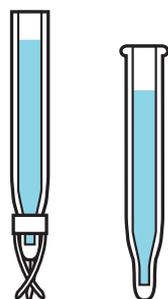
| | | | | | | | | | |
|------------------------|-----------|------------|----------|-----------|----------|----------|-----------|----------|----------|
| Part No. | C4015-96A | C4015-96PA | C4015-48 | C4015-47P | C4015-96 | C4015-99 | C4015-95P | C4011-80 | C4008-50 |
| Dimensions | 5x34mm | 5x29mm | - | - | - | - | - | - | 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

National vial reference chart

There's a lot more that goes into our vials than just samples

Innovative glass technology and unmatched performance

Even more sensitive chromatography and mass spectrometry systems demand reliable vials which can routinely deliver the ultimate purity grade and the lowest surface activity possible. Sample security and confidence in data integrity are paramount in trace analysis and can only be achieved with the highest vial-glass quality.

Most autosampler vials are made from Type 1 hydrolytic-grade glass, which unfortunately absorbs analytes on vial walls when working with polar and/or highly adsorbing compounds at low concentration levels. We have introduced a higher grade of glass with the lowest levels of alkaline materials with our new inert vials range. You can maximize your analytical performance and have fewer failed assays with the Thermo Scientific Chromacol GOLD-Grade vials. These premium vials are manufactured in perfect conditions and at optimum surface-saving temperatures to ensure the maximum degree of the inertness of the low-alkaline glass.

Increase productivity and save time

- Highest recovery rates; even with critical compounds (e.g. trisubstituted N-atoms, tertiary amines) in trace concentrations.
- Highly reproducible; consistent peak heights and symmetry

Confidence in results with highest quality vial

- Made of 1st hydrolytic class, special 33 expansion glass; meeting current USPs and Pharmacopeias.
- Ultra-low adsorption surface for critical polar compound; enables ultra trace-level analysis for strongly adsorbing analytes.
- The high-class standard in Europe and Asia for decades.
- Ultra-low pH shift, due to the minimized surface activity.
- Lowest alkaline content, for less glass-wall interactions.

A vial that reduces the cost of analysis

- Stable analysis and higher reproducibility; increases security and integrity of analytical results.
- Buffer reduction possible.
- No risk of run-stops during overnight analysis.
- Optimal autosampler fit regardless of lot.



For more information, visit thermofisher.com/inertvials

Chromacol vials and closures

- Innovative products in micro- and precision sampling
- High quality, stringent manufacturing tolerances, have been extensively tested for comprehensive autosampler compatibility
- Products developed in close technical cooperation with the instrument manufacturers
- Detailed information regarding material specifications and compatibility
- Competent and experienced worldwide distributor network

Approximate chemical composition for borosilicate glass

| Description | SiO ₂ | B ₂ O ₃ | Al ₂ O ₃ | CaO | MgO | Na ₂ O | K ₂ O | BaO |
|-------------------------------|------------------|-------------------------------|--------------------------------|------|-----|-------------------|------------------|-------|
| 33 expansion Glass | 80% | 13% | 3% | 0.1% | – | 4% | 0.1% | <0.1% |
| N-51A Glass | 72% | 12% | 7% | 1% | – | 6% | 2% | <0.1% |
| Clear Borosilicate-GOLD Grade | 80.6% | 13% | 2.3% | – | – | 4% | – | – |



Chromacol 8mm crimp top vials

- The SCI-VI system gives the chromatography user the ability to inject reproducibly from glass vials with residual volumes as low as 1µL to 5µL in a full range of autosampler instruments
- Precision-machined sleeves that allow the vials to be used in the vast majority of commercial autosamplers
- Sleeves are reusable and support the crimped, sealed vials in the correct position within both the autosampler carousel or racks
- Allow movement of the vials as a unit to injection positions in both GC and HPLC autosamplers
- Thermo Scientific Chromacol GOLD glass quality, a low expansion high purity glass with an extremely low concentration of active sites
- Available in both clear and amber glass these vials can be used with 8mm crimp and snap caps



Chromacol 8mm crimp top vials

| Description | Glass | Patched | Dimension (mm) | Profile | Total Volume (µL) | Usable Volume (µL) | Residual (µL) | Cat. No. | Pack of |
|--|-------|---------|----------------|--------------|-------------------|--------------------|---------------|-----------|---------|
| 0.3mL Sci-Vi Crimp Top Vial – GOLD Grade Glass | Clear | No | 6x32 | Round Bottom | 325 | 250 | <5 | 03-CVG | 500 |
| 0.2mL Sci-Vi Crimp Top Vial – GOLD Grade Glass | Clear | No | 6x32 | Conical | 250 | 200 | <5 | 02-CTVG | 500 |
| 0.1mL Sci-Vi Crimp Top Vial – GOLD Grade Glass | Clear | No | 6x32 | Round Bottom | 125 | 80 | <1 | 01-CVG | 500 |
| 1.2mL Crimp Top Vial | Clear | No | 8x40 | Flat Bottom | 1300 | 1200 | <75 | 1.2-CWV | 500 |
| 0.8mL Crimo Top Vial | Clear | No | 7x40 | Flat Bottom | 775 | 650 | <70 | 08-CPV | 500 |
| 0.7mL Crimp Top Tapered Vial | Clear | No | 7x40 | Conical | 575 | 450 | <5 | 07-CPV | 500 |
| | Amber | No | 7x40 | Conical | 575 | 450 | <5 | 07-CPV(A) | 500 |



Chromacol 8mm crimp top vials

| Description | Glass | Patched | Dimension (mm) | Profile | Total Volume (µL) | Usable Volume (µL) | Residual (µL) | Cat. No. | Pack of |
|--|-------|---------|----------------|-------------|-------------------|--------------------|---------------|-----------|---------|
| 0.6mL Crimp Top Tapered Vial | Amber | No | 7x32 | Conical | 600 | 550 | <5 | 06-CTV(A) | 500 |
| PTFE Vial Support Sleeve for 6x32mm vials, fits robotic autosamplers | PTFE | No | 12x32 | Flat Bottom | – | – | – | SV-S11A | 25 |

For sleeves please contact your local sales representative.

Chromacol 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



Chromacol 8mm crimp top closures

| Description | Cap Color | Cap Material | Septum | Hardness shore | Thickness (mm) | Cat. No. | Pack of |
|---|-----------|--------------|----------------------------------|----------------|----------------|------------|---------|
| 8mm Crimp Cap, 4mm hole, Type 7 Rubber/PTFE Liner | Silver | Aluminum | Red Natural Rubber/Clear PTFE | 60 | 1.0 | 8-AC7 | 1000 |
| 8mm Crimp Cap, 4mm hole | Silver | Aluminum | White Silicone/Red PTFE | 50 | 1.3 | 8-AC-ST15 | 500 |
| | Silver | Aluminum | Blue Silicone/PTFE | 30 | 1.0 | 8-AC-ST101 | 500 |
| | Silver | Aluminum | White Virgin PTFE, 0.01" | 53 | 0.2 | 8-ACT | 1000 |
| | Silver | Aluminum | Red PTFE/White Silicone/Red PTFE | 57 | 1.0 | 8-AC-TST1 | 500 |
| 8mm Snap Cap, Thinned penetration area | Clear | Polyethylene | Integral Molded In Polyethylene | - | - | 8-PEC1 | 1000 |

For electronic crimpers look on page 2-091

Chromacol 8mm crimping and decrimping tools

- Crimping tools provide a reproducible secure closure
- High quality construction for durability and long life
- Fine textured surface (powder coated) for a better grip and corrosion resistance



Items not shown to scale

Chromacol 8mm crimping and decrimping tools

| Description | Use | Cat. No. | Pack of |
|------------------|--|----------|---------|
| Manual Crimper | Attaches 8mm aluminum crimp seals | CR-8C | 1 |
| Manual Decrimper | Removes 8mm aluminum crimp seals without vial damage | DCB-8C | 1 |

For electronic crimpers and decrimpers look on page 2-091

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

- 8-425 thread finish vials are best suited for most instruments where the vial remains in the sample tray during injection
- Manufactured from superior quality 1st hydrolytic class glass (Type 1) in clear and amber
- GOLD grade glass quality is a low expansion high purity glass with an extremely low concentration of active sites
- Available with a graduated, write-on patch for convenient sample identification
- Small opening requires Micro-Inserts with a diameter of 5mm
- While maintaining the standard outer dimensions the internal volumes of these vials range from below 300µL to 2mL
- Where levels of inorganic ions have to be kept to an absolute minimum the use of plastics may be preferred to the more conventional glass vials



Chromacol 2mL, 12x32 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 | 2-SV | 500 |
| | Amber | Yes | 12x32 | Flat Bottom | 2.0 | 1.5 | <170 | 2-SV(A) | 500 |
| 8-425 Screw Thread 0.3mL Vial | Polypropylene | No | 12x32 | Insert Vial | 0.3 | 250µL | <3 | 03-PPSV | 500 |
| 200µL Insert | Clear Glass | No | 5x31 | Flat Bottom | 250µL | 200µL | <12 | 02-NV | 1000 |
| | Clear Glass | No | 5x30 | Conical | 200µL | 160µL | <4 | 02-MTV | 1000 |
| Self-centering support device for tapered glass inserts | Polyethylene | - | - | - | - | - | - | MTS-1 | 500 |

Support sleeve allows conical tip vial to be used in standard 12x32mm autosampler trays

Chromacol 8-425 screw thread caps and septa

- 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 Shimadzu 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



Chromacol 8-425 screw thread caps and septa

| Description | Cap Color | Cap Material | Septum | Hardness shore | Thickness (mm) | Cat. No. | Pack of |
|--|-----------|---------------|-------------------------------|----------------|----------------|-----------|---------|
| 8mm Open Top Screw Cap, 8-425 thread, 5mm hole | Black | Polypropylene | – | – | – | 8-SC | 500 |
| 8mm Open Top Screw Cap with flange, 8-425 thread, 5mm hole | Black | Polypropylene | – | – | – | 8-SCJ | 500 |
| | White | Polypropylene | – | – | – | 8-SCJ(W) | 500 |
| Septum for 8-425 Screw Caps | – | – | Red Natural Rubber/Clear PTFE | 38 | 1.0 | 8-6RT1 | 1000 |
| | – | – | White Silicone/Red PTFE | 45 | 1.3 | 8-ST15 | 500 |
| | – | – | Blue Silicone/PTFE | 50 | 1.2 | 8-ST14 | 500 |
| | – | – | Blue Silicone/PTFE, Pre-slit | 50 | 1.2 | 8-ST14X | 500 |
| | – | – | Blue Silicone/PTFE | 30 | 1.0 | 8-ST101 | 500 |
| | – | – | White Virgin PTFE, 0.01" | 53 | 0.3 | 8-T02 | 1000 |
| 8mm Open Top Screw Cap, 8-425 thread, 5mm hole, Type 8 Rubber/PTFE Liner | Black | Polypropylene | Red Natural Rubber/Clear PTFE | 50 | 1.3 | 8-SC-8RT1 | 500 |
| 8mm Open Top Screw Cap, 8-425 thread, 5mm hole | Black | Polypropylene | White Silicone/Red PTFE | 45 | 1.3 | 8-SC-ST15 | 500 |

Chromacol standard opening screw thread vial convenience and instrument select (IS) kits

- Convenience kits save time during sample preparation
- Includes 100 vials and 100 caps with pre-assembled septa for added convenience during sample preparation
- Reusable two compartment trays protect vials and closure while keeping matching supplies together



Items not shown to scale

Chromacol standard opening screw thread vial convenience and instrument select (IS) 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 | White | Blue Silicone/PTFE | | 8-SC(W)+ 8-ST101 | 2-SV101-CP | 100 |
| IS Kit, Standard Opening Screw Vial for Thermo Scientific LC Autosamplers | Clear | Yes | Black | White Silicone/ Red PTFE | 2-SV | 8-SC-ST15 | TSL | 100 |

For more information, visit thermofisher.com/chromacol

Chromacol 9mm wide opening screw thread vials and inserts

- 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 in achieving optimal seal compression closing a vial by incorporating a definite stop point into the design of the vial finish. See pages XX to XX
- SureStop 9mm vials should be used with AVCS 9-SCK closures in order to get the best possible performance
- Available with a graduated, write-on patch for convenient sample identification
- Wide neck opening design, allows easy filling, requires Micro-Inserts with a diameter of 6mm
- Manufactured from 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



