

# NATIONAL SCIENTIFIC

## 2008/09 CHROMATOGRAPHY ACCESSORIES CATALOG



CHROMATOGRAPHY  
AND ALLIED CHEMICALS

## NATIONAL SCIENTIFIC



### *Company Profile*

*National Scientific is a manufacturer of an ever-expanding line of chromatography consumable products, serving customers in laboratories around the world. We have assembled over 1500 products that laboratory professionals use every day... products compatible with every instrument and every application.*

*Innovative brands have been a hallmark of National Scientific since the introduction of Target DP® vials and caps for robotic arm autosamplers. Polyspring® and MicroSert™ inserts, Snap-It™ and I-D™ are a few of the brands popularized.*

*Continued innovation includes the enhanced product ranges of autosampler vials, precision glass syringes, microtiter plate systems and HPLC syringe filters. New products include certified vial kits, bonded PTFE screw caps, polypropylene micro vials and high recovery vials.*

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

## Welcome to the National Scientific Chromatography Accessories Catalog

*This catalog lists over a thousand chromatography consumable products in use in laboratories every day by professionals such as you. We pride ourselves on the quality of these products to provide you with uninterrupted productivity. National Scientific brings you the assurance of reliable products in greater selection than ever before*



### COLOR KEY



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*For Vial Comparison Chart and Terms and Conditions See Inside Back Cover*



# NATIONAL SCIENTIFIC CERTIFIED AUTOSAMPLER VIAL KITS



## MORE THAN 20 YEARS OF QUALITY... *Certified!*

National Scientific vials and closures are the recognized standard for chromatography products worldwide. With a portfolio of over 1500 products to fit every autosampler, our high-quality vials, vial inserts, closures and septa will perform reliably in any application.

Look for our latest line of products—Certified Kits! Certified Kits give you the extra assurance that time after time the vial that you use upholds the rigorous manufacturing standards of National Scientific. Sold as vial kits, Certified Kits include your choice of vials and closures conveniently packaged in benchtop storage compartments...

- Vials of clear or amber borosilicate glass, with or without an I-B patch
- Insert vials for applications requiring smaller samples
- Closures with pre-inserted septa for GC, HPLC and Headspace



 NATIONAL SCIENTIFIC

Contact your local National Scientific Sales Representative for more information about NEW NS Certified Vial Kits!

# Vials, Caps and Septa

Snap-It

Bonded Caps

Target DP

Color Band

## Vials, Caps and Septa

National Scientific Chromatography vials, caps and septa provide leading innovation in design and function, including:

NS Certified



- Target DP® Screw Cap Vial System compatible with all autosamplers
- Target Micro-V™ Vial superior micro sampling flexibility
- Target LoVial™ wide opening crimp vial
- Target® Snap-It™ versatility to use snap caps or crimp caps
- Shell Vials with SepCap™ closure
- Expansive range of Polypropylene Vials
- Full range of glass and polypropylene inserts

Target DP

LoVial

SepCap

Polyspring Inserts

NS Certified

Microsert

Robo Vial

Micro-V



NS Certified

Target DP





## Vials

### Certified™ Vial Kits

- Fully lot-tested including HPLC and GC analysis
- Certificate of Conformance included in every pack
- Bonded caps to prevent septa push-through
- Clear Type 1, 33 expansion borosilicate glass or Type 2, 51 expansion borosilicate glass
- Available with or without ID patch
- Fixed micro vials or inserts for limited volume sampling



CERT4000-78W

NSC PART NO.	VIAL	CAP COLOR	SEPTUM	PACK OF	CASE OF
<b>UNASSEMBLED KITS</b>					
CERT4000-80	Certified Target DP 2mL Clear Vial	Blue	PTFE/Rubber	100	----
CERT4000-80W	Certified Target DP 2mL Clear I-D™ Vial	Blue	PTFE/Rubber	100	----
CERT4000-82W	Certified Target DP 2mL Amber I-D Vial	Blue	PTFE/Rubber	100	----
CERT4000-92W	Certified Target DP 2mL Clear I-D Vial	Blue	PTFE/Silicone	100	----
CERT4000-86W	Certified Target DP 2mL Clear I-D Vial	Blue	PTFE/Silicone/PTFE	100	----
CERT4000-992	Certified Target DP 1.5mL Clear Glass High Recovery Vial	Black	Bonded PTFE/Silicone	100	----
CERT4000-78W	Certified Target DP 1.5mL Clear Glass I-D Vial	Black	Bonded PTFE/Silicone	100	----
CERT4000-75W	Certified Target DP 2mL Amber Glass I-D Vial	Black	Bonded PTFE/Silicone	100	----
CERT4000-98PT	Certified Target DP 0.9mL Clear Glass Precision Taper Vial	Black	Bonded PTFE/Silicone	100	----
CERT4000-69LV	Certified Target DP 350µL Clear Glass I-D Fused Insert Vial	Black	Bonded PTFE/Silicone	100	----
CERT4000-72LV	Certified Target DP 350µL Amber Glass I-D Fused Insert Vial	Black	Bonded PTFE/Silicone	100	----
CERT4010-91	Certified 2mL Clear Glass 10-425 Vial Kit	Black	Bonded PTFE/Silicone	100	----
CERT4015-992	Certified 3.5mL Clear Glass Max Recovery Vial Kit	Black	Bonded PTFE/Silicone	100	----
CERT4015-83	Certified 4mL Clear Glass Screwtop Vial Kit	Black	Bonded PTFE/Silicone	100	----
CERT4015-86	Certified 4mL Amber Glass Screwtop Vial Kit	Black	Bonded PTFE/Silicone	100	----
CERT4000-79	Certified Target DP 1.5mL Clear High Recovery Vials	Gray	Bonded PTFE/Silicone, Preslit	100	----
CERT4000-93W	Certified Target DP 2mL Clear I-D Vial Kit	Gray	Bonded PTFE/Silicone, Preslit	100	----
CERT4000-76W	Certified Target DP 2mL Amber Glass I-D High Recovery Vial	Gray	Bonded PTFE/Silicone, Preslit	100	----
CERT4000-99PT	Certified Target DP 950µL Clear Glass Precision Taper Vial	Gray	Bonded PTFE/Silicone, Preslit	100	----
CERT4000-71LV	Certified Target DP 350µL Clear Glass I-D Fused Insert Vial	Gray	Bonded PTFE/Silicone, Preslit	100	----
CERT4000-73LV	Certified Target DP 350µL Amber Glass I-D Fused Insert Vial	Gray	Bonded PTFE/Silicone, Preslit	100	----
CERT4015-79	Certified 3.5mL Clear Glass Max Recovery Vial Kit	Black	Bonded PTFE/Silicone, Preslit	100	----
CERT4015-84	Certified 4mL Clear Glass Screwtop Vial Kit	Black	Bonded PTFE/Silicone, Preslit	100	----
CERT4015-87	Certified 4mL Amber Glass Screwtop Vial Kit	Black	Bonded PTFE/Silicone, Preslit	100	----
CERT4015-96	Certified 1mL Clear Glass Shell Vial w/SepCap™	Natural	Integral	100	----
CERT4015-99	Certified 1mL Amber Glass Shell Vial w/SepCap	Natural	Integral	100	----
<b>ASSEMBLED KITS</b>					
CERT4011-89W	Certified 2mL, 11mm Crimp Top Clear Glass Vial Kit	Silver	Seal 2000 PTFE/Red Rubber	100	----
CERT4015-88	Certified 4mL Clear Glass Vial Kit	Black	PTFE/Silicone Septum	100	----
CERT4000-175W	Certified Target DP 2mL Amber Glass Vial Kit	Black	Bonded PTFE/Silicone	100	----
CERT4010-91A	Certified 2mL Amber Glass 10-425 Vial Kit	Black	Bonded PTFE/Silicone	100	----
CERT4000-193W	Certified Target DP 2mL Clear Glass I-D Vial Kit	Gray	Bonded PTFE/Silicone, Preslit	100	----
CERT4000-176W	Certified Target DP 2mL Amber Glass I-D Vial Kit	Gray	Bonded PTFE/Silicone, Preslit	100	----
CERT4015-84-ASM	Certified 4mL Clear Glass Vial Kit	Black	Bonded PTFE/Silicone, Preslit	100	----
CERT4015-87-ASM	Certified 4mL Amber Glass Vial Kit	Black	Bonded PTFE/Silicone, Preslit	100	----

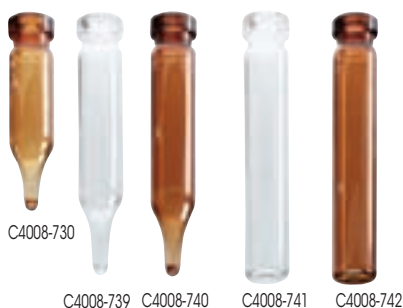
# 8mm Crimp Top Vials and Seals with Septa

## Crimp Top 6mm Diameter—8mm Crimp Top Vials

- Versatile 6 × 32mm round or conical bottom vials
- Designed to fit Perkin-Elmer™ ISS-100 or ISS-200 autosamplers
- A support sleeve is required for use with the ISS-200 autosampler
- Superior borosilicate glass is selected for tightly controlled, consistent dimensions



NSC PART NO.	FILL VOLUME	DESCRIPTION	PACK OF	CASE OF
C4008-632R	250µL	Clear Glass Vial, 6 × 32mm, Round Bottom	100	1000
C4008-632C	200µL	Clear Glass Vial, 6 × 32mm, Conical Bottom	100	1000



## Crimp Top 7mm Diameter—8mm Crimp Top Vials

- 7mm diameter vials are compatible with Beckman® 504, CTC/Leap™ Technologies HTS PAL, Carlo Erba™ AS 200S, Gilson® 231
- The vials are formed from selectively chosen tubes of the highest quality borosilicate glass

NSC PART NO.	FILL VOLUME	DESCRIPTION	PACK OF	CASE OF
C4008-730	400µL	Amber Glass Vial, 7 × 30mm, Conical Bottom	100	1000
C4008-739	450µL	Clear Glass Vial, 7 × 40mm, Conical Bottom	100	1000
C4008-740	450µL	Amber Glass Vial, 7 × 40mm, Conical Bottom	100	1000
C4008-741	650µL	Clear Glass Vial, 7 × 40mm, Flat Bottom	100	1000
C4008-742	650µL	Amber Glass Vial, 7 × 40mm, Flat Bottom	100	1000

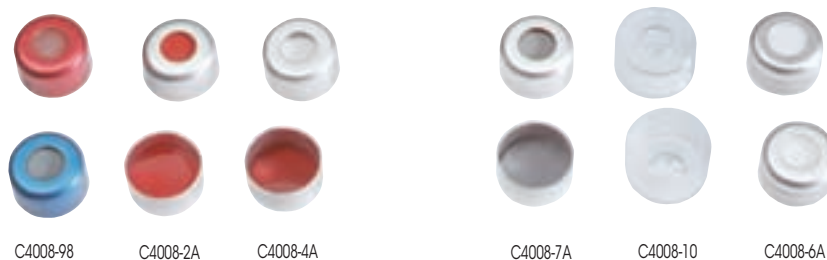


## Crimp Top 8mm Diameter—Flat Bottom 8mm Crimp Top Vials

- 8 × 30mm vials are designed to fit 60 and 100 position vial trays for Perkin-Elmer™ autosamplers
- The total internal capacity of these vials is 1mL with an 800µL recommended fill volume
- The vials are formed from selectively chosen tubes of the highest quality borosilicate glass

NSC PART NO.	FILL VOLUME	DESCRIPTION	PACK OF	CASE OF
C4008-1	800µL	Clear Glass Vial, 8 × 30mm, Flat Bottom	200	2000

# 8mm Crimp Top Vials and Seals with Septa



## Crimp Seals

### Aluminum Crimp Seals with Prefitted Septa for 8mm Crimp Top Vials

- National Scientific aluminum crimp closures provide a secure leak-resistant seal
- Aluminum seals must be applied with a crimping tool

NSC PART NO.	SEAL COLOR	SEPTUM MATERIAL	COMMENT	PACK OF	CASE OF
C4008-1A	Silver	Clear PTFE/Red Rubber	General purpose resealable septum	200	1000
C4008-98B	Blue	Clear PTFE/Red Rubber	General purpose resealable septum	200	----
C4008-98G	Green	Clear PTFE/Red Rubber	General purpose resealable septum	200	----
C4008-98R	Red	Clear PTFE/Red Rubber	General purpose resealable septum	200	1000
C4008-98Y	Yellow	Clear PTFE/Red Rubber	General purpose resealable septum	200	----
C4008-2A	Silver	Red PTFE/White Silicone/Red PTFE	For aggressive solvents	200	1000
C4008-4A	Silver	Red PTFE/White Silicone	For high sensitivity analysis	200	1000
C4008-6A	Silver	White Virgin PTFE	Single use, High purity, not resealable	----	1000
C4008-7A	Silver	Clear PTFE/Gray Butyl	Effective seal for light gases	----	1000
C4008-8A	Silver	Seal 2000®, PTFE/RR	High purity PTFE/Red Rubber septum	----	1000
C4008-10	Clear PE	Integral Polyethylene	One Piece Snap-It molded cap	100	1000



## Crimping and Decrimping Tools

### Crimpers, Decrimpers, and Decapping Pliers for 8mm Crimp Top Vials

- Crimping tools provide a reproducible, secure vial closure for all 8mm vial and seal combinations
- De-crimping tools allow easy removal of aluminum seals without vial breakage

NSC PART NO.	DESCRIPTION	USE	PACK OF	CASE OF
C4008-100	Manual Crimper	Attaches 8mm aluminum crimp seals	1	----
C4008-101	Decapping Pliers	Removes 8mm aluminum crimp seals	1	----
C4008-102	Manual Decrimper	Removes 8mm aluminum crimp seals without vial damage	1	----



# Standard Opening—12 x 32mm Crimp Top Vials, Caps, Septa and Inserts



## Crimp Top Vials Crimp Top Vials—Standard Opening 2mL, 12 x 32mm

- Narrow neck vial fits many older GC autosamplers
- Superior quality 33 expansion borosilicate clear glass Type 1, Class A or 51A amber glass
- Uniformly flat bottom for security with inserts
- I-D™ vials feature write-on patch with graduations at 0.5, 1.0 and 1.5mL
- Glastic® vial has a glass insert fixed inside of a plastic vial

NSC PART NO.	MAXIMUM FILL VOLUME	DESCRIPTION	PACK OF	CASE OF
C4012-1	1.8mL	2mL Clear Glass	100	2000
C4012-1W	1.8mL	2mL Clear Glass I-D	100	2000
C4012-2	1.8mL	2mL Amber Glass	100	2000
C4012-2W	1.8mL	2mL Amber Glass I-D	100	2000
C4012-10	150µL	150µL Clear Solid Glass Microvial	----	12
C4012-15	150µL	Glactic Glass Insert/TPX Vial	100	----



## Crimp Seals Aluminum Crimp Seals with Prefitted Septa for 12 x 32mm vials

- Anodized aluminum seals fit all 11mm crimp top vials
- Seal 2000® is specially formulated for improved background performance over PTFE/red rubber
- Viton® septa perform well with ECD detectors and are resistant to many aggressive solvents

NSC PART NO.	SEAL COLOR	SEPTUM MATERIAL	COMMENT	PACK OF	CASE OF
C4011-1AP	Silver	Clear PTFE/Red Rubber	Standard GC septum	100	----
C4011-1A	Silver	Clear PTFE/Red Rubber	Standard GC septum	----	1000
C4011-98B	Blue	Clear PTFE/Red Rubber	Standard GC septum	100	1000
C4011-98R	Red	Clear PTFE/Red Rubber	Standard GC septum	100	1000
C4011-98G	Green	Clear PTFE/Red Rubber	Standard GC septum	100	1000
C4011-98Y	Gold	Clear PTFE/Red Rubber	Standard GC septum	100	1000
C4011-3A	Silver	Polypropylene	For corrosive solvents	100	1000
C4011-4A	Silver	Red PTFE/White Silicone	High Purity Septum	100	1000
C4011-2A	Silver	Red PTFE/White Silicone/Red PTFE	For aggressive solvents	100	1000
C4011-5A	Silver	Black Viton Elastomer	ECD, High chemical resistance	100	1000
C4011-7A	Silver	Seal 2000 PTFE/Red Rubber	High Purity GC septum	100	1000
C4011-7B	Blue	Seal 2000 PTFE/Red Rubber	High Purity GC septum	----	1000
C4011-7G	Green	Seal 2000 PTFE/Red Rubber	High Purity GC septum	----	1000
C4011-7R	Red	Seal 2000 PTFE/Red Rubber	High Purity GC septum	----	1000
C4011-7Y	Yellow	Seal 2000 PTFE/Red Rubber	High Purity GC septum	----	1000
C4011-7K	Silver, Blue, Green, Red, Yellow	Seal 2000 PTFE/Red Rubber	Kombo Kit; 200 of each color	----	1000

# Standard Opening—12 x 32mm Crimp Top Vials, Caps, Septa and Inserts

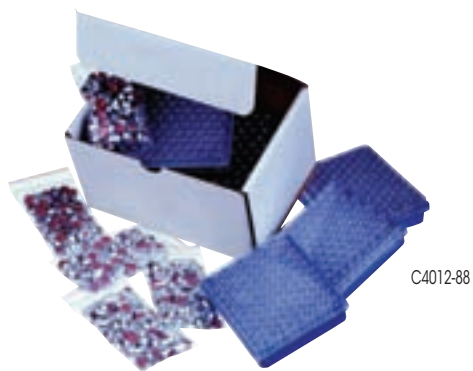


## Inserts **Inserts for Standard Opening Crimp Top Vials**

- These inserts all have a nominal O.D. of 5mm to fit standard opening vials
- 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 non-critical applications
- Deactivated inserts are NSC Silanized or Kimshield™ pretreated

NSC PART NO.	DESCRIPTION	MATERIAL	TIP FORM	FILL VOLUME	RESIDUAL VOLUME	PACK OF	CASE OF
C4012-465	250µL MicroSert™, Flat Bottom	Glass	Flat bottom	200µL	12µL	500	1000
C4012-530	200µL Polyspring, Conical	Glass	Pulled point	175µL	5µL	100	----
C4012-529L	200µL Conical	Glass	Pulled point	175µL	5µL	100	1000
C4012-531L	225µL Conical	Glass	Precision point	200µL	2µL	100	1000
C4013-529T	200µL Top Spring Conical	Glass	Precision point	175µL	4µL	500	----
C4012-530P	175µL Polyspring	Polypropylene	Precision point	125µL	3µL	100	----
C4012-540	Metal Spring for Standard Opening Vials	Spring Steel	N/A	N/A	N/A	100	1000
C4012-5530	200µL Polyspring, Conical	Silanized Glass	Pulled point	175µL	5µL	100	----
C4013-K465	250µL MicroSert Flat Bottom	Kimshield Glass	Flat bottom	200µL	12µL	----	1000
C4012-K530	200µL Polyspring, Conical	Kimshield Glass	Pulled point	175µL	5µL	100	----

# Standard Opening—12 x 32mm Crimp Top Vials, Caps, Septa and Inserts



C4012-88

## Convenience Kits

### Unassembled Standard Opening Vial and Crimp Seal Convenience Kits

- Two-compartment benchtop storage tray
- Include 100 vials and aluminum seals with prefitted septa
- All items remain handy and dust-free

NSC PART NO.	VIAL	SEAL WITH SEPTUM	PACK OF	CASE OF
C4012-88	Clear Glass	Silver seal w/PTFE/Red rubber	500	1000
C4012-88A	Amber Glass	Silver seal w/PTFE/Red rubber	500	1000



C4012-102

C4012-100

C4012-101

## Tools and Racks

### Crimpers, De-Crimpers, and Decapping Pliers for 11mm Crimp Top Vials

- Crimping tools provide a reproducible, secure vial closure for all 11mm vial and seal combinations
- De-crimping tools allow easy removal of aluminum seals without vial breakage

NSC PART NO.	TYPE	DESCRIPTION	PACK OF	CASE OF
C4012-100	Manual Crimper	Attaches 11mm aluminum crimp seals	1	----
C4012-101	Decapping Pliers	Removes 11mm aluminum crimp seals	1	----
C4012-102	Manual De-crimper	Removes 11mm aluminum crimp seals without vial damage	1	----



C4011-25



C4012-25

## Tools and Racks

### Sample Racks for 12 x 32mm Vials

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

NSC PART NO.	DESCRIPTION	CAPACITY	PACK OF	CASE OF
C4011-25	Polystyrene storage rack for 12 x 32mm vials with clear lid	100 vials, 10 x 10	1	5
C4012-25	Polypropylene storage rack for 12 x 32mm vials, no lid	50 vials, 5 x 10	1	5



# Target® LoVial™ Wide Opening—12 x 32 Crimp Top Vials, Aluminum Seals and Inserts



## Crimp Top Target® LoVial™ Crimp Top Vials—Wide Opening 2mL, 12 x 32mm

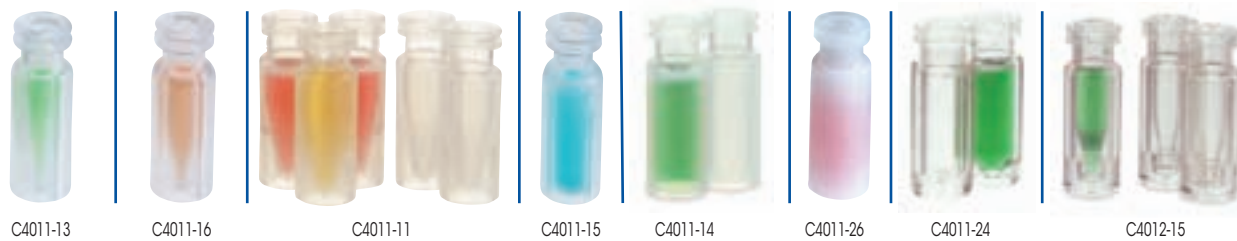
- Wide opening vials are easier to fill
- Fit most autosamplers that accommodate the 12 x 32mm vial format
- Superior quality 33 expansion borosilicate clear glass Type 1, Class A or 51A amber glass
- Uniformly flat bottom for security with inserts
- I-D™ vials feature write-on patch with graduations at 0.5, 1.0 and 1.5mL
- Target ColorBand™ crimp top vials feature color-coded graduated write-on patch
- Vials with an 11mm crimp finish require aluminum seal closures
- Crimp/snap vials can be used with either 11mm aluminum seals or Snap-It™ Snap Caps



NSC PART NO.	MAXIMUM FILL VOLUME	DESCRIPTION	FINISH	PACK OF	CASE OF
C4011-1	1.8mL	Target LoVial, 2mL Clear Glass Vial	Crimp	100	2000
C4011-1W	1.8mL	Target LoVial, 2mL Clear Glass I-D Vial	Crimp	100	2000
C4011-2	1.8mL	Target LoVial, 2mL Amber Glass Vial	Crimp	100	2000
C4011-2W	1.8mL	Target LoVial, 2mL Amber Glass I-D Vial	Crimp	100	2000
C4011-1B	1.8mL	Target ColorBand 2mL Clear Glass Vial w/Blue Patch†	Crimp	100	2000
C4011-1G	1.8mL	Target ColorBand 2mL Clear Glass Vial w/Green Patch†	Crimp	100	2000
C4011-1R	1.8mL	Target ColorBand 2mL Clear Glass Vial w/Red Patch†	Crimp	100	2000
C4011-1Y	1.8mL	Target ColorBand 2mL Clear Glass Vial w/Yellow Patch†	Crimp	100	2000
<b>MICROSAMPLING VIAL FOR USE WITH 11MM ALUMINUM CRIMP SEALS</b>					
C4011-LV1	250µL	MacroVial™ 250µL Fused Insert Snap-It Vial, Clear Glass	Crimp/Snap	100	----
C4011-LV1W	250µL	MacroVial 250µL Fused Insert Vial, Clear Glass I-D	Crimp	100	----
C4011-LV2	250µL	MacroVial 250µL Fused Insert Snap-It Vial, Amber Glass	Crimp/Snap	100	----
C4011-LV2W	250µL	MacroVial 250µL Fused Insert Vial, Amber Glass I-D	Crimp	100	----
C4011-10	400µL	Solid Glass MicroVials™	Crimp	12	----
C4011-1PT	700µL	900µL Precision Taper Vial, Clear Glass	Crimp	100	----
C4011-V1	1.1mL	Micro-V™ Clear Glass Microsampling Vial, 15µL Reservoir	Crimp	100	----
C4011-V2	1.1mL	Micro-V Amber Glass Microsampling Vial, 15µL Reservoir	Crimp	100	----
C4011-9	1.5mL	1.5mL High Recovery MicroVials	Crimp	100	----
C4011-1.7CB	1.1mL	1.7mL Conical Bottom Crimp-Top LoVial	Crimp	----	1000
C4011-1240	2.3mL	2.5mL Clear Glass Crimp-Top Vial—40mm Vial Height	Crimp	----	1000
<b>DEACTIVATED VIALS</b>					
C4011-S1	1.8mL	2mL Clear Glass Vial, NSC Silanized	Crimp	100	2000
C4011-S1W	1.8mL	2mL Clear Glass I-D Vial, NSC Silanized	Crimp	100	2000
C4011-S2W	1.8mL	2mL Amber Glass I-D Vial, NSC Silanized	Crimp	100	2000
C4011-S9	1.5mL	1.5mL High Recovery MicroVials, NSC Silanized	Crimp	100	----
C4011-K1W	1.8mL	2mL Clear Glass I-D Vial, Kimshield™ Deactivated	Crimp	100	----
C4011-K2W	1.8mL	2mL Amber Glass I-D Vial, Kimshield Deactivated	Crimp	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.

# Target® LoVial™ Wide Opening—12 x 32 Crimp Top Vials, Aluminum Seals and Inserts



## Crimp Top Limited Volume Plastic Crimp Top Vials

- Polypropylene vials are an economical alternative to glass for some applications
- Precision-formed tips are designed to aid sample recovery for limited volume applications
- Target® polypropylene vials are compatible with aluminum seals or Snap-It™ snap cap closures
- Glastic® vial features a glass insert pre-inserted inside of a clear TPX vial

NSC PART NO.	MAXIMUM FILL VOLUME	DESCRIPTION	RESIDUAL FINISH VOLUME	PACK OF	CASE OF
C4011-13	250µL	250µL Virgin Polypropylene MicroVial™	3µL Crimp/Snap	100	1000
C4011-16	350µL	600mL Virgin Polypropylene MicroVial	5µL Crimp/Snap	100	----
C4011-11	600µL	800mL Virgin Polypropylene MicroVial	6µL Crimp/Snap	100	1000
C4011-15	600µL	850mL Virgin Polypropylene AP-2000® MaxVial	15µL Crimp/Snap	----	1000
C4011-14	800µL	1mL Virgin Polypropylene Flat Bottom Vial	30µL Crimp/Snap	100	1000
C4011-26	700µL	700mL HDPE Conical MicroVial	8µL Crimp	100	----
C4011-24	700µL	1mL TPX High Recovery Vial	25µL Crimp/Snap	100	1000
C4012-15	150µL	Glastic Glass Insert/TPX Vial	3µL Crimp/Snap	100	----



C4011-98 Series,  
C4011-7 Series

## Crimp Seals Aluminum Crimp Seals with Prefitted Septa for 12 x 32 vials

- Anodized aluminum seals fit all 11mm crimp top vials
- Seal 2000® is specially formulated for improved background performance over PTFE/red rubber
- Viton® septa perform well with ECD detectors and are resistant to many aggressive solvents

NSC PART NO.	SEAL COLOR	SEPTUM MATERIAL	COMMENT	PACK OF	CASE OF
C4011-1AP	Silver	Clear PTFE/Red Rubber	Standard GC septum	100	----
C4011-1A	Silver	Clear PTFE/Red Rubber	Standard GC septum	----	1000
C4011-98B	Blue	Clear PTFE/Red Rubber	Standard GC septum	100	1000
C4011-98R	Red	Clear PTFE/Red Rubber	Standard GC septum	100	1000
C4011-98G	Green	Clear PTFE/Red Rubber	Standard GC septum	100	1000
C4011-98Y	Gold	Clear PTFE/Red Rubber	Standard GC septum	100	1000
C4011-2A	Silver	Red PTFE/White Silicone/Red PTFE	For aggressive solvents	100	1000
C4011-3A	Silver	Polypropylene	For corrosive solvents	100	1000
C4011-4A	Silver	Red PTFE/White Silicone	High Purity Septum	100	1000
C4011-4B	Blue	Red PTFE/White Silicone	High Purity Septum	100	----
C4011-4G	Green	Red PTFE/White Silicone	High Purity Septum	100	----
C4011-4R	Red	Red PTFE/White Silicone	High Purity Septum	100	----
C4011-4Y	Yellow	Red PTFE/White Silicone	High Purity Septum	100	----
C4011-5A	Silver	Black Viton Elastomer	ECD, High chemical resistance	100	1000
C4011-6A	Silver	Virgin PTFE	High Temperature, Not resealable	----	1000
C4011-7A	Silver	Seal 2000 PTFE/Red Rubber	High Purity GC septum	100	1000
C4011-7B	Blue	Seal 2000 PTFE/Red Rubber	High Purity GC septum	----	1000
C4011-7G	Green	Seal 2000 PTFE/Red Rubber	High Purity GC septum	----	1000
C4011-7R	Red	Seal 2000 PTFE/Red Rubber	High Purity GC septum	----	1000
C4011-7Y	Yellow	Seal 2000 PTFE/Red Rubber	High Purity GC septum	----	1000
C4011-7K	Silver, Blue, Green, Red, Yellow	Seal 2000 PTFE/Red Rubber	Kombo Kit; 200 of each color	----	1000
C4011-37	Silver	Gray Chlorobutyl	Resealable, Intermediate Purity	----	1000

# Target® LoVial™ Wide Opening 12 x 32mm Crimp Top Vials, Aluminum Seals and Inserts



C4010-629L, C4010-S629



C4010-630TS



C4011-631P



C4010-630 Series



C4011-631

## Inserts Inserts for Target® LoVial™ Wide Opening Vials

- These inserts all have a nominal O.D. of 6mm to fit Target wide opening vials
- Polyspring® inserts feature a polyethylene spring to center the bottom of the insert and to provide a cushion against needle contact
- Precision point inserts minimize residual sample losses
- Deactivated inserts are Silanized or Kimshield™ pretreated



C4010-630P



C4010-627L

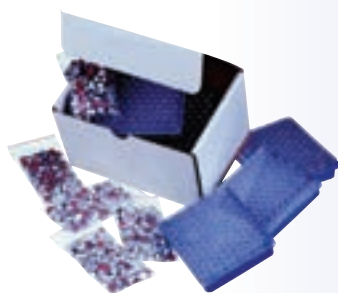
NSC PART NO.	DESCRIPTION	COMMENT	PACK OF	CASE OF
C4011-631	400µL MicroSert™, Glass Flat Bottom Insert	Open end has fill marking	500	----
C4011-631P	400µL MicroSert, Polypropylene Flat Bottom Insert	Molded plastic insert	500	----
C4010-630	300µL Polyspring, Glass Conical Insert	Polyspring centers and cushions insert	100	----
C4010-630P	300µL Polyspring, Polypropylene Conical Insert	Precision-formed tip with Polyspring	100	1000
C4010-627L	350µL Glass Conical Insert, Pulled Point	Precision-formed tip, rests on vial bottom	100	1000
C4010-629	300µL Glass Conical Insert, Pulled Point	Preferred for viscous solutions	100	1000
C4010-629L	350µL Glass Conical Insert, Precision Point	Insert is suspended in vial by top spring	100	1000
<b>NEW</b> C4010-629P	300µL Polypropylene, Conical Base, Clear Vial, Graduation Marks	Polypropylene is preferred for highly reactive compounds	100	1000
C4010-630TS	250µL Glass Conical Insert with Top Spring	Insert is suspended from the rim of the vial	----	500
<b>DEACTIVATED INSERTS</b>				
C4010-S629	300µL Glass Conical Insert, Silanized	Insert rests on bottom of vial	100	1000
C4010-S630	300µL Polyspring, Glass Conical Insert, Silanized	Precision-formed tip, NSC silanized	100	----
C4011-S631	400µL MicroSert, Glass Flat Bottom Insert, Silanized	Insert rests on bottom of vial	500	----
C4010-K630	300µL Polyspring, Glass Conical Insert, Kimshield	Precision-formed tip, Kimshield deactivated	100	----

## Convenience Kits Unassembled Target® LoVial™ Wide Opening Vial and Crimp Seal Convenience Kits

- Compartment benchtop storage trays
- Include matched quantities of vials and silver aluminum seals with prefitted septa
- All items remain handy and dust-free



C4011-87



C4011-95

NSC PART NO.	VIAL	SEAL WITH SEPTUM	VIAL PART NO.	SEAL PART NO.	PACK OF	CASE OF
C4011-87	Clear Glass	PTFE/Red Rubber	C4011-1	C4011-1A	100	----
C4011-87A	Amber Glass	PTFE/Red Rubber	C4011-2	C4011-1A	100	----
C4011-87W	Clear Glass I-D™	PTFE/Red Rubber	C4011-1W	C4011-1A	100	----
C4011-87AW	Amber Glass I-D	PTFE/Red Rubber	C4011-2W	C4011-1A	100	----
C4011-88A	Amber Glass	PTFE/Red Rubber	C4011-2	C4011-1A	500	1000
C4011-88W	Clear Glass I-D	PTFE/Red Rubber	C4011-1W	C4011-1A	500	1000
C4011-88AW	Amber Glass I-D	PTFE/Red Rubber	C4011-2W	C4011-1A	500	1000
C4011-88	Clear Glass	PTFE/Red Rubber	C4011-1	C4011-1A	500	1000
C4011-89W	Clear Glass I-D	Seal 2000	C4011-1W	C4011-7A	100	----
C4011-92	Clear Glass	PTFE/Silicone	C4011-1	C4011-4A	100	----
C4011-92W	Clear Glass I-D	PTFE/Silicone	C4011-1W	C4011-4A	100	----
C4011-92AW	Amber Glass I-D	PTFE/Silicone	C4011-2W	C4011-4A	100	----
C4011-92PT	Clear Insert Vial	PTFE/Silicone	C4011-1PT	C4011-4A	100	----
C4011-94	Clear Glass	PTFE/Silicone/PTFE	C4011-1	C4011-2A	100	----
C4011-94W	Clear Glass I-D	PTFE/Silicone/PTFE	C4011-1W	C4011-2A	100	----
C4011-94AW	Amber Glass I-D	PTFE/Silicone/PTFE	C4011-2W	C4011-2A	100	----
C4011-95	Clear Glass	PTFE/Red Rubber/Polyspring Insert	C4011-1	C4011-1AP	100	----
C4011-95A	Amber Glass	PTFE/Red Rubber/Polyspring Insert	C4011-2	C4011-1AP	100	----
C4011-95W	Clear Glass I-D	PTFE/Red Rubber/Polyspring Insert	C4011-1W	C4011-1AP	100	----
C4011-95AW	Amber Glass I-D	PTFE/RR w/C4011-630 Insert	C4011-2W	C4011-1AP	100	----

**NOTE:** C4011-88, -88W, -88A, and -88AW are bulk packs that do not include the convenience kit tray.



# Target® LoVial™ Wide Opening 12 x 32mm Crimp Top Vials, Aluminum Seals and Inserts

## Vial Kits

### Precrimped Target® LoVial™ Wide Opening Vial Kits

- Aluminum seal is crimped onto the vial following a purge with dry nitrogen
- Sample is added via injection through the septum



C4011-1CV



C4011-2WCV

NSC PART NO.	VIAL	SEAL WITH SEPTUM	VIAL PART NO.	SEAL PART NO.	PACK OF	CASE OF
C4011-1CV	Clear Glass	Silver seal, PTFE/Red rubber	C4011-1	C4011-1AP	100	----
C4011-2WCV	Amber Glass I-D™	Silver seal, PTFE/Red rubber	C4011-2W	C4011-1AP	100	----



C4075 Series



C4000-680 Series

## Storerooms

### Target® LoVial® Storerooms

- Mini storeroom has 6 drawers, each drawer contains 100 packs of either vials or septa
- Full-size storeroom has 9 deep drawers with a capacity of 2000 vials and seals
- Storeroom can be restocked as product is consumed

NSC PART NO.	DESCRIPTION	VIALS CAT. NO.	SEAL PART NO.	PACK OF	CASE OF
C4011-688	NSC Mini Storeroom, Clear Vial, PTFE/RR Seals	C4011-1	C4011-1AP	1	----
C4011-688W	NSC Mini Storeroom, Clear I-D™ Vial, PTFE/RR Seals	C4011-1	C4011-1AP	1	----
C4011-688AW	NSC Mini Storeroom, Amber I-D Vial, PTFE/RR Seals	C4011-1	C4011-1AP	1	----
C4075-1	NSC Storeroom, Clear Vial, PTFE/RR Seals	C4011-1	C4011-1AP	1	----
C4075-11	NSC Storeroom, Amber Vial, PTFE/RR Seals	C4011-2	C4011-1AP	1	----
C4075-21	NSC Storeroom, Clear I-D Vial, PTFE/RR Seals	C4011-1W	C4011-1AP	1	----
C4000-MS	Six-Drawer Mini Storeroom—Cabinet Only	N/A	N/A	1	----
C4075-500	Nine-Drawer Storeroom, Full Size—Cabinet Only	N/A	N/A	1	----

## Tools and Racks

### Crimpers, De-Crimpers, and Decapping Pliers for 11mm Crimp Top Vials

- Crimping tools provide a reproducible, secure vial closure for all 11mm vial and seal combinations
- De-crimping tools allow easy removal of aluminum seals without vial breakage



NSC PART NO.	TYPE	DESCRIPTION	PACK OF	CASE OF
C4012-100	Manual Crimper	Attaches 11mm aluminum crimp seals	1	----
C4012-101	Decapping Pliers	Removes 11mm aluminum crimp seals	1	----
C4012-102	Manual De-crimper	Removes 11mm aluminum crimp seals without vial damage	1	----



C4011-25



C4012-25

## Tools and Racks

### Sample Racks for 12 x 32mm Vials

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

NSC PART NO.	DESCRIPTION	CAPACITY	PACK OF	CASE OF
C4011-25	Polystyrene storage rack for 12 x 32mm vials with clear lid	100 vials, 10 x 10	1	5
C4012-25	Polypropylene storage rack for 12 x 32mm vials, no lid	50 vials, 5 x 10	1	5

# Target® Snap-It™ Wide Opening - 12 x 32mm Snap Cap Vials, Caps, Septa, and Inserts



C4011-5, S5 C4011-6



C4011-5W



C4011-6W C4011-S6W



C4011-LV1



C4011-V5

## Snap Cap Vials



C4011-4, C4011-S4

### Target® Snap-It™ Snap Cap Vials—Wide Opening 2mL, 12 × 32mm

- Wide opening vial is easier to fill and provides a larger target area for the autosampler needle
- Fit most autosamplers that accommodate the 12 × 32mm vial format
- Superior quality 33 expansion borosilicate clear glass Type 1, (Class A) or 51A amber glass
- Uniformly flat bottom for security with inserts
- I-D™ vials feature write-on patch with graduations at 0.5, 1.0, and 1.5mL
- Target Snap-It™ vials can be used with snap caps or aluminum crimp seal closures