Chromacol 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 Screw Thread Vial (AVCS) | Amber | Yes | 12x32 | Flat Bottom | 2.0mL | 1.5mL | <170 | 2-SVWK(A) | 100 |
| 9mm Screw Thread Vial | Clear | No | 15x46 | Flat Bottom | 4.0mL | 3.5mL | <500 | 4-SVQ | 500 |
| | Clear | Yes | 12x32 | Flat Bottom | 2.0mL | 1.5mL | <170 | 2-SVW | 500 |
| | Amber | Yes | 12x32 | Flat Bottom | 2.0mL | 1.5mL | <170 | 2-SVW(A) | 500 |
| 9mm Screw Thread Vial, High Recovery with 30µL Reservoir | Clear | No | 12x32 | Tapered Base | 1.5mL | 1.3mL | <4 | 1.5-HRSV | 100 |
| 9mm Screw Thread Vial, Ultra High Recovery with 10µL Reservoir | Clear | No | 12x32 | Mandrel Base | 1.2mL | 1.0mL | <2 | 1.2-UHRSV | 100 |
| 9mm Screw Thread Vial 300µL, Fused Insert | Clear | Yes | 12x32 | Insert Vial | 0.3mL | 250µL | <3 | 03-FISV | 500 |
| | Amber | Yes | 12x32 | Insert Vial | 0.3mL | 250µL | <3 | 03-FISV(A) | 500 |
| 300µL Insert | Clear | - | 6x31 | Flat Bottom | 300µL | 200µL | <12 | 03-NV | 1000 |
| Self-centering support device for tapered glass inserts | Polyethylene | - | - | - | - | - | - | MTS-1 | 500 |
| 9mm Screw Thread Vial | Polypropylene | No | 12x32 | Insert Vial, Mandrel | 300µL | 200µL | <4 | 03-PPSVW | 500 |
| 0.6MI Pe Screw Top Vial W Cylindrical Insert | Polyethylene | ---- | 12x32 | Insert Vial | 600µL | | | 06-PESVW | 500 |
| 0.6MI Pe Screw Top Vial W Cylindrical Insert | Polypropylene | ---- | 12x32 | Insert Vial | 600µL | | | 06-PPSVW | 500 |

Chromacol 9mm screw thread closures

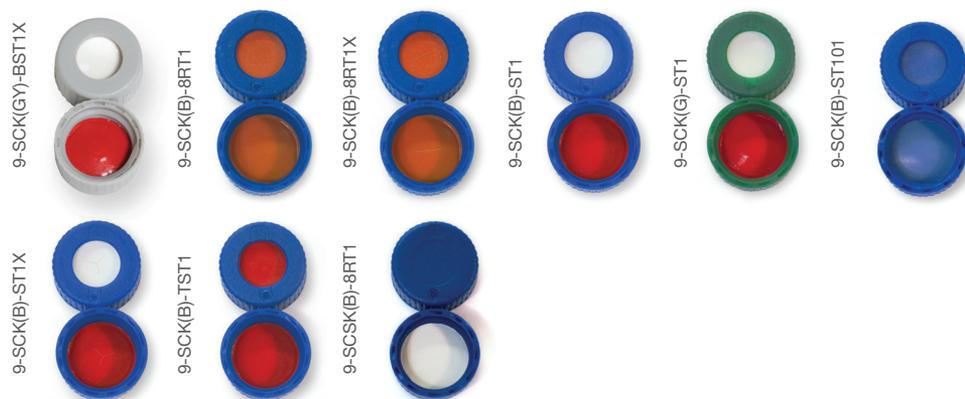


K-Series closures featuring AVCS technology (Advanced Vial Closure System)

- Septa push through virtually eliminated due to improved interior geometry
- Improved sealing capability
- Improved autosampler compatibility
- AVCS provides the freedom 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:

- 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
- Special caps for magnetic transport autosamplers
- Flanged caps suitable for Shimadzu, Hitachi and Tosoh instruments



Chromacol 9mm screw thread closures

| Description | Cap Color | Cap Material | Septum | Hardness shore | Thickness (mm) | Cat. No. | Pack of |
|---|-----------|---------------|--|----------------|----------------|-----------------|---------|
| 9mm Open Top Short Screw Cap, 6mm hole | Gray | Polypropylene | Bonded Red PTFE/White Silicone, Pre-slit | 45 | 1.2 | 9-SCK(GY)-BST1X | 500 |
| 9mm Open Top Short Screw AVCS Cap, 6mm hole | Blue | Polypropylene | Red Rubber/Clear PTFE | 58 | 1.0 | 9-SCK(B)-8RT1 | 500 |
| | Blue | Polypropylene | Red Rubber/Clear PTFE, Pre-slit | 58 | 1.0 | 9-SCK(B)-8RT1X | 500 |
| | Blue | Polypropylene | White Silicone/Red PTFE | 57 | 1.0 | 9-SCK(B)-ST1 | 500 |
| | Green | Polypropylene | White Silicone/Red PTFE | 57 | 1.0 | 9-SCK(G)-ST1 | 500 |
| | Blue | Polypropylene | Blue Silicone/PTFE | 30 | 1.0 | 9-SCK(B)-ST101 | 500 |
| | Blue | Polypropylene | White Silicone/Red PTFE, Y-Pre-slit | 57 | 1.0 | 9-SCK(B)-ST1X | 500 |
| 9mm Solid Top Short Screw AVCS Cap | Blue | Polypropylene | Red PTFE/White Silicone/Red PTFE | 57 | 1.0 | 9-SCK(B)-TST1 | 500 |
| | Blue | Polypropylene | Red Natural Rubber/Beige PTFE | 58 | 1.0 | 9-SCSK(B)-8RT1 | 500 |

Chromacol 9mm wide opening convenience and instrument select (IS) kits

- Convenience kits save time during sample preparation
- Includes 100 vials and 100 caps with pre-assembled septa for added convenience during sample preparation
- Reusable two compartment trays protect vials and closure while keeping matching supplies together

2-SVWGK8-CPK



For more information, visit thermofisher.com/chromacol

Chromacol 9mm wide opening screw thread vial convenience and instrument select (IS) kits

| Kit Type | Glass | Patched | Cap Color | Septum | Vial Cat. No. | Cap Cat. No. | Cat. No. | Pack of |
|--|-------|---------|-----------|-----------------------------------|---------------|----------------|-----------------|---------|
| SureStop Convenience Kit | Amber | Yes | Blue | White Silicone/Red PTFE | 2-SVWK(A) | 9-SCK(B)-ST1 | 2-SVWK(A)ST-CPK | 100 |
| SureStop IS Kit, GOLD Grade, for Thermo GC Autosampler | Clear | Yes | Blue | Blue Silicone/PTFE | 2-SVWGK | 9-SCK(B)-ST101 | TTRGKK | 100 |
| AVCS Convenience Kit | Clear | Yes | Blue | Red Rubber/Clear PTFE | 2-SVW | 9-SCK(B)-8RT1 | 2-SVW8-CPK | 100 |
| | Clear | Yes | Blue | White Silicone/Red PTFE | 2-SVW | 9-SCK(B)-ST1 | 2-SVWST-CPK | 100 |
| | Amber | Yes | Blue | White Silicone/Red PTFE | 2-SVW(A) | 9-SCK(B)-ST1 | 2-SVW(A)ST-CPK | 100 |
| AVCS IS Kit, for Agilent LC Autosampler | Clear | Yes | Blue | Red Rubber/Clear PTFE | 2-SVW | 9-SCK(B)-8RT1 | HPLSK | 100 |
| AVCS IS Kit, for Thermo GC Autosampler | Clear | Yes | Blue | Blue Silicone/PTFE | 2-SVW | 9-SCK(B)-ST101 | TTRK | 100 |
| AVCS Convenience Kit, for Varian GC Autosampler | Clear | Yes | Blue | White Silicone/Red PTFE | 2-SVW | 9-SCK(B)-ST1 | VAGK | 100 |
| AVCS IS Kit, for Varian LC Autosampler | Clear | Yes | Blue | White Silicone/Red PTFE | 2-SVW | 9-SCK(B)-ST1 | VALK | 100 |
| AVCS IS Kit, for Waters Alliance® LC Autosampler | Clear | Yes | Blue | White Silicone/Red PTFE | 2-SVW | 9-SCK(B)-ST1 | WALK | 100 |
| AVCS IS Kit, for PerkinElmer LC Autosampler | Clear | Yes | Green | White Silicone/Red PTFE, Pre-slit | 2-SVW | 9-SCK(G)-ST1X | PELK | 100 |

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

- Thermo Scientific Chromacol GOLD glass quality, a low expansion high purity glass with an extremely low concentration of active sites
- Manufactured from superior quality 1st hydrolytic class glass (Type 1) in clear and amber
- Available with a graduated, write-on patch 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
- Where levels of inorganic ions have to be kept to an absolute minimum the use of plastics may be preferred to the more conventional glass vials

Compatible with:

Most HPLC and GC autosamplers

For autosampler compatibility visit thermofisher.com/chromexpert



Chromacol 2mL, 12x32mm, 11mm 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 | Glass | 15x46 | Flat Bottom | 4.0mL | 3.5mL | <500 | 4-CV | 500 |
| | Clear | Glass | 12x40 | Flat Bottom | 2.5mL | 2.0mL | <170 | 2.5-CV | 500 |
| | Clear | Yes | 12x32 | Flat Bottom | 2.0mL | 1.5mL | <170 | 2-CV | 500 |
| | Amber | Yes | 12x32 | Flat Bottom | 2.0mL | 1.5mL | <170 | 2-CV(A) | 500 |
| 11mm Crimp Top Vial, Wide Opening | Clear | Yes | 12x32 | Round Bottom | 2.0mL | 1.5mL | <170 | 2-CRV | 500 |
| 11mm Crimp Top 1.5mL High Recovery Vial | Clear | No | 12x32 | High Recovery | 1.5mL | 1.3mL | <4µL | 1.5-HRCV | 100 |

For more information, visit thermofisher.com/chromacol



Chromacol 2mL, 12x32mm, 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 0.9mL Vial, Wide Opening | Clear | No | 10x32 | Conical | 1.0mL | 850µL | <5 | 09-CTV | 500 |
| | Clear | No | 12x32 | Insert Vial | 0.9mL | 830µL | <3 | 09-FIV | 500 |
| 11mm Crimp Top 0.3mL Vial, Fused Insert | Clear | Yes | 12x32 | Insert Vial | 0.3mL | 250µL | <3 | 03-FIV | 500 |
| | Amber | Yes | 12x32 | Insert Vial | 0.3mL | 250µL | <3 | 03-FIV(A) | 500 |
| 11mm Crimp Top 0.2mL Vial, Fused Insert – GOLD Grade Glass | Clear | Yes | 12x32 | Insert Vial | 0.2mL | 180µL | <2 | 02-FIVG | 500 |



Chromacol 2mL, 12x32mm, 11mm crimp top vials and inserts (continued)

| Description | Glass | Patched | Dimension (mm) | Profile | Total Volume | Usable Volume | Residual (µL) | Cat. No. | Pack of |
|--------------|-------|---------|----------------|-------------|--------------|---------------|---------------|----------|---------|
| 300µL Insert | Clear | – | 6x31 | Flat Bottom | 300µL | 200µL | <12 | 03-NV | 1000 |

Chromacol 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
- First crimp cap with assembled aluminum liner for interference free analysis of Elastomers, Polymers, Phthalates, Halogenated compounds and Silicones
- First crimp cap with tight PTFE sealing disk due to additional silicone ring



Chromacol 11mm crimp top closures

| Description | Cap Color | Cap Material | Septum | Hardness shore | Thickness (mm) | Cat. No. | Pack of |
|---|-----------|--------------|--|----------------|----------------|------------|---------|
| 11mm Crimp Cap, 6mm center hole, Type 6 Rubber/PTFE | Red | Aluminum | Red Chlorobutyl Rubber/ Clear PTFE, Sulphur free | 40 | 1.0 | 11-AC6(R) | 500 |
| 11mm Crimp Cap, 6mm center hole, Type 7 Rubber/PTFE | Silver | Aluminum | Red Natural Rubber/Clear PTFE | 60 | 1.0 | 11-AC7 | 500 |
| | Blue | Aluminum | | 60 | 1.0 | 11-AC7(B) | 500 |
| 11mm Aluminium Crimp Cap Type 8 Rubber/PTFE | Silver | Aluminum | Type 8 Rubber / PTFE | | | 11-AC8 | 500 |
| 11mm Aluminium Crimp Cap Type 8 Rubber/PTFE | Blue | Aluminum | Type 8 Rubber / PTFE | | | 11-AC8(B) | 500 |
| | Green | Aluminum | Type 8 Rubber / PTFE | | | 11-AC8(G) | 500 |
| | Gold | Aluminum | Type 8 Rubber / PTFE | | | 11-AC8(GO) | 500 |
| | Red | Aluminum | Type 8 Rubber / PTFE | | | 11-AC8(R) | 500 |