NSC PART NO.	MAXIMUM FILL VOLUME	DESCRIPTION	PACK OF	CASE OF
C4011-5	1.8mL	Target LoVial™, 2mL Clear Glass Vial	100	2000
C4011-5W	1.8mL	Target LoVial, 2mL Clear Glass I-D Vial	100	2000
C4011-6	1.8mL	Target LoVial, 2mL Amber Glass Vial	100	----
C4011-6W	1.8mL	Target LoVial, 2mL Amber Glass I-D Vial	100	2000
<b>MICROSAMPLING VIALS FOR USE WITH SNAP-IT SNAP CAPS</b>				
C4011-LV1	250µL	MacroVial™ 250µL Fused Insert Snap-It Vial, Clear Glass	100	----
C4011-LV2	250µL	MacroVial 250µL Fused Insert Snap-It Vial, Amber Glass	100	----
C4011-V5	1.1mL	Micro-V™ Clear Glass Snap-It Microsampling Vial, 15µL Reservoir	100	----
C4011-V6	1.1mL	Micro-V Amber Glass Snap-It Microsampling Vial, 15µL Reservoir	100	----
C4011-4	1.5mL	1.5mL Target Snap-It High Recovery MicroVials	100	----
<b>DEACTIVATED VIALS</b>				
C4011-S5	1.8mL	2mL Snap-It Clear Glass Vial	100	2000
C4011-S5W	1.8mL	2mL Snap-It Clear Glass I-D Vial w/Patch, NSC Silanized	100	2000
C4011-S6W	1.8mL	2mL Snap-It Amber Glass I-D Vial w/Patch	100	2000
C4011-S4	1.5mL	1.5mL Snap-It High Recovery MicroVials, NSC Silanized	100	----



C4011-13



C4011-16



C4011-11



C4011-15



C4011-24



C4011-14



C4012-15

## Plastic Vials

### Target® Snap-It™ Limited Volume Plastic Vials

- Polypropylene vials are an economical alternative to glass for some applications
- Precision-formed tips are designed to aid sample recovery for limited volume applications
- Target polypropylene vials are compatible with Snap-It snap cap closures or 11mm aluminum seals
- Glastic® vial features a glass insert pre-inserted inside of a clear TPX vial

NSC PART NO.	DESCRIPTION	FILL VOLUME	RESIDUAL VOLUME	PACK OF	CASE OF
C4011-13	250µL MicroVials™	250µL	3µL	100	1000
C4011-16	600µL MicroVials	350µL	5µL	100	----
C4011-11	800µL MicroVials	600µL	6µL	100	1000
C4011-15	850µL AP2000™ MaxVial™	600µL	15µL	----	1000
C4011-14	1mL Flat Bottom Vial	800µL	30µL	100	1000
C4011-24	1mL TPX High Recovery Vial	700µL	25µL	100	1000
C4012-15	Glastic Glass Insert/TPX Vial	150µL	3µL	100	----

# Target® Snap-It™ Wide Opening -12 x 32mm Snap Cap Vials, Caps, Septa and Inserts



C4011-50 Series



C4011-51 Series



C4011-52 Series



C4011-53 Series



C4011-54 Series



C4011-55 Series

## Closures Target® Snap-It™ Closures with Prefitted Septa for 12 x 32mm vials

- Target Snap-It caps are easy to apply and easy to remove from Target Snap-It vials
- Target Snap-It caps eliminate the need for crimping or de-capping tools
- Target Snap-It caps are available in a variety of colors and septa choices



C4011-56

NSC PART NO.	COLOR	SEPTUM MATERIAL	COMMENT	PACK OF	CASE OF
C4011-50	Clear	Integral Molded Polyethylene	Single use economy cap, not resealable	100	1000
C4011-50B	Blue	Integral Molded Polyethylene	Single use economy cap, not resealable	100	1000
C4011-50G	Green	Integral Molded Polyethylene	Single use economy cap, not resealable	100	1000
C4011-50R	Red	Integral Molded Polyethylene	Single use economy cap, not resealable	100	1000
C4011-50Y	Yellow	Integral Molded Polyethylene	Single use economy cap, not resealable	100	1000
C4011-51	Clear	Clear PTFE/Red Rubber	Natural rubber septa, slightly resealable	100	1000
C4011-51B	Blue	Clear PTFE/Red Rubber	Natural rubber septa, slightly resealable	100	1000
C4011-51G	Green	Clear PTFE/Red Rubber	Natural rubber septa, slightly resealable	100	1000
C4011-51R	Red	Clear PTFE/Red Rubber	Natural rubber septa, slightly resealable	100	1000
C4011-51Y	Yellow	Clear PTFE/Red Rubber	Natural rubber septa, slightly resealable	100	1000
C4011-51BLK	Black	Clear PTFE/Red Rubber	Natural rubber septa, slightly resealable	100	1000
C4011-52	Clear	Virgin PTFE	Highly inert, not resealable, single use	100	1000
C4011-52B	Blue	Virgin PTFE	Highly inert, not resealable, single use	100	1000
C4011-52G	Green	Virgin PTFE	Highly inert, not resealable, single use	100	1000
C4011-52R	Red	Virgin PTFE	Highly inert, not resealable, single use	100	1000
C4011-52Y	Yellow	Virgin PTFE	Highly inert, not resealable, single use	100	1000
C4011-53	Clear	Red PTFE/White Silicone/Red PTFE	For Aggressive Solvents	100	1000
C4011-53B	Blue	Red PTFE/White Silicone/Red PTFE	For Aggressive Solvents	100	1000
C4011-53G	Green	Red PTFE/White Silicone/Red PTFE	For Aggressive Solvents	100	1000
C4011-53R	Red	Red PTFE/White Silicone/Red PTFE	For Aggressive Solvents	100	1000
C4011-53Y	Yellow	Red PTFE/White Silicone/Red PTFE	For Aggressive Solvents	100	1000
C4011-54	Clear	Red PTFE/White Silicone	Highly Resealable, High Purity Septum	100	1000
C4011-54B	Blue	Red PTFE/White Silicone	Highly Resealable, High Purity Septum	100	1000
C4011-54G	Green	Red PTFE/White Silicone	Highly Resealable, High Purity Septum	100	1000
C4011-54R	Red	Red PTFE/White Silicone	Highly Resealable, High Purity Septum	100	1000
C4011-54Y	Yellow	Red PTFE/White Silicone	Highly Resealable, High Purity Septum	100	1000
C4011-54BLK	Black	Red PTFE/White Silicone	Highly Resealable, High Purity Septum	100	1000
C4011-55	Clear	Blue PTFE/White Silicone - Pre-slit	Reduces coring, needle damage, allows venting	100	1000
C4011-55B	Blue	Blue PTFE/White Silicone - Pre-slit	Reduces coring, needle damage, allows venting	100	1000
C4011-55G	Green	Blue PTFE/White Silicone - Pre-slit	Reduces coring, needle damage, allows venting	100	1000
C4011-55R	Red	Blue PTFE/White Silicone - Pre-slit	Reduces coring, needle damage, allows venting	100	1000
C4011-55Y	Yellow	Blue PTFE/White Silicone - Pre-slit	Reduces coring, needle damage, allows venting	100	1000
C4011-55BLK	Black	Blue PTFE/White Silicone - Pre-slit	Reduces coring, needle damage, allows venting	100	1000
C4011-56	Clear	Viton® Elastomer	High Temperature, not resealable	100	1000
C4011-57	Clear	Integral PE—Star Slit	Single use, for thin gauge needles	----	1000
C4011-59	Clear	Red PTFE/White Silicone—Star Slit	For thin gauge needles	100	1000
C4011-61	Clear	PTFE/Red Rubber	Low evaporation	100	1000
C4011-63	Clear	PTFE/Silicone/PTFE	Low evaporation	100	----
C4011-64	Clear	PTFE/Silicone	Low evaporation	100	----



# Target® Snap-It™ Wide Opening - 12 x 32mm Snap Cap Vials, Caps, Septa and Inserts

## Crimp Seals

### Aluminum Crimp Seals with Prefitted Septa for 12 x 32mm vials

- Anodized aluminum seals fit all 11mm crimp top vials
- Seal 2000® is specially formulated for improved background performance over PTFE/red rubber
- Viton® septa perform well with ECD detectors and are resistant to many aggressive solvents



C4011-98 Series, C4011-7 Series



C4011-2A, C4011-3A, C4011-4A, C4011-5A

NSC PART NO.	SEAL COLOR	SEPTUM MATERIAL	COMMENT	PACK OF	CASE OF
C4011-1AP	Silver	Clear PTFE/Red Rubber	Standard GC septum	100	----
C4011-1A	Silver	Clear PTFE/Red Rubber	Standard GC septum	----	1000
C4011-98B	Blue	Clear PTFE/Red Rubber	Standard GC septum	100	1000
C4011-98R	Red	Clear PTFE/Red Rubber	Standard GC septum	100	1000
C4011-98G	Green	Clear PTFE/Red Rubber	Standard GC septum	100	1000
C4011-98Y	Gold	Clear PTFE/Red Rubber	Standard GC septum	100	1000
C4011-2A	Silver	Red PTFE/White Silicone/Red PTFE	For aggressive solvents	100	1000
C4011-3A	Silver	Polypropylene	For corrosive solvents	100	1000
C4011-4A	Silver	Red PTFE/White Silicone	High Purity Septum	100	1000
C4011-4B	Blue	Red PTFE/White Silicone	High Purity Septum	100	----
C4011-4G	Green	Red PTFE/White Silicone	High Purity Septum	100	----
C4011-4R	Red	Red PTFE/White Silicone	High Purity Septum	100	----
C4011-4Y	Yellow	Red PTFE/White Silicone	High Purity Septum	100	----
C4011-5A	Silver	Black Viton Elastomer	ECD, High chemical resistance	100	1000
C4011-6A	Silver	Virgin PTFE	High Temperature, Not resealable	----	1000
C4011-7A	Silver	Seal 2000 PTFE/Red Rubber	High Purity GC septum	100	1000
C4011-7B	Blue	Seal 2000 PTFE/Red Rubber	High Purity GC septum	----	1000
C4011-7G	Green	Seal 2000 PTFE/Red Rubber	High Purity GC septum	----	1000
C4011-7R	Red	Seal 2000 PTFE/Red Rubber	High Purity GC septum	----	1000
C4011-7Y	Yellow	Seal 2000 PTFE/Red Rubber	High Purity GC septum	----	1000
C4011-7K	Silver, Blue, Green, Red, Yellow	Seal 2000 PTFE/Red Rubber	Kombo Kit; 200 of each color	----	1000
C4011-37	Silver	Gray Chlorobutyl	Resealable, Intermediate Purity	----	1000



C4011-631



C4010-631P



C4010-630 Series



C4010-627L



C4011-630P



C4011-S631

## Inserts

### Inserts for Snap-It™ Wide Opening Snap Cap Vials

- These inserts all have a nominal O.D. of 6mm to fit Target® wide opening vials
- Polyspring® inserts provide a cushion against needle contact
- Precision point inserts minimize residual sample losses
- Deactivated inserts are NSC Silanized or Kimshield™ pretreated



C4010-629L, C4010-S629



C4010-630TS

NSC PART NO.	DESCRIPTION	MATERIAL	TIP FORM	FILL VOLUME	RESIDUAL VOLUME	PACK OF	CASE OF
C4011-631	500µL MicroSert™ Insert	Glass	Flat Bottom	450µL	25µL	500	----
C4011-631P	500µL MicroSert Insert	Polypropylene	Flat Bottom	450µL	25µL	500	----
C4010-630	375µL Polyspring Conical Insert	Glass	Precision Point	300µL	3µL	100	----
C4010-630P	300µL Polyspring Conical Insert	Polypropylene	Precision Point	250µL	3µL	100	1000
C4010-627L	400µL Glass Conical Insert	Glass	Pulled Point	350µL	6µL	100	1000
C4010-629	300µL Glass Conical Insert, Pulled Point	Glass	Pulled Point	300µL	6µL	100	1000
C4010-629L	400µL Glass Conical Insert	Glass	Precision Point	350µL	3µL	100	1000
C4010-629P	Polypropylene is preferred for some highly reactive compounds	Conical Base	300µL Polypropylene, Conical Base, Clear Vial, Graduation Marks	300µL	3µL	100	1000
C4010-630TS	225µL Conical w/Top Spring	Glass	Precision Point	200µL	4µL	----	500
<b>DEACTIVATED INSERTS</b>							
C4010-S629	375µL Glass Conical, Silanized	Glass, Silanized	Precision Point	300µL	5µL	100	1000
C4010-S630	375µL Polyspring, Conical, Silanized	Glass, Silanized	Precision Point	300µL	5µL	100	----
C4011-S631	500µL MicroSert, Silanized	Glass, Silanized	Flat Bottom	450µL	25µL	500	----
C4010-K630	300µL Polyspring, Conical, Kimshield	Glass, Kimshield	Precision Point	300µL	5µL	100	----

# Target® Snap-It™ Wide Opening - 12 x 32mm Snap Cap Vials, Caps, Septa and Inserts

## Convenience Kits

### Unassembled Target® Snap-It™ Wide Opening Vial and Closure Convenience Kits

- Two compartment benchtop storage tray
- Include matched quantities of vials and Snap-It caps with prefitted septa
- All items remain handy and dust-free



C4011-72

NSC PART NO.	VIAL	SEAL WITH SEPTUM	VIALS PART NO.	SEAL PART NO.	PACK OF	CASE OF
C4011-72	Clear Glass	Clear—PTFE/Red Rubber	C4011-5	C4011-51	100	----
C4011-72W	Clear Glass I-D™	Clear—PTFE/Red Rubber	C4011-5W	C4011-51	100	----
C4011-72AW	Amber Glass I-D	Clear—PTFE/Red Rubber	C4011-6AW	C4011-51	100	----
C4011-73	Clear Glass	Clear—PTFE/Silicone	C4011-5	C4011-54	100	----
C4011-73W	Clear Glass I-D	Clear—PTFE/Silicone	C4011-5W	C4011-54	100	----
C4011-73AW	Amber Glass I-D	Clear—PTFE/Silicone	C4011-6W	C4011-54	100	----
C4011-74	Clear Glass	Clear—PTFE/Silicone, Pre-slit	C4011-5	C4011-55	100	----
C4011-74W	Clear Glass I-D	Clear—PTFE/Silicone, Pre-slit	C4011-5W	C4011-55	100	----
C4011-74AW	Amber Glass I-D	Clear—PTFE/Silicone, Pre-slit	C4011-6W	C4011-55	100	----
C4011-75W	Clear Glass	Clear—PTFE/Silicone, Star-slit	C4011-5W	C4011-59	100	----

## Storerooms

### Target® Snap-It™ Storerooms

- Mini Storeroom has 6 drawers, able to contain 1-100/pack of vials or 500/pack caps
- Full-size Storeroom has 9 deep drawers with a capacity of 2000 vials and caps
- Storeroom can be restocked as product is consumed



C4011-65 Series



C4075 Series

NSC PART NO.	DESCRIPTION	VIALS PART NO.	SEAL PART NO.	PACK OF	CASE OF
C4011-6551	NSC Mini Storeroom, Clear Snap-It Vial, PTFE/RR Cap, 500 pieces	C4011-5	C4011-51	1	----
C4011-65W51	NSC Mini Storeroom, Clear Snap-It I-D™ Vial, PTFE/RR Cap, 500 pieces	C4011-5W	C4011-51	1	----
C4011-66W51	NSC Mini Storeroom, Amber Snap-It I-D Vial, PTFE/RR Cap, 500 pieces	C4011-6W	C4011-51	1	----
C4075-43	NSC Storeroom, Clear Vial, PTFE/RR, Clear Snap-It Cap, 2000 pieces	C4011-5	C4011-51	1	----
C4075-63	NSC Storeroom, Clear I-D Vial, PTFE/RR, Clear Snap-It Cap, 2000 pieces	C4011-5W	C4011-51	1	----
C4075-73	NSC Storeroom, Amber I-D Vial, PTFE/RR Clear Snap-It Cap, 2000 pieces	C4011-6W	C4011-51	1	----
C4075-47	NSC Storeroom, Clear Vial, T/S/T, Clear Snap-It Cap, 2000 pieces	C4011-5	C4011-53	1	----
C4075-49	NSC Storeroom, Clear Vial, T/S, Clear Snap-It Cap, 2000 pieces	C4011-5	C4011-54	1	----
C4075-79	NSC Storeroom, Amber I-D Vial, T/S Clear Snap-It Cap, 2000 pieces	C4011-6W	C4011-54	1	----
C4075-50	NSC Storeroom, Clear Vial, T/S, Pre-slit, Clear Snap-It Cap, 2000 pieces	C4011-5	C4011-55	1	----
C4000-MS	Six-Drawer Mini Storeroom—Cabinet Only	N/A	N/A	1	----
C4075-500	Nine-Drawer Storeroom, Full Size—Cabinet Only	N/A	N/A	1	----

## Tools and Racks

### Crimpers, De-Crimpers, and Decapping Pliers for 11mm Crimp Top Vials

- Crimping tools provide a reproducible, secure vial closure for all 11mm vial and seal combinations
- De-crimping tools allow easy removal of aluminum seals without vial breakage



C4012-102

C4012-101

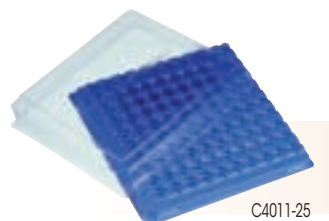
C4012-100

NSC PART NO.	TYPE	DESCRIPTION	PACK OF	CASE OF
C4012-100	Manual Crimper	Attaches 11mm aluminum crimp seals	1	----
C4012-101	Decapping Pliers	Removes 11mm aluminum crimp seals	1	----
C4012-102	Manual De-crimper	Removes 11mm aluminum crimp seals without vial damage	1	----

## Tools and Racks

### Sample Racks for 12 x 32mm Vials

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



C4011-25



C4012-25

NSC PART NO.	DESCRIPTION	CAPACITY	PACK OF	CASE OF
C4011-25	Polystyrene storage rack for 12 x 32mm vials with clear lid	100 vials, 10 x 10	1	5
C4012-25	Polypropylene storage rack for 12 x 32mm vials, no lid	50 vials, 5 x 10	1	5

# Standard Opening 12 x 32mm Screw Thread Vials, Caps, Septa and Inserts

C4013-1,-1500,-2,-S1,-S2,-K1



C4013-2W,  
C4013-K2W



C4013-1W,  
C4013-K1W



C4013-12

## Screw Thread Glass Vials

### Standard-Opening 12 x 32mm Screw Thread Glass Vials—2mL 12 x 32mm

- Standard neck vial—8-425 thread finish, 12 x 32mm outer profile
- Superior quality 33 expansion borosilicate clear glass (Type 1, Class A) or 51A amber glass
- Uniformly flat bottom for security with inserts
- I-D™ vials feature write-on patch with graduations at 0.5, 1.0 and 1.5mL
- Deactivated vials are Silanized or Kimshield™ pretreated

NSC PART NO.	MAXIMUM FILL VOLUME	DESCRIPTION	PACK OF	CASE OF
C4013-1	1.8mL	2mL Clear Glass	100	2000
C4013-1500	1.8mL	2mL Clear Glass	----	1000
C4013-1W	1.8mL	2mL Clear Glass I-D	100	2000
C4013-2	1.8mL	2mL Amber Glass	100	2000
C4013-2W	1.8mL	2mL Amber Glass I-D	100	2000
C4013-12	150µL	150µL MicroVials™, Clear Solid Glass	12	----
<b>DEACTIVATED GLASS VIALS</b>				
C4013-S1	1.8mL	Silanized	100	2000
C4013-S2	1.8mL	I-D™, Silanized	100	2000
C4013-K1	1.8mL	2mL Clear Glass, Kimshield	100	----
C4013-K1W	1.8mL	2mL Clear Glass I-D, Kimshield	100	----
C4013-K2W	1.8mL	2mL Amber Glass I-D, Kimshield	100	----

C4013-11,-19,-13



C4013-15GST



## Polypropylene and Glastic® Vials

### Limited Volume Polypropylene and Glastic® Vials with 8-425 Finish

- Polypropylene vials are an economical alternative to glass for some applications
- Precision-formed tips are designed to aid sample recovery for limited volume applications
- Glastic vial features a glass insert pre-inserted inside of a clear TPX vial

NSC PART NO.	MAX. FILL VOLUME	DESCRIPTION	PACK OF	CASE OF
C4013-15GST	100µL	150µL Glastic Glass Insert TPX MicroVials™	100	----
C4013-11	250µL	250µL Conical MicroVial	100	1000
C4013-13	675µL	850µL High-Recovery MicroVial	----	1000
C4013-19	400µL	600µL Tapered MicroVial	100	----

C4013-1A,  
C4013-3A



C4013-66



## Empty Caps

### 8-425 Empty Caps—No Septum for 8-425 Standard Opening Vials

- 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 particularly suitable for many Japanese autosamplers
- Kombo-Kit contains 200 each of black, blue, green, red, and yellow flanged caps

NSC PART NO.	DESCRIPTION	CAP COLOR	MATERIAL	PACK OF	CASE OF
C4013-1A	Open top cap	Black	Polypropylene	100	1000
C4013-66	Open Top Cap, Phenolic	Black	Phenolic	----	1000
C4013-3A	Open top cap with flange	Black	Polypropylene	100	1000
C4013-98W	Open top cap with flange	White	Polypropylene	100	1000
C4013-98B	Open top cap with flange	Blue	Polypropylene	100	1000
C4013-98G	Open top cap with flange	Green	Polypropylene	100	1000
C4013-98R	Open top cap with flange	Red	Polypropylene	100	1000
C4013-98Y	Open Top Cap with Flange	Yellow	Polypropylene	100	1000
C4013-98K	Kombo-Kit, flanged caps	Black, Blue, Green, Red, Yellow	Polypropylene	----	1000

**NOTE:** Caps with a flange are preferred for use with Shimadzu® and Hitachi®



# Standard Opening 12 x 32mm Screw Thread Vials, Caps, Septa and Inserts



C4013 Series

## Septa Septa for 8-425 Screw Thread Caps

- PTFE Disk septa are chemically inert
- PTFE Red Rubber septa are economical for many GC applications
- PTFE/Silicone septa are most popular for HPLC and IC applications
- Pre-slit septa are easier to pierce with thin gauge needles

NSC PART NO.	DESCRIPTION	COMMENT	PACK OF	CASE OF
C4013-10	White Virgin PTFE	Not re-sealable, single use	----	1000
C4013-30	Ivory PTFE/Red Rubber	For general chromatography	100	1000
C4013-32	Blue PTFE/White Silicone, Pre-slit	For fragile needles	100	1000
C4013-40	Red PTFE/White Silicone/Red PTFE	For use with aggressive solvents	100	1000
C4013-55	Red PTFE/Clear Silicone	55mil for Hitachi® autosamplers	100	1000
C4013-60	Red PTFE/White Silicone	For high sensitivity chromatography	100	1000
C4013-60TW	Red PTFE/White Silicone, Pre-slit	Single slit	----	1000
C4013-61	Tan PTFE/White Silicone	Kimble® PTFE/Silicone septum	----	1000



C4013-60A, C4013-40A



C4013-61A, C4013-61B, C4013-61G, C4013-61R, C4013-61Y



B7815-8

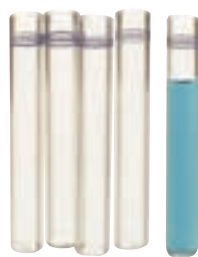
## Assembled Caps and Septa

### Assembled Caps and Septa for 8-425 Standard Opening Vials

- Pre-assembled caps and septa are convenient and minimize contamination from handling
- Phenolic caps can be autoclaved
- Kim-Lok™ cap/septum assemblies feature a molded centering ring to eliminate septum movement during injection
- Storage cap has a solid top and pre-inserted PTFE disk liner

NSC PART NO.	CAP TYPE	CAP COLOR	MATERIAL	SEPTUM	PACK OF	CASE OF
C4013-30A	Open top cap	Black	Polypropylene	Ivory PTFE/Red Rubber	100	----
C4013-40A	Open top cap	Black	Polypropylene	Red PTFE/White Silicone/Red PTFE	100	1000
C4013-60A	Open top cap	Black	Polypropylene	Red PTFE/White Silicone	100	1000
C4013-63A	Open top cap w/flange	Black	Polypropylene	Red PTFE/White Silicone	100	1000
C4013-63W	Open top cap w/flange	White	Polypropylene	Red PTFE/White Silicone	100	1000
C4013-64A	Open top cap w/flange	Black	Polypropylene	Blue PTFE/White Silicone—Pre-slit	100	1000
C4013-64W	Open top cap w/flange	White	Polypropylene	Blue PTFE/White Silicone—Pre-slit	100	1000
C4013-71A	Open top cap	Black	Phenolic	Ivory PTFE/Red Rubber	100	----
C4013-74A	Open top cap	Black	Phenolic	Red PTFE/White Silicone	100	----
C4013-77A	Open top cap w/flange	Black	Polypropylene	Red PTFE/White Silicone—Pre-slit	100	----
C4013-5A	SepCap™	Natural	Polypropylene	Integral Polypropylene	100	1000
C4013-61A	Kim-Lok cap w/flange	Black	Polypropylene	Kim-Lok Red PTFE/White Silicone	100	----
C4013-61B	Kim-Lok cap w/flange	Blue	Polypropylene	Kim-Lok Red PTFE/White Silicone	100	----
C4013-61G	Kim-Lok cap w/flange	Green	Polypropylene	Kim-Lok Red PTFE/White Silicone	100	----
C4013-61R	Kim-Lok cap w/flange	Red	Polypropylene	Kim-Lok Red PTFE/White Silicone	100	----
C4013-61W	Kim-Lok cap w/flange	White	Polypropylene	Kim-Lok Red PTFE/White Silicone	100	----
C4013-61Y	Kim-Lok cap w/flange	Yellow	Polypropylene	Kim-Lok Red PTFE/White Silicone	100	----
B7815-8	Solid top storage cap	White	Urethane	PTFE liner	100	----
<b>NEW</b> C4013-65A	8-425 Screw Thread	Black	Polypropylene	Bonded Red 0.005" PTFE/White Silicone	100	1000
<b>NEW</b> C4013-69A	8-425 Screw Thread	Black	Polypropylene	Bonded Preslit Red 0.005" PTFE/White Silicone	100	1000
<b>NEW</b> C4013-78A	8-425 Screw Thread	Black	Polypropylene	Bonded White 0.010" PTFE	100	1000

# Standard Opening 12 x 32mm Screw Thread Vials, Caps, Septa, and Inserts



C4012-465, C4013-K465



C4012-530, C4012-530



C4013-529T, C4012-530P, C4012-531L

## Inserts Inserts for Standard Opening Vials

- These inserts all have a nominal O.D. of 5mm to fit standard opening vials
- 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
- Deactivated inserts are NSC Silanized or Kimshield™ pretreated

NSC PART NO.	DESCRIPTION	MATERIAL	TIP FORM	PACK OF	CASE OF
C4012-465	200µL MicroSert™, Flat Bottom Insert	Glass	Flat bottom	500	1000
C4012-530	150µL Polyspring, Conical Insert	Glass	Pulled point	100	----
C4012-529	150µL Conical Insert	Glass	Pulled point	100	1000
C4012-531L	Precision point	Glass	Precision point	100	1000
C4013-529T	200µL Top Spring Conical Insert	Glass	Precision point	500	----
C4012-530P	125µL Polyspring Polypropylene Insert	Polypropylene	Precision point	100	----
<b>DEACTIVATED INSERTS</b>					
C4012-5530	150µL Polyspring, Conical Insert	Silanized Glass	Pulled point	100	----
C4013-K465	200µL Flat Bottom MicroSert	Kimshield Glass	Flat bottom	----	1000



C4013-16

## Convenience Kits Unassembled Standard Opening Vial, Cap and Septum Convenience Kits

- Two compartment, see-through benchtop storage tray
- Includes 100 vials and 100 caps with pre-assembled septa
- All items remain handy and dust-free
- Caps with septa are not attached to vials (packaged in plastic bags)

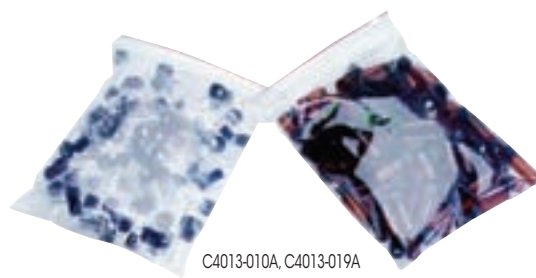
NSC PART NO.	VIAL	CAP	SEPTUM	VIALS PART NO.	CAP/SEPTUM NOS.	PACK OF	CASE OF
C4013-14	Clear Glass	Black Flanged	Red PTFE/White Silicone	C4013-1	C4013-63A	100	----
C4013-15	Clear Glass	Black	Red PTFE/White Silicone	C4013-1	C4013-60A	100	----
C4013-16	Clear Glass	Black	Red PTFE/White Silicone/Red PTFE	C4013-1	C4013-40A	100	----
C4013-17	Amber Glass	Black	Red PTFE/White Silicone	C4013-2	C4013-60A	100	----
C4013-18	Clear Glass	Black	Red PTFE/Clear Silicone	C4013-1	C4013-1A/C4013-55	100	----
C4013-95W	Clear I-D™	Black Flanged	Red PTFE/White Silicone - Pre-slit	C4013-1W	C4013-71A	100	----
C4013-482	Clear Glass	Black Phenolic	PTFE/Red Rubber	C4013-1	C4013-30A	100	----
C4013-492	Clear Glass	Black Phenolic	Red PTFE/White Silicone	C4013-1	C4013-74A	100	----
C4013-492W	Clear I-D	Black Phenolic	Red PTFE/White Silicone	C4013-1W	C4013-74A	100	----
C4013-415W	Amber Glass	Black Phenolic	Red PTFE/White Silicone	C4013-2W	C4013-74A	100	----
C4013-458	Clear I-D	Yellow Flanged	Red PTFE/White Silicone	C4013-1W	C4013-98Y/C4013-60	100	----
C4013-515	Clear, Silanized	Black	Red PTFE/White Silicone	C4013-S1	C4013-60A	100	----
C4013-96	Polypropylene	Black flanged	Red PTFE/White Silicone, Pre-slit	C4012-11	C4013-77A	100	----

**NOTE:** All caps are manufactured from virgin polypropylene unless noted.

# Standard Opening 12 x 32mm Screw Thread Vials, Caps, Septa, and Inserts



C4013-10A



C4013-010A, C4013-019A

## Assembled Vial Kits Assembled Standard Opening Vial, Cap and Septum Kits

- Assembled kits include 100 vials with pre-attached caps and septa
- Packaged in convenient vial trays with clear covers or in economical polybags
- Vial trays are stackable for easy storage

NSC PART NO.	VIAL	CAP	SEPTUM	VIALS CAT. NO.	CAP/SEPTUM NO.	PACK OF	CASE OF
C4013-10A	Clear Glass	Black	White PTFE	C4013-1	C4013-1A/C4013-10	100	----
C4013-19A	Amber Glass	Black	White PTFE	C4013-2	C4013-1A/C4013-10	100	----
C4013-15A	Clear Glass	Black	Red PTFE/White Silicone	C4013-1	C4013-60A	100	----
C4013-17A	Amber Glass	Black	Red PTFE/White Silicone	C4013-2	C4013-60A	100	----
C4013-32A	Clear Glass	Black Flanged	Blue PTFE/White Silicone - Pre-slit	C4013-1	C4013-3A/C4013-32	100	----
C4013-36A	Clear Glass	Yellow Flanged	Red PTFE/White Silicone - Pre-slit	C4013-1	C4013-98Y/C4013-60TW	100	----
C4013-57	Clear Glass	Black Flanged	Red PTFE/White Silicone	C4013-1	C4013-63A	100	----
C4013-57A	Amber Glass	Black Flanged	Red PTFE/White Silicone	C4013-2	C4013-63A	100	----
C4013-58	Clear Glass	White Flanged	Red PTFE/White Silicone	C4013-1	C4013-63W	100	----
C4013-58A	Amber Glass	White Flanged	Red PTFE/White Silicone	C4013-2	C4013-63W	100	----
C4013-58AW	Amber Glass I-D™	White Flanged	Red PTFE/White Silicone	C4013-2W	C4013-63W	100	----
C4013-195	Clear Glass	Black Flanged	Red PTFE/White Silicone - Pre-slit	C4013-1	C4013-77A	100	----
C4013-410A	Clear Glass	Black Phenolic	White PTFE	C4013-1	C4013-66/C4013-10	100	----
C4013-415A	Amber Glass	Black Phenolic	White PTFE	C4013-1	C4013-66/C4013-10	100	----
C4013-486A	Clear Glass	Black Phenolic	PTFE/Silicone/PTFE	C4013-1	C4013-66/C4013-40	100	----
C4013-491A	Clear Glass	Black Phenolic	Tan PTFE/White Silicone	C4013-1	C4013-66/C4013-10	100	----
C4013-492A	Clear Glass	Black Phenolic	Red PTFE/White Silicone	C4013-1	C4013-66/C4013-60	100	----
C4013-494A	Clear Glass	Black Phenolic	Red PTFE/White Silicone	C4013-1	C4013-66/C4013-60	100	----
<b>PACKED IN POLYBAG</b>							
C4013-010A	Clear Glass	Black	White PTFE	C4013-1	C4013-1A/C4013-10	100	----
C4013-019A	Amber Glass	Black	White PTFE	C4013-2	C4013-1A/C4013-10	100	----
C4013-015A	Clear Glass	Black	Red PTFE/White Silicone	C4013-1	C4013-60A	100	----
C4013-017A	Amber Glass	Black	Red PTFE/White Silicone	C4013-2	C4013-60A	100	----
C4013-016A	Clear Glass	Black	Red PTFE/White Silicone/ Red PTFE	C4013-1	C4013-40A	100	----



C4075-380

## Storerooms Standard-Opening 12 x 32mm Screw Thread Vial Storerooms

- Storerooms organize supplies and save valuable bench space
- Mini-storeroom holds 500 vials and caps; nine-drawer storeroom holds 2000 vials and caps



C4075 Series

NSC PART NO.	DESCRIPTION	VIALS PART NO.	SEAL PART NO.	PACK OF	CASE OF
C4075-380	DP 9-Drawer Storeroom, Clear Vial, Phenolic Caps, 200 pieces	C4013-1	C4013-74A	1	----
C4000-MS	Six-Drawer Mini Storeroom—Cabinet Only	N/A	N/A	1	----
C4075-500	Nine-Drawer Storeroom, Full Size—Cabinet Only	N/A	N/A	1	----



# Target® DP® Robovials, 12 x 32mm Screw Thread Vials, Caps, Septa, and Inserts



C4000-1W, -S1W, -1, -S1



C4000-2W, C4000-S2W



C4000-1B/1G/1R/1Y



C4000-1PT

## Screw Thread Vials

### Target® DP® Screw Thread Robovials—2mL, 12 x 32mm

- Superior quality 33 expansion borosilicate clear glass (Type 1, Class A) or 51A amber glass
- Uniformly flat bottom for security with inserts
- I-D™ vials feature write-on patch with graduations at 0.5, 1.0, and 1.5mL
- Deactivated vials are treated with NSC Silanization



C4000-9

NSC PART NO.	MAXIMUM FILL VOLUME	DESCRIPTION	PACK OF	CASE OF
C4000-1	1.8mL	2mL Clear Glass	100	2000
C4000-1W	1.8mL	2mL Clear Glass I-D	100	2000
C4000-2W	1.8mL	2mL Amber Glass I-D	100	2000
<b>NEW</b> C4011-1B	1.8mL	Target ColorBand 2mL Clear Glass Vial w/Blue Patch†	100	2000
<b>NEW</b> C4011-1G	1.8mL	Target ColorBand 2mL Clear Glass Vial w/Green Patch†	100	2000
<b>NEW</b> C4011-1R	1.8mL	Target ColorBand 2mL Clear Glass Vial w/Red Patch†	100	2000
<b>NEW</b> C4011-1Y	1.8mL	Target ColorBand 2mL Clear Glass Vial w/Yellow Patch†	100	2000
C4000-1PT	950µL	Clear Glass Precision Taper	100	----
C4000-9	1.5mL	Clear Glass High Recovery with 30µL Reservoir	100	----
C4000-LV1	350µL	MacroVial™ 350µL Fused Insert Vial, Clear Glass	100	----
C4000-LV1W	350µL	MacroVial 350µL Fused Insert Vial, Clear Glass I-D	100	----
C4000-LV2	350µL	MacroVial 350µL Fused Insert Vial, Amber Glass	100	----
C4000-LV2W	350µL	MacroVial 350µL Fused Insert Vial, Amber Glass I-D	100	----
C4000-V1	1.5mL	Micro-V™ Tapered MicroVial with 150µL reservoir, Clear Glass	100	----
C4000-V2	1.5mL	Micro-V Tapered MicroVial with 150µL reservoir, Amber Glass	100	----

### DEACTIVATED GLASS VIALS

C4000-S1	1.8mL	2mL Clear Glass, Silanized	100	2000
C4000-S1W	1.8mL	2mL Clear Glass I-D, Silanized	100	2000
C4000-S2W	1.8mL	2mL Amber Glass I-D, Silanized	100	2000
C4000-S9	1.5mL	Clear Glass High Recovery, Silanized, with 30µL Reservoir	100	----
<b>NEW</b> C4000-11	300µL	300µL Target DP Polypropylene Vial	100	1000

†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.