For more information, visit thermofisher.com/chromacol



Chromacol 11mm crimp top closures (continued)

| 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 | 11-AC(B)-ST144 | 500 |
| | Silver | Aluminum | White Silicone/Red PTFE | 50 | 1.3 | 11-AC-ST15 | 500 |
| | Silver | Aluminum | Blue Silicone/PTFE | 30 | 1.0 | 11-AC-ST101 | 500 |
| | Silver | Aluminum | Blue Silicone/PTFE, Pre-slit | 30 | 1.0 | 11-AC-ST101X | 500 |
| | Silver | Aluminum | White Virgin PTFE, 0.01" | - | 0.25 | 11-ACT | 1000 |
| | Silver | Aluminum | Red PTFE/White Silicone/Red PTFE | 57 | 1.0 | 11-AC-TST1 | 500 |



Chromacol 11mm crimp top closures (continued)

| Description | Cap Color | Cap Material | Septum | Hardness shore | Thickness (mm) | Cat. No. | Pack of |
|--|-----------|--------------|-------------------------|----------------|----------------|------------|---------|
| 11mm Crimp Cap, magnetic | Silver | Steel | White Silicone/Red PTFE | 57 | 1.3 | 11-MC-ST15 | 500 |
| 11mm Snap Cap for Crimp Vials | Clear | Polyethylene | - | - | - | 11-PEC1 | 1000 |
| 11mm Snap Cap for Crimp Vials, Pre cut | Clear | Polyethylene | - | - | - | 11-PEC1X | 1000 |
| 11mm Snap Cap for Crimp Vials | Clear | Polyethylene | White Silicone/Red PTFE | 57 | 1.0 | 11-PEC-ST1 | 500 |

Chromacol 11mm crimp top convenience and instrument select (IS) kits

- Convenience kits save time during sample preparation
- Include matched quantities of vials and aluminum seals with pre-assembled septa for added convenience during sample preparation
- Reusable two compartment trays protect vials and closure while keeping matching supplies together



Items not shown to scale

Chromacol 11mm crimp top convenience and instrument select (IS) 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 | Amber | Yes | Silver | Red Natural Rubber/ Clear PTFE, Type 7 | 2-CV(A) | 11-AC7 | 2-CV(A)7-CP | 100 |
| IS Kit, Wide Opening Crimp Top Vial for Agilent GC Autosampler | Clear | Yes | Silver | Red Natural Rubber/ Clear PTFE, Type 7 | 2-CV | 11-AC7 | HPG | 100 |

For more information, visit thermofisher.com/chromacol

Chromacol 11mm crimping and decrimping tools

- Crimping tools provide a reproducible, secure vial closure for all 11mm vial and seal combinations
- Easy and convenient handling
- High quality construction for durability and long life
- Fine textured surface (powder coated) for a better grip and corrosion resistance



Chromacol 11mm Crimpers and Decrimpers

Items not shown to scale

| Description | Use | Cat. No. | Pack of |
|------------------|---|----------|---------|
| Manual Crimper | Attaches 11mm aluminum crimp seals | CR-11C | 1 |
| Manual Decrimper | Removes 11mm aluminum crimp seals without vial damage | DCB-11C | 1 |

For electronic crimpers and decrimpers look on page 2-091

Compatible with:

Most HPLC and GC autosamplers

Chromacol 2mL, 12x32mm, 11mm snap cap vials

- Superior quality 1st hydrolytic class glass (Type 1) in clear and amber
- Available with a graduated, write-on patch for convenient sample identification
- Wide neck opening design, allows easy filling; requires Micro-Inserts with diameter of 6mm
- Microsampling and High Recovery Vials allow maximum sample extraction without need for separate inserts
- Snap-Cap vials can be used with snap caps or aluminum crimp seal closures



Chromacol 2mL, 12x32mm, 11mm snap vials and inserts

| Description | Glass | Patched | Dimension (mm) | Profile | Total Volume | Usable Volume | Residual (µL) | Cat. No. | Pack of |
|---|---------------|---------|----------------|---------------|--------------|---------------|---------------|------------|---------|
| 11mm Snap Cap Vial | Clear | Yes | 12x32 | Flat Bottom | 2.0mL | 1.5mL | <170 | 2-RV | 500 |
| | Amber | Yes | 12x32 | Flat Bottom | 2.0mL | 1.5mL | <170 | 2-RV(A) | 500 |
| 11mm Snap Cap 1.5mL Vial | Clear | No | 12x32 | High Recovery | 1.5mL | 1.3mL | <4 | 1.5-HRRV | 100 |
| 11mm Snap Cap 300µL Vial, Fused Insert | Clear | Yes | 12x32 | Fused Conical | 300µL | 250µL | <3 | 03-FIRV | 500 |
| | Amber | Yes | 12x32 | Fused Conical | 300µL | 250µL | <3 | 03-FIRV(A) | 500 |
| 300µL Insert | Clear | - | 6x31 | Flat Bottom | 300µL | 200µL | <12 | 03-NV | 1000 |
| Self-centering support device for tapered glass inserts | Polyethylene | - | - | - | - | - | - | MTS-1 | 500 |
| 600UI Crimp Top Vial Polyethylene Insert | Polypropylene | - | 12x32 | Insert Vial | 600µL | - | - | 06-PECV | 500 |
| 600UI Pe Crimp / Snap Vial, Cylindrical Insert | Polypropylene | - | 12x32 | Insert Vial | 600µL | - | - | 06-PERV | 500 |

Chromacol 11mm snap closures

- New design 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
- Easy to apply and easy to remove from Snap vials without tools
- Pre-assembled caps and septa are convenient and minimize contamination from handling
- Snap caps eliminate the need for crimping or de-crimping tools
- Polyethylene caps are chemically inert and suitable for most chromatography applications
- Closures are shipped in sealed polybags to prevent contamination during transport



Chromacol 11mm snap closures

| Description | Cap Color | Cap Material | Septum | Hardness shore | Thickness (mm) | Cat. No. | Pack of |
|---|-----------|--------------|------------------------------------|----------------|----------------|-----------------|---------|
| 11mm Snap Cap, thinned penetration area | Blue | Polyethylene | Integral Molded In Polyethylene | – | – | 11-PSN(B) | 500 |
| 11mm Snap Cap, 6mm hole | Blue | Polyethylene | Red Natural Rubber/Clear PTFE | 58 | 1.0 | 11-PSN(B)-8RT1 | 500 |
| | Blue | Polyethylene | White Silicone/Red PTFE | 57 | 1.0 | 11-PSN(B)-ST1 | 500 |
| | Blue | Polyethylene | Blue Silicone/PTFE | 30 | 1.0 | 11-PSN(B)-ST101 | 500 |
| | Blue | Polyethylene | White Silicone/Blue PTFE, Pre-slit | 57 | 1.0 | 11-PSN(B)-ST1X | 500 |
| | Red | Polyethylene | White Virgin PTFE, 0.01" | 53 | 0.3 | 11-PSN(R)-T02 | 500 |

Chromacol 11mm snap cap wide opening vial convenience kits

- Convenience kits save time during sample preparation
- Includes 100 vials and 100 caps with pre-assembled septa for added convenience during sample preparation
- Reusable two compartment trays protect vials and closure while keeping matching supplies together



Chromacol 11mm snap cap wide opening vial convenience kits

| Kit Type | Glass | Patched | Cap Color | Septum | Vial Cat. No. | Cap Cat. No. | Cat. No. | Pack of |
|---|-------|---------|-----------|-------------------------------|---------------|----------------|-----------|---------|
| Convenience Kit, Wide Opening Snap Vial | Clear | Yes | Blue | White Silicone/Red PTFE | 2-RV | 11-PSN(B)-ST1 | 2-RVST-CP | 100 |
| | Clear | Yes | Blue | Red Natural Rubber/Clear PTFE | 2-RV | 11-PSN(B)-8RT1 | 2-RV8-CP | 100 |

Chromacol 13mm screw vials, 13-425 thread finish

- 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



Images shown are 60% to scale
*40% to scale

Chromacol 13mm screw vials, 13-425 thread finish

| Description | Glass | Patched | Dimension (mm) | Profile | Total Volume (mL) | Usable Volume (mL) | Residual (µL) | Cat. No. | Pack of |
|--|-------|---------|----------------|---------------|-------------------|--------------------|---------------|----------|---------|
| 13-425 Screw Thread Vial | Clear | No | 13x100 | Round Bottom | 10.0 | 8.5 | <500 | 10-SV | 125 |
| | Clear | No | 13x65 | Round Bottom | 5.0 | 4.5 | <500 | 5-SV | 125 |
| | Clear | No | 15x46 | Flat Bottom | 4.0 | 3.5 | <800 | 4-SV | 500 |
| | Amber | No | 15x46 | Flat Bottom | 4.0 | 3.5 | <800 | 4-SV(A) | 500 |
| 13-425 Screw Thread 3.5mL High Recovery Vial | Clear | No | 15.25x46 | High Recovery | 3.5 | 3.0 | <12 | 3.5-HRSV | 250 |

Chromacol 13-425 Thread Caps and Septa

- Open top caps are designed to be used with any of our 12mm septa
- Polypropylene caps are chemically inert and suitable for most chromatography applications
- Pre-assembled caps and septa are convenient and minimize contamination from handling



Chromacol 13-425 Screw thread caps and septa

| Description | Cap Color | Cap Material | Septum | Hardness shore | Thickness (mm) | Cat. No. | Pack of |
|--|-----------|---------------|--------------------------------|----------------|----------------|----------|---------|
| 13mm Open Top Screw Cap, 13-425 thread, 8mm hole | Black | Polypropylene | – | – | – | 12-SC | 500 |
| 13mm Solid Top Cap, 13-425 thread | Black | Polypropylene | – | – | – | 12-SCS | 500 |
| Septum for 13-425 Screw Caps | – | – | Red Natural Rubber/ Clear PTFE | 38 | 1.0 | 12-6RT1 | 500 |
| | – | – | White Silicone/Red PTFE | 57 | 2.0 | 12-ST2 | 500 |
| | – | – | Blue Silicone/PTFE | 30 | 1.0 | 12-ST101 | 500 |



Chromacol 13-425 Screw thread caps and septa (continued)

| Description | Cap Color | Cap Material | Septum | Hardness shore | Thickness (mm) | Cat. No. | Pack of |
|--|-----------|---------------|-------------------------------|----------------|----------------|------------|---------|
| 13mm Open Top Screw Cap, 13-425 thread, 8mm hole | Black | Polypropylene | White Silicone/Red PTFE | 57 | 1.3 | 13-SC-ST15 | 500 |
| | Black | Polypropylene | Red Natural Rubber/Clear PTFE | 58 | 1.0 | 12-SC-8RT1 | 500 |
| | Black | Polypropylene | White Silicone/Red PTFE | 57 | 2.0 | 12-SC-ST2 | 500 |

Chromacol shell/neckless vials

- Superior quality 1st hydrolytic class glass (Type 1) in clear
- Polyethylene cap with starburst center design eases syringe needle penetration
- Convenience kits include equal quantities of vials and caps



Chromacol shell/neckless vials

| Description | Glass | Patched | Dimension (mm) | Profile | Total Volume (mL) | Usable Volume (mL) | Residual (µL) | Cat. No. | Pack of |
|-------------------------------------|-------|---------|----------------|-------------|-------------------|--------------------|---------------|------------|---------|
| 1mL Neckless/Shell Vial | Clear | No | 8x40 | Flat Bottom | 1.25 | 1.0 | <80 | 1-NWV | 500 |
| 1mL Neckless/Shell Vial with PE-Cap | Clear | No | 8x40 | Flat Bottom | 1.25 | 1.0 | <80 | 1-NWV-C | 200 |
| 1mL Neckless/Shell Vial with PE-Cap | Amber | No | 8x40 | Flat Bottom | 1.25 | 1.0 | <81 | 1-NWV(A)-C | 200 |
| 2mL Neckless/Shell Vial | Clear | No | 12x32 | Flat Bottom | 2.5 | 2.0 | <175 | 2.5-NV | 500 |
| 4mL Neckless/Shell Vial with PE-Cap | Clear | No | 15x46 | Flat Bottom | 5.5 | 4.0 | <350 | 4-NWV-C | 100 |

Chromacol headspace vials

Glass vials with 20mm crimp seal or 18mm screw thread finish are designed to fit most headspace autosamplers

- Superior quality 1st hydrolytic class glass (Type 1) in clear and amber, meets all requirements of Pharm. US, EU, JPN
- Round bottom vials are compatible with most autosamplers and more easily handled by robotic arms that lift the vial from the tray
- Vials feature beveled edge 20mm crimp finish
- The bevel edge on the lip of the vial provides additional sealing power for greater leak resistance under high pressure
- Screw thread headspace vials are convenient and do not require tools
- Multiple turn threading maintains a tight seal through extreme heating cycles



Chromacol headspace vials

| Description | Glass | Patched | Dimension (mm) | Finish | Profile | Total Volume (mL) | Usable Volume (mL) | Cat. No. | Pack of |
|---------------------------|-------|---------|----------------|--------------|--------------|-------------------|--------------------|----------|---------|
| 20mm Headspace Crimp Vial | Clear | No | 30x60 | Beveled Edge | Flat Bottom | 27 | 27 | 27-CV | 100 |
| | Clear | No | 23x75 | Beveled Edge | Round Bottom | 22 | 20 | 22-CV | 125 |
| | Clear | No | 22.5x75 | Beveled Edge | Round Bottom | 21 | 20 | 20-CV | 125 |
| | Amber | No | 22.5x75 | Beveled Edge | Round Bottom | 21 | 20 | 20-CV(A) | 125 |

For more information, visit thermofisher.com/chromacol



Chromacol headspace vials (continued)

| Description | Glass | Patched | Dimension (mm) | Finish | Profile | Total Volume (mL) | Usable Volume (mL) | Cat. No. | Pack of |
|-------------------------------|-------|---------|----------------|--------------|--------------|-------------------|--------------------|----------|---------|
| 20mm Headspace Crimp Vial | Clear | No | 22.5x46 | Beveled Edge | Round Bottom | 12 | 10 | 10-CV | 125 |
| | Amber | No | 22.5x46 | Beveled Edge | Round Bottom | 12 | 10 | 10-CV(A) | 125 |
| | Clear | No | 18x50 | Beveled Edge | Round Bottom | 10 | 9 | 9-CV | 100 |
| | Clear | No | 22x38 | Beveled Edge | Round Bottom | 8 | 6 | 6-CV | 125 |
| 18mm Screw Top Headspace Vial | Clear | No | 22.5x76 | Screw Thread | Round Bottom | 21 | 20 | 20-HSV | 125 |
| | Clear | No | 22.5x46 | Screw Thread | Round Bottom | 12 | 10 | 10-HSV | 125 |

Chromacol 20mm crimping and decrimping tools

- Crimping tools provide a reproducible, secure vial closure for all 20mm vial and seal combinations
- Easy and convenient handling
- High quality construction for durability and long life
- Fine textured surface (powder coated) for a better grip and corrosion resistance



Items not shown to scale

Chromacol 20mm crimping and decrimping tools

| Description | Use | Cat. No. | Pack of |
|------------------|---|----------|---------|
| Manual Crimper | Attaches 20mm crimp seals | CR-20C | 1 |
| Decapping Pliers | Removes 20mm crimp seals, Protective gloves recommended | DCR-20 | 1 |
| Manual Decrimper | Removes 20mm crimp seals without vial damage | DCB-20C | 1 |

Chromacol headspace caps and septa

- Use magnetic seals with PAL/CTC/Leap Technologies, Gerstel and other magnetic transport autosamplers
- 20mm crimp seals must be applied with a crimping tool
- Pre-assembled caps and septa are convenient and minimize contamination from handling
- Extended temperature range products for high-temperature headspace applications



Images shown are 50%
to scale

Chromacol headspace caps and septa

| Description | Cap Color | Cap Material | Septum | Hardness °shore | Thickness (mm) | Cat. No. | Pack of |
|-----------------------------------|-----------|------------------|--------|-----------------|----------------|------------|---------|
| 20mm Crimp Cap, 9mm hole | Silver | Aluminum | - | - | - | 20-ACB | 500 |
| 20mm Magnetic Crimp Cap, 6mm hole | Silver | Tinplate | - | - | - | 20-MCB | 500 |
| | Red | Alu/ Tinplate | - | - | - | 20-MCBC(R) | 500 |
| 18mm Magnetic Screw Cap, 8mm hole | Silver | Steel | - | - | - | 18-MSB | 125 |



| | | | | | | | |
|----------------------------|---|---|---|----|------|----------|------|
| Septum for 20mm Crimp Caps | - | - | 20mm Gray Bromobutyl Stopper | 55 | 3.0 | 20-B3P | 500 |
| | - | - | 20mm Molded Gray Chlorobutyl | 52 | 3.0 | 20-CB3 | 1000 |
| | - | - | 20mm Molded Gray Bromobutyl/ Gray PTFE | 52 | 3.0 | 20-CBT3 | 1000 |
| | - | - | 20mm Molded Black Bromobutyl/Gray PTFE, Bellows Type | 52 | 3.0 | 20-CBT3B | 1000 |
| | - | - | 20mm Silicone/ PTFE for liquid – liquid extraction | - | 0.25 | 20-LLX | 100 |
| | - | - | 20mm Blue Silicone/Natural PTFE | 45 | 3.0 | 20-ST3 | 500 |
| | - | - | 20mm Red Silicone/Natural PTFE, high temperature | 45 | 3.1 | 20-ST3HT | 100 |
| | - | - | 20mm Blue Silicone/PTFE | 30 | 1.0 | 20-ST101 | 500 |

Chromacol headspace caps and septa (continued)

| Description | Cap Color | Cap Material | Septum | Hardness °shore | Thickness (mm) | Cat. No. | Pack of |
|---|-----------|------------------|--|-----------------|----------------|-----------------|---------|
| Septum for 18mm Screw Caps | - | - | 18mm Blue Silicone/PTFE | 30 | 1.0 | 18-ST101 | 125 |
| 20mm Composite Magnetic Crimp Cap, 8mm hole | Blue | Alu/ Tinplate | 20mm Blue Silicone/Natural PTFE | 45 | 3.0 | 20-MCBC-ST3 | 500 |
| | Red | Alu/ Tinplate | 20mm Molded Gray Chlorobutyl | 52 | 3.0 | 20-MCBC(R)-CBT3 | 500 |
| | Red | Alu/ Tinplate | 20mm Blue Silicone/Natural PTFE | 45 | 3.0 | 20-MCBC(R)-ST3 | 500 |
| 20mm Magnetic Tinplate Crimp Cap | Silver | Tinplate | 20mm Blue Silicone/Natural PTFE | 45 | 3.0 | 20-MCB-ST3 | 500 |
| 20mm Crimp Cap, 9mm hole | Silver | Aluminum | 20mm Molded Gray/Bromobutyl/ Gray PTFE | 52 | 3.0 | 20-AC-CBT3 | 500 |
| | Silver | Aluminum | 20mm Blue Silicone/Natural PTFE | 45 | 3.0 | 20-AC-ST3 | 500 |
| 18mm Magnetic Screw Cap, 8mm hole | Silver | Steel | 18mm Molded Blue Chlorobutyl/ Gray PTFE | 52 | 3.0 | 18-MSC-CBT3 | 125 |
| | Silver | Steel | 18mm Blue Silicone/PTFE, not prefitted | 30 | 1.0 | 18-MSC-ST101 | 125 |
| | Silver | Steel | 18mm Blue Silicone/Natural PTFE | 45 | 2.0 | 18-MSC-ST201 | 125 |
| 20mm Magnetic Tinplate Crimp Cap | Silver | Tinplate | 20mm Red Silicone/Natural PTFE, high temperature (300°C) | 45 | 3.1 | 20-MCB-ST3HT | 500 |
| 18mm Magnetic Screw Cap, 8mm hole | Silver | Steel | 18mm Red Silicone/Natural PTFE, high temperature (250°C) | 45 | 3.1 | 18-MSC-ST3HT | 125 |
| 20mm Magnetic Crimp Cap, 8mm hole | Gold | Tinplate | 20mm White Silicone/Blue PTFE with thin Penetration Area | 45 | 3mm / 1.5mm | 20-MCB-STME | 100 |
| 20mm Magnetic Crimp Cap, 8mm hole | Blue | Alu/ Tinplate | 20mm White Silicone/Blue PTFE with thin Penetration Area | 45 | 3mm / 1.5mm | 20-MCBC-STME | 100 |
| 18mm Magnetic Crimp Cap, 8mm hole | Silver | Steel | 20mm White Silicone/Blue PTFE with thin Penetration Area | 45 | 2.2mm / 1.5mm | 18-MSC-STME | 100 |

| Description | Cap Material | Septum | Cat. No. | Pack of |
|--|--------------|---------------------|------------|---------|
| Wash Kit Closures, PE Snap Cap T/S, slit, PK/100 | Polyethylene | PTFE/Silicone, Slit | WSKTCL-100 | 100 |

Chromacol headspace vial convenience kits

- Include matched quantities of vials and seals with pre-assembled septa for added convenience during sample preparation
- Convenience kits save time during sample preparation



Items not shown to scale

Chromacol headspace vial convenience kits

| Kit Type | Glass | Patched | Cap Color | Septum | Vial Cat. No. | Cap Cat. No. | Cat. No. | Pack of |
|--|-------|---------|-----------|---|---------------|--------------|----------------|---------|
| Convenience Kit, 20mL Headspace Screw Vial, Round Bottom, Steel Screw Cap, 8mm hole | Clear | No | Silver | 18mm Blue Silicone/Natural PTFE | 20-HSV | 18-MS-ST201 | 20-HSVST201-CP | 125 |
| Convenience Kit, 20mL Headspace Crimp Vial, Beveled Edge, Round Bottom, Al Crimp Cap, 8mm hole | Clear | No | Silver | 20mm Molded Blue Chlorobutyl/ Gray PTFE | 20-CV | 20-AC-CBT3 | 20-CVCBT3-CP | 125 |
| Convenience Kit, 20mL Headspace Crimp Vial, Beveled Edge, Round Bottom, Al Crimp Cap, 8mm hole | Clear | No | Silver | 20mm Blue Silicone/Natural PTFE | 20-CV | 20-AC-ST3 | 20-CVST3-CP | 125 |

| Description | Glass | Septum | Cat. No. | Pack of |
|---|-------|---------------------|----------|---------|
| Wash Kit, PP Box 25 cavities, 10ml Glass Crimp Vial , PE Snap Cap S/T, slit, 25 each vial + closure | Clear | PTFE/Silicone, Slit | WSKT-25 | 25 |



Chromacol sample storage screw thread vials

- Capacity range up to 40mL
- Superior quality 1st hydrolytic class glass (Type 1) in clear and amber
- Provide consistent pH for duration of sample storage life
- PTFE-Lined Solid-top storage caps



Caps and Septa images 50% to scale

Chromacol sample storage screw thread vials

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

For smaller vials look at the previous sections



Caps and Septa images 50% to scale

Chromacol sample storage screw thread caps and septa

| Description | Cap Color | Cap Material | Septum | Hardness °shore | Thickness (mm) | Cat. No. | Pack of |
|------------------|-----------|---------------|--------------------|-----------------|----------------|----------|---------|
| 24-400 Screw Cap | White | Polypropylene | PTFE/PE Foam Liner | – | 1.0 | 24-SCST | 100 |
| 20-400 Screw Cap | White | Polypropylene | PTFE/PE Foam Liner | – | 1.0 | 20-SCST | 100 |
| 18-400 Screw Cap | White | Polypropylene | PTFE/PE Foam Liner | – | 1.0 | 18-SCST | 100 |
| 15-425 Screw Cap | White | Polypropylene | PTFE/PE Foam Liner | – | 1.0 | 15-SCST | 100 |
| 13-425 Screw Cap | White | Urea | PTFE/PE Foam Liner | – | 1.0 | 13-SCST | 100 |

For more information, visit thermofisher.com/chromacol

Chromacol vial racks and storage boxes

- For a safe working position on the lab bench and during transport
- Ideal for space-saving storage in fridges
- Temperature resistant from -90°C to 121°C (except Foam)
- Chemically resistant and fairly robust; autoclavable (except Foam)



Items not shown to scale

Chromacol vial racks and storage boxes

| Description | Color | Material | Dimension (mm) | No of Vials | OD of Vials (mm) | Stackable | Cat. No. | Pack of |
|--|---|-------------------|----------------|-------------|------------------|-----------|------------|---------|
| Autoclavable freezer and storage box with lid, alphanumeric grid, -90°C to 121°C | 5 assorted colors (red, yellow, blue, green, natural) | Polypropylene | 155x140x55 | 100 | 12 | Yes | B-100 | 5 |
| | Silver | Anodised Aluminum | 210x134 | 28 | 22 | No | T-28 | 5 |
| Vial Tray | Black | Foam | 210x134 | 105 | 12 | No | T-105 | 5 |
| SBS/ANSI standard footprint Vial Rack | Silver | Anodised Aluminum | 127,8x85,5 | 54 | 12 | No | 60180-1232 | 1 |
| | Silver | Anodised Aluminum | 127,8x85,5 | 96 | 6 | No | 60180-0632 | 1 |

Chromacol EPA, TOC and Scintillation screw vials

Level 300 cleaned and certified

- Processed and packaged under a registered ISO Quality Management System
- Laboratory certified to meet U.S. EPA Super Fund Standards in accordance with the latest edition of EPA's "Specifications and Guidance for Contaminant Free Sample Containers"
- Every case of Level 300 product contains a Certificate of Analysis and is custody sealed to ensure reliable chain-of-custody