C4000-LV1W, C4000-LV2W



C4000-LV1, -LV2



C4000-V2



C4000-98 Series

## Empty Caps

### Target® DP® Empty Caps—without septum for Target DP vials

- Open top caps are designed to be used with any of our 9mm septa
- Polypropylene caps are chemically inert and suitable for most chromatography applications
- Choose from our five colors for separating assays, lots, and standards

NSC PART NO.	DESCRIPTION	CAP	MATERIAL	PACK OF	CASE OF
C4000-98B	Target DP Open top cap	Blue	Polypropylene	100	1000
C4000-98G	Target DP Open top cap	Green	Polypropylene	100	1000
C4000-98R	Target DP Open top cap	Red	Polypropylene	100	1000
C4000-98Y	Target DP Open top cap	Yellow	Polypropylene	100	1000
C4000-98BLK	Target DP Open top cap	Black	Polypropylene	100	1000



C4000 Series

## Septa

### Septa for Target® DP® Screw Thread Caps

- PTFE Disk septa are chemically inert
- PTFE Red Rubber septa are economical for many GC applications
- PTFE/Silicone septa are most popular for HPLC and IC applications
- Pre-slit septa are easier to pierce with thin gauge needles

NSC PART NO.	DESCRIPTION	COMMENT	PACK OF	CASE OF
C4000-30	Ivory PTFE/Red Rubber	For general chromatography	100	1000
C4000-40	Red PTFE/White Silicone/Red PTFE	For use with aggressive solvents	100	1000
C4000-55	Blue PTFE/White Silicone—Pre-slit	For thin gauge needles/large volume injections	100	1000
C4000-57	Ivory PTFE/Red Rubber—Pre-slit	For thin gauge needles/large volume injections	100	1000
C4000-60	Red PTFE/White Silicone	For high sensitivity chromatography	100	1000

## Assembled Caps and Septa



### Target DP® Caps with Bonded Septa

- Bonded caps feature a PTFE/Silicone septum electrolytically bonded into the cap, reducing septa push-through when used with blunt tip needles on high-speed autosamplers
- Pre-assembled caps and septa are convenient to minimize contamination from handling
- Fully compatible with all Target DP vials
- Easy-on, easy-off convenience with just half-a-turn
- Storage cap has a solid top and pre-inserted PTFE/red rubber liner



C4000-62 Series

NSC PART NO.	CAP COLOR	SEPTUM	PACK OF	CASE OF
C4000-64B	Black	Bonded PTFE/Silicone	100	1000
C4000-75C	Gray	Bonded PTFE/Silicone, Pre-slit	100	1000
C4000-62A	Black	Bonded Natural PTFE/Clear Silicone	100	1000
C4000-62B	Blue	Bonded Natural PTFE/Clear Silicone	100	1000
C4000-62G	Green	Bonded Natural PTFE/Clear Silicone	100	1000
C4000-62R	Red	Bonded Natural PTFE/Clear Silicone	100	1000
C4000-62Y	Yellow	Bonded Natural PTFE/Clear Silicone	100	1000
C4000-72B	Blue	Bonded Natural PTFE/Clear Silicone, Pre-slit	100	1000
C4000-72C	Gray	Bonded Natural PTFE/Clear Silicone, Pre-slit	100	1000
C4000-72G	Green	Bonded Natural PTFE/Clear Silicone, Pre-slit	100	1000
C4000-72R	Red	Bonded Natural PTFE/Clear Silicone, Pre-slit	100	1000
C4000-72Y	Yellow	Bonded Natural PTFE/Clear Silicone, Pre-slit	100	1000
C4000-78A	Blue	Bonded White 0.010" PTFE	100	1000

# Target® DP® Robovials, 12 x 32mm Screw Thread Vials, Caps, Septa, and Inserts



C4000-51 Series



C4000-99

## Assembled Caps and Septa

### Assembled Target® DP® Caps and Septa

- Pre-assembled caps and septa are convenient and minimize contamination from handling
- Fully compatible with all Target DP vials
- Easy-on, easy-off convenience with just half-a-turn
- Storage cap has a solid top and pre-inserted PTFE/red rubber liner

NSC PART NO.	CAP TYPE	CAP COLOR	SEPTUM	PACK OF	CASE OF
C4000-51A	Polypropylene Open Top Cap	Black	Ivory PTFE/Red Rubber	100	1000
C4000-51B	Polypropylene Open Top Cap	Blue	Ivory PTFE/Red Rubber	100	1000
C4000-51G	Polypropylene Open Top Cap	Green	Ivory PTFE/Red Rubber	100	1000
C4000-51R	Polypropylene Open Top Cap	Red	Ivory PTFE/Red Rubber	100	1000
C4000-51Y	Polypropylene Open Top Cap	Yellow	Ivory PTFE/Red Rubber	100	1000
C4000-53A	Polypropylene Open Top Cap	Black	Red PTFE/White Silicone/Red PTFE	100	1000
C4000-53B	Polypropylene Open Top Cap	Blue	Red PTFE/White Silicone/Red PTFE	100	1000
C4000-53G	Polypropylene Open Top Cap	Green	Red PTFE/White Silicone/Red PTFE	100	1000
C4000-53R	Polypropylene Open Top Cap	Red	Red PTFE/White Silicone/Red PTFE	100	1000
C4000-53Y	Polypropylene Open Top Cap	Yellow	Red PTFE/White Silicone/Red PTFE	100	1000
C4000-54A	Polypropylene Open Top Cap	Black	Red PTFE/White Silicone	100	1000
C4000-54B	Polypropylene Open Top Cap	Blue	Red PTFE/White Silicone	100	1000
C4000-54G	Polypropylene Open Top Cap	Green	Red PTFE/White Silicone	100	1000
C4000-54R	Polypropylene Open Top Cap	Red	Red PTFE/White Silicone	100	1000
C4000-54Y	Polypropylene Open Top Cap	Yellow	Red PTFE/White Silicone	100	1000
C4000-55A	Polypropylene Open Top Cap	Black	Blue PTFE/White Silicone, Pre-slit	100	1000
C4000-55B	Polypropylene Open Top Cap	Blue	Blue PTFE/White Silicone, Pre-slit	100	1000
C4000-55G	Polypropylene Open Top Cap	Green	Blue PTFE/White Silicone, Pre-slit	100	1000
C4000-55R	Polypropylene Open Top Cap	Red	Blue PTFE/White Silicone, Pre-slit	100	1000
C4000-55Y	Polypropylene Open Top Cap	Yellow	Blue PTFE/White Silicone, Pre-slit	100	1000
C4000-57B	Polypropylene Open Top Cap	Blue	Ivory PTFE/Red Rubber-Pre-slit	100	1000
C4000-57G	Polypropylene Open Top Cap	Green	Ivory PTFE/Red Rubber-Pre-slit	100	1000
C4000-57R	Polypropylene Open Top Cap	Red	Ivory PTFE/Red Rubber-Pre-slit	100	1000
C4000-57Y	Polypropylene Open Top Cap	Yellow	Ivory PTFE/Red Rubber-Pre-slit	100	1000
C4000-64B	Polypropylene Open Top Cap	Black	Bonded PTFE/Silicone	100	1000
C4000-75C	Polypropylene Open Top Cap	Gray	Bonded PTFE/Silicone, Pre-slit	100	1000
C4000-99	Polypropylene Solid Top Storage Cap	Blue	PTFE/Red Rubber Liner	100	1000



C4011-S631



C4010-631



C4010-627L



C4010-629L, C4010-S629



C4010-630



C4010-630P

## Inserts

### Inserts for Target® DP® Vials

- These inserts all have a nominal O.D. of 6mm to fit Target DP vials
- Polyspring® inserts are self-centering with a spring to provide a cushion against needle contact
- Precision point inserts minimize residual sample losses
- Deactivated inserts are treated with NSC Silanization or Kimshield™ deactivation

NSC PART NO.	DESCRIPTION	COMMENT	PACK OF	CASE OF
C4010-627L	350µL Glass Conical Insert, Pulled Point	Precision-formed tip, rests on vial bottom	100	1000
C4010-629	300µL Glass Conical Insert, Pulled Point	Preferred for viscous solutions	100	1000
C4010-629L	350µL Glass Conical Insert, Precision Point	Insert is suspended in vial by top spring	100	1000
C4010-629P	300µL Polypropylene, Conical Base, Clear Vial, Graduation Marks	Polypropylene is preferred for highly reactive compounds	100	1000
C4010-630	300µL Polyspring, Glass Conical Insert	Polyspring centers and cushions insert	100	----
C4010-630P	300µL Polyspring, Polypropylene Conical Insert	Precision-formed tip with Polyspring	100	1000
C4011-631	400µL MicroSert™, Glass Flat Bottom Insert	Open end has fill marking	500	----
<b>DEACTIVATED INSERTS</b>				
C4010-S629	300µL Glass Conical Insert, Silanized	Insert rests on bottom of vial	100	1000
C4010-S630	300µL Polyspring, Glass Conical Insert, Silanized	Precision-formed tip, NSC silanized	100	----
C4011-S631	400µL MicroSert, Glass Flat Bottom Insert, Silanized	Insert rests on bottom of vial	500	----
C4010-K630	300µL Polyspring, Glass Conical Insert, Kimshield	Precision-formed tip, Kimshield deactivated	100	----





C4000-80

## Convenience Kits Target® DP® Unassembled Vial, Cap, and Septum Convenience Kits

- Two compartment benchtop storage tray
- Include 100 vials and 100 caps with pre-assembled septa
- All items remain handy and dust-free
- Caps with pre-inserted septa are not attached to vials (packed in separate polybag)

NSC PART NO.	VIAL	CAP COLOR	SEPTUM	VIALS PART NO.	CAP/SEPTUM PART NO.	PACK OF	CASE OF
C4000-80	Clear Glass	Blue	Ivory PTFE/Red Rubber	C4000-1	C4000-51B	100	----
C4000-80W	Clear Glass I-D™	Blue	Ivory PTFE/Red Rubber	C4000-1W	C4000-51B	100	----
C4000-82W	Amber Glass I-D	Blue	Ivory PTFE/Red Rubber	C4000-2W	C4000-51B	100	----
C4000-83	Clear Glass	Blue	Ivory PTFE/Red Rubber-Pre-slit	C4000-1	C4000-57B	100	----
C4000-83W	Clear Glass I-D	Blue	Ivory PTFE/Red Rubber-Pre-slit	C4000-1W	C4000-57B	100	----
C4000-84W	Amber Glass I-D	Blue	Ivory PTFE/Red Rubber-Pre-slit	C4000-2W	C4000-57B	100	----
C4000-85W	Clear Glass I-D	Black	Red PTFE/White Silicone/Red PTFE	C4000-1W	C4000-53A	100	----
C4000-86	Clear Glass	Blue	Red PTFE/White Silicone/Red PTFE	C4000-1	C4000-53B	100	----
C4000-86W	Clear Glass I-D	Blue	Red PTFE/White Silicone/Red PTFE	C4000-1W	C4000-53B	100	----
C4000-88W	Amber Glass I-D	Blue	Red PTFE/White Silicone/Red PTFE	C4000-2W	C4000-53B	100	----
C4000-91AW	Amber Glass I-D	Black	Red PTFE/White Silicone	C4000-2W	C4000-54A	100	----
C4000-91W	Clear Glass I-D	Black	Red PTFE/White Silicone	C4000-1W	C4000-54A	100	----
C4000-92	Clear Glass	Blue	Red PTFE/White Silicone	C4000-1W	C4000-54A	100	----
C4000-94W	Amber Glass I-D	Blue	Red PTFE/White Silicone	C4000-2W	C4000-54A	100	----
C4000-92PT	Clear Glass	Blue	Red PTFE/White Silicone	C4000-1PT	C4000-54A	100	----
C4000-92W	Clear Glass I-D	Blue	Red PTFE/White Silicone	C4000-1W	C4000-54A	100	----
C4000-LV92	Clear Glass	Blue	Red PTFE/White Silicone	C4000-1	C4000-54A	100	----
C4000-LV94	Amber Glass	Blue	Red PTFE/White Silicone	C4000-2	C4000-54A	100	----
<b>NEW</b> C4000-87	Polypropylene	Blue	Red PTFE/White Silicone	C4000-11	C4000-54B	100	----
C4000-95	Clear Glass	Blue	Blue PTFE/White Silicone, Pre-slit	C4000-1	C4000-55B	100	----
C4000-95W	Clear Glass I-D	Blue	Blue PTFE/White Silicone, Pre-slit	C4000-1W	C4000-55B	100	----
C4000-96W	Amber Glass I-D	Blue	Blue PTFE/White Silicone, Pre-slit	C4000-2W	C4000-55B	100	----
C4000-995	Clear Glass	Blue	Blue PTFE/White Silicone, Pre-slit	C4000-9	C4000-55B	100	----
C4000-LV95	Clear Glass	Blue	Blue PTFE/White Silicone, Pre-slit	C4000-1	C4000-55B	100	----
C4000-LV96	Amber Glass	Blue	Blue PTFE/White Silicone, Pre-slit	C4000-2	C4000-55B	100	----
<b>NEW</b> C4000-97	Polypropylene	Blue	Red PTFE/White Silicone Pre-slit	C4000-11	C4000-55B	100	----
C4000-78W	Clear Glass I-D	Black	Bonded PTFE/Silicone	C4000-1W	C4000-64B	100	----
C4000-98PT	Clear Glass	Black	Bonded PTFE/Silicone	C4000-1PT	C4000-64B	100	----
C4000-992	Clear Glass	Black	Bonded PTFE/Silicone	C4000-9	C4000-64B	100	----
C4000-99PT	Clear Glass	Gray	Bonded PTFE/Silicone, Pre-slit	C4000-1PT	C4000-75C	100	----
C4000-93W	Clear Glass I-D	Gray	Bonded PTFE/Silicone, Pre-slit	C4000-1W	C4000-75C	100	----
C4000-575W	Clear Glass I-D	Gray	Bonded PTFE/Silicone, Pre-slit	C4000-S1W	C4000-75C	100	----
<b>NEW</b> C4000-387	Polypropylene	Black	Bonded PTFE/Silicone	C4000-11	C4000-64B	100	----



C4000-180 Series

## Assembled Vial Kits Target® DP® Assembled Vial, Cap and Septum Kits

- Assembled kits include 100 vials with pre-attached caps and septa
- Packaged in convenient vial trays with clear covers or in polybags

NSC PART NO.	VIAL	CAP COLOR	SEPTUM	VIAL PART NO.	CAP/SEPTUM PART NO.	PACK OF
C4000-180	Clear Glass	Blue	Ivory PTFE/Red Rubber	C4000-1	C4000-51B	100
C4000-180W	Clear Glass I-D™	Blue	Ivory PTFE/Red Rubber	C4000-1W	C4000-51B	100
C4000-182W	Amber Glass I-D	Blue	Ivory PTFE/Red Rubber	C4000-2W	C4000-51B	100
C4000-183W	Clear Glass I-D	Blue	Ivory PTFE/Red Rubber, Pre-slit	C4000-1W	C4000-57B	100
C4000-184W	Amber Glass I-D	Blue	Ivory PTFE/Red Rubber, Pre-slit	C4000-2W	C4000-57B	100
C4000-186	Clear Glass	Blue	Red PTFE/White Silicone/ Red PTFE	C4000-1	C4000-53B	100
C4000-186W	Clear Glass I-D	Blue	Red PTFE/White Silicone/ Red PTFE	C4000-1W	C4000-53B	100
C4000-186WR	Clear Glass I-D	Red	Red PTFE/White Silicone/ Red PTFE	C4000-1W	C4000-53R	100
C4000-188W	Amber Glass I-D	Blue	Red PTFE/White Silicone/ Red PTFE	C4000-2W	C4000-53B	100
C4000-188WR	Amber Glass I-D	Red	Red PTFE/White Silicone/ Red PTFE	C4000-2W	C4000-53R	100
C4000-192	Clear Glass	Blue	Red PTFE/White Silicone	C4000-1	C4000-54B	100
C4000-192W	Clear Glass I-D	Blue	Red PTFE/White Silicone	C4000-1W	C4000-54B	100
C4000-194W	Amber Glass I-D	Blue	Red PTFE/White Silicone	C4000-2W	C4000-54B	100
C4000-195W	Clear Glass I-D	Blue	Blue PTFE/White Silicone, Pre-slit	C4000-1W	C4000-55B	100
C4000-196W	Amber Glass I-D	Blue	Red PTFE/White Silicone	C4000-2W	C4000-55B	100
<b>NEW</b> C4000-187	Polypropylene	Blue	PTFE/Silicone	C4000-11	C4000-54B	100
<b>DEACTIVATED ASSEMBLED VIAL KITS</b>						
C4000-S180W	Clear Glass I-D, Silanized	Blue	Ivory PTFE/Red Rubber	C4000-S1W	C4000-51B	100
C4000-S182W	Amber Glass I-D, Silanized	Blue	Ivory PTFE/Red Rubber	C4000-S2W	C4000-51B	100
C4000-S192W	Clear Glass I-D, Silanized	Blue	Red PTFE/White Silicone	C4000-S1W	C4000-54B	100
C4000-S194W	Amber Glass I-D, Silanized	Blue	Red PTFE/White Silicone	C4000-S2W	C4000-54B	100



C4000-680 Series



C4075 Series

## Storerooms Target® DP® Storerooms

- Mini-Storeroom has 6 drawers; 5 drawers hold 1 vial pack each, 1 drawer holds 500 pre-stuffed DP caps
- Full-size Storeroom has 9 deep drawers with a capacity of 2000 vials and pre-stuffed DP caps
- Storerooms organize supplies and save valuable bench space
- Storeroom can be restocked as product is consumed

NSC PART NO.	DESCRIPTION	VIALS PART NO.	SEAL PART NO.	PACK OF	CASE OF
C4000-680	DP Mini Storeroom, DP Clear Vial, PTFE/RR Caps	C4000-1	C4000-51B	1	----
C4000-680W	DP Mini Storeroom, DP Clear I-D™ Vial, PTFE/RR Caps	C4000-1W	C4000-51B	1	----
C4000-682W	DP Mini Storeroom, DP Amber I-D Vial, PTFE/RR Caps	C4000-2W	C4000-51B	1	----
C4000-686	DP Mini Storeroom, DP Clear Vial, PTFE/Silicone/PTFE Caps	C4000-1	C4000-53B	1	----
C4000-688W	DP Mini Storeroom, DP Amber Vial, PTFE/Silicone/PTFE Caps	C4000-2W	C4000-53B	1	----
C4000-692	DP Mini Storeroom, DP Clear Vial, PTFE/Silicone Caps	C4000-1	C4000-54B	1	----
C4000-692W	DP Mini Storeroom, DP Clear I-D Vial, PTFE/Silicone Caps	C4000-1W	C4000-54B	1	----
C4000-694W	DP Mini Storeroom, DP Amber I-D Vial, PTFE/Silicone Caps	C4000-2W	C4000-54B	1	----
C4075-201	DP 9-Drawer Storeroom, DP Clear Vial, PTFE/RR Caps	C4000-1	C4000-51B	1	----
C4075-203	DP 9-Drawer Storeroom, DP Clear Vial with I-D patch, PTFE/RR Caps, 2000 pieces	C4000-1W	C4000-51B	1	----
C4075-207	DP 9-Drawer Storeroom, DP Amber I-D Vial, PTFE/RR Caps	C4000-2W	C4000-51B	1	----
C4075-211	DP 9-Drawer Storeroom, DP Clear Vial, PTFE/Silicone/PTFE Caps	C4000-1	C4000-53B	1	----
C4075-213	DP 9-Drawer Storeroom, DP Clear I-D Vial, PTFE/Silicone/PTFE Caps	C4000-1W	C4000-53B	1	----
C4075-217	DP 9-Drawer Storeroom, DP Amber I-D Vial, PTFE/Silicone/PTFE Caps	C4000-2W	C4000-53B	1	----
C4075-219	DP 9-Drawer Storeroom, DP Clear Vial, PTFE/Silicone Caps	C4000-1	C4000-54B	1	----
C4075-221	DP 9-Drawer Storeroom, DP Clear I-D Vial, PTFE/Silicone Caps	C4000-1W	C4000-54B	1	----
C4075-225	DP 9-Drawer Storeroom, DP Amber I-D Vial, PTFE/Silicone Caps	C4000-2W	C4000-54B	1	----
C4075-227	DP 9-Drawer Storeroom, DP Clear Vial, PTFE/Silicone, Pre-slit Caps	C4000-1	C4000-54B	1	----
C4000-MS	Six-Drawer Mini Storeroom—Cabinet Only	N/A	N/A	1	----
C4075-500	Nine-Drawer Storeroom, Full Size—Cabinet Only	N/A	N/A	1	----

# Target® 10-425—12 x 32mm Screw Thread Vials, Caps, Septa, and Inserts



C4010-1, -1W, -S1, -S1W



C4010-2, C4010-2W, C4010-S2W



C4010-LV1



C4010-V1

## Screw Thread Vials

### Target® Screw Thread Vials—Wide Opening 2mL, 12 × 32mm

- Wide neck vial is easy to fill
- Superior quality 33 expansion borosilicate clear glass (Type 1, Class A) or 51A amber glass
- Uniformly flat bottom for security with inserts
- I-D™ vials feature write-on patch with graduations at 0.5, 1.0, and 1.5mL
- Deactivated vials are treated with NSC Silanization

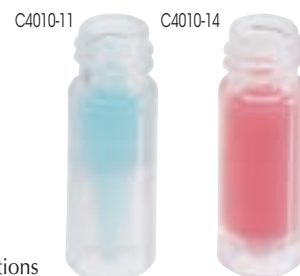
NSC PART NO.	MAXIMUM FILL VOLUME	DESCRIPTION	PACK OF	CASE OF
C4010-1	1.8mL	Clear Glass	100	2000
C4010-1W	1.8mL	Clear Glass I-D	100	2000
C4010-2	1.8mL	Amber Glass	100	2000
C4010-2W	1.8mL	Amber Glass I-D	100	2000
<b>MICROSAMPLING VIALS FOR 10-425</b>				
C4010-LV1	350µL	MacroVial™ 350µL Fused Insert Vial, Clear Glass	100	----
C4010-LV2	350µL	MacroVial 350µL Fused Insert Vial, Amber Glass	100	----
C4010-V1	1.5mL	Micro-V™ 1.5mL Tapered MicroVial with 150µL reservoir, Clear Glass	100	----
<b>DEACTIVATED GLASS VIALS</b>				
C4010-S1	1.8mL	2mL Clear Glass, Silanized	100	2000
C4010-S1W	1.8mL	2mL Clear Glass I-D, Silanized	100	2000
C4010-S2W	1.8mL	2mL Amber Glass I-D, Silanized	100	2000

## Limited Volume Vials

### Limited Volume Polypropylene Vials

- Polypropylene vials are an economical alternative to glass for some applications
- Precision-formed tips are designed to aid sample recovery for limited volume applications

NSC PART NO.	MAXIMUM FILL VOLUME	DESCRIPTION	PACK OF	CASE OF
C4010-11	400µL	MicroVials™, Tapered Tip	100	1000
C4010-14	550µL	High Recovery Vial	100	1000



## Empty Caps

### Target® 10-425 Empty Caps—without septum for 10-425 Vials

- 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
- Target 10-425 caps feature a flanged rim, making them suitable for Japanese autosampler trays



C4010-1A, C4010-98W

NSC PART NO.	DESCRIPTION	COLOR	MATERIAL	PACK OF	CASE OF
C4010-1A	Open Top Cap	Light Blue	Polypropylene	100	1000
C4010-98W	Open Top Cap	White	Polypropylene	100	1000
C4010-98BLK	Open Top Cap	Black	Polypropylene	100	1000
C4010-98R	Open Top Cap	Red	Polypropylene	100	1000
C4010-98G	Open Top Cap	Green	Polypropylene	100	1000
C4013-98Y	Open Top Cap with Flange	Yellow	Polypropylene	100	1000
C4010-98Y	Open Top Cap	Yellow	Polypropylene	100	1000



# Target® 10-425—12 x 32mm Screw Thread Vials, Caps, Septa, and Inserts



C4010 Series

## Septa Septa for 10-425 Target® Screw Thread Caps

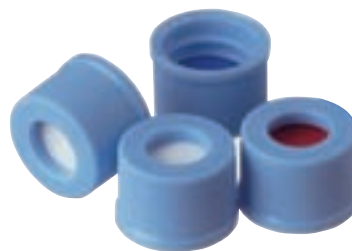
- PTFE Disk septa are chemically inert
- PTFE Red Rubber septa are economical for many GC applications
- PTFE/Silicone septa are most popular for HPLC and IC applications
- Pre-slit septa are easier to pierce with thin gauge needles

NSC PART NO.	DESCRIPTION	COMMENT	PACK OF	CASE OF
C4010-10	White Virgin PTFE	Not resealable, single use	----	1000
C4010-30	Ivory PTFE/Red Rubber	For general chromatography	100	1000
C4010-35	Red PTFE/White Silicone—Soft	For Shimadzu® autosamplers	100	1000
C4010-40	Red PTFE/White Silicone/Red PTFE	For use with aggressive solvents	100	1000
C4010-55	Blue PTFE/White Silicone—Pre-slit	For thin gauge needles	100	1000
C4010-60	Red PTFE/White Silicone	For high sensitivity chromatography	100	1000
C4010-65	Red PTFE/White Silicone, Star-slit	Multiple slit membrane	100	1000

## Assembled Caps and Septa

### Assembled Target® 10-425 Caps and Septa

- Pre-assembled caps and septa are convenient and minimize contamination from handling
- Storage cap has a solid top and pre-inserted PTFE disk liner



C4010-30A, C4010-60A



C4010-99

**NEW**

**NEW**

**NEW**

NSC PART NO.	CAP TYPE	CAP COLOR	SEPTA	PACK OF	CASE OF
C4010-30A	Polypropylene Open Top Cap	Light Blue	Ivory PTFE/Red Rubber	100	1000
C4010-35W	Polypropylene Open Top Cap	White	Shimadzu® Red PTFE/White Silicone	100	1000
C4010-35BLK	Polypropylene Open Top Cap	Black	Shimadzu Red PTFE/White Silicone	100	1000
C4010-40A	Polypropylene Open Top Cap	Light Blue	Red PTFE/White Silicone/Red PTFE	100	1000
C4010-55A	Polypropylene Open Top Cap	Light Blue	Blue PTFE/White Silicone—Pre-slit	100	1000
C4010-55BLK	Polypropylene Open Top Cap	Black	Blue PTFE/White Silicone—Pre-slit	100	1000
C4010-60A	Polypropylene Open Top Cap	Light Blue	Red PTFE/White Silicone	100	1000
C4010-60BLK	Polypropylene Open Top Cap	Black	Red PTFE/White Silicone	100	1000
C4010-60AW	Polypropylene Open Top Cap	White	Red PTFE/White Silicone	----	1000
C4010-60AR	Polypropylene Open Top Cap	Red	Red PTFE/White Silicone	----	1000
C4010-60AY	Polypropylene Open Top Cap	Yellow	Red PTFE/White Silicone	----	1000
C4010-65A	Polypropylene Open Top Cap	Light Blue	Red PTFE/White Silicone—Star-slit	100	1000
C4010-5A	Polypropylene	Natural	Integral Molded Polypropylene	100	1000
C4010-99	Urethane Solid Top Storage Cap	White	PTFE Liner	100	----
C4010-68A	Polypropylene Open Top Cap	Black	Bonded Red PTFE/White Silicone	100	----
C4010-69A	Polypropylene Open Top Cap	Black	Bonded Red PTFE/White Silicone—preslit	100	----
C4010-78A	Polypropylene Open Top Cap	Black	Bonded White PTFE	100	1000

# Target® 10-425—12 x 32mm Screw Thread Vials, Caps, Septa and Inserts



C4011-631



C4011-631P



C4010-630, C4010-S630



C4010-630P



C4010-630TS



C4010-629L, C4010-S629

## Inserts

### Inserts for Target® Wide Opening Vials

- These inserts all have a nominal O.D. of 6mm to fit Target wide opening vials
- Polyspring® inserts are self-centering with a spring to provide a cushion against needle contact
- Precision point inserts minimize residual sample losses
- Deactivated inserts are treated with NSC Silanized or Kimshield™ deactivation



C4011-S631



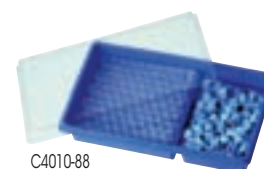
C4010-627L

NSC PART NO.	DESCRIPTION	COMMENT	PACK OF	CASE OF
C4011-631	400µL MicroSert™, Glass Flat Bottom Insert	Open end has fill marking	500	----
C4011-631P	400µL MicroSert, Polypropylene Flat Bottom Insert	Molded plastic insert	500	----
C4010-630	300µL Polyspring, Glass Conical Insert	Polyspring centers and cushions insert	100	----
C4010-630P	300µL Polyspring, Polypropylene Conical Insert	Precision-formed tip with Polyspring	100	1000
C4010-627L	350µL Glass Conical Insert, Pulled Point	Precision-formed tip, rests on vial bottom	100	1000
C4010-629L	350µL Glass Conical Insert, Precision Point	Insert is suspended in vial by top spring	100	1000
C4010-630TS	250µL Glass Conical Insert with Top Spring	Insert is suspended from the rim of the vial	----	500
C4010-629P	300µL Polypropylene, Conical Base, Clear Vial, Graduation Marks	Polypropylene is preferred for highly reactive compounds	100	1000
DEACTIVATED INSERTS				
C4010-S629	300µL Glass Conical Insert, Silanized	Insert rests on bottom of vial	100	1000
C4010-S630	300µL Polyspring, Glass Conical Insert, Silanized	Precision-formed tip, NSC silanized	100	----
C4011-S631	400µL MicroSert, Glass Flat Bottom Insert, Silanized	Insert rests on bottom of vial	500	----
C4010-K630	300µL Polyspring, Glass Conical Insert, Kimshield	Precision-formed tip, Kimshield deactivated	100	----

## Convenience Kits

### Target® Unassembled Vial, Cap, and Septum Convenience Kits

- Two compartment benchtop storage tray
- Includes 100 vials and 100 caps with pre-assembled septa
- All items remain handy and dust-free
- Caps with septa are not attached to vials (packed in separate polybag)

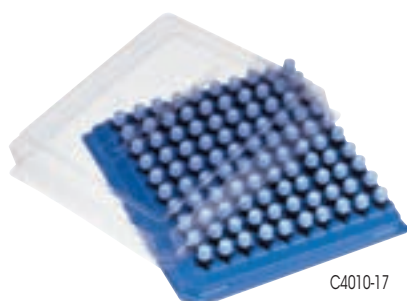


C4010-88

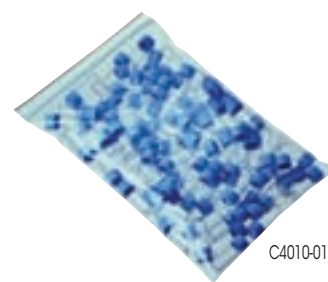
NSC PART NO.	VIAL	CAP COLOR	SEPTUM	VIAL PART NO.	CAP/SEPTUM PART NO.	PACK OF	CASE OF
C4010-88	Clear Glass	Light Blue	PTFE/Silicone	C4010-1	C4010-60A	100	----
C4010-88A	Amber Glass	Lt Blue	PTFE/Silicone	C4010-2	C4010-60A	100	----
C4010-88W	Clear Glass I-D™	Light Blue	PTFE/Silicone	C4010-1W	C4010-60A	100	----
C4010-88AW	Amber Glass I-D	Light Blue	PTFE/Silicone	C4010-2W	C4010-60A	100	----
C4010-88WBLK	Clear Glass I-D	Black	PTFE/Silicone	C4010-1W	C4010-60BLK	100	----
C4010-S88	Clear Silanized	Light Blue	PTFE/Silicone	C4010-S1	C4010-60A	100	----
C4010-89	Clear Glass	Light Blue	PTFE/Silicone/PTFE	C4010-1	C4010-40A	100	----
C4010-89W	Clear Glass I-D	Light Blue	PTFE/Silicone/PTFE	C4010-1W	C4010-40A	100	----
C4010-89AW	Amber Glass I-D	Light Blue	PTFE/Silicone/PTFE	C4010-2W	C4010-40A	100	----
C4010-90	Clear Glass	Light Blue	PTFE Unassembled	C4010-1	C4010-1A/C4010-10†	100	----
C4010-90A	Amber Glass	Light Blue	PTFE Unassembled	C4010-2	C4010-1A/C4010-10†	100	----
C4010-90W	Clear Glass I-D	Light Blue	PTFE Unassembled	C4010-1W	C4010-1A/C4010-10†	100	----
C4010-90AW	Amber Glass I-D	Light Blue	PTFE Unassembled	C4010-2AW	C4010-1A/C4010-10†	100	----
C4010-92	Clear Glass	Light Blue	PTFE/Silicone—Pre-slit	C4010-1	C4010-55A	100	----
C4010-S92	Clear Silanized	Light Blue	PTFE/Silicone—Pre-slit	C4010-S1	C4010-55A	100	----
C4010-93W	Clear Glass I-D	Light Blue	PTFE/Silicone—Star-slit	C4010-1W	C4010-65A	100	----
C4010-93AW	Amber Glass I-D	Lt Blue	PTFE/Silicone—Star-slit	C4010-2W	C4010-65A	100	----
C4010-95	Clear Glass	White Shimadzu®	PTFE/Silicone	C4010-1	C4010-35W	100	----
C4010-95W	Clear Glass I-D	White Shimadzu	PTFE/Silicone	C4010-1W	C4010-35W	100	----
C4010-95AW	Amber Glass	White Shimadzu	PTFE/Silicone	C4010-2W	C4010-35W	100	----
C4010-97W	Clear Glass I-D	Black	PTFE/Silicone—Star-slit	C4010-1W	C4010-55BLK	100	----
C4010-84	Clear Glass	Black	PTFE/Silicone Tan/White	C4010-1	Cap not sold separately	100	----

†NOTE: PTFE septa are not preinserted into caps (packed in separate polybag).

# Target® 10-425—12 x 32mm Screw Thread Vials, Caps, Septa and Inserts



C4010-17



C4010-017

## Assembled Vial Kits Target® Assembled Vial, Cap, and Septum Kits

- Assembled kits include 100 vials with pre-attached caps and septa
- Packaged in convenient vial trays with clear covers or in polybags
- Vial trays are stackable for easy storage
- Vial trays hold vials upright for easy filling and maintaining sample order

NSC PART NO.	VIAL	CAP COLOR	SEPTUM	VIAL PART NO.	CAP/SEPTUM PART NO.	PACK OF	CASE OF
<b>ASSEMBLED VIALS IN COVERED TRAYS</b>							
C4010-17	Clear Glass	Lt Blue	PTFE/Silicone	C4010-1	C4010-60A	100	----
C4010-17A	Amber Glass	Lt Blue	PTFE/Silicone	C4010-2	C4010-60A	100	----
C4010-17AW	Amber Glass I-D™	Lt Blue	PTFE/Silicone	C4010-2W	C4010-60A	100	----
C4010-17BLK	Clear Glass	Black	PTFE/Silicone	C4010-1	C4010-60A	100	----
C4010-17ABLK	Amber Glass	Black	PTFE/Silicone	C4010-1	C4010-60A	100	----
C4010-17W	Clear Glass I-D	White	PTFE/Silicone	C4010-1W	C4010-60A	100	----
C4010-19	Clear Glass	Lt Blue	PTFE/Silicone/PTFE	C4010-1	C4010-40A	100	----
C4010-19A	Amber Glass	Lt Blue	PTFE/Silicone/PTFE	C4010-2	C4010-40A	100	----
C4010-19AW	Amber Glass I-D	Lt Blue	PTFE/Silicone/PTFE	C4010-2W	C4010-40A	100	----
C4010-19W	Clear Glass I-D	Lt Blue	PTFE/Silicone/PTFE	C4010-1W	C4010-40A	100	----
C4010-519W	Clear I-D Silanized	Lt Blue	PTFE/Silicone/PTFE	C4010-S1W	C4010-40A	100	----
C4010-520W	Clear I-D Silanized	Lt Blue	PTFE/Silicone Pre-slit	C4010-S1W	C4010-55A	100	----
C4010-21	Clear Glass	Lt Blue	Solid PTFE	C4010-1	C4010-1A/C4010-10†	100	----
C4010-21A	Amber Glass	Lt Blue	Solid PTFE	C4010-2	C4010-1A/C4010-10†	100	----
C4010-21W	Clear Glass I-D	Lt Blue	Solid PTFE	C4010-1W	C4010-1A/C4010-10†	100	----
C4010-21AW	Amber Glass I-D	Lt Blue	Solid PTFE	C4010-2W	C4010-1A/C4010-10†	100	----
C4010-24W	Clear Glass I-D	Lt Blue	PTFE/Silicone Star-slit	C4010-1W	C4010-65A	100	----
C4010-24AW	Amber Glass I-D	Lt Blue	PTFE/Silicone Star-slit	C4010-2W	C4010-65A	100	----
C4010-57	Clear Glass	White	PTFE/Silicone, Shimadzu®	C4010-1	C4010-35W	100	----
C4010-57A	Amber Glass	White	PTFE/Silicone, Shimadzu	C4010-2	C4010-35W	100	----
C4010-57W	Clear Glass I-D	White	PTFE/Silicone, Shimadzu	C4010-1W	C4010-35W	100	----
C4010-57AW	Amber Glass I-D	White	PTFE/Silicone, Shimadzu	C4010-2W	C4010-35W	100	----
C4010-67	Clear Glass	Black	PTFE/Silicone	C4010-1	C4010-35BLK	100	----
C4010-67A	Amber Glass	Black	PTFE/Silicone	C4010-2	C4010-35BLK	100	----
C4010-67W	Clear Glass I-D	Black	PTFE/Silicone	C4010-1W	C4010-35BLK	100	----
C4010-67AW	Amber Glass I-D	Black	PTFE/Silicone	C4010-2W	C4010-35BLK	100	----
<b>POLYBAGGED ASSEMBLED VIALS</b>							
C4010-017	Clear Glass	Lt Blue	PTFE/Silicone	C4010-1	C4010-60A	100	----
C4010-017W	Clear Glass I-D	Lt Blue	PTFE/Silicone	C4010-1W	C4010-60A	100	----
C4010-017AW	Amber Glass I-D	Lt Blue	PTFE/Silicone	C4010-2W	C4010-60A	100	----
C4010-018	Clear Glass	Lt Blue	PTFE/Silicone Pre-slit	C4010-1	C4010-55A	100	----
C4010-019	Clear Glass	Lt Blue	PTFE/Silicone/PTFE	C4010-1	C4010-40A	100	----
C4010-019W	Clear Glass I-D	Lt Blue	PTFE/Silicone/PTFE	C4010-1	C4010-40A	100	----
C4010-019AW	Amber Glass I-D	Lt Blue	PTFE/Silicone/PTFE	C4010-1	C4010-40A	100	----
C4010-021	Clear Glass	Lt Blue	Solid PTFE	C4010-1	C4010-1A/C4010-10	100	----
C4010-021W	Clear Glass I-D	Lt Blue	Solid PTFE	C4010-1W	C4010-1A/C4010-10	100	----
C4010-021AW	Amber Glass I-D	Lt Blue	Solid PTFE	C4010-2W	C4010-1A/C4010-10	100	----
C4010-057	Clear Glass	White	PTFE/Silicone, Shimadzu	C4010-1	C4010-35W	100	----
C4010-057W	Clear Glass I-D	White	PTFE/Silicone, Shimadzu	C4010-1W	C4010-35W	100	----
C4010-057AW	Amber Glass I-D	White	PTFE/Silicone, Shimadzu	C4010-2W	C4010-35W	100	----

# 4mL 15 x 45mm Crimp/Snap-Ring LoVials™ and Seals



## Crimp/Snap-Ring Vials

### 4mL 15 x 45mm Crimp/Snap-Ring LoVials™

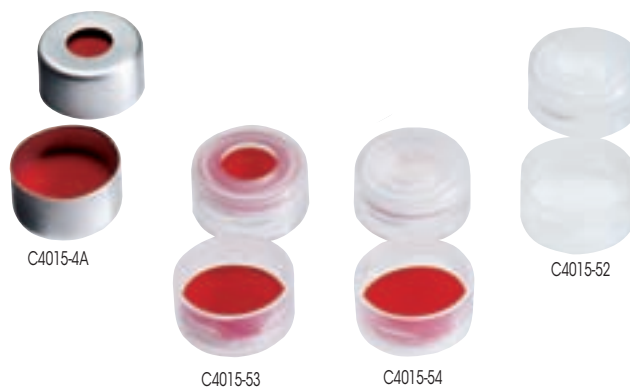
- Fits Waters™ 4mL WISP™ and other 15 x 45mm autosampler trays
- Vials feature a 13mm crimp/snap-ring finish—use with Aluminum Seals or Kim-Snap™ Closures
- Superior quality 33 expansion borosilicate clear glass Type 1, Class A
- Uniformly flat bottom for security with inserts

NSC PART NO.	STD. FILL VOLUME	DESCRIPTION	PACK OF	CASE OF
C4015-4	4mL	15 x 45mm Clear Glass	100	1000
C4015-12	4mL	15 x 45mm, 2.5mL Polypropylene	----	1000

## Closures

### Closures with Prefitted Septa for 13mm Crimp/Snap-Ring LoVials™

- Kim-Snap™ closures provide a tight seal without the need of a crimper
- National Scientific aluminum crimp closures provide a secure leak resistant seal
- Aluminum seals must be applied with a crimping tool



NSC PART NO.	SEAL COLOR	SEPTUM MATERIAL	COMMENT	PACK OF	CASE OF
<b>KIM-SNAP</b>					
C4015-53	Clear	Red PTFE/White Sil./Red PTFE	For aggressive solvents	100	----
C4015-54	Clear	Red PTFE/White Silicone	For high sensitivity analysis	100	1000
C4015-52	Clear	White Virgin PTFE	Single use, High purity, not resealable	100	----
C4015-51	Clear	Seal 2000, PTFE/RR	High purity PTFE/Red Rubber septum	100	----
<b>13MM ALUMINUM SEALS</b>					
C4015-1AP	Silver	Seal 2000, PTFE/RR	High purity PTFE/Red Rubber septum	144	----
C4015-4A	Silver	Red PTFE/White Silicone	For high sensitivity analysis	144	----



# 4mL 15 x 45mm Crimp/Snap-Ring LoVials™ and Seals



C4015-843



C4015-638



C4015-643



C4015-S642, C4015-639TS,  
C4015-S641, C4015-638P



C4015-640

## Vial Inserts for 4mL Vials

### Inserts for 15 x 45mm 4mL Vials

- These inserts all have a nominal O.D. of 6mm or 8mm to fit 15 x 45, 4mL vials (C4015 Series)
- Polyspring® inserts feature a polyethylene spring to center the bottom of the insert and to provide a cushion against needle contact
- Precision point inserts minimize residual sample losses
- Deactivated inserts by NSC Silanization



C4015-641

NSC PART NO.	FILL VOLUME	DESCRIPTION	COMMENT	PACK OF	CASE OF
C4015-843	1000µL	1000µL MicroSert™, Glass Flat Bottom Insert	Rests on vial bottom	100	1000
C4015-638	800µL	800µL Polyspring Glass Conical Insert, Pulled Point	Straight-sided insert	100	----
C4015-638P	300µL	300µL Polyspring Polypropylene Conical Insert	Polyspring supports bottom of the insert	100	----
C4015-641	500µL	500µL Polyspring Glass Conical Insert	Flange at insert lip improves fit in vial	100	----
C4015-639TS	300µL	300µL Glass Conical Insert with Top Spring	Insert is suspended from rim of vial	100	----
C4015-642	500µL	500µL Glass Conical Insert, Pulled Point	Flanged lip, requires C4015-640 metal spring	100	----
C4015-643	300µL	350µL Glass Conical Insert, Pulled Point	Flanged lip, requires C4015-640 metal spring	100	----
C4015-640	----	Metal spring for glass inserts and 4mL vial	Supports inserts lacking a bottom spring	100	1000

### DEACTIVATED INSERTS

C4015-S641	500µL	500µL Polyspring Silanized Conical Insert	Flange at insert lip improves fit in vial	100	----
C4015-S642	500µL	500µL Silanized Conical Insert, Pulled Point	Flanged lip, requires C4015-640 metal spring	100	----



C4013-102

C4013-101



C4013-100



## Crimping and De-Crimping Tools

### Crimpers, De-Crimpers, and Decapping Pliers for 13mm Crimp Top Vials

- Crimping tools provide a reproducible, secure vial closure for all 13mm vial and seal combinations
- De-crimping tools allow easy removal of aluminum seals without vial breakage

NSC PART NO.	DESCRIPTION	USE	PACK OF	CASE OF
C4013-100	Manual Crimper	Attaches 13mm aluminum crimp seals	1	----
C4013-101	Decapping Pliers	Removes 13mm aluminum crimp seals	1	----
C4013-102	Manual Decrimper	Removes 13mm aluminum crimp seals without vial damage	1	----

# 4mL 15 x 45mm Screw Thread Vials, Caps, Septa, and Inserts



C4015-11W, C4015-2W



C4015-2



C4015-9



C4015-14



C4015-15

## Screw Thread Vials



C4015-1, -K1, -K2, -S1

### 4mL 15 x 45mm Screw Thread Vials

- Original Waters™ 4mL WISP™ autosampler vial
- Superior quality 33 expansion borosilicate clear glass (Type 1, Class A) or 51A amber glass
- Uniformly flat bottom for security with inserts
- I-D™ vials feature write-on patch
- AP2000™ High Recovery vials feature a tapered bottom for maximum sample extraction
- Glastic® vials have a glass insert fixed inside of a plastic vial
- Deactivated vials are available with either NSC Silanization or Kimshield™ pretreatment

NSC PART NO.	STANDARD FILL VOLUME	DESCRIPTION	PACK OF	CASE OF
C4015-1	4mL	15 x 45mm Clear Glass	100	2000
C4015-11W	4mL	15 x 45mm Clear Glass I-D	100	2000
C4015-2	4mL	15 x 45mm Amber Glass	100	2000
C4015-2W	4mL	15 x 45mm Amber Glass I-D	100	2000
C4015-9	3.5mL	15 x 45mm AP2000 High Recovery Vial, Glass	100	----
C4015-14	2.5mL	15 x 45mm AP2000 High Recovery Vial, Polypropylene	100	1000
C4015-15	1.0mL	Glasic 15 x 45mm TPX vial with glass insert	100	----
<b>DEACTIVATED VIALS</b>				
C4015-S1	4mL	15 x 45mm Clear Glass, Silanized	100	2000
C4015-S11W	4mL	15 x 45mm Clear Glass I-D, Silanized	100	2000
C4015-S2	4mL	15 x 45mm Amber Glass, Silanized	100	2000
C4015-S2W	4mL	15 x 45mm Amber Glass I-D, Silanized	100	2000
C4015-K1	4mL	15 x 45mm Clear Glass, Kimshield	100	----
C4015-K2	4mL	15 x 45mm Amber Glass, Kimshield	100	----



Polypropylene caps



Phenolic caps

## Empty Caps

### Empty Caps—(without septum) for 4mL Screw Thread Vials

- Open top caps are designed to be used with any of our 13mm septa
- Polypropylene caps are chemically inert and suitable for most chromatography applications
- Phenolic resin caps perform well at high temperatures and with exposure to corrosives

NSC PART NO.	DESCRIPTION	COLOR	MATERIAL	PACK OF	CASE OF
C4015-1A	Open Top cap	Black	Polypropylene	100	1000
C4015-1W	Open Top cap	White	Polypropylene	100	1000
C4015-97B	Open Top cap	Blue	Polypropylene	----	1000
C4015-97G	Open Top cap	Green	Polypropylene	----	1000
C4015-97R	Open Top cap	Red	Polypropylene	----	1000
C4015-97Y	Open Top cap	Yellow	Polypropylene	----	1000
C4015-66	Open Top Cap	Black	Phenolic	----	1000

# 4mL 15 x 45mm Screw Thread Vials, Caps, Septa, and Inserts



C4015-10, C4015-45, C4015-75

## Septa Septa for 4mL Screw Thread Vials

- PTFE Disk septa are inert chemically inert
- PTFE Red Rubber septa are economical for many GC applications
- PTFE/Silicone septa are most popular for HPLC and IC applications
- Pre-slit septa are easier to pierce with thin gauge needles

NSC PART NO.	DESCRIPTION	COMMENT	PACK OF	CASE OF
C4015-10	White Virgin PTFE	Not resealable, single use	---	100
C4015-30	Ivory PTFE/Red Rubber	For general chromatography	100	1000
C4015-40	Red PTFE/White Silicone/Red PTFE	For use with aggressive solvents	100	1000
C4015-45	Red PTFE/White Silicone, 0.045"	Soft durometer, for thin gauge needles	100	1000
C4015-60	Red PTFE/White Silicone, 0.060"	Most popular PTFE/Silicone product	100	1000
C4015-61	Ivory PTFE/White Silicone, 0.060"	Same as Kimble® 73818T-13	---	1000
C4015-55	Blue PTFE/White Silicone—Pre-slit	Single slit septum	100	1000



C4015-66 C4015-66A

## Assembled Caps Assembled Screw Caps with Inserted Septa for 4mL vials

- Pre-assembled caps and septa are convenient and minimize contamination from handling
- SepCaps™ are single piece all polypropylene caps with an integrally molded septum
- Phenolic resin caps perform well at high temperatures and exposure to corrosives
- Phenolic and urea storage caps are suitable for long term sample storage

NSC PART NO.	CAP TYPE	CAP COLOR	SEPTUM	PACK OF	CASE OF
C4015-30A	Polypropylene Open Top Cap	Black	Ivory PTFE/Red Rubber	100	1000
C4015-40A	Polypropylene Open Top Cap	Black	Red PTFE/White Silicone/Red PTFE	100	1000
C4015-45W	Polypropylene Open Top Cap	White	Red PTFE/White Silicone, 0.045", Soft	100	1000
C4015-55BLK	Polypropylene Open Top Cap	Black	Blue PTFE/White Silicone—Pre-slit	100	---
C4015-55W	Polypropylene Open Top Cap	White	Blue PTFE/White Silicone—Pre-slit	100	1000
C4015-75A	Polypropylene Open Top Cap	Black	Red PTFE/White Silicone	100	1000
C4015-75W	Polypropylene Open Top Cap	White	Red PTFE/White Silicone	100	1000
C4015-75R	Polypropylene Open Top Cap	Red	Red PTFE/White Silicone	100	1000
C4015-5A	Single Piece Polypropylene	Natural	Integral Molded Polypropylene	100	1000
C4015-66A	Phenolic Open Top Cap	Black	Red PTFE/White Silicone	100	---
C4015-1050A	Polypropylene Open Top Cap	Black	White PTFE/Natural Silicone	100	---
B7815-13	Urea Solid Top Storage Cap	White	PTFE/Rubber Liner	100	---
<b>NEW</b> C4015-67A	13-425 Screw Thread Black Polypropylene	Black	Bonded Red 0.005" PTFE/White Silicone	100	---
<b>NEW</b> C4015-69A	13-425 Screw Thread Black Polypropylene	Black	Bonded Preslit Red 0.005" PTFE/White Silicone	100	---
<b>NEW</b> C4015-78A	13-425 Screw Thread Black Polypropylene	Black	Bonded White 0.010" PTFE	100	1000

# 4mL 15 x 45mm Screw Thread Vials, Caps, Septa, and Inserts



C4015-843



C4015-638



C4015-S642, C4015-639TS, C4015-S641, C4015-638P



C4015-641



C4015-640

## Inserts Inserts for 15 x 45mm 4mL Vials

- These inserts all have a nominal O.D. of 6mm or 8mm to fit 15 x 45 4mL vials
- Polyspring® inserts feature a polyethylene spring to center the bottom of the insert and to provide a cushion against needle contact
- Precision point inserts minimize residual sample loss
- Deactivated inserts by NSC Silanization



C4015-643

NSC PART NO.	DESCRIPTION	COMMENT	PACK OF	CASE OF
C4015-843	1000µL MicroSert™, Glass Flat Bottom Insert	Rests on vial bottom	100	1000
C4015-638	800µL Polyspring Glass Conical Insert, Pulled Point	Straight-sided insert	100	----
C4015-638P	300µL Polyspring Polypropylene Conical Insert	Polyspring supports bottom of the insert	100	----
C4015-641	500µL Polyspring Glass Conical Insert	Flange at insert lip improves fit in vial	100	----
C4015-639TS	300µL Glass Conical Insert with Top Spring	Insert is suspended from rim of vial	100	----
C4015-643	350µL Glass Conical Insert, Pulled Point	Flanged lip, requires C4015-640 metal spring	100	----
C4015-640	Metal spring for glass inserts and 4mL vial	Supports inserts lacking a bottom spring	100	1000
<b>DEACTIVATED INSERTS</b>				
C4015-S641	500µL Polyspring Silanized Conical Insert	Flange at insert lip improves fit in vial	100	----
C4015-S642	500µL Silanized Conical Insert, Pulled Point	Flanged lip, requires C4015-640 metal spring	100	----

## Convenience Kits

### Unassembled 4mL Screw Thread Vial Convenience Kits

- Include 100 vials and 100 caps with pre-assembled septa
- All items remain handy and dust-free
- Caps with pre-inserted septa are not attached to vials—packaged in polybags



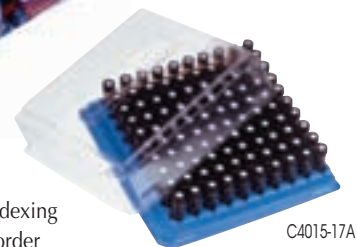
C4015-93

NSC PART NO.	VIAL	CAP	SEPTUM	VIALS PART NO.	CAP/SEPTUM PART NO.	PACK OF	CASE OF
C4015-93	Clear Glass	Black Polypropylene	White Virgin PTFE	C4015-1	C4015-66/ C4015-10†	100	----
C4015-88	Clear Glass	Black Polypropylene	PTFE/Silicone (0.75mil)	C4015-1	C4015-75A	100	----
C4015-88AW	Amber Glass I-D™	Black Polypropylene	PTFE/Silicone	C4015-2W	C4015-75A	100	----
C4015-482	Clear Glass	Black Phenolic	PTFE/Red Rubber	C4015-1	C4015-66/ C4015-30	100	----
C4015-492	Clear Glass	Black Phenolic	PTFE/Silicone	C4015-1	C4015-66A	100	----
C4015-S15	Clear Silanized	Black Polypropylene	PTFE/Silicone	C4015-S1	C4015-75A	100	----

†NOTE: PTFE septa are not pre-inserted into caps.



# 4mL 15 x 45mm Screw Thread Vials, Caps, Septa, and Inserts

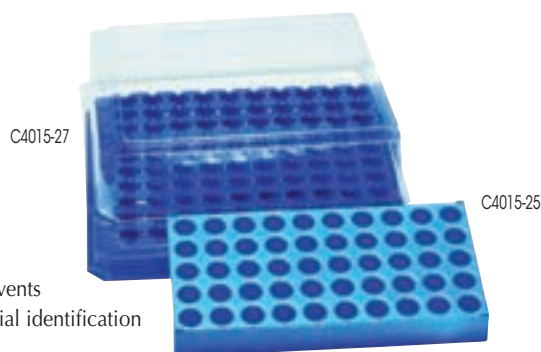


## Assembled Vial Kits

### Assembled 4mL Screw Thread Vial Kits

- Assembled kits include 100 vials with pre-attached caps and septa
- Packaged in convenient vial trays with clear covers or in polybags
- Vial trays are stackable for easy storage and feature alphanumeric indexing
- Vial trays hold vials upright for easy filling and maintaining sample order

NSC PART NO.	VIAL	CAP	SEPTUM	VIAL PART NO.	CAP/SEPTUM PART NO.	PACK OF	CASE OF
<b>ASSEMBLED VIALS IN NSC STACKABLE TRAYS WITH CLEAR COVERS</b>							
C4015-21	Clear Glass	Black Polypropylene	White Virgin PTFE	C4015-1	C4015-1A/C4015-10	100	----
C4015-21W	Clear Glass I-D™	Black Polypropylene	White Virgin PTFE	C4015-11W	C4015-1A/C4015-10	100	----
C4015-21AW	Amber Glass I-D	Black Polypropylene	White Virgin PTFE	C4015-2AW	C4015-1A/C4015-10	100	----
C4015-17	Clear Glass	Black Polypropylene	PTFE/Silicone	C4015-1	C4015-75A	100	----
C4015-17A	Amber Glass	Black Polypropylene	PTFE/Silicone	C4015-2	C4010-75A	100	----
C4015-17W	Clear Glass I-D	Black Polypropylene	PTFE/Silicone	C4015-11W	C4010-75A	100	----
C4015-17AW	Amber Glass I-D	Black Polypropylene	PTFE/Silicone	C4015-2W	C4010-75A	100	----
C4015-85	Clear Glass	Black Polypropylene	PTFE/Silicone Pre-Slit	C4015-1	C4015-55BLK	100	----
C4015-410A	Clear Glass	Black Phenolic	White Virgin PTFE	C4015-1	C4015-66/C4015-10	100	----
C4015-482A	Clear Glass	Black Phenolic	PTFE/Red Rubber	C4015-1	C4015-66/C4015-30	100	----
C4015-18W	Clear Glass I-D	White Urea	PTFE/Rubber Liner	C4015-11W	B7815-13	100	----
C4015-18AW	Amber Glass I-D	White Urea	PTFE/Rubber Liner	C4015-2W	B7815-13	100	----
<b>POLYBAGGED ASSEMBLED VIALS</b>							
C4015-017	Clear Glass	Black Polypropylene	PTFE/Silicone	C4015-1	C4015-75A	100	----
C4015-017A	Amber Glass	Black Polypropylene	PTFE/Silicone	C4015-2	C4015-75A	100	----
C4015-017W	Clear Glass I-D	Black Polypropylene	PTFE/Silicone	C4015-11W	C4015-75A	100	----
C4015-017AW	Amber Glass I-D	Black Polypropylene	PTFE/Silicone	C4015-2W	C4015-75A	100	----
C4015-021	Clear Glass	Black Polypropylene	White Virgin PTFE	C4015-1	C4015-1A/C4015-10	100	----
C4015-021W	Clear Glass I-D	Black Polypropylene	White Virgin PTFE	C4015-11W	C4015-1A/C4015-10	100	----
C4015-021AW	Amber Glass I-D	Black Polypropylene	White Virgin PTFE	C4015-2AW	C4015-1A/C4015-10	100	----



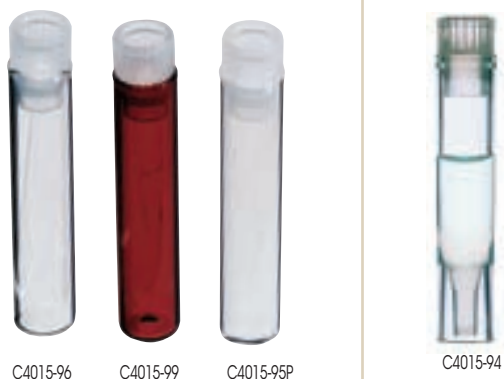
## Racks

### 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

NSC PART NO.	DESCRIPTION	CAPACITY	PACK OF	CASE OF
C4015-27	Polystyrene storage rack for 15 x 45mm vials with clear lid	100 vials, 10 x 10	1	5
C4015-25	Polypropylene storage rack for 15 x 45mm vials, no lid	50 vials, 5 x 10	1	5

# Shell Vials, SepCaps™, and Inserts



## Convenience Kits

### 1mL 8 × 40 Shell Vial Kits

- Original 1mL shell vial for the Waters™ 96-position tray
- Manufactured from superior quality borosilicate glass
- Polyethylene SepCap™ with starburst center design eases syringe needle penetration
- Convenient vial kits include equal quantities of vials and caps

NSC PART NO.	DESCRIPTION	PACK OF	CASE OF
C4015-96	1mL Clear Glass Shell Vial with SepCap	200	----
C4015-99	1mL Amber Glass Shell Vial with SepCap	200	----
C4015-95P	1mL Polypropylene Shell Vial with SepCap	250	1000
C4015-94	0.75mL Accuform® Polypropylene Shell Vial	----	1000



## Inserts Microvolume Inserts for 8 × 40mm Shell Vials

- Polyspring® inserts feature a polyethylene spring to center the bottom of the insert and to provide a cushion against needle contact
- Precision point inserts permit maximum sample extraction
- Use metal spring with inserts that lack the Polyspring

NSC PART NO.	DESCRIPTION	TIP FORM	FILL VOLUME	RESIDUAL VOLUME	NOTE	PACK OF	CASE OF
C4015-96A	250µL Polyspring Conical Glass	Pulled Point	225µL	5µL	N/A	100	----
C4015-96PA	300µL Polyspring Conical Polypropylene	Precision Point	250µL	3µL	N/A	100	----
C4015-536	275µL Conical Glass	Pulled Point	225µL	5µL	Use with C4015-540	100	1000
C4015-96P	300µL Conical Polypropylene	Precision Point	250µL	3µL	Use with C4015-540	100	1000
C4015-540	Metal Spring for Insert Support	N/A	N/A	N/A	N/A	100	1000
C4015-S96A	250µL Polyspring Conical, Silanized	Pulled Point	225µL	5µL	N/A	100	----



C4011-80

## Convenience Kits

### 2mL 12 × 32 Shell Vial Kits

- 2mL shell vial fits many 12 × 32 format sample trays
- Kits include borosilicate glass vials with convenient push-in polyethylene SepCaps™
- Convenient vial kits include equal quantities of vials and caps

NSC PART NO.	DESCRIPTION	PACK OF	CASE OF
C4011-80	2mL Clear Glass Shell Vial with SepCap	200	----
C4011-77P	2mL Polypropylene Shell Vial with Conical SepCap	----	1000

## Convenience Kits

### 4mL 15 × 45 Shell Vial Kits

- Original 1mL shell vial for the Waters™ 48-position tray
- Superior quality borosilicate clear glass
- Polyethylene SepCap™ with starburst center design eases syringe needle penetration
- Convenient vial kits include equal quantities of vials and caps



C4015-46P

NSC PART NO.	DESCRIPTION	PACK OF	CASE OF
C4015-48	4mL Clear Glass Shell Vial with SepCap	100	----
C4015-47P	4mL Polypropylene Shell Vial, Flat Bottom, with SepCap	100	1000
C4015-46P	3.75mL Polypropylene Shell Vial, Conical Bottom	----	1000

## Inserts

### Microvolume Insert for 15 × 45mm Shell Vials

- Polyspring® insert features a polyethylene spring to center the bottom of the insert and to provide a cushion against needle contact



C4015-638

NSC PART NO.	DESCRIPTION	TIP FORM	FILL VOLUME	RESIDUAL VOLUME	PACK OF	CASE OF
C4015-638	Straight sided insert	Pulled Point	800µL	9µL	100	----

## Vials

### 8 × 35 Vials for Alcott® Positive Displacement Autosamplers

- 1mL 8 × 35mm vials have a uniform wall thickness and fully annealed top
- Vials manufactured from chemically resistant, low extractable 33 expansion borosilicate glass
- Natural color virgin polyethylene push-in caps are included in each kit
- Meet or exceed original equipment manufacturer's requirements



C4008-50

NSC PART NO.	DESCRIPTION	PACK OF	CASE OF
C4008-50	Clear Glass Positive Displacement Vial with Plug Cap	----	1000

# Microsampling Products

## Microsampling Products

- Microsampling vials and inserts are designed for maximum sample extraction resulting in improved limits of detection and minimal sample waste
- National Scientific offers microsampling products to fit a variety of autosamplers and applications
- Consider total injection volume (volume per injection multiplied by number of injections), needle type and desired residual dead volume when selecting a microsampling product
- Inserts must be used with the correct sized autosampler vial



C4012-465, C4013-K465



C4012-530, C4012-S530



C4012-529L



C4012-529T, C4012-530P, C4012-531L

## Vial Inserts for 2mL Vials

### Inserts for Standard Opening 2mL Vials

- Standard opening inserts have a nominal O.D. of 5mm to fit 2mL C4013 and C4012 Series vials
- 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
- Deactivated inserts are silanized or Kimshield™ pretreated

NSC PART NO.	FILL VOLUME	DESCRIPTION	MATERIAL	TIP FORM	PACK OF	CASE OF
C4012-465	200µL	200µL MicroSert™, Flat Bottom Insert	Glass	Flat bottom	500	1000
C4012-530	170µL	150µL Polyspring, Conical Insert	Glass	Pulled point	100	----
C4012-529L	170µL	150µL Conical Insert	Glass	Pulled point	100	1000
C4013-529T	150µL	200µL Top Spring Conical Insert	Glass	Precision point	500	----
C4012-530P	150µL	125µL Polyspring Polypropylene Insert	Polypropylene	Precision point	100	----
C4012-S530	170µL	150µL Polyspring, Conical Insert	Silanized Glass	Pulled point	100	----
C4013-K465	200µL	200µL Flat Bottom MicroSert	Kimshield Glass	Flat bottom	----	1000



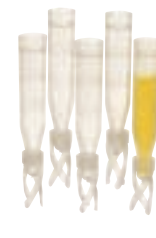
C4011-631



C4011-631P



C4010-630, C4010-S630



C4010-630P



C4010-627L

## Vial Inserts for Target 2mL Vials

### Inserts for Target® Wide-Opening 2mL Vials

- Target inserts have a nominal O.D. of 6mm to fit 2mL C4000, C4011 and C4010 Series vials
- Polyspring® inserts are self-centering with a spring to provide a cushion against needle contact
- Precision point inserts minimize residual sample losses
- Deactivated inserts are treated with NSC Silanization or Kimshield™ deactivation



C4010-629L, C4010-S629



C4010-630TS

NSC PART NO.	CAPACITY	TYPE	DESCRIPTION	PACK OF	CASE OF
C4011-631	400µL	400µL MicroSert™, Glass Flat Bottom Insert	Open end has fill marking	500	----
C4011-631P	400µL	400µL MicroSert, Polypropylene Flat Bottom Insert	----	500	----
C4010-630	300µL	300µL Polyspring®, Glass Conical Insert	Polyspring centers and cushions insert	100	----
C4010-630P	300µL	300µL Polyspring, Polypropylene Conical Insert	Precision-formed tip with Polyspring	100	1000
C4010-627L	350µL	350µL Glass Conical Insert, Pulled Point	Precision-formed tip, rests on vial bottom	100	1000
C4010-629L	350µL	350µL Glass Conical Insert, Precision Point	Insert is suspended in vial by top spring	100	1000
C4010-630TS	150µL	250µL Glass Conical Insert with Top Spring	Insert is suspended from the rim of the vial	----	500
C4010-S629	300µL	300µL Glass Conical Insert, Silanized	Insert rests on bottom of vial	100	1000
C4010-S630	300µL	300µL Polyspring, Glass Conical Insert, Silanized	Precision-formed tip, NSC silanized	100	----
C4011-S631	400µL	400µL MicroSert, Glass Flat Bottom Insert, Silanized	Precision-formed tip, NSC silanized	500	----
C4010-K630	300µL	300µL Polyspring, Glass Conical Insert, Kimshield	Precision-formed tip, Kimshield deactivated	100	----



# Microsampling Products

## Microsampling Vials for 8-425 Closure

### 12 × 32mm Microsampling Vials—8-425 Closure

- Vials feature standard screw thread, snap cap or crimp seal finish for assured instrument compatibility
- Internal contours of the vials are constructed to allow for optimal performance with limited sample volumes
- Tapered bases allow for maximum sample extraction



C4013-12

C4013-13

NSC PART NO.	DESCRIPTION	CLOSURE	MAX. FILL VOLUME	PACK OF	CASE OF
C4013-12	150µL MicroVials™, Clear Solid Glass	8-425	150µL	12	----
C4013-11	Virgin Polypropylene MicroVial	8-425	250µL	100	1000
C4013-13	Virgin Polypropylene MicroVial	8-425	650µL	----	1000
C4013-15GST	Glastic® Glass Insert /TPX MicroVial	8-425	100µL	100	----

## Microsampling Vials for 9-425 Closure

### 12 × 32mm Microsampling Vials—9-425 Closure



C4000-V2

NSC PART NO.	DESCRIPTION	CLOSURE	MAX. FILL VOLUME	PACK OF	CASE OF
C4000-1PT	Clear Glass Precision Taper	9-425	950µL	100	----
C4000-9	Clear Glass High Recovery with 30µL Reservoir	9-425	1.5mL	100	----
C4000-LV1	MacroVial™ 350µL Fused Insert Vial, Clear Glass	9-425	350µL	100	----
C4000-LV1W	MacroVial 350µL Fused Insert Vial, Clear Glass I-D™	9-425	350µL	100	----
C4000-LV2	MacroVial 350µL Fused Insert Vial, Amber Glass	9-425	350µL	100	----
C4000-LV2W	MacroVial 350µL Fused Insert Vial, Amber Glass I-D	9-425	350µL	100	----
C4000-V1	Micro-V™ Tapered MicroVial with 150µL reservoir, Clear Glass	9-425	1.5mL	100	----
C4000-V2	Micro-V Tapered MicroVial with 150µL reservoir, Amber Glass	9-425	1.5mL	100	----



C4000-9



C4010-14



C4000-LV1, C4000-LV2



C4010-V1



C4010-LV1

## Microsampling Vials for 10-425 Closure

### 12 × 32mm Microsampling Vials—10-425 Closure



C4010-11

NSC PART NO.	DESCRIPTION	CLOSURE	MAX. FILL VOLUME	PACK OF	CASE OF
C4010-LV1	MacroVial™ 350µL Fused Insert Vial, Clear Glass	10-425	350µL	100	----
C4010-LV2	MacroVial 350µL Fused Insert Vial, Amber Glass	10-425	350µL	100	----
C4010-V1	Micro-V™ 1.5mL Tapered MicroVial with 150µL reservoir, Clear Glass	10-425	1.5mL	100	----
C4010-11	600mL Virgin Polypropylene MicroVial, Tapered Tip	10-425	400µL	100	1000
C4010-14	750mL Virgin Polypropylene High Recovery Vial	10-425	550µL	100	1000

## Microsampling Vials for 13-425 Closure

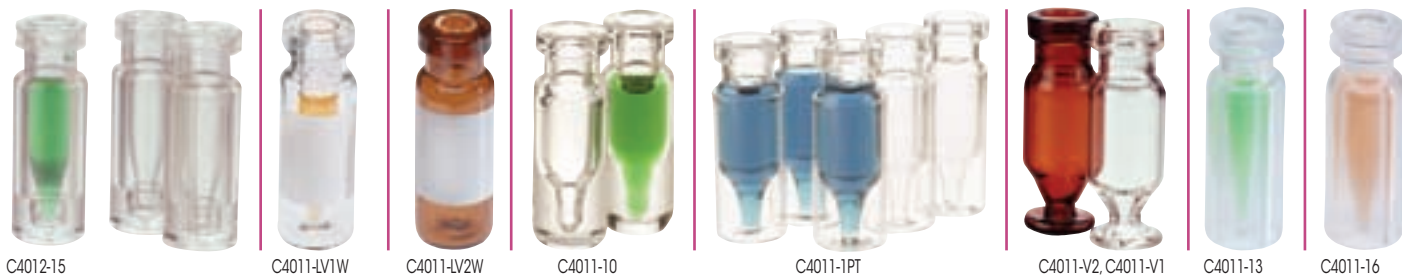
### 12 × 32mm Microsampling Vials—13-425 Closure



C4015-9, C4015-14

C4015-15

NSC PART NO.	DESCRIPTION	CLOSURE	MAX. FILL VOLUME	PACK OF	CASE OF
C4015-9	15 × 45mm AP2000 High Recovery Vial, Glass	13-425	3.5mL	100	----
C4015-14	15 × 45mm AP2000 High Recovery Vial, Polypropylene	13-425	2.5mL	100	1000
C4015-15	Glastic® 15 × 45mm TPX vial with glass insert	13-425	1.0mL	100	----



## Microsampling Vials 11mm Crimp/Snap

### 12 x 32mm Microsampling Vials—Crimp and Crimp/Snap Closure



NSC PART NO.	DESCRIPTION	CLOSURE	MAX. FILL VOLUME	PACK OF	CASE OF
C4012-10	150µL Clear Solid Glass Microvial	11mm Crimp	150µL	----	12
C4012-15	Glastic® Glass Insert/TPX Vial	11mm Crimp/Snap	3µL	100	----
C4011-LV1	MacroVial™ 250µL Fused Insert Snap-It Vial, Clear Glass	11mm Crimp/Snap	250µL	100	----
C4011-LV2	MacroVial 250µL Fused Insert Snap-It Vial, Amber Glass	11mm Crimp/Snap	250µL	100	----
C4011-10	Solid Glass MicroVials™	11mm Crimp	400µL	12	----
C4011-1PT	900µL Precision Taper Vial, Clear Glass	11mm Crimp	700µL	100	----
C4011-V1	Micro-V™ Clear Glass Microsampling Vial, 15µL Reservoir	11mm Crimp	1.1mL	100	----
C4011-9	1.5mL High Recovery MicroVials	11mm Crimp	1.5mL	100	----
C4011-13	450µL Virgin Polypropylene MicroVial	11mm Crimp/Snap	3µL	100	1000
C4011-11	800mL Virgin Polypropylene MicroVial	11mm Crimp/Snap	6µL	100	1000
C4011-V2	Micro-V Amber Glass Microsampling Vial, 15µL Reservoir	11mm Crimp	1.1mL	100	----
C4011-15	850mL Virgin Polypropylene AP-2000 MaxVial	11mm Crimp/Snap	15µL	----	1000
C4011-14	1mL Virgin Polypropylene Flat Bottom Vial	11mm Crimp/Snap	30µL	100	1000
C4011-24	1mL TPX High Recovery Vial	11mm Crimp/Snap	25µL	100	1000
C4011-1.7CB	1.7mL Conical Bottom Crimp-Top LoVial	11mm Crimp	1.1mL	----	1000
C4011-16	600mL Virgin Polypropylene MicroVial	11mm Crimp/Snap	5µL	100	----
C4011-1240	2.5mL Clear Glass Crimp-Top Vial—40mm Vial Height	11mm Crimp	2.3mL	----	1000
C4011-LV1W	MacroVial 250µL Fused Insert Vial, Clear Glass I-D	11mm Crimp	250µL	100	----
C4011-LV2W	MacroVial 250µL Fused Insert Vial, Amber Glass I-D	11mm Crimp	250µL	100	----



## Microsampling Vials 8mm Crimp

### 12 x 32mm Microsampling Vials—8mm Crimp Closure

NSC PART NO.	DESCRIPTION	CLOSURE	MAX. FILL VOLUME	PACK OF	CASE OF
C4008-632C	Clear Glass Vial, 6 x 32mm, Conical Bottom	8mm Crimp	200µL	100	1000
C4008-730	Amber Glass Vial, 7 x 30mm, Conical Bottom	8mm Crimp	400µL	100	1000
C4008-739	Clear Glass Vial, 7 x 40mm, Conical Bottom	8mm Crimp	450µL	100	1000
C4008-740	Amber Glass Vial, 7 x 40mm, Conical Bottom	8mm Crimp	450µL	100	1000
C4008-741	Clear Glass Vial, 7 x 40mm, Flat Bottom	8mm Crimp	650µL	100	1000
C4008-742	Amber Glass Vial, 7 x 40mm, Flat Bottom	8mm Crimp	650µL	100	1000
C4008-1	Clear Glass Vial, 8 x 30mm, Flat Bottom	8mm Crimp	800µL	200	2000
C4008-632R	Clear Glass Vial, 6 x 32mm, Round Bottom	8mm Crimp	250µL	100	1000

## Certified Vial Kits



- **Fully lot tested including HPLC and GC analysis**
- **Bonded caps prevent septa push-through**
- **Cradle to grave traceability**
- **Certification of Conformance in every pack**

See page 4 for full details



# Headspace Vials, Caps and Septa

Snap-It

Bonded Caps

Target DP

Color Band

## Headspace Vials, Caps and Septa

National Scientific Headspace vials are manufactured to provide uniform glass thickness which ensures even heat distribution for consistent sampling reliability. All headspace vials meet or exceed OEM specifications.

NS Certified

Target Syringes

Crimp Seal



Target DP

LoVial

SepCap

- Flat bottom vials maximize heating efficiency
- Round bottom vials distribute the internal pressure at high temperatures evenly across the glass surface
- Tinplate seals are compatible with magnetic pickup autosamplers
- Pressure release seals designed for maximum safety
- Comprehensive range of septa and preassembled seal/septa combinations

Polyspring Inserts

NS Certified

Microsert

Robo Vial

Micro-V



NS Certified

Target DP



# Headspace Vials, Septa, and Closures



C4020-2, C4020-20, C4020-25, C4020-27




C4020-6, C4020-60, C4020-10, C4020-210

## Vials Headspace Vials

- Clear glass vials with 20mm crimp seal finish are designed to fit most headspace autosamplers
- Flat bottom vials maximize heating efficiency
- Round bottom vials are more easily handled by robotic arms that lift the vial from the tray
- Round bottom vials distribute the internal pressure created at high temperatures across the glass surface
- National Scientific headspace vials meet or exceed OEM specifications
- Beveled edge finish features a sturdy rim that presses into the septum for a more effective seal

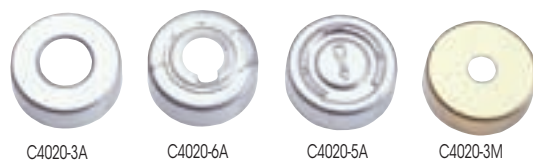
NSC PART NO.	VOLUME	DIMENSIONS	FINISH	BOTTOM	PACK OF	CASE OF
C4020-60	6mL	22 × 38mm	Beveled Edge	Flat Bottom	----	1000
C4020-6	6mL	22 × 38mm	Square Rim	Flat Bottom	----	1000
C4020-10	10mL	23 × 46mm	Beveled Edge	Flat Bottom	100	1000
C4020-210	10mL	23 × 46mm	Beveled Edge	Round Bottom	100	1000
C4020-410	10mL	23 × 46mm	Square Rim	Flat Bottom	----	1000
C4020-20	20mL	23 × 75mm	Beveled Edge	Flat Bottom	100	1000
C4020-2	20mL	23 × 75mm	Beveled Edge	Round Bottom	100	1000
C4020-25	20mL	23 × 75mm	Square Rim	Flat Bottom	----	1000
C4020-27	27mL	30 × 60mm	Beveled Edge	Flat Bottom	----	1000
<b>DEACTIVATED</b>						
C4020-S10	10mL	23 × 46mm	Beveled Edge	Flat Bottom	100	----
C4020-S20	20mL	23 × 75mm	Beveled Edge	Flat Bottom	100	----

See page 73 for our selection of  
Target Precision Headspace Sampling Syringes

 NATIONAL SCIENTIFIC



# Headspace Vials, Septa, and Closures



## Crimp Seals 20mm Headspace Crimp Seals (without Septa)

- Aluminum seals are available in standard center hole, pressure release and tear-off forms
- Pressure release seals are designed to open when internal pressure exceeds 3.0±0.5bar
- Use tinplate seals for autosamplers employing magnetic vial transport

NSC PART NO.	SEAL COLOR	DESCRIPTION	OPENING SIZE	PACK OF	CASE OF
C4020-3A	Silver	One-piece Unlined Aluminum Crimp Seal	9.5mm	----	1000
C4020-5A	Silver	Tear-off Aluminum Seal	14mm	----	1000
C4020-6A	Silver	Pressure Release Aluminum Seal	7.5mm	----	1000
C4020-3M	Gold	One-piece Unlined Tin-plated Steel Crimp Seal	5mm	----	1000



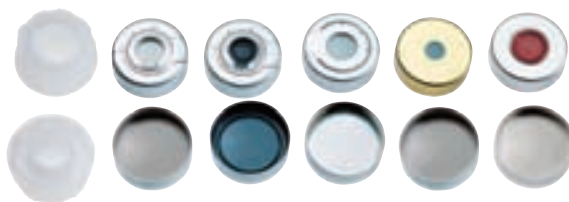
C4020-34, C4020-32, C4020-36, C4020-40, C4020-30

## Septa 20mm Septa for Headspace Vials

- PTFE/Red Rubber septa are resistant to coring and offer good resealing characteristics
- Gray Butyl is an economical septum for low temperature applications
- PTFE/Gray Butyl septum provides increased chemical resistance
- PTFE/Silicone septa offer excellent chemical resistance, resealing characteristics and low background
- Use Aluminum Foil/Silicone septa in extreme high temperature applications
- PurePak™ PTFE/Silicone septa are packed in glass jars to maintain purity up to the point of use
- See the septa selection guide on page 102 for more information about choosing the best product for your application

NSC PART NO.	SEPTUM MATERIAL	TEMPERATURE RANGE	PACK OF	CASE OF
C4020-30	Gray Butyl Stopper	-40 to +120°C	----	1000
C4020-32	Tan PTFE/White Silicone (PurePak)	-60 to +125°C	100	1000
C4020-34	Ivory PTFE/Red Rubber	-40 to +100°C	100	1000
C4020-36	Gray PTFE/Black Butyl Molded	-40 to +125°C	100	----
C4020-37	Aluminum Foil/White High Temp Silicone	-60 to +220°C	100	1000
C4020-40	Black Rubber	-20 to +100°C	100	----

# Headspace Vials, Septa, and Closures



C4020-31, -32AP, -36AP, -37AP, -42A, -34A

## Crimp Seals

### 20mm Crimp Seals with Prefitted Septa for Headspace Vials

- Seals with pre-inserted septa are convenient and minimize contamination due to handling
- Use magnetic seals with CTC/Leap™ Technologies, Gerstel® and other magnetic transport autosamplers
- PurePak™ PTFE/Silicone seals are packed in glass jars to maintain purity up to the point of use
- Molded polyethylene SepCap™ is suitable for short-term storage or where repeated access to the vial is required†

NSC PART NO.	SEPTA	SEAL TYPE	TEMPERATURE RANGE	PACK OF	CASE OF
C4020-34A	Ivory PTFE/Red Rubber	Regular	-40 to +100°C	100	1000
C4020-34AP	Ivory PTFE/Red Rubber	Pressure Release	-40 to +100°C	100	1000
C4020-39A	Clear PTFE/Gray Butyl	Regular	-40 to +120°C	100	----
C4020-43A	Clear PTFE/Gray Butyl	Magnetic Steel	-40 to +120°C	100	----
C4020-43AP	Clear PTFE/Gray Butyl	Pressure Release	-40 to +120°C	100	----
C4020-36A	Gray PTFE/Black Molded Butyl	Regular	-40 to +125°C	100	1000
C4020-36AP	Gray PTFE/Black Molded Butyl	Pressure Release	-40 to +125°C	100	1000
C4020-32A	Tan PTFE/White Silicone	Regular	-60 to +200°C	100	1000
C4020-32AP	Tan PTFE/White Silicone	Pressure Release†	-60 to +200°C	100	1000
C4020-38A	Tan PTFE/White Silicone	Magnetic	-40 to +200°C	100	----
C4020-42A	Clear PTFE/Translucent Blue Silicone	Magnetic Steel Seal Gold	-60 to +200°C	100	----
C4020-42AP	Clear PTFE/Translucent Blue Silicone	Pressure Release	-60 to +200°C	100	----
C4020-37AP	Aluminum Foil/White High Temp. Silicone	Pressure Release	-60 to +220°C	100	----
C4020-31	SepCap Integral molded Polyethylene	Molded Polyethylene	Storage cap†	----	250

†SepCap is for short-term storage. Do not use at elevated temperatures.