Level 200 cleaned

- Processed and packaged under a strict registered ISO Quality Management System in the same manner as Level 300 products
- Level 200 products are not certified

- Every case of product is labeled with its production number and is custody sealed to ensure reliable chain-of-custody

Level 100

- Level 100 products are not certified or pre-cleaned
- Every case of product is labeled with its production number and is custody sealed to ensure reliable chain-of-custody

TOC vials

- The only low-level certified vials in the market for Total Organic Carbon (TOC) testing and sampling
- Major TOC instrument manufacturers recommend these vials when analysis of low levels of TOC requires low background level assurance

- Each lot of vials is tested and certified to contribute less than 10ppb TOC as background or for less stringent applications the 20ppb TOC version

- Certificate of Analysis is included with lot production numbers

Thermo Scientific™ Sterilin™ Scintillation vials

- Provide the very lowest background count and benefit from very high optical clarity.
- Typical background count of 13CPM or lower, compared to an average 16-65CPM from competitive products
- Noise level of 2.28 and a quenching index factor of 349

Chromacol EPA screw vial kits

| Kit Type | Glass | Dimension (mm) | Total Volume (mL) | Level | Septum | Cat. No. | Pack of |
|---|-------|----------------|-------------------|-----------------------|-----------------|-----------------|---------|
| EPA Screw Vial Assembled Kit Vials/Septa/Caps | Clear | 28x95 | 40 | Level 100 | 0.01" 1Silicone | 40-EPAVCS | 100 |
| | Clear | 28x95 | 40 | Level 200 Pre-cleaned | | 40-EPAVCS-PC | 72 |
| | Clear | 28x95 | 40 | Level 300 Pre-cleaned | | 40-EPAVCS-PC3 | 72 |
| | Amber | 28x95 | 40 | Level 100 | | 40-EPAVCS(A) | 100 |
| | Amber | 28x95 | 40 | Level 200 Pre-cleaned | | 40-EPAVCS(A)-PC | 72 |
| | Clear | 28x57 | 20 | Level 100 | | 20-EPAVCS | 100 |
| | Amber | 28x57 | 20 | Level 100 | | 20-EPAVCS(A) | 100 |

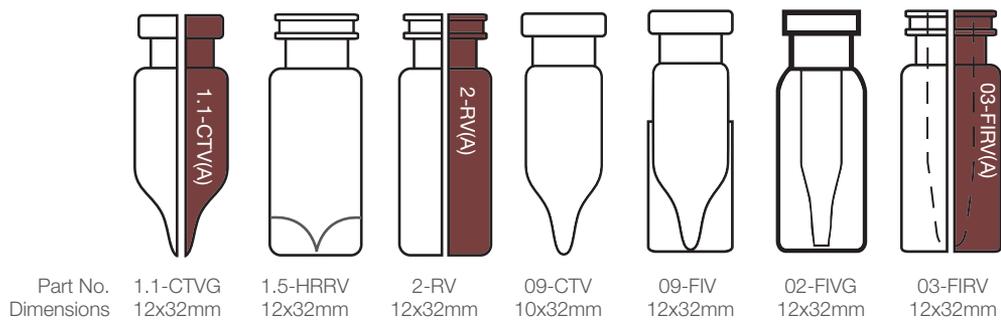
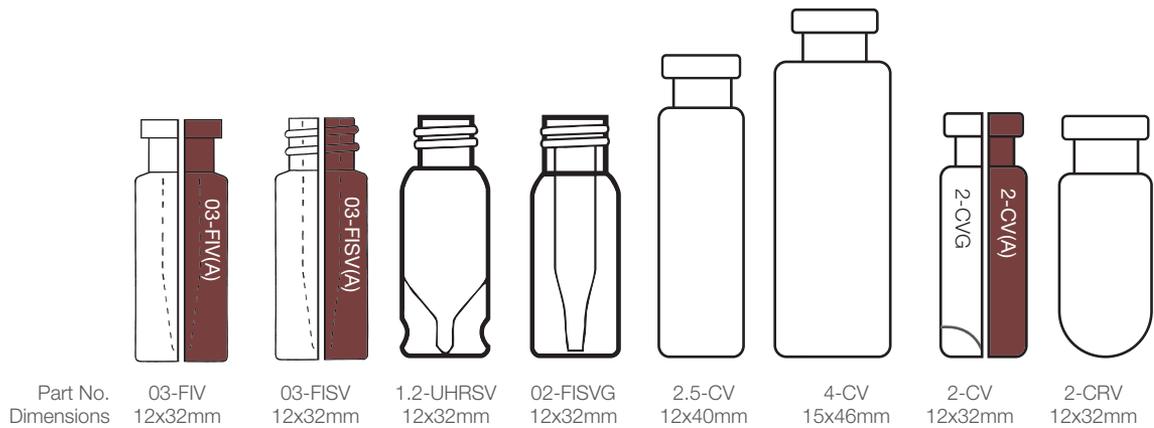
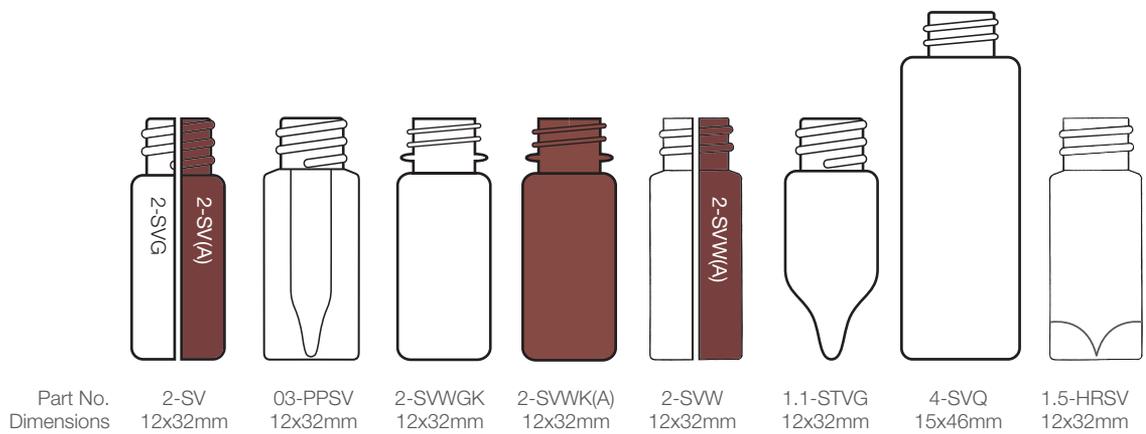
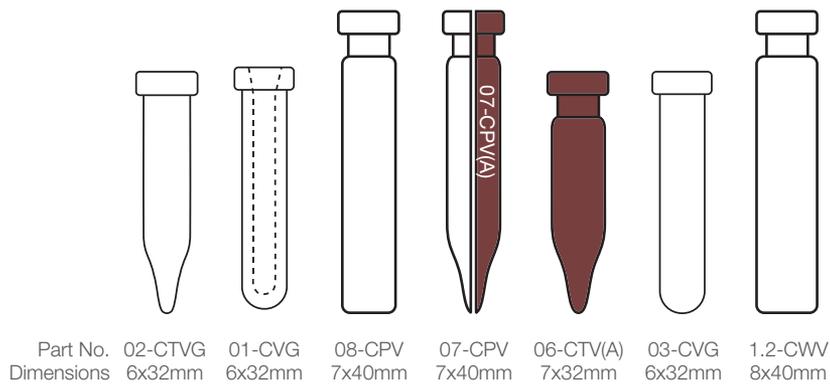
Chromacol TOC vial kits (assembled)

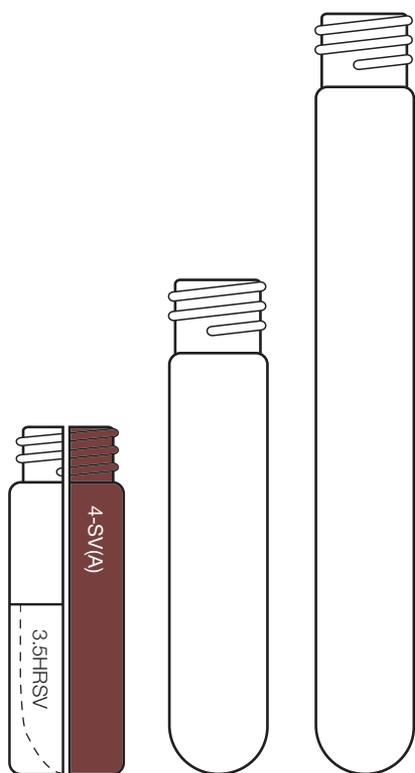
| Description | Glass | Dimension (mm) | Total Volume (mL) | Cap Color | Cap Material | Septum | Cat. No. | Pack of |
|--|-------|----------------|-------------------|-----------|---------------|---------------------------|-------------|---------|
| TOC clear vial with bonded cap cover, open top cap TOC 10ppb | Clear | 28x96 | 40 | White | Polypropylene | Beige PTFE/White Silicone | 40-TOCSV-10 | 72 |
| TOC clear vial with cap bonded cover, open top cap TOC 20ppb | Clear | 28x96 | 40 | White | Polypropylene | Beige PTFE/White Silicone | 40-TOCSV-20 | 72 |

Chromacol scintillation vial kit

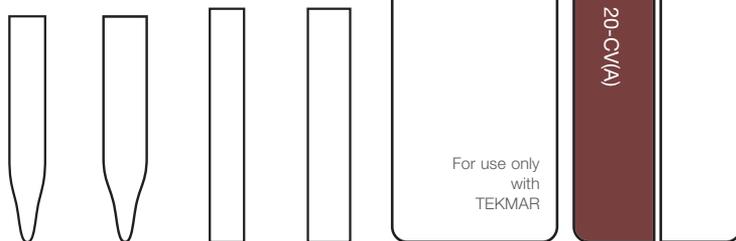
| Description | Glass | Dimension (mm) | Total Volume (mL) | Noise | Background Count | Quenching Index Factor | Cat. No. | Pack of |
|--------------------------------|-------|----------------|-------------------|-------|------------------|------------------------|-----------|---------|
| 20mL vial with foil lined caps | Clear | 27x57 | 20 | 2.28 | 13 CPM | 349 | 20-EPSVCA | 500 |

Chromacol vial comparison chart





| | | | |
|------------|---------|---------|----------|
| Part No. | 4-SV | 5-SV | 10-SV |
| Dimensions | 15x46mm | 13x65mm | 13x100mm |



| | | | | | | |
|------------|--------|----------|--------|--------|---------|--------------|
| Part No. | 02-MTV | 02-MTVWG | 02-NV | 03-NV | 22-CV | 20-CV/20-HSV |
| Dimensions | 5x30mm | 6x30mm | 5x31mm | 6x31mm | 22x75mm | 22x75mm |



| | | | | | |
|------------|---------|---------|-----------|---------|---------------|
| Part No. | 9-CV | 6-CV | 20-EPSVCA | 27-CV | 10-CV /10-HSV |
| Dimensions | 18x50mm | 22x38mm | 27x57mm | 30x60mm | 22x46mm |

Chromacol caps and septa comparison chart

| | | | | | | | | | |
|------------------------|--|---|---|---|---|---|--|--|--|
| Part No. Dimensions |  8-AC-ST15 8x5mm |  8-AC-ST101 8x5mm | | | | | | | |
| Part No. Dimensions |  8-ACT 8x5mm |  8-PEC1 8x5mm |  *8-SC 8x9mm |  *8-SCJ 8x9mm |  8-SC-8RT1 8x9mm |  8-SC-ST15 8x9mm | | | |
| Part No. Dimensions |  8-ST14 8x1.4mm |  8-ST14X 8x1.4mm |  8-ST143 8x1.5mm |  8-ST144 8x1.4mm |  8-6RT1 8x1mm |  8-ST101 8x1mm |  8-T02 8x0.25mm |  8-TST1 8x1mm |  8-ST15 8x1.5mm |
| Part No. Dimensions |  *9-SCK(B)- 8RT1 9x6.5mm |  9-SCK(B) ST101 9x6.5mm |  *9-SCK(B)-ST1 9x6.5mm |  9-SCK(B)- TST1 9x6.5mm |  9-SCSK-8RT1 9x6.5mm |  *11-AC6 11x6mm | | | |
| Part No. Dimensions |  *11-AC7 11x6mm |  11-AC-ST101 11x6mm |  11-AC-ST101X 11x6mm |  11-AC(B)-ST144 11x6mm |  11-AC-ST15 11x6mm |  11-ACT 11x6mm | | | |
| Part No. Dimensions |  11-AC-TST1 11x6mm |  11-LLX 11x3mm |  11-PEC1 11x6mm |  11-PEC1X 11x6mm |  11-PEC-ST1 11x7mm |  11-MC-ST15 | | | |

*Cap available in alternative colors.
See below for more details



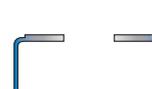
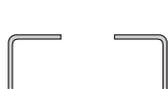
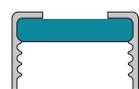
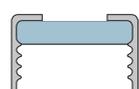
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|------------|-----------------|----------------|----------------|-----------------|---------------|
| Part No. | 11-PSN(B)-ST101 | *11-PSN(R)-T02 | 11-PSN(B)-8RT1 | *11-PSN(B)-ST1X | 11-PSN(B)-ST1 |
| Dimensions | 11x6.5mm | 11x6.5mm | 11x6.5mm | 11x6.5mm | 11x6.5mm |



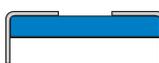
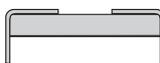
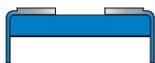
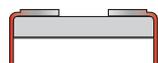
| | | | | | | |
|------------|---------|---------|-----------|------------|------------|---------|
| Part No. | *12-SC | 12-SCS | 12-SC-ST2 | 12-SC-8RT1 | 13-SC-ST15 | 13-SCST |
| Dimensions | 12x10mm | 12x10mm | 12x10mm | 12x10mm | 12x10mm | 12x10mm |



| | | | |
|------------|--------|---------|----------|
| Part No. | 12-ST2 | 12-6RT1 | 12-ST101 |
| Dimensions | 12x2mm | 12x1mm | 12x1mm |



| | | | | | | |
|------------|---------|-------------|--------------|--------|--------|----------|
| Part No. | 18-MSC | 18-MSC-CBT3 | 18-MSC-ST201 | 20-ACB | 20-MCB | *20-MCBC |
| Dimensions | 18x13mm | 18x13mm | 18x13mm | 20x7mm | 20x7mm | 20x7mm |



| | | | | | | |
|------------|-----------------|--------------|------------|-----------|--------|---------|
| Part No. | 20-MCBC(R)-CBT3 | *20-MCBC-ST3 | 20-AC-CBT3 | 20-AC-ST3 | 20-CB3 | 20-CBT3 |
| Dimensions | | 20x7mm | 20x7mm | 20x7mm | 20x3mm | 20x3mm |



| | | | | | |
|------------|----------|--------|--------|----------|----------|
| Part No. | 20-CBT3B | 20-LLX | 20-ST3 | 20-ST3HT | 20-ST15 |
| Dimensions | 20x3mm | 20x3mm | 20x3mm | 20x3.1mm | 20x1.5mm |



| | | | |
|------------|----------|----------|-----------|
| Part No. | 20-ST101 | 18-ST101 | 20-2FB3 |
| Dimensions | 20x1mm | 18x1mm | 20x13.4mm |

Electronic crimping and decrimping tools

Adjustable crimp and highest sample security

Product features and benefits

- One hand operation with a simple push of a button
- Error message feedback after the incorrect crimping process
- Adjustable settings for best crimp results
- Actual crimp power setting displayed on the color screen
- 8 different languages available – EN, CN, JA, DE, FR, ES, IT, KO
- Statistics and log of recent crimping results
- Motor with extended lifetime and no particle emission



Versatile and programmable Crimp Station

Maximized sample security with electronic crimping tools

Our new electronic Thermo Scientific™ Crimper portfolio includes tools for 8mm, 11mm, 13mm, and 20mm Crimp Caps. The tools provide all important settings like actual crimp power at one glance. The hand-held Crimpers and Decrimpers allow crimping of vials with aluminum, pressure release and bi-metal caps while remaining in most sample trays. If steel caps are in use we recommend the Thermo Scientific™ High-Power Crimp Station as it provides the highest crimping force independent from battery charge status. The Crimp Head selection includes also special crimp heads for 13mm and 20mm flip-off caps, further specials are available on request.



Exchangeable jaw sets for crimping or decrimping of aluminum and stainless steel seals on various diameter vials

For more information, visit thermofisher.com/chromacol

Electronic High-Power Crimper

Each High-Power Crimper comes with 12 volt DC supply with power cord.

Crimp and Decrimp Heads for the High-Power Crimper are included in the kits and also available separately.

The High-Power Crimper can be used as a hand-held device – additional convenience applies with the optional adjustable accessory base which measures 25.4 x 17.7cm; the maximum height for the crimper stand is 37.6cm.

| Description | Cat. No. | Pack of |
|---|-----------------|---------|
| Programmable Electronic High Power Crimper | 60180-ECRHB | 1 |
| Programmable Electronic High Power Crimper Kit 11mm <i>Including 11mm Crimp Head and 11mm Decrimp Head</i> | 60180-ECRH11KIT | 1 |
| Programmable Electronic High Power Crimper Kit 11mm <i>Including 13mm Crimp Head and 13mm Decrimp Head</i> | 60180-ECRH13KIT | 1 |
| Programmable Electronic High Power Crimper Kit 20mm <i>Including 20mm Crimp Head and 20mm Decrimp Head</i> | 60180-ECRH20KIT | 1 |

Accessories for High-Power Crimper

| Description | Cat. No. | Pack of |
|---|------------|---------|
| Accessory Base for Electronic Crimpers <i>Height adjustable and solvent resistant (consists of base plate and bar)</i> | ECRH-STAND | 1 |
| 8mm Crimp Head | ECMJ-8 | 1 |
| 11mm Crimp Head | ECMJ-11 | 1 |
| 11mm Decrimp Head | ECDJ-11 | 1 |
| 13mm Crimp Head | ECMJ-13 | 1 |
| 13mm Decrimp Head | ECDJ-13 | 1 |
| 13mm Flip-Off Crimp Head | ECMJ-13FO | 1 |
| 20mm Crimp Head | ECMJ-20 | 1 |
| 20mm Decrimp Head | ECDJ-20 | 1 |
| 20mm Flip-Off Crimp-Head | ECMJ-20FO | 1 |



Electronic hand-held Crimpers and Decrimpers

The battery charge icon on the color screen of the hand-held tools changes to red when battery is low. Each hand-held tool comes with fully rechargeable lithium ion battery and universal power supply/recharger and international plug adapters.

| Description | Cat. No. | Pack of |
|--|--------------|---------|
| Crimper for 8mm Aluminum Crimp Caps | 60180-ECR8 | 1 |
| Crimper for 11mm Aluminum Crimp Caps | 60180-ECR11 | 1 |
| Crimper for 13mm Aluminum Crimp Caps | 60180-ECR13 | 1 |
| Crimper for 20mm Aluminum Crimp Caps | 60180-ECR20 | 1 |
| Decrimper for 11mm Aluminum Crimp Caps | 60180-EDCB11 | 1 |
| Decrimper for 13mm Aluminum Crimp Caps | 60180-EDCB13 | 1 |
| Decrimper for 20mm Aluminum Crimp Caps | 60180-EDCB20 | 1 |



Well plates for chromatography

A full selection of high quality sample well plates for your UHPLC, LC and GC applications

We offer a comprehensive range of Thermo Scientific 96- and 384- well plates for complex and routine analyses in high-throughput screening laboratories.

We offer a broad selection of polypropylene (PP) well plates that meet ANSI and SBS standards with different sealing options and fit most manifolds, autosamplers, and robots.

Handle more samples in less time

- Low volume and high recovery cavity

Solutions for all applications

- Chromatography tested for solvent compatibility and inertness

Ultimate sample security

- No leeching due to high-end material



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

WebSeal well plates, plastic, non-coated, non-sterile, chromatography tested

- Thermo Scientific™ WebSeal™ well plates are manufactured from a GC/MS tested polypropylene material
- Microplates are chemically and thermally resistant and will tolerate temperatures from -80°C to $+121^{\circ}\text{C}$
- SBS and ANSI standard footprint design for broad instrument compatibility
- Microplates are ideal for pharmaceutical applications, sample collection and storage, combinatorial chemistry and HTS applications
- U- and V- bottom wells for optimal sample recovery
- Low binding PP for homogenous assays and storage



WebSeal well plates, plastic, non-coated, non-sterile, chromatography tested

| Description | Material | Total Height | Well Format | Total Volume (μL) | Working Volume Range $\mu\text{L}/$ Well | Cat. No. | Pack of |
|--------------------------------|---------------------------------|--------------|---|-----------------------------------|--|------------|------------|
| 96 Well Microplate, Round Well | PP | 14.4 | V-Shape, 8mm Diameter | 450 | 10-400 | 60180-P100 | 20 |
| | PP | 14.4 | V-Shape, 8mm Diameter | 450 | 10-400 | 60180-P130 | 120 |
| 96 Well Plates, Round Well | PP | 26.5 | U-Shape, 8mm Diameter, Mid Height Plate | 1100 | 50-900 | 60180-P154 | 50 |
| | PP | 31.6 | U-Shape, 8mm Diameter, Mid Height Plate | 1300 | 50-1000 | 60180-P103 | 5 |
| | PP | 31.6 | U-Shape, 8mm Diameter, Mid Height Plate | 1300 | 50-1000 | 60180-P133 | 50 |
| | PP | 45.0 | U-Shape, 8mm Diameter | 2000 | 50-1900 | 60180-P104 | 5 |
| | PP | 45.0 | U-Shape, 8mm Diameter | 2000 | 50-1900 | 60180-P124 | 50 |
| | 96 Deep Well Plate, Square Well | PP | 31.0 | U-Shape, Square, Mid Height Plate | 1600 | 50-1300 | 60180-P155 |
| PP | | 44.0 | V-Shape, Square | 2000 | 50-1900 | 60180-P105 | 5 |
| PP | | 44.0 | V-Shape, Square | 2000 | 50-1900 | 60180-P135 | 50 |
| 384 Well Microplate | PP | 15.5 | V-Shape, Square, Micro Titer Plate | 145 | 4-120 | 60180-P109 | 10 |
| | PP | 15.5 | V-Shape, Square, Micro Titer Plate | 145 | 4-120 | 60180-P129 | 100 |
| | PP | 22.0 | V-Shape, Square, Deep Well Plate | 252 | 5-240 | 60180-P107 | 5 |
| | PP | 22.0 | V-Shape, Square, Deep Well Plate | 252 | 5-240 | 60180-P127 | 100 |

WebSeal mats and sealing tapes, non-sterile

- Mats manufactured of EVA (Ethylene-vinyl acetate) or pure silicone with or without PTFE coating
- The footprint permits plates to be securely stacked without robotic arm interference
- Eliminates cross contamination of samples
- Dry heat autoclavable (only Silicone mats) with excellent chemical compatibility, withstand low temperature to -80°C
- Resists coring and tearing
- Superior resealability after multiple injections
- Available pre-slit for easy penetration and reduced vacuum formation
- Sealing tapes minimize evaporation and protect samples from contamination and spilling.
- Adhesive seals effectively seal all microplate formats
- Wide range of adhesive seals for every assay
- Thin, lightweight tapes seal onto the plate with a convenient, handheld applicator (available separately, Cat. No. 60180-M950)



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

WebSeal mats and sealing tapes, non-sterile

| Description | Color | Material | Well Design | Pre-slit | Cat. No. | Pack of |
|---|--------|-------------------|--|----------|------------|---------|
| WebSeal Mats CLR Silicone Mat, Round Well | Clear | Silicone | 96 Round Well, 8mm Diameter, Flat Base with Cross | No | 60180-M184 | 50 |
| WebSeal Mats (Alcohol Resistant), Round Well | Clear | EVA | 96 Round Well, 8mm Diameter | No | 60180-M101 | 5 |
| | Clear | EVA | 96 Round Well, 8mm Diameter | No | 60180-M171 | 50 |
| WebSeal CLR Silicone Mat, Round Well | Clear | Silicone | 96 Round Well – Flat Base, 8mm Diameter, Large Penetration Area | No | 60180-M134 | 5 |
| | Clear | Silicone | 96 Round Well – Flat Base, 8mm Diameter, Large Penetration Area | Yes | 60180-M183 | 5 |
| WebSeal Mats (Solvent Resistant), Round Well | Blue | Silicone/PTFE | 96 Round Well – Flat Base, 8mm Diameter, Large Penetration Area | No | 60180-M102 | 5 |
| | Blue | Silicone/PTFE | 96 Round Well – Flat Base, 8mm Diameter, Large Penetration Area | Yes | 60180-M103 | 5 |
| WebSeal Mats (Alcohol Resistant), Square Well | Clear | EVA | 96 Square Well - Flat Base | No | 60180-M177 | 5 |
| | Clear | EVA | 96 Square Well - Flat Base | No | 60180-M178 | 50 |
| WebSeal CLR Silicone Mat, Square Well | Clear | Silicone | 96 Square Well – Flat Base, 8mm Diameter, Large Penetration Area | No | 60180-M121 | 5 |
| | Clear | Silicone | 96 Square Well – Flat Base, 8mm Diameter, Large Penetration Area | Yes | 60180-M123 | 5 |
| | Clear | Silicone | 96 Square well – Flat Base, 8mm Diameter, Flat Base with Cross | No | 60180-M185 | 50 |
| | Clear | Silicone | 384 Square Well | No | 60180-M126 | 5 |
| | Clear | Silicone | 384 Square Well | Yes | 60180-M150 | 5 |
| | Clear | Silicone | 384 Square Well, Flat Base with Cross | No | 60180-M186 | 50 |
| Sealing Tape, -40°C - 90°C | Clear | PE/Silicone | N/A | No | 60180-M142 | 100 |
| Sealing Tape, -70°C - 100°C | Clear | PES/Silicone | N/A | No | 60180-M143 | 100 |
| Sealing Tape, -80°C - 120°C | Silver | Aluminum/Silicone | N/A | N/A | 60180-M144 | 100 |
| Sealing Tape with SRA (Synthetic Rubber Adhesive) | Clear | Polyolefin/Rubber | N/A | No | 60180-M145 | 100 |
| Re-sealing Tape with 3 Layer No Adhesive at Cavity Area | Clear | PET/Silicone/PET | N/A | Yes | 60180-M146 | 100 |
| | Clear | PET/Silicone/PET | N/A | Yes | 60180-M176 | 25 |
| Hand held Sealing Tape Applicator | Gold | N/A | N/A | N/A | 60180-M950 | 2 |
| Hand Held Mat Applicator | Black | N/A | N/A | N/A | 60180-M999 | 1 |
| WebSeal Cutter for Vial Removal | Silver | N/A | N/A | N/A | 60180-M975 | 1 |