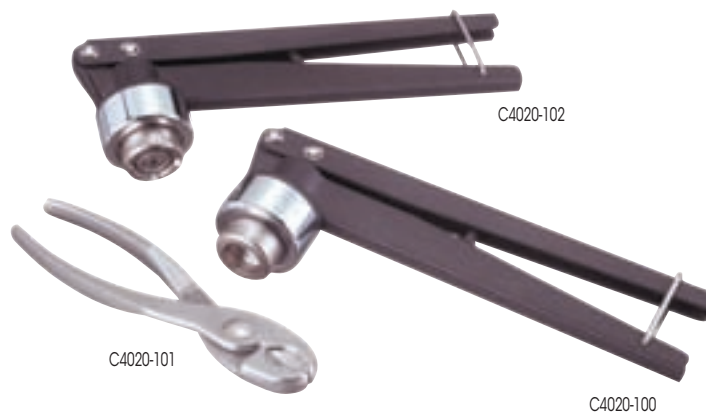
C4020 Series

## Convenience Kits

### Unassembled Headspace Convenience Kits

- Kits include 100 vials and 100 seals with prefitted septa
- Kits are available for the most popular vial and seal combinations

NSC PART NO.	VIAL	SEAL WITH SEPTUM	VIAL PART NO.	SEAL PART NO.	PACK OF	CASE OF
C4020-139	20mL Round Bottom	PTFE/Molded Butyl, Pressure Release	C4020-2	C4020-36AP	100	----
C4020-143	20mL Round Bottom	PTFE/Butyl, Pressure Release	C4020-2	C4020-43AP	100	----
C4020-320	20mL Round Bottom	PTFE/Silicone, Pressure Release	C4020-2	C4020-32AP	----	1000



## Tools Crimpers, De-crimpers and Decapping Pliers for 20mm Crimp Top Vials

- Crimping tools provide a reproducible, secure vial closure for all 20mm vial and seal combinations
- Manual de-crimping tools allow easy removal of aluminum seals without vial breakage
- Decapping pliers are an economical choice for small quantities of vials

NSC PART NO.	DESCRIPTION	USE	PACK OF
C4020-100	Manual Crimper	Attaches 20mm aluminum crimp seals	1
C4020-101	Decapping Pliers	Removes 20mm aluminum crimp seals	1
C4020-102	Manual Decrimper	Removes 20mm aluminum crimp seals without vial damage	1



The New Thermo Scientific Chromatography Columns and Consumables catalog is built on over 30 years of chromatography experience. This comprehensive resource presents the breadth of quality Thermo Scientific HPLC columns, including new Hypersil GOLD™ Phenyl HPLC column extensions to the flagship Hypersil GOLD family.

For more information on Thermo Scientific HPLC, TRACE and TM GC and HyperSep SPE products, please call +1 800-532-4752, or visit [www.thermo.com/columns](http://www.thermo.com/columns) to order a catalog.





C4011-1296, C4010-1296 with included cap, C4010-1296 Vial

## TOC Autosampler Vials

### 12 × 96mm Glass Vials for Automated TOC analyzers

- Superior quality N-51A clear borosilicate glass
- 5mL sample vial is designed for use in the Shimadzu® Model ASI-5000
- Screw thread vial fits standard 10-425 closures (included with pre-assembled product)
- Open top vial was designed in cooperation with the original equipment manufacturer

NSC PART NO.	MAX. FILL VOLUME	DESCRIPTION	PACK OF	CASE OF
C4011-1296	5mL	Open Top TOC Vial	----	1000
C4010-1296	5mL	Screw Thread TOC Vial, Polypropylene Cap with PTFE septum	----	1000

**THE PERFECT COMPANION TO NATIONAL SCIENTIFIC TOC VIALS.**

*Try TOC free specialty water from EP Scientific*

**Ep Scientific Products**  
Where clean is critical

*For more information please call 1 800 331 7425 or visit [www.epscientific.com](http://www.epscientific.com)*

Snap-It

Bonded Caps

Target DP

Color Band

## General Glassware

National Scientific EPA Vials and Storage Vials are cleaned and manufactured under the most stringent conditions. Class 100/200 and 300 vials, caps and septa are processed and certified to exceed EPA specifications.

NS Certified



Target DP

LoVial

SepCap

- Storage glassware manufactured in Type 1, Class A, 33 expansion borosilicate glass or 51A amber glass
- Capacity ranges from 2mL to 40mL
- Provide consistent pH for duration of sample storage life
- Chemically inert caps suitable for most chromatography and storage applications
- Top grade PTFE/silicone septa used for cleanliness

Polyspring Inserts

NS Certified

Microsert

Robo Vial

Micro-V



NS Certified

Target DP

# Sample Storage Vials and Closures



## Sample Vials

### Sample Storage Vials

- Superior quality borosilicate clear or amber glass
- Eliminate leaching of ions
- Provide consistent pH for duration of sample storage life

NSC PART NO.	GLASS	CAPACITY (ML)	CAPACITY (DRAMS)	USE CAP SIZE	VIAL SIZE (MM)	PACK OF	CASE OF
B7999-1	Clear	2	0.5	8-425	12 x 32	100	----
B7999-2	Clear	4	1	13-425	15 x 45	100	----
B7999-3	Clear	8	2	15-425	17 x 60	200	----
B7999-12	Clear	12	3	15-425	19 x 65	200	----
B7999-4	Clear	16	4	18-400	21 x 70	200	----
B7999-5	Clear	22	6	20-400	23 x 85	200	----
B7999-6	Clear	40	8	24-400	28 x 95	100	----
B7999-1A	Amber	2	0.5	8-425	12 x 32	100	----
B7999-2A	Amber	4	1	13-425	15 x 45	100	----
B7999-3A	Amber	8	2	15-425	17 x 60	200	----
B7999-12A	Amber	12	3	15-425	19 x 65	200	----
B7999-4A	Amber	16	4	18-400	21 x 70	200	----
B7999-6A	Amber	40	8	24-400	28 x 95	100	----

## Silanized Sample Vials

### Silanized Sample Vials

NSC PART NO.	GLASS	CAPACITY (ML)	CAPACITY (DRAMS)	USE CAP SIZE	VIAL SIZE (MM)	PACK OF	CASE OF
B7999-S3	Clear	8	2	15-425	17 x 60	200	----
B7999-S12A	Amber	12	3	15-425	19 x 65	200	----
B7999-S6	Clear	40	10	24-400	28 x 95	100	----



B7807 Series, C4013-66, C4015-66

## Screw Caps Screw Caps for Sample Storage Vials

- Open top caps without septa
- Polypropylene screw caps are chemically inert and suitable for most chromatography applications
- Phenolic caps are available in 8-425 and 13-425 sizes

NSC PART NO.	DESCRIPTION	CAP SIZE	CAP COLOR	PACK OF	CASE OF
B7807-8	Open top cap, Polypropylene	8-425	Black	100	1000
B7807-13	Open top cap, Polypropylene	13-425	Black	100	1000
B7807-15	Open top cap, Polypropylene	15-425	Black	100	1000
B7807-18	Open top cap, Polypropylene	18-400	Black	100	1000
B7807-20	Open top cap, Polypropylene	20-400	Black	100	1000
B7807-24	Open top cap, Polypropylene	24-400	White	100	1000
C4013-66	Open top cap, Phenolic	8-425	Black	----	1000
C4015-66	Open top cap	13-425	Black	----	1000



B7995 Series

## Septa PTFE/Silicone Septa for Sample Screw Thread Caps

- Natural color PTFE laminated to clear silicone
- Extremely clean

NSC PART NO.	PTFE	SILICONE	FITS CAP SIZE	PACK OF	CASE OF
B7995-8	0.25mm	0.125mm	8-425	100	1000
B7995-13	0.25mm	0.125mm	13-425	100	1000
B7995-15	0.25mm	2.30mm	15-425	100	1000
B7995-18	0.25mm	2.30mm	18-400	100	1000
B7995-20	0.25mm	2.30mm	20-400	100	1000
B7995-24	0.25mm	0.125mm	24-400	100	1000
B7995-26	1.125mm	3.05mm	24-400	100	1000



B7815 Series

## Storage Caps PTFE-Lined Sample Storage Caps

- Solid-top storage caps
- PTFE on film/foam backing offers broad chemical resistance
- Not autoclavable

NSC PART NO.	THREAD SIZE	DESCRIPTION	PACK OF	CASE OF
B7815-8	8-425	White Urethane	100	----
B7815-13	13-425	White Urethane	100	----
B7815-15	15-425	White Urethane	100	----
B7815-18	18-400	White Polypropylene	100	----
B7815-20	20-400	White Polypropylene	100	----
B7815-24	24-400	White Polypropylene	100	----



# Sample Storage Vials and Closures



B7800 Series

## Convenience Kits Unassembled Convenience Kits: Sample Vials with PTFE-Lined Storage Caps

■ Each carton contains shrink-wrapped vials and polybags containing storage caps

NSC PART NO.	GLASS	CAPACITY (ML)	CAPACITY (DRAMS)	VIAL PART NO.	CAP PART NO.	PACK OF	CASE OF
B7800-1	Clear	2	0.5	B7999-1	B7815-8	100	----
B7800-2	Clear	4	1	B7999-2	B7815-13	100	----
B7800-3	Clear	8	2	B7999-3	B7815-15	200	----
B7800-12	Clear	12	3	B7999-12	B7815-15	200	----
B7800-4	Clear	16	4	B7999-4	B7815-18	200	----
B7800-20	Clear	20	5	B7920-VO	B7815-24	100	----
B7800-5	Clear	24	6	B7999-5	B7815-20	200	----
B7800-6	Clear	40	10	B7999-6	B7815-24	200	----
B7800-1A	Amber	2	0.5	B7999-1A	B7815-8	100	----
B7800-2A	Amber	4	1	B7999-2A	B7815-13	100	----
B7800-3A	Amber	8	2	B7999-3A	B7815-15	200	----
B7800-12A	Amber	12	3	B7999-12A	B7815-15	200	----
B7800-4A	Amber	16	4	B7999-4A	B7815-18	200	----
B7800-6A	Amber	40	10	B7999-6A	B7815-24	100	----



B7990-3



B7990-3A

## Convenience Kits Unassembled Convenience Kits: Sample Vials with Caps and Septa

■ Each carton contains shrink-wrapped vials and separately packaged caps and natural-colored PTFE/clear Silicone septa in polybags

NSC PART NO.	GLASS	CAPACITY (ML)	CAPACITY (DRAMS)	VIAL PART NO.	CAP PART NO.	PACK OF	CASE OF
B7990-1	Clear	2	0.5	B7999-1	B7807-8	100	----
B7990-2	Clear	4	1	B7999-2	B7807-13	100	----
B7990-3	Clear	8	2	B7999-3	B7807-15	200	----
B7990-12	Clear	12	3	B7999-12	B7807-15	200	----
B7990-4	Clear	16	4	B7999-4	B7807-18	200	----
B7990-5	Clear	22	6	B7999-5	B7807-20	200	----
B7990-6	Clear	40	11	B7999-6	B7807-24	100	----
B7990-1A	Amber	2	0.5	B7999-1A	B7807-8	100	----
B7990-2A	Amber	4	1	B7999-2A	B7807-13	100	----
B7990-3A	Amber	8	2	B7999-3A	B7807-15	200	----
B7990-12A	Amber	12	3	B7999-12A	B7807-15	200	----
B7990-4A	Amber	16	4	B7999-4A	B7990-4A	200	----
B7990-6A	Amber	40	11	B7999-6A	B7990-6A	100	----



B7950, B7951, B7920, B7921

### Assembled Convenience Kits

#### EPA Vials with 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”
- Class 100—Vials, Caps and Septa are assembled
- Class 200—Vials, Caps and Septa are processed to EPA specifications and assembled
- Class 300—Vials, Caps and Septa are processed and certified to EPA specifications, then assembled
- Certificate of Analysis is included with each box of vials

NSC PART NO.	GLASS	CLASS	SIZE	PACK OF	CASE OF
B7950	Clear	100	40mL	100	----
B7951	Amber	100	40mL	100	----
B7920	Clear	100	20mL	100	----
B7921	Amber	100	20mL	100	----
B7950-C	Clear	200	40mL	72	----
B7951-C	Amber	200	40mL	72	----
B7920-C	Clear	200	20mL	72	----
B7950-C3	Clear	300	40mL	72	----
B7951-C3	Amber	300	40mL	72	----
B7920-C3	Clear	300	20mL	72	----



B7921-B

### Non-Assembled Convenience Kits

#### EPA Vials with Caps and Septa

- Each carton contains shrink-wrapped vials and separately packaged caps and natural-colored PTFE/clear Silicone septa in polybags

NSC PART NO.	DESCRIPTION	PACK OF	CASE OF
B7950-B	Clear 40mL vials, PTFE/Silicone septa and cap	100	500
B7951-B	Amber 40mL vials, PTFE/Silicone septa and cap	100	500
B7920-B	Clear 20mL vials, PTFE/Silicone septa and cap	100	500
B7921-B	Amber 20mL vials, PTFE/Silicone septa and cap	100	500

### Convenience Kit Components

#### Components for the Above Kits

NSC PART NO.	DESCRIPTION	PACK OF	CASE OF
B7950-VO	Clear 40mL vials, 28 x 95mm	100	500
B7951-VO	Amber 40mL vials, 28 x 95mm	100	500
B7920-VO	Clear 20mL vials, 28 x 57mm	100	500
B7921-VO	Amber 20mL vials, 28 x 57mm	100	500
B7950-1A	Cap only, 24-400	100	500
B7995-24	Septa only, 0.01" PTFE/0.09" Silicone	100	1000

### Miscellaneous Bottles

NSC PART NO.	DESCRIPTION	CAPACITY	PACK OF	CASE OF
B7832-125	Wide Mouth Bottle, HDPE	4 oz.	12	72
B7832-250	Wide Mouth Bottle, HDPE	8 oz.	12	72
B7832-500	Wide Mouth Bottle, HDPE	16 oz.	12	48
B7832-1L	Wide Mouth Bottle, HDPE	32 oz.	6	24



# WebSeal SYSTEM

**...it's the National Scientific advantage.**

**When productivity really counts and cross-contamination simply won't be tolerated, choose the WebSeal™ System for efficiency and security.**

**96-well standard footprint microtiter plates with tapered glass or PTFE inserts and PTFE coated silicone mats.**

- Reseal even after multiple injections—no need to open the cover and risk sample integrity
- The highest grade silicone matting tolerates temperatures from  $-80^{\circ}\text{C}$  to  $+200^{\circ}\text{C}$
- Unique cutting tool removes each individual vial with plug still in place—so you don't risk contamination from traditional sample transfer

**Compatible with all 96-well-configured autosamplers**



 NATIONAL SCIENTIFIC

Available in sizes from 500 $\mu\text{L}$  to 1.5mL for High-throughput Screening, Combinatorial Chemistry, Life Science and HPLC!

Snap-It

Bonded Caps

Target DP

Color Band

## WebSeal™ SYSTEM

Products are used in high throughput screening, combinatorial chemistry, life science and HPLC. This system is a comprehensive range of 96-well micro titer plates with glass inserts and silicone/PTFE sealing mats.

NS Certified

Target Syringes

Crimp Seal



Target DP

LoVial

SepCap

- Manufactured to a standard 96-well footprint and compatible with all well plate autosamplers
- Available in sizes 500µL to 1.5mL using clear, amber or PTFE vials
- MicroMat™ Clear and WebSeal silicone/PTFE sealing mats have working temperatures from -80°C to +200°C
- Unique cutting tool allows for removal of individual vials and plug in one piece

Polyspring Inserts

NS Certified

Microsert

Robo Vial

Micro-V

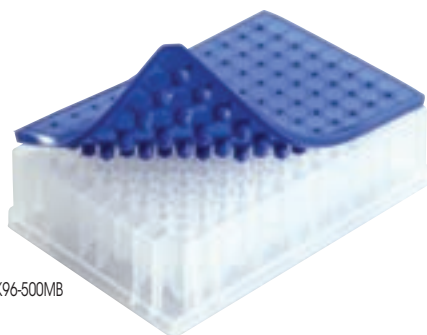


NS Certified

Target DP



# WebSeal™ Microplate System and Mats



K96-500MB



V96-500

## 500µL WebSeal™ Kit

### 500µL WebSeal Kit

- Mid-depth polypropylene 96-well microtiter plate, pre-inserted 500µL glass vials and the WebSeal silicone/PTFE sealing mats

NSC PART NO.	DESCRIPTION	PACK OF	CASE OF
K96-500MB	96-well micro titer plate with 500µL glass vials and sealing mats	5	----
<b>ACCESSORIES</b>			
V96-500	500µL clear glass replacement vial for K96-500MB kit	500	----
P96MD-PP	96 well mid-depth polypropylene plate	5	----
M9605-R1B	96 round well silicone/PTFE sealing mat	5	----
M9605-R2B	96 round well silicone/PTFE sealing mat, pre-slit	5	----



K96-700MBT Series



K96-70MBT Series

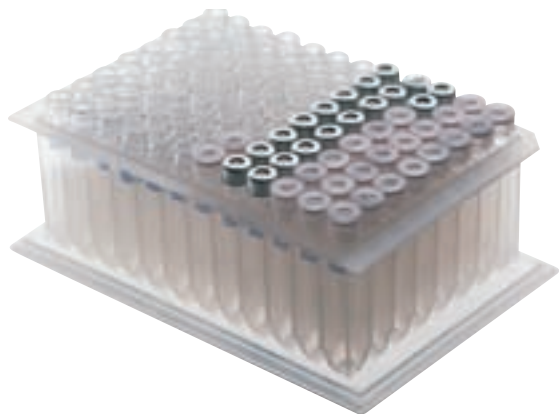
## 700µL WebSeal™ Kit

### 700µL WebSeal Kit

- 700µL kits available with clear, amber and PTFE vials pre-inserted into 96-well polypropylene microtiter plates
- Includes WebSeal silicone/PTFE sealing mats and cutting tool for vial removal

NSC PART NO.	DESCRIPTION	PACK OF	CASE OF
K96-700MBT	96 well-plate, 700µL vials, sealing mat and cutting tool	5	----
K96-700MBTA	96 well-plate, 700µL amber vials, sealing mat and cutting tool	5	----
K96-700MBTTF	96 well-plate, 700µL PTFE vials, sealing mat and cutting tool	5	----
<b>ACCESSORIES</b>			
V96-700	700µL clear glass vials for K96-700MBT kit	500	----
V96-700A	700µL amber glass vials for K96-700MBTA kit	500	----
V96-700PTFE	700µL PTFE vials for K96-700MBTTF kit	500	----
P96-700PP	96-well PP plate for 700µL vials	5	----
M9605-R1B	96 round well silicone/PTFE sealing mat	5	----
M9605-R2B	WebSeal silicone/PTFE sealing mat, pre-slit	5	----
PCT-1	Cutting Tool	1	----

# WebSeal™ Microplate System and Mats



K96-1.1CT



K96-1.1 MB

## 1.1mL WebSeal™ Kit

### 1.1mL WebSeal Kit

- 1.1mL kits available as 8mm crimp top standard vials or with WebSeal silicone/PTFE sealing mats

NSC PART NO.	DESCRIPTION	PACK OF	CASE OF
K96-1.1MB	96-well PP plate with 1.1mL glass vials, sealing mats	5	----
K96-1.1CT	96-well PP plate with 1.1mL, 8mm crimp top vials	5	----
<b>ACCESSORIES</b>			
V96-1.1	1.1mL clear glass vials for K96-1.1MB kit	500	----
V96-1.1CT	1.1mL clear glass crimp top vials for K96-1.1CT kit	500	----
P96-1.1PP	96 deep well PP plate for 1.1mL shell vial	5	----
P96-1.1PPCT	96 square deep well PP plate for 1.1mL crimp top vials	5	----
M9606-1B	WebSeal silicone/PTFE sealing mat	5	----
M9606-2B	WebSeal silicone/PTFE sealing mat pre-slit	5	----



K96-1.5MB

## 1.5mL WebSeal™ Kit

### 1.5mL WebSeal Kit

- 1.5mL kit available in 96-well polypropylene microtiter plate pre-inserted with 1.5mL clear glass vials and WebSeal silicone/PTFE sealing mats

NSC PART NO.	DESCRIPTION	PACK OF	CASE OF
K96-1.5MB	96-well PP plate, 1.5mL glass vials, sealing mat	5	----
<b>ACCESSORIES</b>			
V96-1.5	1.5mL clear glass vials for K96-1.5MB kit	----	500
P96-1.5PP	96-well PP plate for 1.5mL glass vials	5	----
M9606-1B	WebSeal silicone/PTFE sealing mat	5	----
M9606-2B	WebSeal silicone/PTFE sealing mat pre-slit	5	----



MicroMat CLR  
(shown with microplates sold separately)

## MicroMat™ CLR Sealing Mats

### MicroMat™ CLR Microplate Sealing System

- Manufactured from pure silicone
- Wider penetration area for ease of use
- Dry heat autoclavable
- Resists coring or tearing
- Eliminates cross-contamination well to well
- Available pre-slit to reduce vacuum formation

NSC PART NO.	DESCRIPTION	PACK OF	CASE OF
M9600-71C	96 round well sealing mat 7mm silicone only	10	----
M9600-72C	96 round well sealing mat 7mm silicone only pre-slit	10	----
M3840-SQ1C	384 square well sealing mat silicone only	10	----
M3840-SQ2C	384 square well sealing mat silicone only pre-slit	10	----
M9600-MB1C	96 square well sealing mat silicone only	10	----
M9600-MB2C	96 square well sealing mat silicone only pre-slit	10	----
M9600-861C	96 round well sealing mat 8mm silicone only	10	----
M9600-862C	96 round well sealing mat 8mm silicone only pre slit	10	----
M9600-NN1C	96 round well sealing mat silicone only for Nunc® plates	10	----
M9600-NN2C	96 round well sealing mat silicone only pre-slit for Nunc plates	10	----

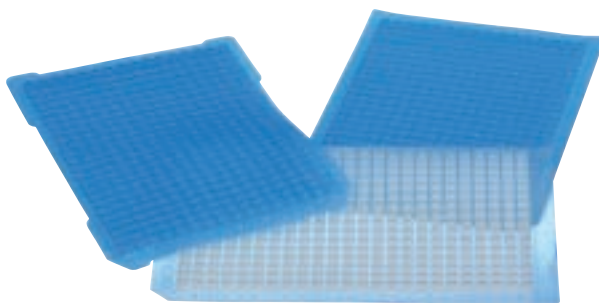


## MicroMat™ CLR Sealing Strips

### CLR 8mm Well Strips

- Available pre-slit for easy penetration and reduced vacuum formation
- Use where only partial plate capacity is required

NSC PART NO.	DESCRIPTION	PACK OF	CASE OF
M0800-C	96 round well 8mm strips silicone only	12	----
M0800-PSC	96 round well 8mm strips silicone only pre-slit	12	----



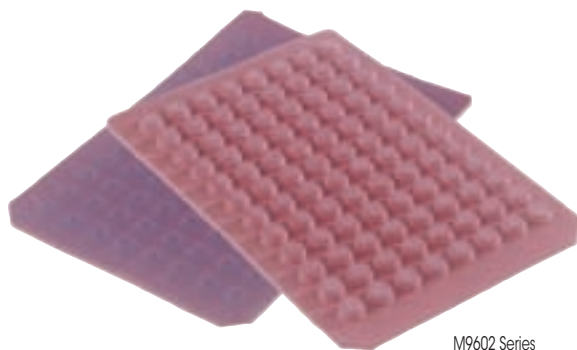
M9601-RD1LB

## WebSeal™ Sealing Mats

### WebSeal Microplate Sealing System

- Manufactured from pure silicone with PTFE coating on underside
- Superior resealability after multiple injections
- Excellent chemical compatibility
- Dry heat autoclavable
- Eliminates cross-contamination well to well
- Available pre-slit for easy penetration and reduced vacuum formation

NSC PART NO.	DESCRIPTION	COLOR	PLUG DIAMETER	PACK OF	CASE OF
M9601-RD1LB	96 round well, dome base	Lt. Blue	7mm	10	----
M9601-RD1DB	96 round well, dome base	Dk. Blue	7mm	5	----
M9601-RD2DB	96 round well, dome base, pre-slit	Dk. Blue	7mm	5	----
M9601-RF1LB	96 round well, flat base	Lt. Blue	7mm	5	----
M9601-RF2P	96 round well, flat base, pre-slit	Pink	7mm	10	----
M9601-RF2LB	96 round well, flat base, pre-slit	Lt. Blue	7mm	5	----
M9601-SQ1LB	96 square well	Lt. Blue	8mm	10	----
M9601-SQ2Y	96 square well, pre-slit	Yellow	8mm	10	----
M9601-SQ2LB	96 square well, pre-slit	Lt. Blue	8mm	5	----
M3841-R1R	384 round well	Red	4mm	10	----
M3841-R2LB	384 square well, pre-slit	Lt. Blue	4mm	5	----



M9602 Series

## Microplate Sealing Mats

### WebSeal™ Microplate Sealing Mats—DMSO-Resistant

- Manufactured of pure silicone with extensive PTFE layer
- DMSO-resistant for long-term storage

NSC PART NO.	DESCRIPTION	COLOR	PLUG DIAMETER	PACK OF	CASE OF
M9602-RD1	96 round well, domed base	Blue/Red	8mm	5	----
M9602-RF1	96 round well, flat base	Blue/Red	8mm	5	----
M9602-SQ1	96 square well	Blue/Red	8mm	5	----
M3842-SQ1	384 square well	Blue/Red	4mm	5	----
M3842-R1	384 round well	Blue/Red	4mm	5	----





Mat applicator MA-1 shown with M9605 series sealing mats

## WebSeal™ Mat Applicator

### WebSeal Mat Applicator

NSC PART NO.	DESCRIPTION	PACK OF	CASE OF
MA-1	Handheld mat applicator	1	----



M229203

## Minivap™ Sample Concentrator

### Minivap Sample Concentrator

- Sample concentrator, evaporating 500µL methanol in less than 10 minutes
- Unique spiral needle design allows for rapid sample concentration without cross contamination

NSC PART NO.	DESCRIPTION	PACK OF
M229203	MiniVap Sample Concentrator	1

## Sample Concentrator

### UltraVap™ High-Speed Sample Concentrator

- Programmable high-speed sample concentrator
- Patented spiral needles
- Evaporates 500µL methanol in 6 minutes



M229070

NSC PART NO.	DESCRIPTION	PACK OF
M229070	UltraVap 96-well High Speed Sample Concentrator	1
M229074	Replacement Spiral Needle Kit, with Fitting Tool	1

## Microplates

### Plate +™ Glass Coated Microplates

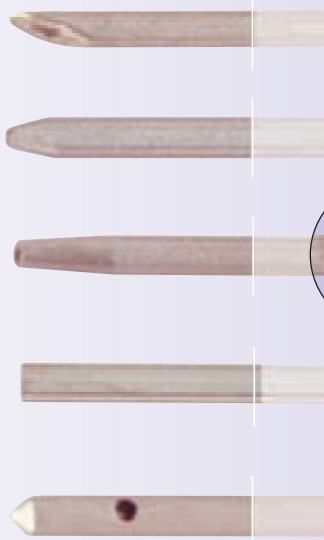
- Lightweight, precision molded, cost-effective alternative to solid glass plates
- Polypropylene microplates coated with 200nm thick layer of silicone dioxide
- Chemically resistant with the qualities of glass and advantages of polypropylene
- Operating temperatures of -80°C to +80°C



P96U Series

NSC PART NO.	DESCRIPTION	PACK OF	CASE OF
P96U-1.0G	96 U deep-well design, 1mL glass-coated PP plate	10	----
P96F-2.0G	96 Flat-well design, 2mL glass-coated PP plate	10	----
P96V-190G	96 V design 190µL, glass-coated PP plate	10	----
P384SQ-180G	384 Square-rounded, 180µL glass-coated PP plate	10	----
P96U-250G	96 U well design, 250µL glass-coated PP plate	10	----
P96F-300G	96 well flat-bottom, 300µL glass-coated PP plate	10	----
P384SR-90G	384 Square/rounded well design, 90µL glass-coated PP plate	10	----

# Syringe Needle Tip Style Selection Guide

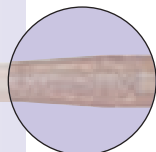


## Bevel Tip

Pointed 17° bevel eases septa penetration and is ideal for sampling through membrane. Preferred tip for general dispensing of liquids.

## Cone Tip

Blunt end tip minimizes septa coring for use in GC autosamplers.



## HP Style Tip- Dual Gauge

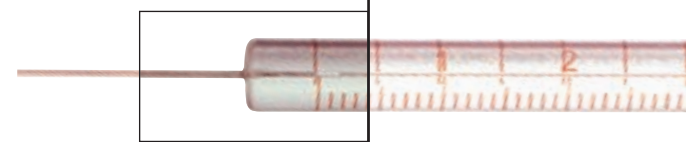
Special 90° blunt end tip for on column injection. Dual tapered design provides narrow entry point with high gauge strength to remaining length of needle.

## Blunt End Tip

Blunt end tip is used for LC manual injectors. Prevents damage to rotor seals and stator face of manual injectors. Also minimizes fluid retention at needle end.

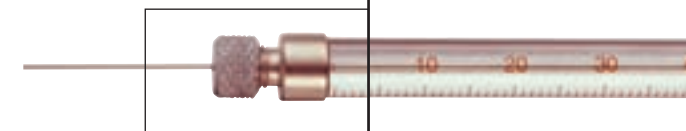
## Side Hole/Dome Tip

Effective penetration of firmer or thicker septa without coring or plugging of the needle tip.



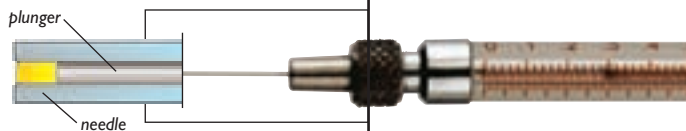
## Fixed Needle Syringe

Permanently affixed needle. Attached through proprietary process that eliminates cement or epoxy for error free injections.



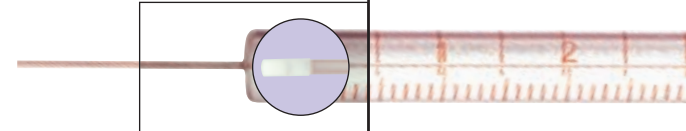
## Removable Needle Syringe

Permits removal of bent needles for replacement. Same syringe can be used with different gauge needles to meet specific application needs.



## Zero Dead Volume Syringe

Plunger extends into needle tip. Dispense whole liquid volumes. Full volume of sample contained within needle, no glass contact.



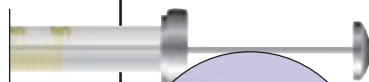
## Gas Tight Syringe

PTFE tipped plunger helps to eliminate plunger freeze up. Use for liquid or gas samples.



## Extended Handle Syringe

Features PTFE tipped plunger and extended metal handle. Prevents heat transfer from operator to syringe and protects the plunger from bending.



## Super Elastic Plunger

Titanium/Nickel plunger construction prevents bent plungers. Plunger is flexible and returns to memory position.



# Target Precision Glass Syringes

Snap-It

Bonded Caps

Target DP

Color Band

## Target Precision Glass Syringes

National Scientific Target Precision Glass Syringes provide superior quality, performance and accuracy. Syringes are manufactured using 33 expansion borosilicate DURAN glass barrels and feature unique chromium-plated plungers to eliminate ion leaching and pH shifts of sensitive samples. Every Target glass syringe offers unmatched performance provided by the industry's tightest production tolerances.

NS Certified

Target Syringes

Crimp Seals



Target DP

LoVial

SepCap

- Configurations to fit every autosampler
- Fixed needle syringes
- Removable needle syringes
- Zero dead volume syringes
- Gastight syringes
- Extended handle syringes

Polyspring Inserts

NS Certified

Microsert

Robo Vial

Micro-V

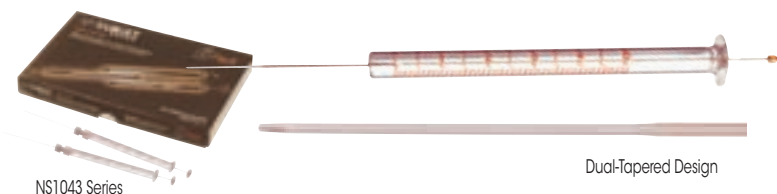


NS Certified

Target DP



# GC Autosampler Syringes



**Precision GC Syringes for Agilent Technologies®**

## Fixed Needle Syringes

- 23-26s Tapered needle
- Use with 7673 Series, 7683 Series, 6850 ALS
- Feature HP-style dual-gauge, cone-shaped blunt tip
- Tapered design combines strength of larger diameter 23s with narrow 26s gauge piercing for minimized evaporation and easy on-column injection

NSC PART NO.	VOLUME	NEEDLE LENGTH	AGILENT NO.	PACK OF	CASE OF
NS104304	5µL	42mm	5181-1273	1	----
NS104404	10µL	42mm	5181-1267	1	----
NS104314	5µL	42mm	5181-8810	6	----
NS104414	10µL	42mm	5181-3360	6	----

## Fixed Needle Syringes

- 23-26s Gauge, tapered needle; PTFE-tipped plunger
- Use with 7673 Series, 7683 Series, 6850 ALS
- Feature HP-style dual gauge, cone-shaped blunt tip
- Tapered design combines strength of larger diameter 23s with narrow 26s gauge piercing for minimized evaporation and easy on-column injection

NSC PART NO.	VOLUME	NEEDLE LENGTH	AGILENT NO.	PACK OF	CASE OF
NS604304	5µL	42mm	N/A	1	----
NS604404	10µL	42mm	5181-3354	1	----
NS604314	5µL	42mm	N/A	6	----
NS604414	10µL	42mm	5181-3361	6	----

## Removable Needle Syringes

- 23-26s Tapered needle
- Use with 7673 Series, 7683 Series, 6850 ALS
- Feature HP-style dual gauge, cone-shaped blunt tip
- Tapered design combines strength of larger diameter 23s with narrow 26s gauge piercing for minimized evaporation and easy on-column injection

NSC PART NO.	VOLUME	NEEDLE LENGTH	AGILENT NO.	PACK OF	CASE OF
NS104308	5µL	42mm	5182-0835	1	----
NS104408	10µL	42mm	5181-3321	1	----



## Removable Needle Syringes

- 23-26s Tapered needle; PTFE-tipped plunger
- Use with 7673 Series, 7683 Series, 6850 ALS
- Feature HP-style dual gauge, cone-shaped blunt tip
- Tapered design combines strength of larger diameter 23s with narrow 26s gauge piercing for minimized evaporation and easy on-column injection

NSC PART NO.	VOLUME	NEEDLE LENGTH	AGILENT NO.	PACK OF	CASE OF
NS604408	10µL	42mm	5181-3356	1	----

## Replacement Needles

- 23-26s Tapered needle

NSC PART NO.	VOLUME	NEEDLE LENGTH	AGILENT NO.	PACK OF	CASE OF
NS834308	5µL	42mm	5182-0832	3	----
NS834408	10µL	42mm	5181-3319	3	----

## Precision GC Syringes for Agilent Technologies®



Super-Elastic Plunger

### Fixed Needle Syringes

- 23-26s Tapered needle; super-elastic plunger
- Use with 7673 Series, 7683 Series, 6850 ALS
- Feature cone-shaped 90° blunt tip
- Tapered design combines strength of larger diameter 23s with narrow 26s gauge piercing for minimized evaporation and easy on-column injection

NSC PART NO.	VOLUME	NEEDLE LENGTH	AGILENT NO.	PACK OF	CASE OF
NS164304	5µL	42mm	N/A	1	----
NS164404	10µL	42mm	N/A	1	----



NS1043 Series, NS1044 Series

### Fixed Needle Syringes

- 23s Gauge needle
- Use with 7673 Series, 7683 Series, 6850 ALS
- Feature cone-shaped 90° blunt tip

NSC PART NO.	VOLUME	NEEDLE LENGTH	AGILENT NO.	PACK OF	CASE OF
NS104305	5µL	42mm	9301-0892	1	----
NS104405	10µL	42mm	9301-0713	1	----
NS104315	5µL	42mm	5182-0875	6	----
NS104415	10µL	42mm	9301-0725	6	----



NS6043 Series, NS6044 Series

### Fixed Needle Syringes

- 23s Gauge needle; PTFE-tipped plunger
- Use with 7673 Series, 7683 Series, 6850 ALS
- Feature cone-shaped 90° blunt tip

NSC PART NO.	VOLUME	NEEDLE LENGTH	AGILENT NO.	PACK OF	CASE OF
NS604305	5µL	42mm	N/A	6	----
NS604405	10µL	42mm	5181-8809	1	----
NS604315	5µL	42mm	N/A	6	----
NS604415	10µL	42mm	5181-4730	6	----

### Fixed Needle Syringes

- 26s Gauge needle
- Use with 7673 Series, 7683 Series, 6850 ALS
- Feature cone-shaped 90° blunt tip

NSC PART NO.	VOLUME	NEEDLE LENGTH	AGILENT NO.	PACK OF	CASE OF
NS104303	5µL	42mm	9301-0891	1	----
NS104403	10µL	42mm	9301-0714	1	----
NS104313	5µL	42mm	5183-4728	6	----
NS104413	10µL	42mm	5181-4729	6	----

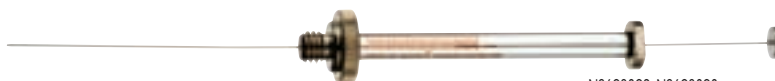
# Gas Tight Syringes

## Precision GC Syringes for Agilent Technologies®

### Fixed Needle Syringes

- 26s Gauge needle; PTFE-tipped plunger
- Use with 7673 Series, 7683 Series, 6850 ALS
- Feature cone-shaped 90° blunt tip

NSC PART NO.	VOLUME	NEEDLE LENGTH	FOR USE WITH	PACK OF	CASE OF
NS604303	5µL	42mm	N/A	1	----
NS604403	10µL	42mm	N/A	1	----
NS604313	5µL	42mm	N/A	6	----
NS604413	10µL	42mm	N/A	1	----



NS608302, NS608303

## Precision GC Syringes for PerkinElmer®

### Fixed Needle Syringes

- 23s and 26s Gauge needle; PTFE-tipped plunger, gastight
- Use with AS100/200, AS3000, Autosystem™
- Feature cone-shaped 90° blunt tip

NSC PART NO.	VOLUME	NEEDLE LENGTH	GAUGE	PE NO.	PACK OF	CASE OF
NS608302	5µL	70mm	26s	N6101390	1	----
NS608303	5µL	70mm	23s	N6101380	1	----
NS108302	5µL	70mm	26s	----	1	----



NS1053 Series, NS1054 Series

## Precision GC Syringes for Shimadzu®

### Fixed Needle Syringes

- 23s and 26s Gauge needle
- Use with AOC-14™, AOC-17™, AOC-20™
- Feature cone-shaped 90° blunt tip

NSC PART NO.	VOLUME	NEEDLE LENGTH	GAUGE	SHIMADZU NO.	PACK OF	CASE OF
NS105303	5µL	42mm	26s	N/A	1	----
NS105304	5µL	42mm	23s	N/A	1	----
NS105403	10µL	42mm	26s	N/A	1	----
NS105404	10µL	42mm	23s	221-34618-00	1	----

## Precision GC Syringes for CTC/Leap Technologies™

### Fixed Needle Syringes

- 26s Gauge needle
- Use with A200s, GC Pal, LC Pal, HTS Combi-Pal™

NSC PART NO.	VOLUME	NEEDLE LENGTH	GAUGE	NEEDLE TYPE	PACK OF	CASE OF
NS100401	10µL	51mm	26s	Bevel	1	----

### Fixed Needle Syringes

- 26s Gauge needle
- PTFE-tipped plunger, gastight
- Use with A200s, GC Pal, LC Pal, HTS Combi-Pal™

NSC PART NO.	VOLUME	NEEDLE LENGTH	GAUGE	NEEDLE TYPE	PACK OF	CASE OF
NS620506	25µL	51mm	26s	Bevel	1	----
NS620706	100µL	51mm	26s	Bevel	1	----
NS620703	100µL	50mm	23s	Cone Shape	1	----
NS620903	500µL	51mm	26s	Bevel	1	----

## Precision GC Syringes for CTC/Leap Technologies™

### Removable Needle Syringes

- 26s Gauge needle
- PTFE-tipped plunger, gastight
- Use with A200s, GC Pal, LC Pal, HTS Combi-Pal™

NSC PART NO.	VOLUME	NEEDLE LENGTH	GAUGE	NEEDLE TYPE	PACK OF	CASE OF
NS606405	10µL	51mm	26s	Bevel	1	----



## Precision Syringes for Manual, On-Column, and Septum Injection

### Target® Series N Fixed Needle Syringes

- 26s and 22s Gauge needle
- Use with JADE™ or Merlin™ septumless injectors, split and splitless mode

NSC PART NO.	VOLUME	NEEDLE LENGTH	GAUGE	NEEDLE TYPE	PACK OF	CASE OF
NS100301	5µL	51mm	26s	Bevel	1	----
NS100401	10µL	51mm	26s	Bevel	1	----
NS100501	25µL	51mm	22s	Bevel	1	----
NS100701	100µL	51mm	22s	Bevel	1	----
NS100311	5µL	51mm	26s	Bevel	6	----
NS100411	10µL	51mm	26s	Bevel	6	----

### Target® Series N Fixed Needle Syringes

- 22s Gauge needle
- Use with JADE™ or Merlin™ septumless injectors, split and splitless mode

NSC PART NO.	VOLUME	NEEDLE LENGTH	GAUGE	NEEDLE TYPE	PACK OF	CASE OF
NS101502	25µL	51mm	22s	90°	1	----
NS101602	50µL	51mm	22s	90°	1	----
NS101702	100µL	51mm	22s	90°	1	----
NS101802	250µL	51mm	22s	90°	1	----



### Target® Series N Removable Needle Syringes

- 26s and 22s Gauge needle
- Use with JADE™ or Merlin™ septumless injectors, split and splitless mode

NSC PART NO.	VOLUME	NEEDLE LENGTH	GAUGE	NEEDLE TYPE	PACK OF	CASE OF
NS100305	5µL	51mm	26s	Bevel	1	----
NS100405	10µL	51mm	26s	Bevel	1	----
NS100505	25µL	51mm	22s	Bevel	1	----
NS100605	50µL	51mm	22s	Bevel	1	----
NS100705	100µL	51mm	22s	Bevel	1	----
NS100805	250µL	51mm	22s	Bevel	1	----
NS100905	500µL	51mm	22s	Bevel	1	----

### Series N Replacement Needles-3/pk.

NSC PART NO.	VOLUME	NEEDLE LENGTH	GAUGE	PACK OF	CASE OF
<b>BEVEL STYLE</b>					
NS832301	5µL	51mm	26s	3	----
NS832401	10µL	51mm	26s	3	----
NS832501	25-100µL	2"/51mm	22s	3	----
NS832601	250-500µL	2"/51mm	22s	3	----
<b>BLUNT STYLE FOR MERLIN™ AND JADE™ SEPTUMLESS INJECTORS</b>					
NS832302	5µL	2"/51mm	26s	3	----
NS832402	10µL	2"/51mm	26s	3	----
NS832502	25-100µL	2"/51mm	22s	3	----
NS832602	250-500µL	51mm	22s	3	----



Target RN Needles



# Gas Tight Syringes



NS600040

## Precision Syringes for Accurate Dosing of Liquids or Gases

### Glass Syringes, Side Hole, Fixed Needle

- 26s and 22s Gauge needles
- Suitable for liquid or gas samples
- PTFE-tipped stainless-steel plunger eliminates frozen plungers

NSC PART NO.	VOLUME	NEEDLE LENGTH	GAUGE	PACK OF	CASE OF
NS600301	5µL	51mm	26s	1	----
NS600302	5µL	51mm	26s	1	----
NS600401	10µL	51mm	26s	1	----
NS600402	10µL	51mm	26s	1	----
NS600501	25µL	51mm	22s	1	----
NS600502	25µL	51mm	22s	1	----
NS600601	50µL	51mm	22s	1	----
NS600602	50µL	51mm	22s	1	----
NS600701	100µL	51mm	22s	1	----
NS600702	100µL	51mm	22s	1	----
<b>NEW</b> NS600801	250µL	51mm	26s	1	----
NS600901	500µL	51mm	22s	1	----
NS600902	500µL	51mm	22s	1	----
NS600904	500µL	51mm	22s	1	----
NS600000	1mL	51mm	22s	1	----
NS600001	1mL	51mm	22s	1	----
NS600002	1mL	51mm	22s	1	----
NS600040	5mL	51mm	22s	1	----
NS600041	5mL	51mm	22s	1	----
NS600042	5mL	51mm	22s	1	----
NS600060	10mL	51mm	22s	1	----
NS600061	10mL	51mm	22s	1	----
NS600062	10mL	51mm	22s	1	----

## **NEW**

## Precision Syringes for Accurate Dosing of Liquids or Gases

### Glass Syringes, Liquid Dosing, Fixed Needle

NSC PART NO.	VOLUME	NEEDLE LENGTH	GAUGE	NEEDLE TYPE	PACK OF	CASE OF
NS100801	250µL	51mm	22s	Bevel	1	----
NS100901	500µL	51mm	22s	Bevel	1	----
NS100601	50µL	51mm	22s	Bevel	1	----



Target Removable Needle Syringes With Gas-tight Plungers



## Precision Syringes for Accurate Dosing of Liquids or Gases

### Removable Needle Syringes

- 26s and 22s Gauge needles
- Suitable for liquid or gas samples
- PTFE-tipped stainless-steel plunger eliminates frozen plungers

NSC PART NO.	VOLUME	NEEDLE LENGTH	GAUGE	NEEDLE TYPE	PACK OF	CASE OF
NS600305	5µL	51mm	26s	Bevel	1	----
NS600306	5µL	51mm	26s	90° Blunt End	1	----
NS600405	10µL	51mm	26s	Bevel	1	----
NS600406	10µL	51mm	26s	90° Blunt End	1	----
NS600505	25µL	51mm	22s	Bevel	1	----
NS600506	25µL	51mm	22s	90° Blunt End	1	----
NS600605	50µL	51mm	22s	Bevel	1	----
NS600606	50µL	51mm	22s	90° Blunt End	1	----
NS600705	100µL	51mm	22s	Bevel	1	----
NS600706	100µL	51mm	22s	90° Blunt End	1	----
<b>NEW</b> NS600805	250µL	51mm	26s	Bevel	1	----
NS600905	500µL	51mm	22s	Bevel	1	----
NS600906	500µL	51mm	22s	90° Blunt End	1	----
NS600908	500µL	51mm	22s	Side Hole	1	----
NS600005	1mL	51mm	22s	Bevel	1	----
NS600006	1mL	51mm	22s	90° Blunt End	1	----
NS600007	1mL	51mm	22s	Side Hole	1	----
NS600045	5mL	51mm	22s	Bevel	1	----
NS600046	5mL	51mm	22s	90° Blunt End	1	----
NS600047	5mL	51mm	22s	Side Hole	1	----
NS600065	10mL	51mm	22s	Bevel	1	----
NS600066	10mL	51mm	22s	90° Blunt End	1	----

## Precision Syringes for Accurate Dosing of Liquids or Gases

### Replacement Needles

- 26s and 22s Needle
- Suitable for liquid or gas samples



Target RN Needles

NSC PART NO.	VOLUME	NEEDLE LENGTH	GAUGE	NEEDLE TYPE	PACK OF	CASE OF
NS834307	5mL	42mm	26s	90° Blunt End	3	----
NS834407	10mL	42mm	26s	90° Blunt End	3	----
NS832301	5µL	51mm	26s	Bevel	3	----
<b>NEW</b> NS832304	5µL	51mm	26s	Side Hole	2	----
NS832401	10µL	51mm	26s	Bevel	3	----
<b>NEW</b> NS832404	10µL	51mm	26s	Side Hole	2	----
NS831014	25 to 100µL	51mm	22s	90° Blunt End	3	----
NS831015	25 to 100µL	51mm	22s	Side Hole	2	----
<b>NEW</b> NS832504	25 to 100µL	51mm	22s	Side Hole	2	----
NS831013	25 to 100µL	51mm	22s	Bevel	3	----
NS841014	250µL to 10mL	51mm	22s	90° Blunt End	3	----
NS841015	250µL to 10mL	51mm	22s	Side Hole	3	----
<b>NEW</b> NS832604	250µL to 10mL	51mm	22s	Side hole	2	----
NS841013	250µL to 10mL	51mm	22s	Bevel	3	----

# Gas Tight Syringes



NS600309



NS600809



NS600709



NS607051

## Precision Syringes for Accurate Dosing of Liquids or Gases

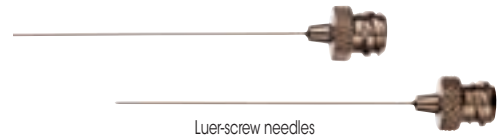
### PTFE Luer-Lok® Syringes

- Suitable for liquid or gas samples
- PTFE-tipped plunger eliminates frozen plungers

NSC PART NO.	VOLUME	PACK OF	CASE OF
NS600309	5µL	1	----
NS600409	10µL	1	----
NS600509	25µL	1	----
NS600609	50µL	1	----
NS600709	100µL	1	----
NS600809	250µL	1	----
NS600909	500µL	1	----
NS607011	1mL	1	----
NS607031	2.5mL	1	----
NS607051	5mL	1	----
NS607071	10mL	1	----
NS607091	25mL	1	----

### Replacement Needles

- Metal Luer-screw



Luer-screw needles

NSC PART NO.	NEEDLE LENGTH	GAUGE	NEEDLE TYPE	PACK OF	CASE OF
NS842047	51mm	26s	90° Blunt End	3	----
NS840047	51mm	26s	Bevel	3	----
NS842070	51mm	22s	90° Blunt End	3	----
NS840070	51mm	22s	Bevel	3	----



Luer-slip syringes



### Glass Syringes, Gastight, Luer Tip

- Glass Luer-slip tip is compatible with standard Luer profile needles and fittings
- Sold without needle

NSC PART NO.	VOLUME	DESCRIPTION	PACK OF	CASE OF
NS600511	25µL	Glass Luer Slip	1	----
NS600611	50µL	Glass Luer Slip	1	----
NS600711	100µL	Glass Luer Slip	1	----
NS600811	250µL	Glass Luer Slip	1	----
NS600911	500µL	Glass Luer Slip	1	----
NS600013	1.0mL	Glass Luer Slip	1	----
NS600033	2.5mL	Glass Luer Slip	1	----
NS600053	5.0mL	Glass Luer Slip	1	----
NS600073	10.0mL	Glass Luer Slip	1	----

# Headspace Analysis, Fused Silica Needle Syringes

## Precision Syringes for Headspace/Soil Gas Sampling

### Fixed Needle Syringes

- 22s Gauge needles
- PTFE-tipped stainless-steel plunger

	NSC PART NO.	VOLUME	NEEDLE LENGTH	GAUGE	NEEDLE TYPE	PACK OF	CASE OF
>>NEW	NS600304	5µL	51mm	26s	Side Hole	1	----
>>NEW	NS600404	10µL	51mm	26s	Side Hole	1	----
>>NEW	NS600804	250µL	51mm	22s	Side Hole	1	----
	NS600002	1mL	51mm	22s	Side Hole	1	----
	NS600022	2.5mL	51mm	22s	Side Hole	1	----
	NS600042	5mL	51mm	22s	Side Hole	1	----

## Precision Syringes for CTC/Leap™

### Fixed Needle Syringes

- For Combi-Pal™ Headspace Autosampler
- PTFE-tipped stainless-steel plunger



NS620023

	NSC PART NO.	VOLUME	NEEDLE LENGTH	GAUGE	NEEDLE TYPE	PACK OF	CASE OF
>>NEW	NS606401	10µL	51mm	26s	Bevel	1	----
	NS620013	1mL	56mm	22s	Side hole	1	----
	NS620023	2.5mL	56mm	22s	Side hole	1	----
	NS620049	5mL	56mm	22s	Side hole	1	----

## On-Column Syringes

### Removable Needle Syringes

- Fused silica needles
- Stainless-steel plunger

	NSC PART NO.	VOLUME	NEEDLE LENGTH	O.D.	PACK OF	CASE OF
	NS142304	5µL	100mm	0.23mm	1	----
	NS142404	10µL	100mm	0.23mm	1	----

## On-Column Syringes

### Replacement Needles

- Fused silica

	NSC PART NO.	VOLUME	NEEDLE LENGTH	O.D.	PACK OF	CASE OF
	NS822031	5µL	100mm	0.23mm	3	----
	NS822042	10µL	100mm	0.23mm	3	----



# Syringes for Manual Injection



## Precision Syringes Featuring Plunger Within Needle Design

### Microvolume Syringes

- 26s, 25s, and 22s Gauge needles
- Plunger-in-needle design
- Replaceable needle with calibrated plunger
- Use for small dosage sample introduction in gas chromatography
- Delivery of small amounts of liquids
- Sample application in Thin Layer Chromatography (TLC)
- No sample carryover

NSC PART NO.	VOLUME	NEEDLE LENGTH	GAUGE	NEEDLE TYPE	PACK OF	CASE OF
NS200101	1µL	70mm	26s	Bevel	1	----
NS200102	1µL	70mm	26s	90°	1	----
NS200201	2µL	80mm	22s	Bevel	1	----
NS200202	2µL	80mm	22s	90°	1	----
NS200301	5µL	70mm	25s	Bevel	1	----
NS200302	5µL	70mm	25s	90°	1	----



## Extended Handle Syringes for Waters® Manual Injection Valves

### Precision Glass Syringes, Waters® Valves, Extended Handle

- Extended handle prevents heat transfer from hands to syringe barrel
- 50mm needle length provides accurate injections without damage to valve rotor

NSC PART NO.	VOLUME	NEEDLE LENGTH	GAUGE	NEEDLE TYPE	PACK OF	CASE OF
NS502304	5µL	50mm	25	90° blunt end	1	----
NS502404	10µL	50mm	25	90° blunt end	1	----
NS502504	25µL	50mm	25	90° blunt end	1	----
NS502604	50µL	50mm	25	90° blunt end	1	----
NS502704	100µL	50mm	25	90° blunt end	1	----
NS502804	250µL	50mm	25	90° blunt end	1	----



### Replacement Needles for Waters® Style Syringes

- 50mm blunt tip needles are compatible with manual injection valves

NSC PART NO.	VOLUME	NEEDLE LENGTH	GAUGE	NEEDLE TYPE	PACK OF	CASE OF
NS832306	5µL	50mm	25	90° blunt end	3	----
NS832406	10µL	50mm	25	90° blunt end	3	----
NS832506	25 to 100µL	50mm	25	90° blunt end	3	----



NS506505

## Precision Gastight and Liquid-Tight Syringes for Micro Volume Sampling

### Extended Handle Syringes

- Removable needle
- Precision-machined PTFE-tipped plunger
- Handle prevents plunger from bending
- Protect heat-sensitive samples from thermal transfer from operator's hand

NSC PART NO.	VOLUME	NEEDLE LENGTH	GAUGE	NEEDLE TYPE	PACK OF	CASE OF
NS506305	5µL	51mm	26s	Bevel	1	----
NS506306	5µL	51mm	26s	90° blunt end	1	----
NS506405	10µL	51mm	26s	Bevel	1	----
NS506406	10µL	51mm	26s	90° blunt end	1	----
NS506505	25µL	51mm	22s	Bevel	1	----
NS506506	25µL	51mm	22s	90° blunt end	1	----
NS506605	50µL	51mm	22s	Bevel	1	----
NS506606	50µL	51mm	22s	90° blunt end	1	----

### Replacement Needles

NSC PART NO.	VOLUME	NEEDLE LENGTH	GAUGE	NEEDLE TYPE	PACK OF	CASE OF
NS832301	5µL	51mm	26s	Bevel	3	----
NS832302	5µL	2"/51mm	26s	90° blunt end	3	----
NS832401	10µL	51mm	26s	Bevel	3	----
NS832402	10µL	2"/51mm	26s	90° blunt end	3	----
NS832501	25-100µL	2"/51mm	22s	Bevel	3	----
NS832502	25-100µL	2"/51mm	22s	90° blunt end	3	----

# LC Autosampler Syringes



NS606814

## Precision LC Syringes for Agilent Technologies®

### 1/4-28UNF Front-Fitting Syringe

- Use with 1090A or 1100 needle assembly

NSC PART NO.	VOLUME	AGILENT NO.	PACK OF	CASE OF
NS606500	25µL	9301-0633	1	----
NS606800	250µL	9301-0678	1	----

## Precision LC Syringes for Perkin-Elmer®

### 1/4-28UNF Front-Fitting Syringe

- Use with PE Series 200 needle assembly

NSC PART NO.	VOLUME	PERKIN-ELMER NO.	PACK OF	CASE OF
NS606615	25µL	09923304	1	----
NS606815	250µL	09923270	1	----
NS606915	500µL	09923306	1	----
NS606015	1mL	09923307	1	----
NS606035	2.5mL	09923219	1	----

## Precision LC Syringes for Thermo Finnigan®

### 1/4-28UNF Front-Fitting Syringe

- Use with SpectraSYSTEM™ AS-100/300/1000/3000/3500

NSC PART NO.	VOLUME	THERMO-FINN NO.	PACK OF	CASE OF
NS606814	250µL	A3587-020	1	----
NS606914	500µL	A3588-010	1	----
NS606015	1mL	A3587-030	1	----
NS606035	2.5mL	A3588-020	1	----

## Precision LC Syringes for CTC/Leap®

### Fixed Needle Syringe

- Use with CTC/Leap Needle Assembly
- PTFE-tipped stainless-steel plunger
- Use with A200LC, HTS, HTC PAL

NSC PART NO.	VOLUME	NEEDLE LENGTH	GAUGE	NEEDLE TYPE	PACK OF	CASE OF
NS620502	25µL	51mm	22s	90° blunt end	1	----
NS620605	50µL	51mm	22s	90° blunt end	1	----
NS620702	100µL	51mm	22s	90° blunt end	1	----
NS620805	250µL	51mm	22s	90° blunt end	1	----

## Precision LC Syringes for Waters® WISP™

### 1/4-28UNF Front-Fitting Syringe

- Use with Waters 710, 712 and 715

NSC PART NO.	VOLUME	WATERS NO.	PACK OF	CASE OF
NS663514	25µL	9301-0633	1	----
NS663814	250µL	9301-0678	1	----

# LC Manual Injection Valve Syringes



NS602606

## Precision LC Syringes for Waters® Injection Valve

### Manual Injector Syringe—Removable Needle

- 25s Gauge needles
- PTFE-tipped stainless-steel plungers
- Use with U6K manual injector

NSC PART NO.	VOLUME	NEEDLE LENGTH	GAUGE	NEEDLE TYPE	PACK OF	CASE OF
NS602406	10µL	51mm	25s	90° blunt end	1	----
NS602506	25µL	51mm	25s	90° blunt end	1	----
NS602606	50µL	51mm	25s	90° blunt end	1	----
NS602706	100µL	51mm	25s	90° blunt end	1	----
NS602806	250µL	51mm	25s	90° blunt end	1	----



NS101702

## Precision LC Syringes for Manual Injection Valves

### Manual Injector Syringe - Fixed Needle

- 22s Gauge needles
- Stainless-steel plungers
- Use with Rheodyne®, Altex®, Valco®, SSI®, Knauer®

NSC PART NO.	VOLUME	NEEDLE LENGTH	GAUGE	NEEDLE TYPE	PACK OF	CASE OF
NS101302	5µL	51mm	22s	90°	1	----
NS101402	10µL	51mm	22s	90°	1	----
NS101502	25µL	51mm	22s	90°	1	----
NS101602	50µL	51mm	22s	90°	1	----
NS101702	100µL	51mm	22s	90°	1	----
NS101802	250µL	51mm	22s	90°	1	----
NS101902	500µL	51mm	22s	90°	1	----

**NEW**

## Precision LC Syringes for Manual Injection Valves

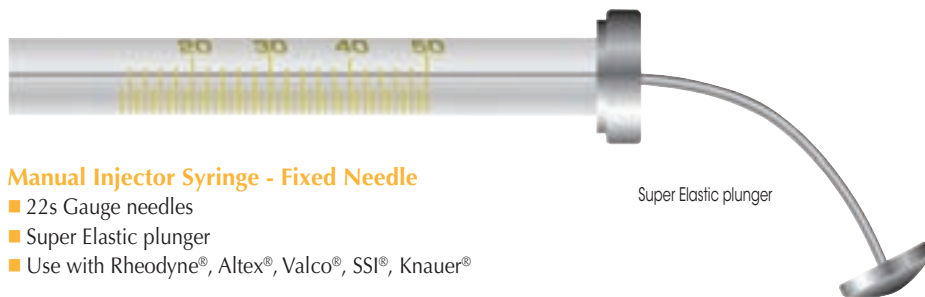
### Glass Syringes, Rheodyne® Style Valves

NSC PART NO.	VOLUME	NEEDLE LENGTH	NEEDLE TYPE	PACK OF	CASE OF
NS601302	5µL	51mm	90° Blunt End	1	----
NS601402	10µL	51mm	90° Blunt End	1	----
NS601502	25µL	51mm	90° Blunt End	1	----
NS601602	50µL	51mm	90° Blunt End	1	----
NS601702	100µL	51mm	90° Blunt End	1	----
NS601802	250µL	51mm	90° Blunt End	1	----
NS601902	500µL	51mm	90° Blunt End	1	----



# LC Manual Injection Valve Syringes

## Precision LC Syringes for Manual Injection Valves



### Manual Injector Syringe - Fixed Needle

- 22s Gauge needles
- Super Elastic plunger
- Use with Rheodyne®, Altex®, Valco®, SSI®, Knauer®

NSC PART NO.	VOLUME	NEEDLE LENGTH	NEEDLE TYPE	PACK OF	CASE OF
NS161302	5µL	51mm	90°	1	----
NS161402	10µL	51mm	90°	1	----



NS601606

### Manual Injector Syringe - Removable Needle

- 22s Gauge needles
- PTFE-tipped stainless-steel plungers
- Use with Rheodyne®, Altex®, Valco®, SSI®, Knauer®

NSC PART NO.	VOLUME	NEEDLE LENGTH	GAUGE	NEEDLE TYPE	PACK OF	CASE OF
NS601306	5µL	51mm	22s	90°	1	----
NS601406	10µL	51mm	22s	90°	1	----
NS601506	25µL	51mm	22s	90°	1	----
NS601606	50µL	51mm	22s	90°	1	----
NS601706	100µL	51mm	22s	90°	1	----
NS601806	250µL	51mm	22s	90°	1	----
NS601906	500µL	51mm	22s	90°	1	----

### Replacement Needles

NSC PART NO.	VOLUME	NEEDLE LENGTH	GAUGE	NEEDLE TYPE	PACK OF	CASE OF
NS831305	5µL	51mm	22s	90°	3	----
NS831405	10µL	51mm	22s	90°	3	----
NS831505	25-100µL	51mm	22s	90°	3	----
NS832602	250-500µL	51mm	22s	90°	3	----

## Precision Gastight and Liquid Tight Syringes for Macro Volume Sampling



NS600040

### Large Volume Syringe—Fixed Needle

- 22s Gauge needle
- PTFE-tipped stainless-steel plunger

NSC PART NO.	VOLUME	NEEDLE LENGTH	GAUGE	NEEDLE TYPE	PACK OF	CASE OF
NS600000	1mL	51mm	22s	Bevel	1	----
NS600020	2.5mL	51mm	22s	Bevel	1	----
NS600040	5mL	51mm	22s	Bevel	1	----
NS600060	10mL	51mm	22s	Bevel	1	----



Large Volume, Removable Needle, Gastight

### Large Volume Syringe—Removable Needle

- 22s Gauge needle
- PTFE-tipped stainless-steel plunger

NSC PART NO.	VOLUME	NEEDLE LENGTH	GAUGE	NEEDLE TYPE	PACK OF	CASE OF
NS600005	1mL	51mm	22s	Bevel	1	----
NS600025	2.5mL	51mm	22s	Bevel	1	----
NS600045	5mL	51mm	22s	Bevel	1	----
NS600065	10mL	51mm	22s	Bevel	1	----

### Replacement Needles

NSC PART NO.	VOLUME	LENGTH	GAUGE	NEEDLE TYPE	PACK OF	CASE OF
NS841014	250µL to 10mL	51mm	22s	90° Blunt End	3	----
NS841015	250µL to 10mL	51mm	22s	Side Hole	3	----
NS841013	250µL to 10mL	51mm	22s	Bevel	3	----

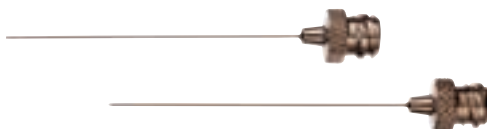


NS607051

### Large-Volume Syringe—PTFE Luer-Lok™

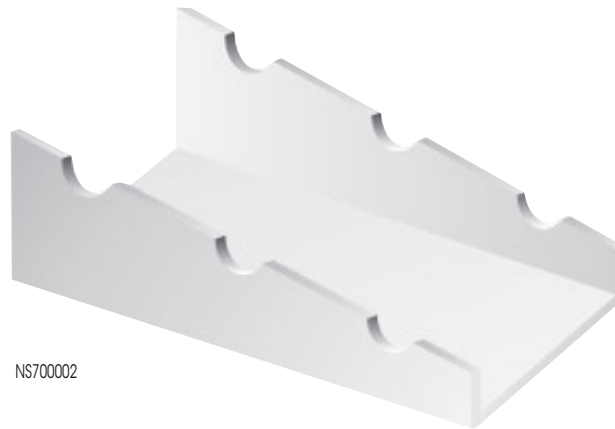
- Precision-machined PTFE-tipped plunger

NSC PART NO.	VOLUME	NEEDLE LENGTH	GAUGE	NEEDLE TYPE	PACK OF	CASE OF
NS607011	1mL	----	----	----	1	----
NS607031	2.5mL	----	----	----	1	----
NS607051	5mL	----	----	----	1	----
NS607071	10mL	----	----	----	1	----
NS607091	25mL	----	----	----	1	----



### Replacement Needles—Metal Luer-Screw

NSC PART NO.	NEEDLE LENGTH	GAUGE	NEEDLE TYPE	PACK OF	CASE OF
NS842047	51mm	26s	90° Blunt End	3	----
NS840047	51mm	26s	Bevel	3	----
NS842070	51mm	22s	90° Blunt End	3	----
NS840070	51mm	22s	Bevel	3	----



NS700002

## Storage, Cleaning and Dispensing Aids

### Syringe Rack

- Anodized aluminum rack securely holds up to 3 glass syringes
- Holds syringes up to 500 $\mu$ L size
- Holds syringes securely to prevent breakage

NSC PART NO.	DESCRIPTION	PACK OF	CASE OF
NS700002	Syringe Rack, 3 position	1	----

### Needle Cleaning Wires

- Designed to remove blockages from syringe needle
- Help promote longer syringe life and prevent contamination in subsequent uses of the syringe

NSC PART NO.	DESCRIPTION	PACK OF	CASE OF
NS1018300	For 26s Needles	12	----
NS1018301	For 22s and 25s Needles	12	----



NS700001

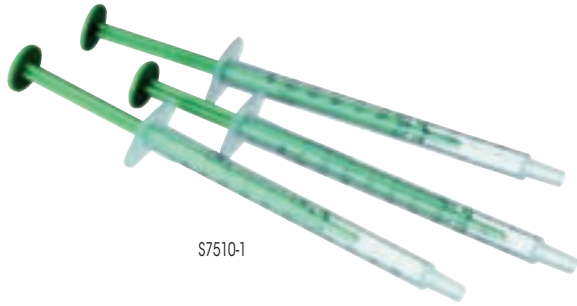
### Syringe Guide Chaney Adapter

- Use for syringes up to 100 $\mu$ L
- Constructed of stainless steel and anodized aluminum
- Can be fitted to a manually operated syringe to increase precision and reproducibility
- Simply set the lock nuts to control distance travel of the plunger to a preset level
- Prevents plunger blow-out due to high back pressures or syringe use in elevated pressure environments

NSC PART NO.	DESCRIPTION	PACK OF	CASE OF
NS700001	Syringe Guide	1	----

## Disposable Syringes All-Plastic Disposable Syringes

- Choose from Luer-Slip or Luer-Lok™
- Two-part, all-plastic construction
- No rubber or synthetic plunger gaskets, eliminating contamination
- No rubber or silicone oil lubricant in the barrel
- Use for all syringe filter applications



S7510-1



S7510-10 top, S7510-5 middle, S7510-3 bottom

## Luer-Slip Syringes

- All-plastic syringes with polypropylene barrels and polyethylene plungers
- Nonsterile and packed in bulk

NSC PART NO.	CAPACITY	PACK OF	CASE OF
S7510-1	1mL	100	1000
S7510-3	3mL	100	1000
S7510-5	5mL	100	1000
S7510-10	10mL	100	1000
S7510-20	20mL	100	1000
S7510-30	30mL	50	500
S7510-50	50mL	30	300



S7515-3

## Disposable Syringes Luer-Lok™ Syringes

- All-plastic syringes with polypropylene barrels and polyethylene plungers
- Nonsterile and packed in bulk

NSC PART NO.	CAPACITY	PACK OF	CASE OF
S7515-3	3mL	100	1000
S7515-5	5mL	100	1000
S7515-10	10mL	100	1000
S7515-20	20mL	100	500

# Syringe Cleaning, Maintenance, Care and Use

Target® Syringes are precision devices to meet your most stringent analytical needs for fluid measurement. Like any precise, analytical instrument, its effectiveness and continued reproducibility are dependent on correct care, storage and regular cleaning to ensure long life and unequaled performance.

In order for you to maintain this precision instrument and to realize the maximum benefit in performance, we offer a few essential guidelines.

## Syringe Cleaning and Maintenance

Abrasion due to crystallization inside of the barrel is the main reason for a shortened lifetime of your syringe. Proper cleaning and daily maintenance will maximize the usable lifetime of your syringe. We offer two cleaning methods. One is useful for daily maintenance, the other should be performed at least once a week, after concentrated periods of use or following uptake of samples that tend to leave behind residues.

**DAILY** Use a high purity solvent that is consistent with solvating your sample to rinse the syringe. We recommend at least 5 full syringe volumes to be aspirated through the syringe. Methanol, acetone and acetonitrile are common solvents that can be used for this purpose. Avoid use of alkaline solutions, phosphate-based detergents or buffers. If plunger resistance is excessive, discontinue the daily cleaning procedure until you clear the needle according to the instructions given below.

## WEEKLY OR CONCENTRATED INTERVALS OF USE

1. Pull the plunger from the syringe barrel
2. Clean the glass body and the plunger of the syringe in an ultrasonic bath containing clean water. Immersion time should be no longer than a few minutes
3. Rinse the glass syringe body with a non-phosphate, non-alkaline detergent
4. Rinse with deionized water, followed by pure acetone or compatible low boiling point solvent
5. Dry the glass body by high purity airflow under low pressure or permit to air dry if no suitable air source is available
6. Wipe the plunger with a lint-free cloth
7. Re-assemble the syringe. Make sure to wet the plunger first with deionized water before inserting. Never insert a dry plunger into the glass syringe body

## UNBLOCKING A SYRINGE NEEDLE

Excessive force should never be required to move the plunger and dispense or aspirate your sample in a properly maintained syringe. If this occurs, the needle of the syringe may be clogged or obstructed or the barrel may be dirty. If this occurs, remove the plunger and reinsert. Gently push on the plunger until liquid is observed at the outlet end of the needle. If the blockage is not cleared with gentle pushing, stop the process and utilize a cleaning wire to remove the needle obstruction, followed by a daily cleaning procedure.

## Syringe Use

In using your Target Syringe, make sure that you grasp only the plunger button and the syringe flange at the top of the syringe. This procedure insulates the sample from body heat effects that can be transferred from the user's hand in contact with the glass barrel. Body heat may cause sample expansion that could affect your target delivery accuracy.

Pump the plunger with the syringe needle immersed in the fluid to be transferred. This will help in expelling any trapped air in the syringe or needle. Never pump or use a dry syringe.





# Target Syringe Filters

Snap-It

Bonded Caps

Target DP

Color Band

## Target Syringe Filters

National Scientific Target Syringe Filters assure product performance and reproducibility through a vigorous quality testing program that challenges each type of filter to provide interference-free results. New sample distribution rings promote uniform application of the sample across the membrane area. This feature maximizes the available filtration area, and reduces back pressure when filtering samples high in particulates.

NS Certified

Target Syringes

Crimp Seals



Target DP

LoVial

SepCap

- New 30mm and 17mm filter format allows up to 50% more sample throughput compared to competitive products
- Even sample distribution by the newly designed sample distribution rings
- Enhanced female Luer-Lok® assures safe and secure connections
- Lot tested for bubble point, burst pressure, membrane retention and flowrate
- Membranes available include Nylon, PTFE, PVDF, Regenerated Cellulose, PES, Glass MicroFiber, Cellulose Acetate and Polypropylene

Polyspring Inserts

NS Certified

Microsert

Robo Vial

Micro-V



NS Certified

Target DP

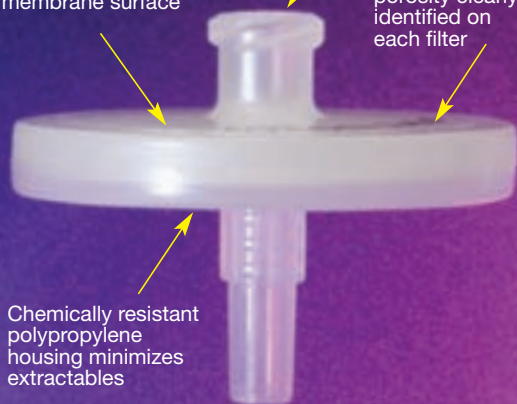
**Comprehensive quality systems ensure interference-free results**

Enhanced female Luer-Lok® design assures safe and secure connections

Sample Distribution rings distribute sample for maximum speed and uniform filtration across membrane surface

Membrane type and porosity clearly identified on each filter

Chemically resistant polypropylene housing minimizes extractables



# Target

## HPLC Syringe Filters

*Target Syringe Filters* have been improved for even greater performance and sample throughput. National Scientific's Continuous Improvement Program has resulted in our new re-designed Target Filters that now provide industry-leading levels in sample loading and filter efficiency.

Target's new 30mm and 17mm filter formats provide superior throughput and sample loading over standard, competitive 25mm and 13mm filters. Now you can process up to 50% more sample before reaching maximum sample loading for our new 30mm filters.

The new sample distribution rings promote uniform application of the sample across the membrane area. This feature maximizes the available filtration area, speed and reduces backpressure when filtering highly particulate samples. Our new, automated manufacturing process ensures uniformity and reliability more than ever before. Our new methods eliminate variable results through controlled manufacturing consistency from batch to batch, filter to filter.

### Performance Filtration Assurance

Improved Target Filters assure product performance and reproducibility through a vigorous quality testing program that challenges each type of filter to provide interference-free results. Every production lot is quality monitored:

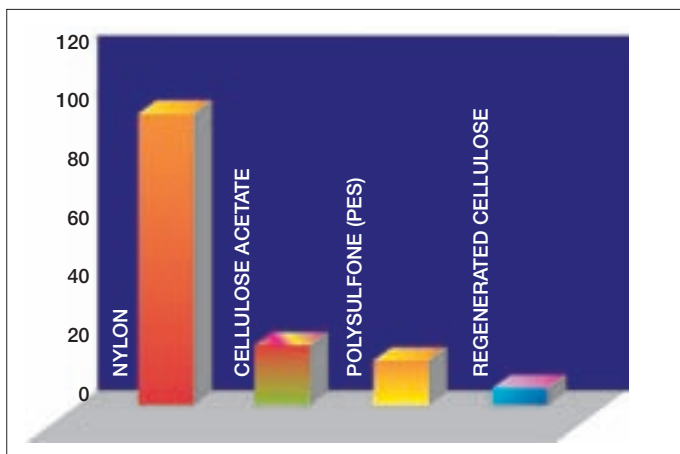
- **All critical filter performance specifications confirmed;** bubble point, burst pressure, membrane retention, flowrate.
- **HPLC performance and reproducibility;** actual NIST-traceable standard run confirmed for baseline, peak area/shape, retention time.
- **Actual filter efficiencies for sample;** standard sample spectrophotometrically tested for efficiency and performance.
- **Retention samples maintained for six months;** your actual filter lot used to answer application or performance inquiries.



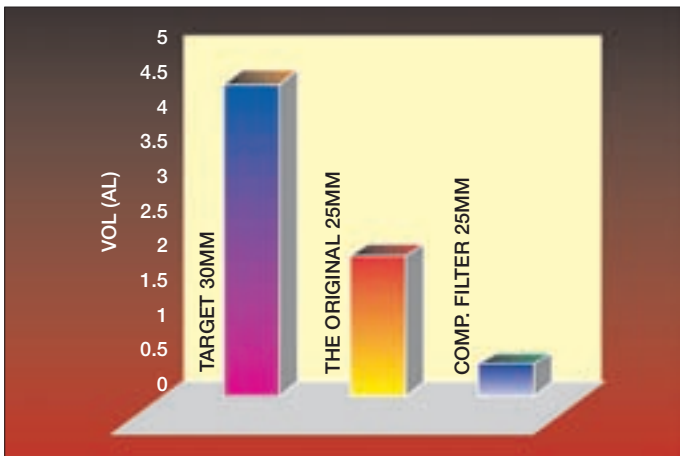
### Protein Binding of Biological Samples

Target's Regenerated Cellulose syringe filters possess superior characteristics for the filtration of biological samples or high binding analytes. Our Regenerated Cellulose filters have low membrane zeta potentials to provide ultra-low biological based binding coefficients, to maximize sample yield after filtration. No binders, surfactants or wetting agents are used, eliminating a source of contamination. Hydrophilic Regenerated Cellulose also exhibits excellent chemical resistance and high flowrates when compared to Polysulfone and Cellulose Acetate filters normally used in biological assay filtration.

**BINDING CHARACTERISTICS of VARIOUS MEMBRANES**  
(Binding in  $\mu\text{g}/\text{cm}^2$  of G-Globulin)



## Throughput Volume Comparison 30mm Target Syringe Filters

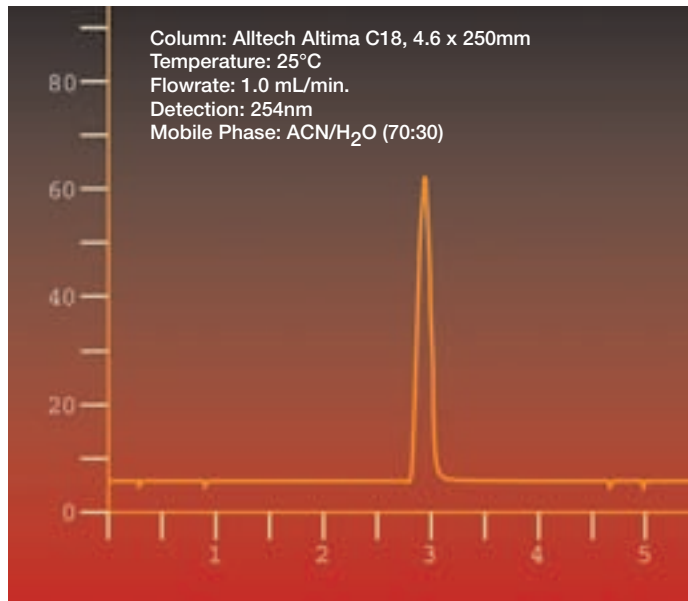


Our new filter permits more sample to be processed before filter overload. This is a considerable improvement in throughput volume compared to our first generation Target filters or competitive products.