WebSeal well plates, plastic, non-coated, non-sterile, certified

- Polypropylene microplates are manufactured from ultra low bleed high purity basis resin
- Plates are fully LOT tested by GC-MS and LC/MS for organic extractables
- Microplates are chemically and thermally resistant and will tolerate temperatures from -80°C to +121°C
- SBS and ANSI standard footprint design for broad instrument compatibility
- Microplates are ideal for pharmaceutical applications, sample collection and storage, combinatorial chemistry and HTS applications
- U- and V- bottom wells for optimal sample recovery, Total V-Plates for low volume applications



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

WebSeal well plates, plastic, non-coated, non-sterile, certified

| Description | Material | Total Height | Well Format | Total Volume (μL) | Working Volume Range μL/Well | Cat. No. | Pack of |
|---------------------------------------|----------|--------------|------------------------------------|-------------------|------------------------------|------------|---------|
| 96 Well Microplate, Low Volume | PP | 15.0 | Total V-Shape, 5.6mm Diameter | 100 | 5-80 | 60180-P210 | 50 |
| 96 Well Microplate, Round Well | PP | 14.7 | Flat Bottom, 7mm Diameter | 350 | 10-300 | 60180-P205 | 100 |
| | PP | 14.7 | Flat Bottom, 7mm Diameter | 350 | 10-300 | 60180-P215 | 10 |
| | PP | 14.7 | U-Shape, 7mm Diameter | 270 | 10-250 | 60180-P206 | 100 |
| | PP | 14.7 | U-Shape, 7mm Diameter | 270 | 10-250 | 60180-P216 | 10 |
| | PP | 14.7 | V-Shape, 7mm Diameter | 220 | 10-190 | 60180-P207 | 100 |
| | PP | 14.7 | V-Shape, 7mm Diameter | 220 | 10-190 | 60180-P217 | 10 |
| 96 Well Mid Height Plates, Round Well | PP | 33.0 | U-Shape, 7mm Diameter | 1000 | 50-900 | 60180-P208 | 96 |
| | PP | 41.6 | U-Shape, 7mm Diameter | 1200 | 50-900 | 60180-P201 | 50 |
| | PP | 41.6 | U-Shape, 7mm Diameter | 1200 | 50-900 | 60180-P211 | 5 |
| 96 Deep Well Plate, Square Well | PP | 44.4 | V-Shape, 8mm Diameter | 2000 | 50-1900 | 60180-P202 | 50 |
| | PP | 44.4 | V-Shape, 8mm Diameter | 2000 | 50-1900 | 60180-P212 | 5 |
| 384 Well Microplate | PP | 14.4 | U-Shape, Square, Micro Titer Plate | 58 | 2-35 | 60180-P203 | 60 |
| | PP | 14.4 | U-Shape, Square, Micro Titer Plate | 58 | 2-35 | 60180-P213 | 10 |
| | PP | 30.2 | V-Shape, Square, Deep Well Plate | 300 | 5-240 | 60180-P204 | 48 |
| | PP | 30.2 | V-Shape, Square, Deep Well Plate | 300 | 5-240 | 60180-P214 | 6 |

WebSeal mats, non-sterile

- Manufactured of pure silicone with or without PTFE coating
- The footprint permits plates to be securely stacked without robotic arm interference
- Eliminates cross contamination of samples
- Dry heat autoclavable with excellent chemical compatibility, withstand low temperature to -80°C
- Resists coring and tearing
- Superior resealability after multiple injections
- Available pre-slit for easy penetration and reduced vacuum formation



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

WebSeal mats, non-sterile

| Description | Color | Material | Well Design | Pre-slit | Cat. No. | Pack of |
|---|-------|---------------|---|----------|------------|---------|
| WebSeal Mats (alcohol resistant), Round Well | Clear | EVA | 96 Round Well, 7mm Diameter | No | 60180-M179 | 100 |
| WebSeal CLR Silicone Mat, Round Well | Clear | Silicone | 96 Round Well – Flat Base, 5.6mm Diameter, Cross | No | 60180-M210 | 50 |
| | Clear | Silicone | 96 Round Well – Flat Base, 7mm Diameter, Large Penetration Area | No | 60180-M105 | 5 |
| | Clear | Silicone | 96 Round Well – Flat Base, 7mm Diameter, Large Penetration Area | Yes | 60180-M116 | 5 |
| | Clear | Silicone | 96 Round Well – 7mm Diameter, Step, Small Penetration Area | Yes | 60180-M113 | 5 |
| | Clear | Silicone | 96 Round Well – 7mm Diameter, Step, Small Penetration Area | No | 60180-M149 | 5 |
| WebSeal CLR Silicone Mat, Square Well | Clear | Silicone | 96 Square Well – Flat Base, 8mm Diameter, Flat Base with Cross | No | 60180-M185 | 50 |
| | Clear | Silicone | 96 Square Well – Flat Base - 8mm Diameter, Large Penetration Area | No | 60180-M121 | 5 |
| | Clear | Silicone | 96 Square Well – Flat Base - 8mm Diameter, Large Penetration Area | Yes | 60180-M123 | 5 |
| | Clear | Silicone | 384 Square Well for 384 Deep Well Plates | No | 60180-M126 | 5 |
| | Clear | Silicone | 384 Square Well for 384 Deep Well Plates | Yes | 60180-M150 | 5 |
| | Clear | Silicone | 384 Square Well, Flat Base with Cross for 384 Microtiter Plates | No | 60180-M186 | 50 |
| WebSeal Mat (Solvent Resistant), Round Well | Blue | Silicone/PTFE | 96 Round Well – Flat Base, Step, 7mm Diameter | No | 60180-M111 | 5 |
| | Blue | Silicone/PTFE | 96 Round Well – Flat Base, Step, 7mm Diameter | Yes | 60180-M112 | 5 |
| WebSeal Mat, (Solvent Resistant), Square Well | Blue | Silicone/PTFE | 96 Square Well – Flat Base - 8mm Diameter, Large Penetration Area | No | 60180-M120 | 5 |
| | Blue | Silicone/PTFE | 96 Square Well – Flat Base - 8mm Diameter, Large Penetration Area | Yes | 60180-M122 | 5 |
| | Blue | Silicone/PTFE | 384 Square Well for 384 Deep Well Plates | No | 60180-M125 | 5 |
| | Blue | Silicone/PTFE | 384 Square Well for 384 Deep Well Plates | Yes | 60180-M131 | 5 |
| | Blue | Silicone/PTFE | 384 Square Well for 384 Deep Well Plates | Yes | 60180-M131 | 5 |
| WebSeal Mat for Plate+ | Blue | Silicone/PTFE | 96 Round well – Dome Base, 7.2mm Diameter | No | 60180-M108 | 5 |
| | Blue | Silicone/PTFE | 96 Round well – Dome Base, 7.2mm Diameter | Yes | 60180-M115 | 5 |

WebSeal plate+ glass coated microplates

- High quality polypropylene microplates coated with 200nm thick layer of silicone dioxide
- Plate+ provides microplates with a chemical resistance similar to glass while retaining the advantages of polypropylene
- Eliminates the need to use glass limited volume inserts
- Excellent for applications where plastic microplates are not applicable
- Plate+ is chemically and thermally resistant and will tolerate temperatures from -80°C to +80°C
- Lightweight, precision molded, cost-effective alternative to solid glass plates



WebSeal Plate+ Glass Coated Microplates

| Description | Material | Total Height | Well Format | Total Volume | Working Volume | Cat. No. | Pack of |
|--------------------------------------|-----------------|--------------|--|--------------|----------------|------------|---------|
| 96 Well Microplate, Round Well | Glass Coated PP | 14.6 | U-Shape, 7.2mm Diameter | 300µL | 250µL | 60180-P300 | 10 |
| | Glass Coated PP | 14.6 | V-Shape, 7.2mm Diameter | 220µL | 190µL | 60180-P302 | 10 |
| | Glass Coated PP | 14.6 | Flat Bottom, 7.2mm Diameter | 370µL | 300µL | 60180-P304 | 10 |
| 96 Well Mid Height Plate, Round Well | Glass Coated PP | 41.5 | U-Shape, 7.2mm Diameter | 1.2mL | 1.0mL | 60180-P306 | 10 |
| 96 Deep Well Plate, Square Well | Glass Coated PP | 44.0 | V-Shape, 8mm Diameter | 2.4mL | 2.0mL | 60180-P308 | 10 |
| 384 Well Microplate | Glass Coated PP | 14.4 | Square-Rounded, Flat, Micro Titer Plate | 120µL | 90µL | 60180-P310 | 10 |
| | Glass Coated PP | 22.0 | Square-Rounded, U-Shape, Deep Well Plate | 240µL | 180µL | 60180-P312 | 6 |

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

WebSeal glass inserted plate kits with 96-position mats

- Convenient wellplate kits with pre-assembled glass or PTFE vials
- Replacement parts for kits available separately
- Unique cutting tool allows removal of individual samples with the seal in place, eliminating cross contamination
- Mats with solid plugs are used for sample storage



WebSeal glass inserted plate kits with 96-position mats

| Kit Type | Vial Material | Total Volume (μL) | Vial Dimension (mm) | Profile | Mat Material | Total Height (mm) | Vial Cat. No. | Mat Cat. No. | Kit Cat. No. | Pack of |
|---|---------------|-------------------|---------------------|-------------|---------------|-------------------|---------------|--------------|--------------|---------|
| 96 Well Small Volume Microplate with Sealing Mat | Clear Glass | 500 | 6.5x31 | Taper | Silicone/PTFE | 32.0 | 60180-V100 | 60180-M151 | 60180-K100 | 5 |
| 96 Well Small Volume Microplate with Sealing Mat and Cutting Tool | Clear Glass | 700 | 6.5x41.4 | Taper | Silicone/PTFE | 44.0 | 60180-V101 | 60180-M151 | 60180-K101 | 5 |
| 96 Well Small Volume Microplate with Sealing Mat and Cutting Tool | PTFE | 700 | 6.5x41.4 | Round | Silicone/PTFE | 44.0 | 60180-V103 | 60180-M151 | 60180-K103 | 1 |
| 96 Well Microplate with Sealing Mat and Cutting Tool | Clear Glass | 1100 | 7.45x38.5 | Round | Silicone/PTFE | 41.5 | 60180-V104 | 60180-M153 | 60180-K104 | 5 |
| 96 Well Microplate with Crimp Top Vials, Pre-Inserted | Clear Glass | 1100 | 7.45x45 | Round | N/A | 47.0 | 60180-V105 | N/A | 60180-K105 | 5 |
| 96 Deep Well Plate with Sealing Mat | Clear Glass | 1500 | 7.25x60.5 | Round | Silicone/PTFE | 64.5 | 60180-V106 | 60180-M153 | 60180-K106 | 5 |
| 96 Square Well Plate with Sealing Mat | Clear Glass | 1000 | 7.6x45 | Constricted | Silicone/PTFE | 47.3 | 60180-V107 | 60180-M111 | 60180-K107 | 1 |
| 96 Square Well Plate with Sealing Mat - Precut | Clear Glass | 1000 | 7.6x45 | Constricted | Silicone/PTFE | 47.3 | 60180-V107 | 60180-M112 | 60180-K108 | 1 |

WebSeal kit accessories



WebSeal kit accessories

| Kit Type | Vial Material | Total Volume (µL) | Vial Dimension (mm) | Profile | Mat material | Total Height (mm) | Pre-slit | Cat. No. | Pack of |
|--|---------------|-------------------|---------------------|-------------|---------------|-------------------|----------|------------|---------|
| Micro Titer Plate Vial for 96 Wells | Clear Glass | 500 | 6.5x31 | Taper | N/A | N/A | N/A | 60180-V100 | 500 |
| | Clear Glass | 700 | 6.5x41.4 | Taper | N/A | N/A | N/A | 60180-V101 | 500 |
| | PTFE | 700 | 6.5x41.4 | Round | N/A | N/A | N/A | 60180-V103 | 100 |
| | Clear Glass | 1100 | 7.45x38.5 | Round | N/A | N/A | N/A | 60180-V104 | 500 |
| Square/Deep Well Plate Crimp Top Vial for 96 Wells | Clear Glass | 1100 | 7.45x45 | Round | N/A | N/A | N/A | 60180-V105 | 500 |
| Deep Well Plate Vial for 96 Wells | Clear Glass | 1500 | 7.25x60.5 | Round | N/A | N/A | N/A | 60180-V106 | 500 |
| Square Well Plate Vial for 96 Wells | Clear Glass | 1000 | 7.6x45 | Constricted | N/A | N/A | N/A | 60180-V107 | 960 |
| 96 Well WebSeal Mat (60180-K100, 101, 103) | N/A | N/A | N/A | N/A | Silicone/PTFE | N/A | No | 60180-M151 | 5 |
| 96 Well WebSeal Mat (60180-K100, 101, 103) | N/A | N/A | N/A | N/A | Silicone/PTFE | N/A | Yes | 60180-M152 | 5 |
| 96 Well WebSeal Mat (60180-K104, 106) | N/A | N/A | N/A | N/A | Silicone/PTFE | N/A | No | 60180-M153 | 5 |
| 96 Well WebSeal Mat (60180-K104, 106) | N/A | N/A | N/A | N/A | Silicone/PTFE | N/A | Yes | 60180-M154 | 5 |
| 96 Well WebSeal Mat, Welled Plugs (60180-K107) | N/A | N/A | N/A | N/A | Silicone/PTFE | N/A | No | 60180-M111 | 5 |
| 96 Well WebSeal Mat, Welled Plugs (60180-K108) | N/A | N/A | N/A | N/A | Silicone/PTFE | N/A | Yes | 60180-M112 | 5 |

WebSeal kit accessories continued

| Kit Type | Vial Material | Total Volume (µL) | Vial Dimension (mm) | Profile | Mat Material | Total Height (mm) | Pre-slit | Cat. No. | Pack of |
|--|---------------|-------------------|---------------------|-----------------------|--------------|-------------------|----------|------------|---------|
| Plastic 96 Round Well Micro Titer Plate (60180-K100) | N/A | 800 | N/A | V-Shape, 7mm Diameter | N/A | 31.5 | N/A | 60180-P400 | 5 |
| PP 96 Round Well Micro Rack (60180-K101, K102) | N/A | N/A | N/A | U-Shape, 7mm Diameter | N/A | 41.6 | N/A | 60180-P211 | 5 |
| Plastic 96 Well Micro Titer Rack (60180-K104) | N/A | N/A | N/A | Rack | N/A | 31.2 | N/A | 60180-P401 | 5 |
| PP 96 Well Micro Titer Plate (60180-K105) | N/A | 2200 | N/A | U-Shape | N/A | 42.5 | N/A | 60180-P402 | 5 |
| PP 96 Well Square Well Plate (60180-K107/108/109) | N/A | 2000 | N/A | U-Shape, Square | N/A | 44.0 | N/A | 60180-P403 | 1 |
| PP 96 Well Square Well Plate (60180-K106) | PP | 2000 | N/A | V-Shape, Square | N/A | 44.0 | N/A | 60180-P212 | 5 |
| WebSeal Cutter for Vial Removal | N/A | N/A | N/A | N/A | N/A | N/A | N/A | 60180-M975 | 1 |

WebSeal Kit Accessories

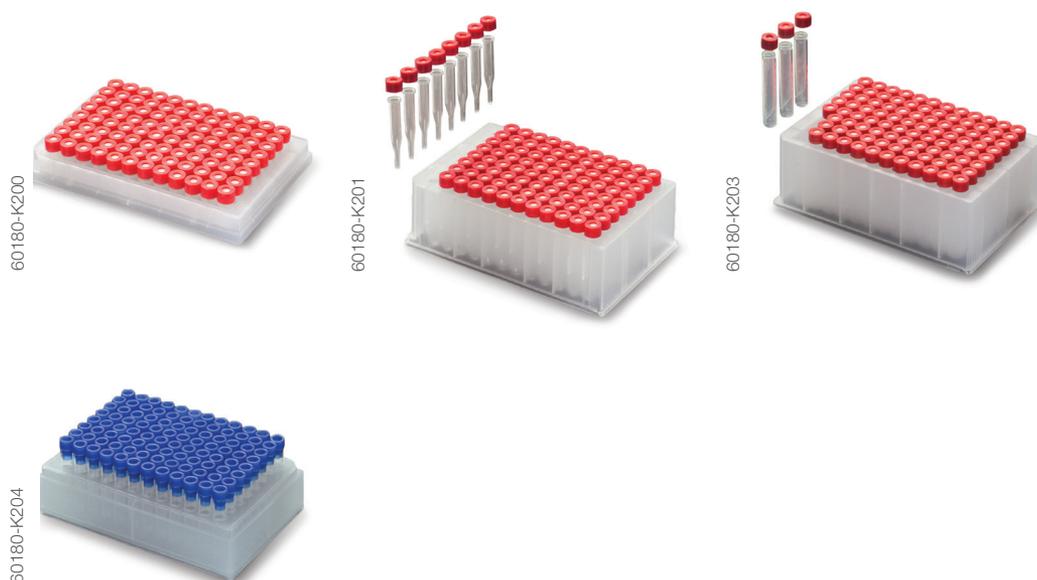


WebSeal kit accessories

| Kit Type | Vial Material | Total Volume (µL) | Vial Dimension (mm) | Profile | Septum | Total Height (mm) | Cat. No. | Pack of |
|--|---------------|-------------------|---------------------|---------------------------|------------------------------|-------------------|------------|---------|
| Micro Titer Plate Vial for 96 Wells | Clear Glass | 100 | 5.7x15.5 | Flat Bottom | N/A | N/A | 60180-V108 | 960 |
| Deep Well Plate Vial for 96 Wells | Clear Glass | 350 | 6x42.5 | Taper | N/A | N/A | 60180-V109 | 960 |
| Square Well Vial for 96 Wells | Clear Glass | 1000 | 7.6x45.9 | Round | N/A | N/A | 60180-V110 | 960 |
| MTRS Vial for 96 Wells | Clear Glass | 800 | 7.6x40 | Round | N/A | N/A | 60180-V111 | 960 |
| PE Cap, Red, Center Hole for 96 Well Plate Inserts | N/A | N/A | N/A | N/A | Silicone/PTFE, Pre-slit, 45° | N/A | 60180-C100 | 96 |
| 8mm PE Plug, Blue, for 60180-K204 | N/A | N/A | N/A | N/A | PE Plug | N/A | 60180-C101 | 96 |
| MT-Plate, PP, 96 Positions | N/A | 350 | N/A | Flat Bottom, 7mm Diameter | N/A | 14.3 | 60180-P404 | 10 |
| DW-Block, PP, 96 Positions | N/A | 1200 | N/A | U-Shape | N/A | 40.0 | 60180-P405 | 10 |
| SQW-Block, PP, 96 Positions | N/A | 2000 | N/A | U-Shape | N/A | 44.3 | 60180-P406 | 10 |
| Micro-Tube-Rack-System, PP, 96 Positions | N/A | N/A | N/A | N/A | N/A | N/A | 60180-P407 | 10 |

WebSeal glass inserted plate kits with individual closures

- 96 Position Block Systems with Glass Inserts are used when the pure PP Block is not inert enough
- Inserts manufactured from clear, Type 1 Class A or amber, Type 1 Class B borosilicate glass
- Inserts are sealed individually with a PE Cap Seal and can be easily removed and used externally without risk of losing sample
- The products can be obtained as individual components or as completely assembled, ready-to-use convenience blocks
- Assembled kits include 96 vials with pre-attached caps and septa
- Pre-assembled kits reduce the risk of vial contamination before use
- Snap Caps offer the same functionality as for screw or crimp caps: PTFE layered Silicone septa for excellent solvent stability
- Polyethylene caps are chemically inert and suitable for most chromatography applications



WebSeal glass inserted plate kits with individual closures

| Kit Type | Vial Material | Total Volume (µL) | Vial Dimension (mm) | Profile | Septum | Vial Cat. No. | Cap Cat. No. | Kit Cat. No. | Pack of |
|---------------------------|---------------|-------------------|---------------------|-------------|------------------------------|---------------|--------------|--------------|---------|
| 96 Well Microplate | Clear Glass | 100 | 5.7x15.5 | Flat Bottom | Silicone/PTFE, Pre-slit, 45° | 60180-V108 | 60180-C100 | 60180-K200 | 1 |
| 96 Deep Well Plate | Clear Glass | 350 | 6x42.5 | Taper | Silicone/PTFE, Pre-slit, 45° | 60180-V109 | 60180-C100 | 60180-K201 | 1 |
| 96 Square Well Plate | Clear Glass | 1000 | 7.6x45.9 | Round | Silicone/PTFE, 45° | 60180-V110 | 60180-C102 | 60180-K202 | 1 |
| | Clear Glass | 1000 | 7.6x45.9 | Round | Silicone/PTFE, Pre-slit, 45° | 60180-V110 | 60180-C100 | 60180-K203 | 1 |
| 96 Micro-Tube-Rack-System | Clear Glass | 800 | 7.6x40 | Round | PE Plug | 60180-V111 | 60180-C101 | 60180-K204 | 1 |

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

Barcoded well plates for Vanquish systems

The well established Thermo Scientific™ WebSeal™ system offers a new range of chromatography tested, orientation barcoded well plates for Thermo Scientific™ Vanquish™ and Thermo Scientific™ Vanquish™ Flex UHPLC Systems. These well plates provide advanced sample security and sample integrity.

- This secure choice offers a tested portfolio for chromatography applications
- Barcoded well plates have an assured plate fit and a pre-applied orientation barcode in the correct reader position; therefore there is no risk of placing the plate incorrectly
- The secured side orientation in the autosampler alleviates the risk of starting the sequence at the wrong plate position
- The instrument controls plate orientation and verifies the plate before implementing the sequence

60180-P206-216B



60180-P207-217B



WebSeal well plates barcoded for Vanquish systems

| Description | Material | Total Height | Well Format | Total Volume $\mu\text{L}/\text{Well}$ | Working Volume Range $\mu\text{L}/\text{Well}$ | Cat. No. | Pack of |
|--|---------------|--------------|-----------------------|--|--|-------------|---------|
| 96 Well Microplate, Round Well, Barcoded | Polypropylene | 14.7 | U-Shape, 7mm Diameter | 270 | 10-250 | 60180-P206B | 100 |
| | Polypropylene | 14.7 | U-Shape, 7mm Diameter | 270 | 10-250 | 60180-P216B | 10 |
| | Polypropylene | 14.7 | U-Shape, 7mm Diameter | 220 | 10-190 | 60180-P207B | 100 |
| | Polypropylene | 14.7 | U-Shape, 7mm Diameter | 220 | 10-190 | 60180-P217B | 10 |
| 96 Well Mid Height Plate, Round Well, Barcoded | Polypropylene | 31.6 | U-Shape, 8mm Diameter | 1300 | 50-1000 | 60180-P103B | 5 |
| | Polypropylene | 31.6 | U-Shape, 8mm Diameter | 1300 | 50-1000 | 60180-P133B | 50 |
| | Polypropylene | 41.6 | U-Shape, 7mm Diameter | 1000 | 50-900 | 60180-P201B | 50 |
| | Polypropylene | 41.6 | U-Shape, 7mm Diameter | 1000 | 50-900 | 60180-P211B | 5 |
| 96 Deep Well Plate, Square Well, Barcoded | Polypropylene | 44.0 | V-Shape, Square | 2000 | 50-1900 | 60180-P105B | 5 |
| | Polypropylene | 44.0 | V-Shape, Square | 2000 | 50-1900 | 60180-P135B | 50 |

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| Merlin | Merlin Instrument Company |
| Merlin Microseal | Merlin Instrument Company |
| MP35N | SPS Technology |
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Resources for chromatographers



Chromatography resource center

Our web-based resource centers provide technical support, applications, technical tips and literature to help move your separations forward.

For more information visit: thermofisher.com/chromatography



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