### Filter Type Volume

Improved Target Nylon, 0.45µm, 30mm, with prefilter	4.71 ± 0.9mL
Older version Target Nylon, 0.45µm, 25mm, prefilter	2.50 ± 0.2mL
Competitive 25mm Nylon, 0.45µm filter	0.49 ± 0.1mL

## Validated HPLC Performance-Caffeine (4µg/mL)



Target's quality assurance program utilizes a NIST traceable standard to ensure chromatographic performance. Our enhanced testing goes far beyond industry testing for quiet baselines. Each lot of Target filters is tested for peak area, retention time, and peak shape of our traceable standard. Now you can be assured of industry-leading and confirmed chromatographic performance and reproducibility lot to lot and filter to filter.



# Target® HPLC Syringe Filters

## Target® HPLC Syringe Filters

- Assured quality—each lot independently tested for physical properties and UV detectable extractables
- Secure, enhanced female Luer-Lok™ inlet; male Luer slip outlet
- Solvent resistant, low extractable polypropylene housing
- Select membranes available with 1.0µm glass prefilter for high solids samples



## Nylon Syringe Filters



F2500-1

## Target® Nylon Syringe Filters

- Membrane: HPLC Certified Nylon
- Prefilter: binder-free glass microfiber
- Connections: enhanced female Luer-Lok™ inlet, male slip outlet
- Max. operating temperature: 100°C
- Max. operating pressure: 4mm - 75psi, 17mm - 115psi, 30mm - 90psi
- Retention volumes: 4mm - <15µL, 17mm - <29µL, 30mm - <137µL

NSC PART NO.	DIAMETER	PORE SIZE	PREFILTER INCLUDED	PACK OF	CASE OF
F2504-1	4mm	0.45µm	No	100	500
F2504-2	4mm	0.2µm	No	100	----
F2513-1	17mm	0.45µm	No	100	500
F2513-2	17mm	0.2µm	No	100	----
F2500-1	30mm	0.45µm	No	100	500
F2500-2	30mm	0.2µm	No	100	500
F2500-12	30mm	1.5µm	No	100	500
F2500-50	30mm	5.0µm	No	100	500
F2502-1	30mm	0.45µm	Yes	100	----
F2502-2	30mm	0.2µm	Yes	100	----

## PTFE Syringe Filters

## Target® PTFE Syringe Filters

- Membrane: HPLC certified PTFE, w/polypropylene support
- Housing: medical grade, solvent-resistant, virgin polypropylene
- Prefilter: binder-free glass microfiber
- Connections: enhanced female Luer-Lok™ inlet, male Luer slip outlet
- Max. operating temperature: 100°C
- Max. operating pressure: 4mm - 75psi, 17mm - 115psi, 30mm - 90psi
- Retention volumes: 4mm - <15µL, 17mm - <29µL, 30mm - <137µL

NSC PART NO.	DIAMETER	PORE SIZE	PREFILTER INCLUDED	PACK OF	CASE OF
F2504-3	4mm	0.45µm	No	100	----
F2504-4	4mm	0.2µm	No	100	----
F2513-3	17mm	0.45µm	No	100	500
F2513-4	17mm	0.2µm	No	100	500
F2500-3	30mm	0.45µm	No	100	500
F2500-4	30mm	0.2µm	No	100	500
F2500-13	30mm	1.0µm	No	100	----
F2502-3	30mm	0.45µm	Yes	100	----

## PVDF Syringe Filters

### Target® PVDF Syringe Filters

- Membrane: HPLC Certified PVDF
- Housing: medical grade, virgin polypropylene
- Prefilter: binder-free glass microfiber prefilter
- Connections: enhanced female Luer-Lok™ inlet, male Luer slip outlet
- Max. operating temperature: 110°C
- Max. operating pressure: 4mm - 75psi, 17mm - 115psi, 30mm - 9psi
- Retention volumes: 4mm - <15µL, 17mm - <29µL, 30mm - <137µL

NSC PART NO.	DIAMETER	PORE SIZE	PREFILTER INCLUDED	PACK OF	CASE OF
F2504-5	4mm	0.45µm	No	100	500
F2504-6	4mm	0.2µm	No	100	500
F2513-5	17mm	0.45µm	No	100	500
F2513-6	17mm	0.2µm	No	100	500
F2500-5	30mm	0.45µm	No	100	500
F2500-6	30mm	0.2µm	No	100	500

## Regenerated Cellulose Syringe Filters

### Target® Regenerated Cellulose Syringe Filters

- Membrane: HPLC Certified Regenerated Cellulose
- Housing: medical grade, virgin polypropylene
- Protein binding: <5µg/cm²
- Connections: enhanced female Luer-Lok™ inlet, male slip outlet
- Max. operating temperature: 110°C
- Max. operating pressure: 4mm - 75psi, 17mm - 115psi, 30mm - 90psi
- Retention volumes: 4mm - <15µL, 17mm - <29µL, 30mm - <137µL

NSC PART NO.	DIAMETER	PORE SIZE	PREFILTER INCLUDED	PACK OF	CASE OF
F2504-7	4mm	0.45µm	No	100	500
F2504-8	4mm	0.2µm	No	100	500
F2513-7	17mm	0.45µm	No	100	500
F2513-8	17mm	0.2µm	No	100	500
F2500-7	30mm	0.45µm	No	100	500
F2500-8	30mm	0.2µm	Yes	100	500

## PES (Polyethersulfone) Syringe Filters

### Target® PES (Polyethersulfone) Syringe Filters

- Membrane: ICP Certified PES (Polyethersulfone)
- Housing: medical grade, virgin polypropylene
- Connections: enhanced female Luer-Lok™ inlet, male Luer slip outlet
- Max. operating temperature: 100°C
- Max. operating pressure: 4mm - 75psi, 17mm - 115psi, 30mm - 90psi
- Retention volumes: 4mm - <15µL, 17mm - <29µL, 30mm - <137µL

NSC PART NO.	DIAMETER	PORE SIZE	PREFILTER INCLUDED	PACK OF	CASE OF
F2513-14	17mm	0.45µm	No	100	500
F2513-17	17mm	0.2µm	No	100	500
F2500-14	30mm	0.45µm	No	100	500
F2500-17	30mm	0.2µm	No	100	500



# Target® HPLC Syringe Filters

## GMF (Glass MicroFiber) Syringe Filters

### Target® GMF (Glass MicroFiber) Syringe Filters

- Membrane: Binder-free Glass Microfiber
- Housing: medical grade, virgin polypropylene
- Connections: enhanced female Luer-Lok™ inlet, male Luer slip outlet
- Max. operating temperature: 110°C
- Max. operating pressure: 30mm - 90psi
- Retention volumes: 30mm - <137µL

NSC PART NO.	DIAMETER	PORE SIZE	PREFILTER INCLUDED	PACK OF	CASE OF
F2500-18	30mm	0.7µm	No	100	500
F2500-19	30mm	1.2µm	No	100	500
F2500-20	30mm	3.1µm	No	100	500



## Polypropylene Syringe Filters

### Target® Polypropylene Syringe Filters

- Membrane: Hydrophilic Polypropylene
- Housing: medical grade, virgin polypropylene
- Connections: enhanced female Luer-Lok™ inlet, male slip outlet
- Max. operating temperature: 110°C
- Max. operating pressure: 17mm - 115psi, 30mm - 90psi
- Retention volumes: 17mm - <29µL, 30mm - <137µL

NSC PART NO.	DIAMETER	PORE SIZE	PREFILTER INCLUDED	PACK OF	CASE OF
F2504-9	4mm	0.45µm	No	100	500
F2504-10	4mm	0.2µm	No	100	500
F2513-9	17mm	0.45µm	No	100	500
F2513-10	17mm	0.2µm	No	100	500
F2500-9	30mm	0.45µm	No	100	500
F2500-10	30mm	0.2µm	No	100	500
F2502-9	30mm	0.45µm	Yes	100	500

## Cellulose Acetate Syringe Filters

### Target® Cellulose Acetate Syringe Filters

- Membrane: HPLC Certified Cellulose Acetate
- Housing: medical grade, virgin polypropylene
- Protein binding: <24µg/cm<sup>2</sup>
- Connections: enhanced female Luer-Lok™ inlet, male Luer slip outlet
- Max. operating temperature: 110°C
- Max. operating pressure: 4mm - 75psi, 17mm - 115psi, 30mm - 90psi
- Retention volumes: 4mm - <15µL, 17mm - <29µL, 30mm - <137µL

NSC PART NO.	DIAMETER	PORE SIZE	PREFILTER INCLUDED	PACK OF	CASE OF
F2504-15	4mm	0.45µm	No	100	500
F2504-16	4mm	0.2µm	No	100	500
F2513-15	17mm	0.45µm	No	100	500
F2513-16	17mm	0.2µm	No	100	500
F2500-15	30mm	0.45µm	No	100	500
F2500-16	30mm	0.2µm	No	100	500

## Target® Syringe Filter Membrane Selection Guide

### Choose a filter or membrane based on:

1. Chemical compatibility of the membrane and housing with your sample matrix
2. Size and amount of particulates in the sample
3. Potential interactions (binding) between the membrane and sample components
4. Special considerations such as requirement for pre-filter or inorganic ion certification

### Target Syringe Filter Housings

- Target Syringe filter housings are manufactured from solvent-resistant, low-extractable polypropylene resins specifically selected for wide compatibility with common HPLC sample matrices.
- Solutions at temperatures up to 100°C can be filtered using Target syringe filters.
- Target syringe filters can be sterilized by autoclave at 125°C for 15 minutes.
- The inlet connection is an enhanced female Luer-Lok™ fitting designed for extra security when attached to a Luer-Lok syringe.
- The outlet fitting is a standard size male Luer-slip fitting for ease of filtrate collection.
- Target polypropylene syringe filter housings meet the requirements of 21 CFR 177.1520.

### This table offers general guidelines for membrane characteristics and compatible applications.

Membrane Type	Membrane Characteristics	Applications
Cellulose Acetate	Low protein binding, ideal for aqueous-based samples; high protein recovery from filtrate; lower protein binding compared to PVDF	Tissue Culture media filtration, sensitive biological samples
Glass MicroFiber	Larger porosity; able to remove large particulates without clogging	Dissolution testing, general filtration
Nylon	Most frequently selected membrane; broad compatibility with aqueous and organic samples; naturally hydrophilic membrane; extremely low in extractables; excellent flowrate with most sample matrices; not compatible with strong acids or bases	General laboratory filtration; filtration for most HPLC samples. <b>NOTE:</b> Nylon binds protein, do not use when high protein recovery is desired
Polyethersulfone	High flowrates with good throughput volume; low protein binding; compatible with high temperature liquids; mechanically strong membrane low in inorganic extractable ions	PES is certified for Ion Chromatography; Tissue Culture filtration; filtration of proteins and nucleic acids
Polypropylene	Hydrophilic membrane has wide chemical compatibility with organic solvents; low nonspecific protein binding	Filtration of biological samples; filtration of aggressive organic solutions
PTFE	Hydrophobic membrane is resistant to nearly all solvents, acids, and bases; membrane is mechanically strong and will withstand exposure to high temperature liquids; low in extractables; PTFE blocks water vapor; can be used to filter aqueous solutions after prewetting with an alcohol	Filtration of aggressive organic, highly basic or hot solutions, ideal for transducer protectors
PVDF	Hydrophilic membrane with good solvent resistance; low UV absorbing extractables and low nonspecific binding	General biological filtration; filtration of samples where high protein recovery is desired
Regenerated Cellulose	Hydrophilic membrane with good solvent resistance, extremely low nonspecific binding; compatible with nearly all common HPLC solvents; tolerates aqueous samples in pH range of 3 to 12	Membrane of choice for low nonspecific binding applications; Tissue Culture media filtration and general biological sample filtration

# Centrifugal Filters

## Centrifugal Filters

- Centrifugal filters allow for efficient batch processing of samples
- National Scientific centrifuge filters are constructed from virgin polypropylene
- Tethered caps fit both the filter reservoir and the collection tube



F2517-1

## Micro-Centrifugal Filters

### 750µL Micro-Centrifugal Filters—Nonsterile

- Filter volumes as low as 50µL up to 750µL with low hold-up volume
- Use with any laboratory microcentrifuge
- Virgin polypropylene filter housing with tapered 2mL, capped receiver tube
- 10,000xG maximum centrifugal force

NSC PART NO.	MEMBRANE	PORE SIZE	PACK OF	CASE OF
F2517-1	Cellulose Acetate	0.22µm	100	----
F2517-2	Cellulose Acetate	0.45µm	100	----
F2517-3	Nylon	0.2µm	100	----
F2517-4	Nylon	0.45µm	100	----
F2517-5	PVDF	0.2µm	100	----
F2517-6	PVDF	0.45µm	100	----
F2517-7	Regenerated Cellulose	0.2µm	100	----
F2517-8	Regenerated Cellulose	0.45µm	100	----
<b>NEW</b> F2517-9	PTFE	0.2µm	100	----
<b>NEW</b> F2517-10	PTFE	0.45µm	100	----

## Centrifugal Filters

### 2mL Centrifugal Filters—Nonsterile

- Filter sample volumes up to 2mL
- Virgin polypropylene filter housing with tapered 5mL, capped receiver tube
- Use with benchtop or floor model centrifuges
- 5000xG maximum centrifugal force



F2520 Series

NSC PART NO.	MEMBRANE	PORE SIZE	PACK OF	CASE OF
F2520-1	Cellulose Acetate	0.22µm	100	----
F2520-2	Cellulose Acetate	0.45µm	100	----
F2520-3	Nylon	0.2µm	100	----
F2520-4	Nylon	0.45µm	100	----
F2520-5	PVDF	0.2µm	100	----
F2520-6	PVDF	0.45µm	100	----
F2520-7	PTFE	0.2µm	100	----
F2520-8	PTFE	0.45µm	100	----

**NEW**

## Centrifugal Filters

### 25mL Centrifugal Filters—Nonsterile

- Filter sample volumes up to 25mL
- Virgin polypropylene filter housing with conical receiver
- Use with benchtop or floor model centrifuges
- 2500xG maximum centrifugal force



F2519-1

NSC PART NO.	MEMBRANE	PORE SIZE	PACK OF	CASE OF
F2519-1	Cellulose Acetate	0.22µm	50	—
F2519-2	Cellulose Acetate	0.45µm	50	—
F2519-3	Nylon	0.22µm	50	—
F2519-4	Nylon	0.45µm	50	—
F2519-5	PVDF	0.22µm	50	—
F2519-6	PVDF	0.45µm	50	—

Snap-It  
Bonded Caps

Target DP

Color Band

## Tools and Accessories

National Scientific offers accessories including vial racks and crimping tools for most laboratory needs. In addition to these products the Vial Crusher offers the laboratory the ability to dispose of used sample vials in an environmentally responsible manner.

NS Certified

Target Syringes

Crimp Se



Target DP

LoVial

SepCap

- Vial Racks**
  - Vial racks manufactured in both polystyrene and polypropylene
  - Stackable empty or with a full tray of vials
  - Feature alphanumeric indexing for easy location of vials
- Crimping Tools**
  - Manual crimpers and decappers in 8, 11, 13 and 20mm sizes
  - Lightweight, providing secure and repeatable crimps
  - Adjustable handle settings allowing for thickness variation in septa
- Vial Crusher**
  - Environmentally responsible waste handling
  - Able to process 5000 2mL vials per hour
  - Breaks and separates liquid from all 1mL to 100mL vials and ampules
  - Reduces waste for easy disposal

Polyspring Inserts

NS Certified

Microsert

Robo Vial

Micro-V



NS Certified

Target DP

# Crimping/Seal Removal Tools



Left: C4008-102; Right: C4008-100; Bottom: C4008-101



C4020-101, -102, -100



C4012-100, 101, 102

## Crimpers Manual Crimpers

- Lightweight, precision crimpers attach seals to chromatography or serum vials, providing secure repeatable crimps
- Handle has adjustable setting screw to allow for proper crimps with septa of varying thickness
- Factory set to properly crimp standard thickness seals

NSC PART NO.	CRIMP SEAL SIZE	CRIMP SEAL TYPE	PACK OF	CASE OF
C4008-100	8mm	Standard aluminum crimp seal	1	----
C4012-100	11mm	Standard aluminum crimp seal	1	----
C4013-100	13mm	Standard aluminum crimp seal	1	----
C4013-100F	13mm	Flip-Off Seal	1	----
C4020-100	20mm	Standard aluminum crimp seal	1	----
C4020-100F	20mm	Flip-Off Seal	1	----
C4028-102	28mm	Standard aluminum crimp seal	1	----
C4030-100	30mm	Standard aluminum crimp seal	1	----
C4032-100	32mm	Standard aluminum crimp seal	1	----
C4028-100	28mm	Standard aluminum crimp seal	1	----

## De-Crimpers Manual De-Crimpers

- Lightweight, precision crimpers remove seals from chromatography or serum vials with minimal damage to the vial rim
- Simply place decrimping head squarely on seal and squeeze to remove
- Use with standard aluminum seals; removes many types of steel seals

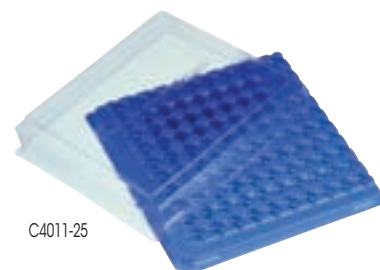
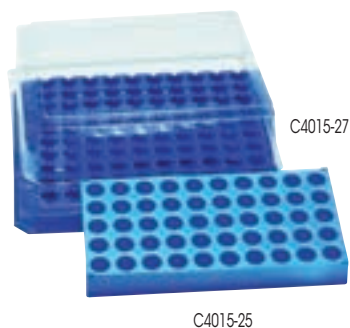
NSC PART NO.	CRIMP SEAL SIZE	PACK OF	CASE OF
C4008-102	8mm	1	----
C4012-102	11mm	1	----
C4013-101	13mm	1	----
C4020-102	20mm	1	----
C4028-102	28mm	1	----
C4030-102	30mm	1	----
C4032-102	32mm	1	----

## De-Capping Pliers Manual De-Capping Pliers

- Forged pliers feature a fitted gripping surface designed to allow removal of the listed sizes of seals
- Simply grip the pliers around the top of the seal, squeeze and pry upward to remove

NSC PART NO.	CRIMP SEAL SIZE	PACK OF	CASE OF
C4008-101	8mm	1	----
C4012-101	11mm	1	----
C4013-102	13mm	1	----
C4020-101	20mm	1	----
C4030-101	30mm	1	----





## Vial Racks

- Polystyrene racks feature a clear, see-through lid
- Polystyrene racks can be stacked empty or with any number of vials inserted
- Polypropylene racks can be stacked empty or with a full tray of vials
- Polypropylene rack is durable, can be washed and reused multiple times
- All National Scientific vial racks feature alphanumeric indexing for easy location of samples

NSC PART NO.	DESCRIPTION	MATERIAL	PACK OF	CASE OF
C4011-25	Storage rack with lid for 12 × 32, 2mL vials, holds 100 vials	Polystyrene	1	5
C4012-25	Vial rack for 12 × 32 2mL vials, holds 50 vials	Polypropylene	1	5
C4015-27	Storage rack with lid for 15 × 45, 4mL vials, holds 100 vials	Polystyrene	1	5
C4015-25	Vial rack for 15 × 45 4mL vials, holds 50 vials	Polypropylene	1	5



C4040-PVC

## Vial Crusher

- Breaks and separates liquid from all 1mL to 100mL vials and ampules
- Capable of processing approximately 5000 2mL vials per hour
- Safe—Use in a fume hood or connect to a vacuum for limited exposure to flammable or toxic vapors
- Environmentally responsible waste handling—crushed glass is automatically separated from solvent for separate disposal
- Reduces overall waste disposal costs by reducing the total volume of waste
- Dimensions without cart: Manual, 24½H × 8½W × 23½" D; Pneumatic, 28H × 10W × 28½"D

NSC PART NO.	DESCRIPTION	PACK OF	CASE OF
C4040-VC	Manual benchtop vial crusher	1	----
C4040-VCMC	Manual vial crusher with stainless-steel mobile cart	1	----
C4040-PVC	Pneumatic benchtop vial crusher	1	----
C4040-PVCM	Pneumatic benchtop vial crusher with stainless-steel mobile cart	1	----

# Target® Precision Glass Syringes



## ACCURACY

- Target Syringes are quality tested and controlled to perform to an accuracy of  $\pm 0.75\%$  nominal volume for extreme accuracy and confidence.
- Batch testing ensures reproducibility of each manufactured lot to these high tolerances.

## PRECISION

- Target Syringes have a precision of  $\pm 0.55\%$  at 90% of total scale volume for the ultimate performance in fluid aspiration or delivery.
- Twenty aliquots of purified, triple distilled water are measured by weight/specific gravity at a target volume to determine precision for each manufactured lot.

## VALUE

For a cost-effective, performance alternative, find these features on all Target Syringes

- Syringe barrels constructed of Duran® borosilicate glass
- Standard chromium-plated plunger prevents ion leaching
- Ultrasmooth bore promotes uniform and effortless plunger movement
- Strengthened plunger rods ensure longer syringe life



LOOK NO FURTHER  
FOR ACCURACY, PRECISION  
AND VALUE

Snap-It

Bonded Caps

Target DP

Color Band

## Technical Information

National Scientific provides the most comprehensive technical information available for the chromatography products offered in this catalog including:

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Target DP

LoVial

SepCop

- Septum Selection Chart
- Properties of Glass
- Chemical resistance Reference Chart
- Properties of Deactivated Glass Vials and Inserts
- Precision Glass Syringe care and style guide
- Autosampler Compatibility Chart
- Syringe Filter Membrane Compatibility Chart
- Syringe Filter Membrane Selection Guide

Polyspring Inserts

NS Certified

Microsert

Robo Vial

Micro-V

NS Certified

Target DP

## Chemical Resistance Reference Chart

This chart provides a guideline for the chemical resistance of the glass and plastic materials used in National Scientific labware. Because so many factors can affect chemical resistance, test your product under your actual conditions of use. For the chemical compatibility of Target HPLC Syringe Filters, see the chart on pp. 86-88.

**Effects of Chemicals on Plastics.** Chemicals can affect the strength, flexibility, surface appearance, color, dimensions, and weight of a plastic. These changes are caused by: (1) an attack on the polymer chain resulting in oxidation, reaction of functional groups, and depolymerization; (2) dissolution in a solvent and solvent absorption or permeation that causes softening and swelling; and (3) stress cracking from a “stress-cracking agent.”

Environmental stress cracking is the failure of a plastic in the presence of certain types of chemicals, but it is not a result of a chemical attack. Simultaneous presence of three factors causes stress cracking: tensile stress in the plastic, its inherent stress-cracking susceptibility, and a stress-cracking agent. Common stress-cracking agents are detergents, surface active chemicals, lubricants, oils, ultrapure water, and plating additives such as brighteners and wetting agents. Relatively small concentrations of stress-cracking agent may be sufficient to cause cracking.

Mixing and/or diluting certain chemicals in plastic labware can be potentially dangerous. The combining of different chemicals or two or more compounds of classes may produce a synergistic or undesirable chemical effect, resulting in an increased temperature that can affect chemical resistance (as temperature increases, resistance to attack decreases), causing product failure. Other factors that also affect chemical resistance include pressure, internal or external stresses (e.g., centrifugation), length of exposure, and concentration of the chemical. Always pre-test your specific usage and follow correct lab safety procedures.

**Attention:** Please be aware that, although several polymers may have excellent resistance to various flammable organic chemicals and solvents, OSHA H CFR 29 1910.106 for flammable and combustible materials or other local regulations may restrict the volume of solvents that may legally be stored in an enclosed area.

**Effects of Chemicals on Glass.** Clear borosilicate and amber 51 expansion glass exhibit a high degree of chemical resistance with a few exceptions: Some chemicals can etch the surface of glass. Surface etching does not usually affect the dimensional characteristics of glass, but it can release chemical components into the sample solution.

### Key to Chart on Following Pages

- E** – No damage after 30 days of constant exposure
- G** – Little or no damage after 30 days of constant exposure
- F** – Some effect after seven days of constant exposure
- N** – Immediate damage may occur. Not recommended for continuous use
- S** – Surface etching possible

First letter of each pair applies to minimum temperature conditions; the second to maximum temperature conditions.

PLASTIC RESIN CODE	DESCRIPTION	APPEARANCE	TEMP MAX °C	TEMP MIN °C	AUTOCLAVABLE	DRY HEAT	GAMMA	MICROWAVABLE	ETHYLENE OXIDE
HDPE	High-density polyethylene	Opaque	120	-35	No	No	Yes	Yes	Yes
LDPE	Low-density polyethylene	Translucent	100	-40	No	No	Yes	Yes	Yes
TPX	Polymethylpentene	Transparent	175	0	Yes	No	Yes	Yes	Yes
PP	Polypropylene	Translucent	135	-20	Yes	No	No	Yes	Yes



CHEMICAL	LDPE	HDPE	PP	TPX	GLASS	CHEMICAL	LDPE	HDPE	PP	TPX	GLASS
1,4-Dioxane	GF	GG	FN	GF	EE	Cinnamon Oil	NN	NN	NN	NN	EE
2,2,4-Trimethylpentane	FN	FN	FN	FN	EE	Citric Acid, 10%	EE	EE	EE	EE	EE
2-Methoxyethanol	EG	EE	GE	EE	EE	Copper Sulfate	EE	EE	EE	EE	EE
2-Propanol	EE	EE	EE	EE	EE	Cresol	NN	FN	GF	NN	EE
Acetaldehyde	GN	GF	GN	GN	EE	Cyclohexane	FN	FN	GN	NN	EE
Acetamide, Sat.	EE	EE	EE	EE	EE	Cyclohexanone	NN	FN	FN	GF	EE
Acetic Acid, 5%	EE	EE	EE	EE	EE	Cyclopentane	NN	FN	FN	FN	EE
Acetic Acid, 50%	GF	EG	EE	EE	EE	Decahydronaphthalene	GF	EG	NN	FN	EE
Acetic Acid, Glacial	GN	GG	EG	GG	EE	Decalin	GF	EG	NN	FN	EE
Acetic Anhydride	NN	FF	GF	EG	EE	Diacetone	NN	NN	GF	FF	EE
Acetone	NN	NN	GN	EE	EE	Diacetone Alcohol	FN	EE	GF	EE	EE
Acetonitrile	EE	EE	EG	FN	EE	Dibutylphthalate	FN	FN	GN	GG	EE
Acetophenone	NN	FF	FN	GN	EE	Diethyl Benzene	NN	FN	NN	NN	EE
Acrylonitrile	EE	EE	EG	FN	EE	Diethyl Ether	NN	FN	FN	NN	EE
Adipic Acid	EG	EE	EE	EE	EE	Diethyl Ketone	NN	NN	GG	GF	EE
Alanine	EE	EE	EE	EE	EE	Diethyl Malonate	EE	EE	EE	EG	EE
Allyl Alcohol	EE	EE	EE	EG	EE	Diethylamine	NN	FN	GN	FF	EE
Aluminum Chloride	EE	EE	EE	EE	EE	Diethylene Dioxide	GF	GG	NN	FN	EE
Aluminum Hydroxide	EG	EE	EG	EG	SS	Diethylene Glycol	EE	EE	EE	EE	EE
Aluminum Salts	EE	EE	EE	EE	EE	Diethylene Glycol Ethyl Ether	EE	EE	EE	EE	EE
Amino Acids	EE	EE	EE	EE	EE	Dimethyl Acetamide	FN	EE	EE	FG	EE
Ammonia (pure)	EE	EE	EE	EE	SS	Dimethyl Formamide	EE	EE	EE	EE	EE
Ammonia, 25%	EE	EE	EE	EE	SS	Dimethylsulfoxide	EE	EE	EE	EE	EE
Ammonium Acetate, Sat.	EE	EE	EE	EE	EE	Dioxane	GF	GG	NN	NN	EE
Ammonium Chloride	EE	EE	EE	EE	EE	Dipropylene Glycol	EE	EE	EE	EE	EE
Ammonium Glycolate	EG	EE	EG	EG	EE	DMSO	EE	EE	EE	EE	EE
Ammonium Hydroxide, 5%	EE	EE	EE	EE	SS	Ethanol, 40%	EG	EE	EE	EG	EE
Ammonium Hydroxide, 30%	EG	EE	EG	EG	SS	Ether	NN	FN	NN	FN	EE
Ammonium Oxalate	EG	EE	EG	EG	EE	Ethyl Acetate	EE	EE	GN	FN	EE
Ammonium Salts	EE	EE	EE	EE	EE	Ethyl Alcohol (Absolute)	EG	EE	EE	EG	EE
Amyl Alcohol	EE	EE	EF	GF	EE	Ethyl Alcohol, 40%	EG	EE	EE	EG	EE
Amyl Chloride	NN	FN	NN	FF	EE	Ethyl Alcohol, 96%	EG	EG	EE	EG	EE
Aniline	EG	GF	EG	GF	EE	Ethyl Benzene	NN	FN	NN	NN	EE
Aqua Regia	NN	NN	NN	NN	SS	Ethyl Benzoate	FF	GG	GF	GF	EE
Arsenic Acid	GF	EE	EE	EE	EE	Ethyl Butyrate	GN	GF	GN	FN	EE
Benzaldehyde	EG	GN	EG	EF	EE	Ethyl Chloride	FN	NN	FN	FN	EE
Benzenamine	EG	GF	EG	GF	EE	Ethyl Chloride, Liquid	FN	FF	FN	FN	EE
Benzene	NN	NN	NN	NN	EE	Ethyl Cyanoacetate	EE	EE	EE	EE	EE
Benzoic Acid, Sat.	EE	EE	EG	EE	EE	Ethyl Lactate	EE	EE	EE	EE	EE
Benzyl Acetate	EG	EE	EG	EG	EE	Ethylene Chloride	NN	NN	NN	NN	EE
Benzyl Alcohol	NN	FN	GG	GG	EE	Ethylene Glycol	EE	EE	EE	EE	EE
Boric Acid	EE	EE	EE	EE	EE	Ethylene Glycol Monomethyl Ether	EG	EE	GF	EE	EE
Bromine	NN	FN	NN	NN	EE	Ethylene Oxide	FF	GF	FN	FN	EE
Bromobenzene	NN	NN	NN	NN	EE	Ethylene Oxide Gas	GG	GG	GG	GG	EE
Bromoform	NN	NN	NN	NN	EE	Ethylene Oxide, 100%	FF	GF	FN	FN	EE
Butadiene	NN	FN	NN	NN	EE	EtO Gas	GG	EE	EE	GG	EE
Butyl Acetate	GF	GF	FN	FF	EE	EtO	GF	GF	FN	FN	EE
Butyl Chloride	NN	NN	NN	FN	EE	Fatty Acids	EG	EE	EG	EG	EE
Butyric Acid	NN	FN	NN	NN	EE	Fluorides	EE	EE	EE	EE	EE
Calcium Chloride	EE	EE	EE	EE	EE	Fluorine	FN	GN	NN	FN	EE
Calcium Hydroxide, Conc.	EE	EE	EE	EE	SS	Formaldehyde, 10%	EE	EE	EE	EE	EE
Calcium Hypochlorite, Sat.	EE	EE	EE	EG	EE	Formaldehyde, 40%	EG	EG	EE	EE	EE
Carbazole	EE	EE	EE	EE	EE	Formalin, 10%	EE	EE	EE	EE	EE
Carbon Disulfide	NN	NN	NN	NN	EE	Formalin, 40%	EG	EG	EE	EE	EE
Carbon Tetrachloride	FN	GF	GF	NN	EE	Formic Acid	GG	EE	EG	EE	EE
Caustic Potash	EE	EE	EE	EE	SS	Formic Acid, 3%	EG	EE	EE	EE	EE
Caustic Soda, 1%	EE	FF	EE	EE	SS	Formic Acid, 100%	GG	EE	EG	EE	EE
Caustic Soda	GG	GF	EE	EE	SS	Formic Acid, 50%	GG	EE	EG	EE	EE
Cedarwood Oil	NN	FN	NN	NN	EE	Formic Acid, 85%	GG	EE	EG	EE	EE
Cellosolve Acetate	EG	EE	FN	EG	EE	Freon TF	EG	EG	EG	FN	EE
Chlorine Water	GN	GF	FN	NN	EE	Fuel Oil	FN	GF	EF	GF	EE
Chlorine, 10% (Moist)	GN	GF	FN	NN	EE	Gasoline	NN	FN	FN	GF	EE
Chlorine, 10% in air	GN	EF	FN	GN	EE	Glutaraldehyde	EG	EE	EE	FF	EE
Chlorine, wet gas	GN	GF	FN	NN	EE	Glutaraldehyde Disinfectant	EG	EE	EE	FF	EE
Chloroacetic Acid	EE	EE	EG	EG	EE	Glycerine	EE	EE	EE	EE	EE
Chlorobenzene	NN	NN	NN	NN	EE	Glycerol	EE	EE	EE	EE	EE
Chloroform	FN	FN	NN	NN	EE	Hexane	NN	GF	GF	FN	EE
Chromic Acid, 10%	EE	EE	EE	EE	EE	Hydrazine	NN	NN	NN	NN	EE
Chromic Acid, 20%	EE	EE	GG	EE	EE	Hydrobromic Acid, 69%	EE	EG	EG	EE	EE
Chromic Acid, 50%	EE	EE	GF	GG	EE	Hydrochloric Acid, 5%	EE	EE	EE	EE	EE
Chromic:Sulfuric	NN	NN	NN	NN	EE	Hydrochloric Acid, 20%	EE	EE	EE	EE	EE



# Technical Information

CHEMICAL	LDPE	HDPE	PP	TPX	GLASS	CHEMICAL	LDPE	HDPE	PP	TPX	GLASS
Hydrochloric Acid, 35%	EE	EE	EG	EG	EE	Phenol, Liquid	NN	NN	NN	NN	EE
Hydrofluoric Acid, 4%	EE	EE	EE	EE	SS	Phosphoric Acid, 5%	EE	EE	EE	EE	EE
Hydrofluoric Acid, 48%	EE	EE	EG	EG	SS	Phosphoric Acid, 85%	EN	EE	EG	EG	EE
Hydrogen Peroxide, 3%	EE	EE	EG	EE	EE	Picric Acid	NN	NN	NN	EE	EE
Hydrogen Peroxide, 30%	EG	EE	EF	EG	EE	Pine Oil	GN	FN	EG	GF	EE
Hydrogen Peroxide, 90%	EN	EE	EF	EG	EE	Potassium Chloride	EE	EE	EE	EE	EE
Iodine Crystals	NN	NN	EE	GN	EE	Potassium Hydroxide, 01%	EE	FF	EE	EE	SS
Iso-Propanol, 100%	EE	EE	EE	EG	EE	Potassium Hydroxide, 30%	EE	EE	EE	EE	SS
Isobutanol	EE	EE	EE	EG	EE	Potassium Hydroxide, Concentrated	EE	EE	EE	EE	SS
Isobutyl Alcohol	EE	EE	EE	EG	EE	Potassium Permanganate	EE	EE	EG	EE	EE
Isopropanol	EE	EE	EE	EG	EE	Propane Gas	NN	EE	NN	NN	EE
Isopropanol, 100%	EE	EE	EE	EE	EE	Propionic Acid	FN	EF	EG	EF	EE
Isopropyl Acetate	GF	EG	GF	GF	EE	Propylene Glycol	EE	EE	EE	EE	EE
Isopropyl Alcohol	EE	EE	EE	EG	EE	Propylene Oxide	EG	EE	EG	EG	EE
Isopropyl Alcohol, 100%	EE	EE	EE	EG	EE	Pyridine	NN	NN	EE	FN	EE
Isopropyl Benzene	FN	FN	FN	NN	EE	Resorcinol, 5%	EE	EE	EE	EE	EE
Isopropyl Ether	NN	FN	NN	NN	EE	Resorcinol, Sat.	EE	EE	EE	EE	EE
Jet Fuel	FN	FN	FN	FN	EE	Salicylaldehyde	EG	EE	EG	EG	EE
Kerosene	FN	FN	FN	GF	EE	Salicylic Acid, Powder	EE	EE	EE	EE	EE
Lacquer Thinner	NN	FN	FN	FF	EE	Salicylic Acid, Sat.	EE	EE	EE	EG	EE
Lactic Acid, 3%	EG	EE	EE	EG	EE	Salt Solutions, Metallic	EE	EE	EE	EE	SS
Lactic Acid, 85%	EG	EE	EG	EG	EE	sec-Butanol	EE	EE	EE	EG	EE
Lead Acetate	EE	EE	EE	EE	EE	sec-Butyl Alcohol	EE	EE	EE	EG	EE
Magnesium Chloride	EE	EE	EE	EE	EE	Silicone Oil	EG	EE	EE	EE	EE
MEK	NN	NN	EG	FN	EE	Silver Acetate	EE	EE	EE	EE	EE
Mercuric Chloride	EE	EE	EE	EE	EE	Silver Nitrate	EG	EE	EE	EE	EE
Methanol	EG	EE	EE	EG	EE	Skdrol LD4	GF	EG	EG	EG	EE
Mercury	EE	EE	EE	EE	EE	Sodium Acetate, Sat.	EE	EE	EE	EE	EE
Methanol, 100%	EG	EE	EE	EG	EE	Sodium Carbonate	EE	EE	EE	EE	EE
Methoxyethyl Oleate	EG	EE	EG	EG	EE	Sodium Dichromate	EE	EE	EE	EE	EE
Methyl Acetate	EN	FF	GF	EE	EE	Sodium Hydroxide, 1%	EE	FF	EE	EE	SS
Methyl Alcohol	EG	-	EE	EG	EE	Sodium Hydroxide, 10%	EE	EE	EE	EE	SS
Methyl Alcohol, 100%	EG	EE	EE	EG	EE	Sodium Hydroxide, Concentrated (50%)	GG	EE	EE	EE	SS
Methyl Ethyl Ketone	NN	NN	EG	FN	EE	Sodium Hypochlorite, 15%	EF	EG	FN	EE	EE
Methyl Isobutyl Ketone	NN	NN	GF	FF	EE	Stearic Acid	EE	GG	EE	EE	EE
Methyl Propyl Ketone	NN	FN	GF	FF	EE	Stearic Acid, Crystals	EE	EE	EE	EE	EE
Methyl-t-Butyl Ether	NN	FN	FN	EE	EE	Sulfur Dioxide	NN	EN	EE	NN	EE
Methylene Chloride	NN	FN	FN	EN	EE	Sulfur Dioxide, Liquid	NN	FN	NN	NN	EE
MIBK	NN	NN	GF	FF	EE	Sulfur Dioxide, Wet or Dry Gas	EE	EE	EE	EE	EE
Mineral Oil	GN	EF	EF	EG	EE	Sulfur Salts	FN	GF	FN	FN	EE
Mineral Spirits	FN	FN	FN	EE	EE	Sulfuric Acid, 6%	EE	EE	EE	EE	EE
n-Amyl Acetate	GF	EG	GF	GF	EE	Sulfuric Acid, 20%	EE	EE	EE	EE	EE
n-Butanol	EE	EE	EE	EG	EE	Sulfuric Acid, 30%	EE	EE	EE	EE	EE
n-Butyl Acetate	GF	GF	GF	GF	EE	Sulfuric Acid, 60%	EG	EG	GF	EG	EE
n-Butyl Alcohol	EE	EE	EE	EG	EE	Sulfuric Acid, 98%	GG	FN	FN	GF	EE
n-Decane	FN	FN	FN	FN	EE	Sulfuric Acid, Concentrated (96%)	GG	FN	FN	GF	EE
n-Heptane	NN	FF	FF	FF	EE	Tartaric Acid	EE	EE	EE	EE	EE
n-Octane	EE	EE	EE	EE	EE	TCA	FN	FN	GF	EE	EE
Nitric Acid, 10%	EE	EE	EE	EE	EE	tert-Butanol	EG	EE	EG	EG	EE
Nitric Acid, 20%	EE	GG	FF	EE	EE	tert-Butyl Alcohol	EG	EE	EG	EG	EE
Nitric Acid, 50%	GF	FN	FN	FN	EE	Tetrahydrofuran	FN	FN	GF	FF	EE
Nitric Acid, 70%	EN	FN	NN	FN	EE	THF	FN	FN	GF	FF	EE
Nitrobenzene	NN	NN	NN	FN	EE	Thionyl Chloride	NN	NN	NN	NN	EE
Nitromethane	NN	FN	FN	EF	EE	Tincture of Iodine	EG	GF	EE	NN	EE
o-Dichlorobenzene	FN	NN	FN	FN	EE	Toluene	FN	NN	NN	FF	EE
Oil, Cedarwood	NN	FN	NN	NN	EE	Tributyl Citrate	GF	EG	GF	GF	EE
Oil, Cinnamon	NN	FN	NN	NN	EE	Trichloroacetic Acid	FN	FN	GF	EE	EE
Oil, Mineral	GN	EE	EE	EG	EE	Trichloroethane	NN	NN	NN	NN	EE
Oil, Pine	GN	FN	EG	GF	EE	Trichloroethylene	NN	NN	NN	NN	EE
Orange Oil	FN	GF	GF	FF	EE	Triethylene Glycol	EE	EE	EE	EE	EE
Oxalic Acid, 10%	EE	EE	EE	EE	EE	Tripropylene Glycol	EE	EE	EE	EE	EE
Ozone	GN	GN	FN	EE	EE	Tris Buffer, Solution	EG	EG	EG	EG	EE
p-Chloroacetophenone	EE	EE	EE	EE	EE	Trisodium Phosphate	EE	EE	EE	EE	EE
p-Dichlorobenzene	FN	NN	GF	GF	EE	Turpentine	FN	FN	FN	FN	EE
Perchloric Acid	GN	GN	GN	GN	EE	Undecyl Alcohol	EF	EG	EG	EG	EE
Perchloric Acid, Concentrated (70%)	GN	GN	GN	GN	EE	Urea	EE	EE	EE	EG	EE
Perchloroethylene	NN	NN	NN	NN	EE	Vinylidene Chloride	NN	FN	NN	NN	EE
Petroleum	NN	GN	NN	GF	EE	Xylene	NN	FN	NN	NN	EE
Phenol, 100%	NN	NN	NN	NN	EE	Zinc Chloride, 10%	EE	EE	EE	EE	EE
Phenol, 50%	NN	NN	NN	NN	EE	Zinc Stearate	EE	EE	EE	EE	EE
Phenol, Crystals	FN	GF	GN	FG	EE	Zinc Sulfate, 10%	EE	EE	EE	EE	EE

## Properties of Glass

Vials and inserts from National Scientific are manufactured from the highest-quality borosilicate glass, selected for its purity and dimensional stability.

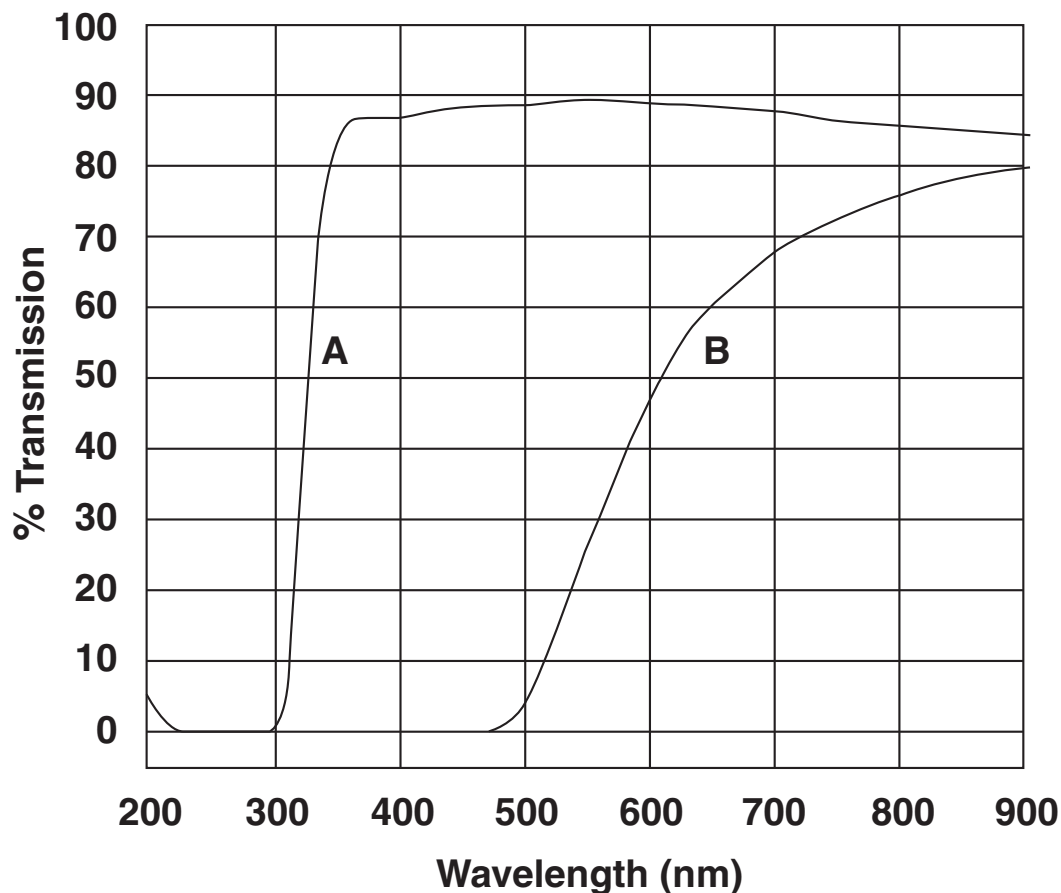
**Clear glass products** are manufactured from 33 expansion borosilicate glass with a low coefficient of expansion and very high resistance to chemical attack. It has low alkali content and is free of elements from the calcium, magnesium, and zinc group of heavy metals. The total of combined oxides of arsenic and antimony is less than 0.005%. 33 expansion borosilicate glass meets the requirements for Type I Class A glass of ASTM E438.

**Amber glass products** are manufactured from N-51A borosilicate glass, which has a relatively low coefficient of expansion and high chemical durability. N-51A borosilicate glass meets the requirements for Type I Class B glass of ASTM E438.

### Approximate Chemical Composition for Borosilicate Glass

	33 EXPANSION CLEAR GLASS	N-51A AMBER GLASS
Silicon Dioxide (SiO <sub>2</sub> )	80%	72%
Boron Oxide (B <sub>2</sub> O <sub>3</sub> )	13%	12%
Aluminum Oxide (Al <sub>2</sub> O <sub>3</sub> )	3%	7%
Calcium Oxide (CaO)	0.1%	1%
Magnesium Oxide (MgO)	Not Detected	Not Detected
Sodium Oxide (Na <sub>2</sub> O)	4%	6%
Potassium Oxide (K <sub>2</sub> O)	0.1%	2%
Barium Oxide (BaO)	<0.1%	<0.1%

### Optical Properties of Glass



A=33 expansion clear glass  
B=N-51A amber glass

# Technical Information

## Autosampler Compatibility Table

This table indicates the categories of vials that are compatible with various models of autosamplers. Certain autosamplers require the purchase of optional vial trays and, in few cases, programming upgrades to use all of the vials listed.

**An X mark** indicates that the vials from this category are compatible with the autosampler in most configurations.

**An F mark** indicated that a cap having an outer flange is required for the vial to operate properly with the autosampler.

**An M mark** indicates that a magnetic seal is required for use with the autosampler.

MANUFACTURER	MODEL	8mm CRIMP	11mm CRIMP	8-425 SCREW THREAD	TARGET DP SCREW THREAD	TARGET 10-425 SCREW THREAD	15X45mm 4mL	HEADSPACE	WEBSEAL
Agilent Technologies®	1050	x	x		x				
	1100/1200		x		x				
	1090A	x	x	x	x				
	1100/1200 Wellplate/ NanoFlow		x		x				x
	6850ALS		x						
	7673A/7683		x						
	7694E							x	
	220								x
AI	42 Position Tray		x						
	60 Position Tray	x							
AIM	CPS-100/200		x	x	x				
Alcott®	708AL								
	718AL		x	x	x				x
Alpha M.O.S.	Fox/Prometheus		x	x	x			M	
	Kronos		x	x	x				
Antec Leyden	ALEXYS AS 100		x	x	x				
ATAS GL	Focus		x	x	x			M	
Beckman Coulter®	501/507/System Gold	x	x	x	x		x		
Bruker	Map II		x	x	x	x			x
	LC51						x		
CTC™	see Leap Technologies		x	x	x				x
DANI	ALS-1000/39.80/86.80		x						
	HSS 39.50/ 86.50/ SPT 37.50							x	
Dionex	ASI-100/A550		x	x	x	x	x		
	AS-40			x			x		
	FAMOS		x	x	x				x
DynaTech	LC-241	x	x	x	x				
ESA	540		x	x	x	x	x		
	540-MT		x	x	x	x			x
Fisons®	A-200S/AS 150/800/8000		x	x	x				
	AS 200	x							
GBC	LC 1650		x	x	x	x	x		
Gerstel	MPS 2	x	x	x	x	x		M	x
	MPS 3	x	x	x	x	x			
Gilson®	234		x	x	x				
	235		x	x	x				x
	231 XL/232 XL/233 XL	x	x	x	x				
	215		x	x	x	x			x
	250		x	x	x				x
Jasco®	851/AS950/1550/1555			F					
	AS-2059/AS2059Plus	x		F		x			x
	AS-2055/AS/2057	x		F		x			x
LEAP Technologies	CLPAL/GC PAL	x	x	x	x	x			
	Combi PAL	x	x	x	x	x			
	HTC PAL/HTS PAL	x	x	x	x	x			

MANUFACTURER	MODEL	8mm CRIMP	11mm CRIMP	8-425 SCREW THREAD	TARGET DP SCREW THREAD	TARGET 10-425 SCREW THREAD	15X45mm 4mL	HEADSPACE	WEBSEAL
Hitachi®	AS-1000		x	x	x				
	AS-2000		x	x	x				
	AS-4000		x		x				
	Lachrom L-7200/7250		x	x	x				
	Lachrom Elite L-2200		x	x	x				x
Metrohm	Triathlon		x	x	x	x			
Perkin Elmer™	Autosystem/AS-2000/XL		x	x	x		x		
	Clarus 500/600		x		x				
	Integral 4000		x	x	x				
	TurboMatrix 40/110							x	
	ISS-100/200/Series 200	x	x	x	x				
	HS16/40							x	
	LC Plus	x	x	x	x				x
Polymer Labs	GPC 110/210/220		x						
Selerity	3100		x	x	x	x			
Shimadzu®	AOC-8B/9, AOC-14/1400		x	x	x				
	AOC-5000	x	x	x	x	x		M	x
	AOC-20		x		x		x		
	HSS-2B/4B							x	
	SIL-6A/6B/9A			F		x			
	SIL-10A			x	x	x			
	SIL-HT/10ADVP	x	x	x	x	x			x
LC-2010	x	x	x	x	x			x	
Spark-Holland	Symbiosis/Reliance		x	x	x	x			x
Thermo Scientific	Surveyor LC		x	x	x				x
	AS 3000/Trace GC/Focus LC		x		x				
	TriPlus		x	x	x	x		x	
Tosoh®	TSK-6080/AS-8010/AS-8020		x	F		x			
Teledyne/Tekmar®	7000/7050							x	
	HT3A							x	
Varian®	CP-8410		x	x	x	x	x		
	CombiPAL	x	x	x	x	x		M	
	8034/8035/8100/8200		x	x	x				
	9095/9100		x	x	x				
	Prostar 400/410/420		x	x	x	x			
	Prostar 430		x	x	x	x			x
	GeneSis							x	
Waters™	WISP 96 Pos. Tray	x							
	WISP 48 Pos. Tray						x		
	717Plus	x	x						
	Alliance 2690			x	x	x			
	Model 2767			x	x	x			x
	Model 2777					x			x
	Acquity		x	x	x	x			x
	CapLC		x	x	x				x

## Septum Selection Guide

### Septa for use with general chromatography vials

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

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

**NOTE:** C4000-30 and C4000-51 Series feature high-quality red rubber with a thin 0.003" layer of PTFE. C4011-1A, C40911-98 Series, C4011-51 Series, C4008-1A Series, and C4008-98 Series feature high-quality medium durometer red rubber with a thin (0.015") layer of PTFE.

#### Seal 2000®: PTFE/High Performance Red Rubber

Seal 2000 is a highly pure, PTFE/synthetic red rubber septum that provides a reduced background level for specific GC applications, employing sensitive detectors such as ECD or NPD. Seal 2000 has resealing characteristics similar to PTFE/Red Rubber and is pre-inserted into an aluminum seal.

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

High-quality, pure silicone is laminated to 0.005" thick PTFE for a pure, greatly inert septum with excellent resealing characteristics even after repeated punctures. PTFE/Silicone septa are ideal for use in most HPLC applications and GC applications where resealability and purity are critical.

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

A layer of 0.003" thick PTFE is laminated to each side of high-purity, medium durometer silicone to form a septum that is resistant to coring, but still maintains good resealing characteristics. T/S/T septa are recommended for the most critical applications such as ultratrace analysis, where there is a longer time between injections, or for internal standard methods. T/S/T septa provide superior performance with Agilent 1050, 1090, 1100, or any autosampler employing a large diameter, blunt-tip needle.

#### PTFE Septa

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

#### Pre-slit PTFE/Red Rubber Septa:

A PTFE/Red Rubber septum is comprised of a thin 0.003" PTFE layer laminated to standard red rubber, and slit through the center for easier needle penetration and to release the vacuum that forms when a large volume of sample is withdrawn from a vial. This septum provides chromatographic characteristics similar to that of a septum without a slit, except that the ability to withstand exposure to aggressive solvents is slightly lessened.

#### Pre-slit PTFE/Silicone Septa:

A PTFE/Silicone septum is provided with a thin 0.005" PTFE layer laminated to highly pure silicone, and slit through the center for easier needle penetration and to release the vacuum that forms when a large volume of sample is withdrawn from a vial. This septum provides chromatographic characteristics similar to that of a septum without a slit, except that the ability to withstand exposure to aggressive solvents is slightly lessened. Pre-slit septa are highly recommended for Shimadzu®, Hitachi®, and other autosamplers with thin gauge needles.

#### Polyethylene (PE) Septa:

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

#### Polypropylene (PP) Septa:

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

#### Viton® Septa:

Viton offers the maximum chemical resistance for a wide variety of solvents. Viton has limited resealing capacity and should not be used for applications requiring multiple injections with long run times. Viton septa are highly recommended for use with chlorinated solvents. Due to its intrinsic hardness, Viton septa are not suitable for use with 32 gauge needles.

### 20mm Headspace Septa

#### Gray Butyl Stopper: (C4020-30)

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

#### Ivory PTFE/Red Rubber Septa: (C4020-34)

Good solvent resistance, good resealing characteristics, resistant to coring, and feature an operating temperature range of -40° to +100°C. An economical choice where a PTFE barrier is desired.

#### PTFE/White Silicone PurePak™ Septa: (C4020-32)

Excellent choice for volatiles. Septa are packed in a glass PurePak jar to assure low background, low permeability, and the highest performance of any headspace septum. PTFE/Silicone septa provide excellent resealing characteristics and broad chemical compatibility. The recommended operating temperature range is -60° to +200°C.

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

C4020-36 is a molded septum featuring a PTFE-faced center surface that does not extend to the edges of the septum. The PTFE center area provides good resistance to a wide variety of solvents. The center puncture area is resistant to coring and will reseal after several punctures. The black butyl outer sealing edge conforms well to the rim of the vial affecting a more positive seal. The operating temperature range for this septum is -20° to +125°C.

#### Black Rubber Septa: (C4020-40)

Black Rubber septa are molded from a higher density rubber compound compared to the standard red rubber. This septum has characteristics similar to the Gray Butyl stopper with a slightly smaller temperature range of -20° to +100°C. The Black Rubber septum is an economical choice for applications where reduced levels of vapor penetration are desired.

#### Aluminum Foil/Silicone (High Temperature Septum): (C4020-37)

Aluminum backing on this septum provides an effective vapor barrier along with high temperature compatibility. The silicone layer is highly resealable and stable at high temperatures. The operating temperature range for this septum is -60° to +220°C.



## Deactivated Glass Vials and Inserts

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

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

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

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

### NSC Silanized Products:

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

### NSC Kimshield Deactivation:

Kimshield Deactivation is also a vapor deposition method employing a proprietary silicone fluid to coat the surface of the glass. Kimshield deactivation lowers the surface tension of the glass and forms a hydrophobic barrier similar to NSC silanization, but with a slightly different functionality. As with NSC Silanized products, Kimshield deactivated vials and inserts do not release acids, solvents or other residues. Kimshield deactivation is slightly less durable compared to NSC Silanization, but will withstand exposure to most solvents that are compatible with borosilicate glass.



## Syringe Filter Membrane Compatibility Chart

Use the information in this table to determine the ability of a specific syringe filter membrane to withstand exposure to a solvent. All concentrations are 100% unless noted.

### LEGEND

C = Compatible  
 LC = Limited Compatibility (Membrane may swell and shrink)  
 IC = Incompatible (Not Recommended)  
 ND = No Compatibility Data Currently Available  
  
 PTFE = Polytetrafluoroethylene (Teflon®)  
 PVDF = Polyvinylidene  
 PES = Polyethersulfone  
 CA = Cellulose Acetate  
 RC = Regenerated Cellulose  
 PP = Polypropylene  
 GMF = Glass MicroFiber

Chemical	Nylon	PTFE	PVDF	PES	CA	RC	PP	GMF
<i>ACIDS</i>								
Acetic, Glacial	LC	C	C	C	IC	C	C	C
Acetic, 25%	C	C	C	C	CA	C	C	C
Hydrochloric, Concentrated	IC	C	C	C	IC	IC	C	C
Hydrochloric, 25%	IC	C	C	C	IC	IC	C	C
Sulfuric, Concentrated	IC	C	IC	IC	IC	IC	C	C
Sulfuric, 25%	IC	C	C	C	IC	LC	C	C
Nitric, Concentrated	IC	C	C	IC	IC	IC	C	LC
Nitric, 25%	IC	C	C	C	IC	IC	C	LC
Phosphoric, 25%	IC	C	ND	ND	C	LC	C	ND
Formic, 25%	IC	C	ND	ND	LC	C	C	C
Trichloroacetic, 10%	IC	C	ND	ND	C	C	C	ND
<i>ALCOHOLS</i>								
Methanol, 98%	C	C	C	C	C	C	C	C
Ethanol, 98%	C	C	C	C	C	C	C	C
Ethanol, 70%	LC	C	C	C	C	C	C	C
Isopropanol	C	C	C	C	C	C	C	C
n-Propanol	C	C	C	C	C	C	C	C
Amyl Alcohol (Butanol)	C	C	C	C	C	C	C	C
Benzyl Alcohol	C	C	C	ND	LC	C	C	IC
Ethylene Glycol	C	C	C	C	C	C	C	C
Propylene Glycol	C	C	C	C	LC	C	C	C
Glycerol	C	C	C	C	C	C	C	C
<i>ALKALIES</i>								
Ammonium Hydroxide, 25%	C	C	LC	C	C	LC	C	C
Sodium Hydroxide, 3N	C	C	C	C	IC	LC	C	IC
<i>AMINES AND AMIDES</i>								
Dimethyl Formamide	LC	C	IC	IC	IC	LC	C	C
Diethylacetamide	C	C	ND	ND	IC	C	ND	C
Triethanolamine	C	C	ND	ND	C	C	ND	ND
Aniline	ND	C	ND	ND	IC	C	ND	ND
Pyridine	C	C	IC	IC	IC	C	IC	C
Acetonitrile	C	C	C	LC	IC	C	C	C

## Syringe Filter Membrane Compatibility, contd.

Chemical	Nylon	PTFE	PVDF	PES	CA	RC	PP	GMF
<i>ESTERS</i>								
Ethyl Acetate/Methyl Acetate	C	C	C	IC	IC	C	LC	C
Amyl Acetate/Butyl Acetate	C	C	IC	IC	LC	C	LC	C
Propyl Acetate	C	C	IC	IC	LC	C	LC	ND
Propylene Glycol Acetate	ND	C	ND	IC	IC	C	C	ND
2-Ethoxyethyl Acetate	ND	C	ND	IC	LC	C	ND	ND
Methyl Cellusolve	ND	C	ND	IC	IC	C	C	C
Benzyl Benzoate	C	C	ND	IC	C	C	ND	ND
Isopropyl Myristate	C	C	ND	IC	C	C	ND	ND
Tricresyl Phosphate	ND	C	ND	IC	C	C	ND	ND
<i>HALOGENATED HYDROCARBONS</i>								
Methylene Chloride	LC	C	C	IC	IC	C	LC	C
Chloroform	C	C	C	IC	IC	C	LC	C
Trichloroethylene	C	C	C	IC	C	C	C	C
Chlorobenzene	C	C	C	LC	C	C	C	C
Freon®	C	C	C	LC	C	C	C	C
Carbon Tetrachloride	C	C	C	IC	LC	C	LC	C
<i>HYDROCARBONS</i>								
Hexane/Xylene	C	C	C	IC	C	C	IC	C
Toluene/Benzene	C	C	C	IC	C	C	IC	C
Kerosene/Gasoline	C	C	C	LC	C	C	LC	ND
Tetralin/Decalin	ND	C	C	ND	C	C	ND	ND
<i>KETONES</i>								
Acetone	C	C	IC	IC	IC	C	C	C
Cyclohexanone	C	C	IC	IC	IC	C	C	C
Methyl Ethyl Ketone	C	C	LC	IC	LC	C	LC	C
Isopropylacetone	C	C	IC	IC	C	C	ND	C
Methyl Isobutyl Ketone	ND	C	LC	IC	ND	C	LC	C
<i>ORGANIC OXIDES</i>								
Ethyl Ether	C	C	C	C	C	C	LC	ND
Dioxane	C	C	LC	IC	I	C	C	C
Tetrahydrofuran	C	C	LC	IC	I	C	C	C
Triethanolamine	C	C	ND	ND	C	C	ND	ND
Dimethylsulfoxide (DMSO)	C	C	IC	IC	I	C	C	C
Isopropyl Ether	ND	C	C	C	C	C	C	ND
<i>MISCELLANEOUS</i>								
Phenol, Aqueous Solution, 10%	ND	C	LC	IC	IC	IC	C	C
Formaldehyde Aqueous Solution, 30%	C	C	C	C	C	LC	C	C
Hydrogen Peroxide, 30%	C	C	ND	ND	C	C	ND	ND
Silicone Oil/Mineral Oil	ND	C	C	C	C	C	C	C

## Target® Syringe Filter Membrane Selection Guide

### Choose a filter or membrane based on:

1. Chemical compatibility of the membrane and housing with your sample matrix
2. Size and amount of particulates in the sample
3. Potential interactions (binding) between the membrane and sample components
4. Special considerations such as requirement for pre-filter or inorganic ion certification

### Target Syringe Filter Housings

- Target Syringe filter housings are manufactured from solvent-resistant, low-extractable polypropylene resins specifically selected for wide compatibility with common HPLC sample matrices.
- Solutions at temperatures up to 100°C can be filtered using Target syringe filters.
- Target syringe filters can be sterilized by autoclave at 125°C for 15 minutes.
- The inlet connection is an enhanced female Luer-Lok™ fitting designed for extra security when attached to a Luer-Lok syringe.
- The outlet fitting is a standard size male Luer-slip fitting for ease of filtrate collection.
- Target polypropylene syringe filter housings meet the requirements of 21 CFR 177.1520.

### This table offers general guidelines for membrane characteristics and compatible applications.

Membrane Type	Membrane Characteristics	Applications
Cellulose Acetate	Low protein binding, ideal for aqueous-based samples; high protein recovery from filtrate; lower protein binding compared to PVDF	Tissue Culture media filtration, sensitive biological samples
Glass MicroFiber	Larger porosity; able to remove large particulates without clogging	Dissolution testing, general filtration
Nylon	Most frequently selected membrane; broad compatibility with aqueous and organic samples; naturally hydrophilic membrane; extremely low in extractables; excellent flowrate with most sample matrices; not compatible with strong acids or bases	General laboratory filtration; filtration for most HPLC samples. <b>NOTE:</b> Nylon binds protein, do not use when high protein recovery is desired
Polyethersulfone	High flowrates with good throughput volume; low protein binding; compatible with high temperature liquids; mechanically strong membrane low in inorganic extractable ions	PES is certified for Ion Chromatography; Tissue Culture filtration; filtration of proteins and nucleic acids
Polypropylene	Hydrophilic membrane has wide chemical compatibility with organic solvents; low nonspecific protein binding	Filtration of biological samples; filtration of aggressive organic solutions
PTFE	Hydrophobic membrane is resistant to nearly all solvents, acids, and bases; membrane is mechanically strong and will withstand exposure to high temperature liquids; low in extractables; PTFE blocks water vapor; can be used to filter aqueous solutions after prewetting with an alcohol	Filtration of aggressive organic, highly basic or hot solutions, ideal for transducer protectors
PVDF	Hydrophilic membrane with good solvent resistance; low UV absorbing extractables and low nonspecific binding	General biological filtration; filtration of samples where high protein recovery is desired
Regenerated Cellulose	Hydrophilic membrane with good solvent resistance, extremely low nonspecific binding; compatible with nearly all common HPLC solvents; tolerates aqueous samples in pH range of 3 to 12	Membrane of choice for low nonspecific binding applications; Tissue Culture media filtration and general biological sample filtration

Snap-It  
Bonded Caps

Target DP

Color Band

## Indexes

National Scientific alphabetical and numerical indexes make it easier to find the product you need quickly within this reference catalog. The alphabetical index has a generic header with more detailed subheadings. If you know your product number, the numerical index will give you all page numbers where that item appears.

NS Certified

Target Syringes

Crimp Seals



Target DP

LoVial  
SepCap

Polyspring Inserts

NS Certified

Microsert

Robo Vial

Micro-V



NS Certified

Target DP



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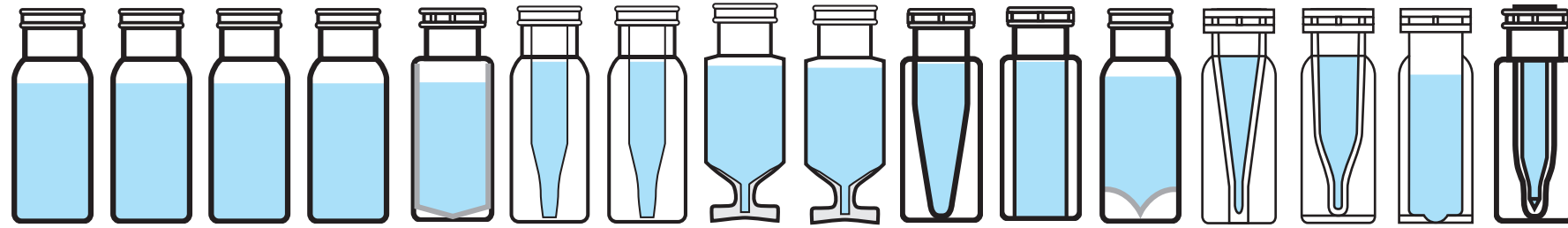
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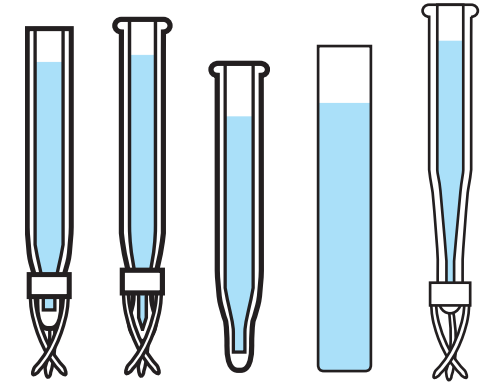


TARGET® SNAP-IT VIALS - 12 x 32 MM



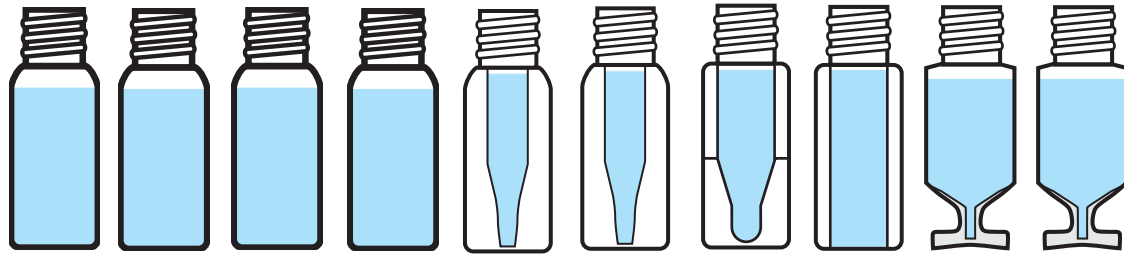
NSC #	Common Description	Approx. Total Capacity	Rec. Usable Volume	Residual Volume
C4011-5	2 mL	2 mL	1.5 mL	<170 µL
C4011-5W	2 mL	2 mL	1.5 mL	<170 µL
C4011-6	2 mL	2 mL	1.5 mL	<170 µL
C4011-6W	2 mL	2 mL	1.5 mL	<170 µL
C4011-24	700 µL	1000 µL	750 µL	<8 µL
C4011-LV1	350 µL	500 µL	350 µL	<2 µL
C4011-LV2	350 µL	500 µL	350 µL	<2 µL
C4011-V5	1.5 mL	1.5 mL	1.1 mL	<4 µL
C4011-V6	1.5 mL	1.5 mL	1.1 mL	<4 µL
C4011-11	450 µL	800 µL	350 µL	<6 µL
C4011-14	3700 µL	1000 µL	800 µL	<80 µL
C4011-4	1.5 mL	1.7 mL	1.3 mL	<4 µL
C4011-13	250 µL	475 µL	300 µL	<2 µL
C4011-16	600 µL	600 µL	400 µL	<4 µL
C4011-11	850 µL	825 µL	650 µL	<8 µL
C4012-15	250 µL	475 µL	350 µL	<4 µL

MICROVOLUME INSERTS FOR 15 x 45 MM 4 mL VIALS



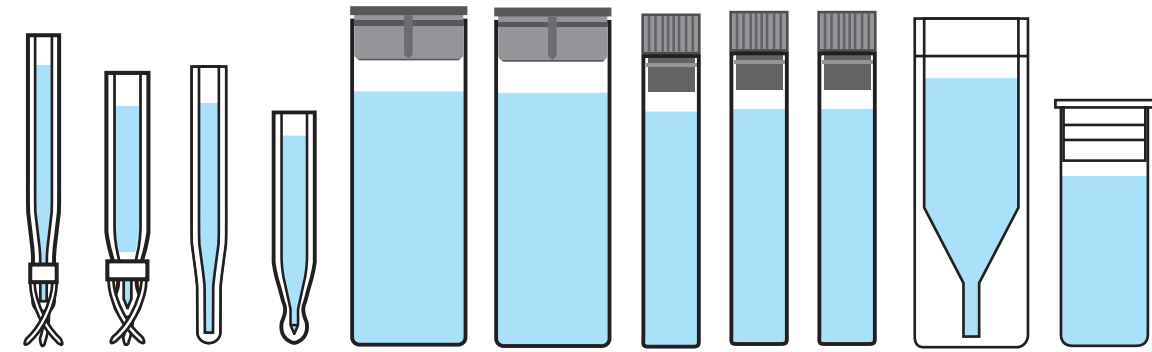
NSC #	Dimensions	Common Description	Approx. Total Capacity	Rec. Usable Volume	Residual Volume
C4015-638	6 x 38 mm	700 µL	950 µL	800 µL	<9 µL
C4015-641	6 x 41 mm	500 µL	575 µL	500 µL	<6 µL
C4015-643	6 x 42 mm	500 µL	375 µL	300 µL	<8 µL
C4015-843	6 x 43 mm	1 mL	1.25 mL	1 mL	<90 µL
C4015-638	6 x 39 mm	0.3 mL	375 µL	300 µL	<8 µL

TARGET® SCREW THREAD VIALS - 12 X 32 MM



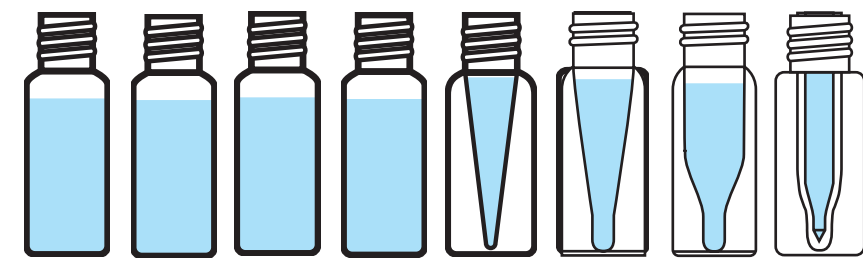
NSC #	Common Description	Approx. Total Capacity	Rec. Usable Volume	Residual Volume
C4010-1	2 mL	2 mL	1.5 mL	<170 µL
C4010-1W	2 mL	2 mL	1.5 mL	<170 µL
C4010-2	2 mL	2 mL	1.5 mL	<170 µL
C4010-2W	2 mL	2 mL	1.5 mL	<170 µL
C4010-LV1	350 µL	450 µL	350 µL	<2 µL
C4010-LV2	350 µL	450 µL	350 µL	<2 µL
C4011-11	250 µL	600 µL	400 µL	<4 µL
C4011-14	700 µL	750 µL	550 µL	<70 µL
C4011-V1	1.5 mL	1.5 mL	1.1 mL	<4 mL
C4011-V2	1.5 mL	1.5 mL	1.1 mL	<4 mL

SHELL VIALS AND INSERTS - 8 x 40 MM VIALS



NSC #	Dimensions	Common Description	Approx. Total Capacity	Rec. Usable Volume	Residual Volume
C4015-96A	5 x 36 mm	150 µL	250 µL	210 µL	<3 µL
C4015-96PA	6 x 29 mm	200 µL	325 µL	250 µL	<3 µL
C4015-536	5 x 36 mm	150 µL	275 µL	225 µL	<3 µL
C4015-96A	6 x 29 mm	200 µL	325 µL	250 µL	<2 µL
C4015-48		4 mL	5.5 mL	4 mL	<800 µL
C4015-49		4 mL	5.5 mL	4 mL	<800 µL
C4015-96		1 mL	1.25 mL	1 mL	<80 µL
C4015-99		1 mL	1.25 mL	1 mL	<80 µL
C4015-95P		1 mL	1.25 mL	1 mL	<80 µL
C4015-46P		3.5 mL	3.75 mL	2 mL	<8 µL
C4011-80		2 mL	2.4 mL	1.8 mL	<200 µL

STANDARD-OPENING SCREW THREAD VIALS - 12 x 32 MM



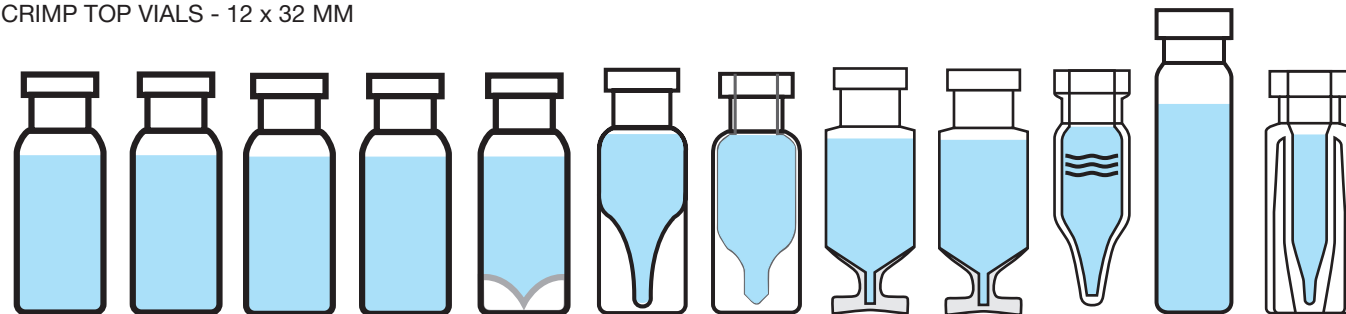
NSC #	Common Description	Approx. Total Capacity	Rec. Usable Volume	Residual Volume
C4013-1	2 mL	1.9 mL	1.5 mL	<170 µL
C4013-2	2 mL	1.9 mL	1.5 mL	<170 µL
C4013-2W	2 mL	1.9 mL	1.5 mL	<170 µL
C4013-1W	2 mL	1.9 mL	1.5 mL	<170 µL
C4013-12	100 µL	400 µL	200 µL	<2 µL
C4013-11	250 µL	475 µL	250 µL	<3 µL
C4013-19	750 µL	750 µL	400 µL	<4 µL
C4013-15GST	300 µL	450 µL	300 µL	<2 µL

SCREW THREAD VIALS - 15 x 45 MM



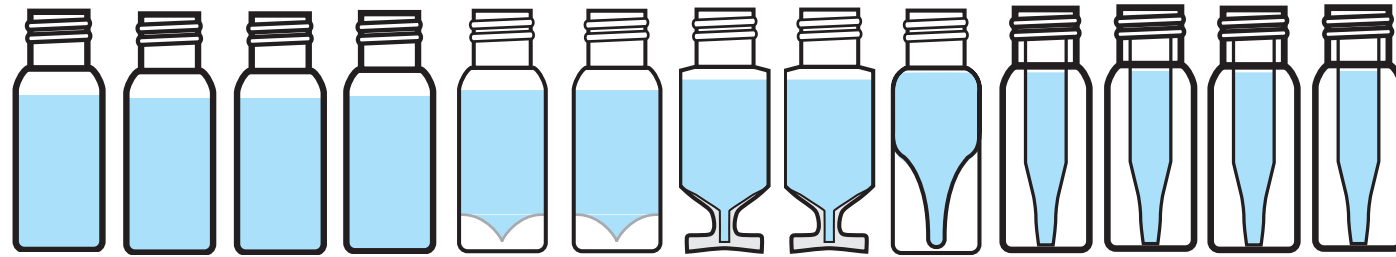
NSC #	Common Description	Approx. Total Capacity	Rec. Usable Volume	Residual Volume
C4015-1	4 mL	5.2 mL	4 mL	<800 µL
C4015-11W	4 mL	5.2 mL	4 mL	<800 µL
C4015-2	4 mL	5.2 mL	4 mL	<800 µL
C4015-2W	4 mL	5.2 mL	4 mL	<800 µL
C4015-9	3.5 mL	4.5 mL	3.5 mL	<15 µL
C4015-14	2.5 mL	2.5 mL	2 mL	<15 µL
C4015-15	1.0 mL	1 mL	0.75 mL	<5 µL

TARGET® CRIMP TOP VIALS - 12 x 32 MM



NSC #	Common Description	Approx. Total Capacity	Rec. Usable Volume	Residual Volume
C4011-1	2 mL	2 mL	1.5 mL	<170 µL
C4011-1W	2 mL	2 mL	1.5 mL	<170 µL
C4011-2	2 mL	2 mL	1.5 mL	<170 µL
C4011-2W	2 mL	2 mL	1.5 mL	<170 µL
C4011-9	1.5 mL	1.7 mL	1.3 mL	<4 µL
C4011-1PT	950 µL	1000 µL	800 µL	<2 µL
C4011-10	400 µL	650 µL	500 µL	<5 µL
C4011-V1	1.5 mL	1.5 mL	1.1 mL	<4 µL
C4011-V2	1.5 mL	1.5 mL	1.1 mL	<4 µL
C4011-1.7CB	1.7 mL	1.4 mL	1.1 mL	<1 µL
C4011-1240	2.5 mL	2.6 mL	2.3 mL	<170 µL
C4011-26	700 µL	725 µL	500 µL	<5 µL

**TARGET DP® VIALS - 12 x 32 MM**



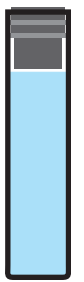
NSC #	Common Description	Approx. Total Capacity	Rec. Usable Volume
C4000-1	2 mL Vial	2 mL	1.5 mL
C4000-1W	2 mL Vial	2 mL	1.5 mL
C4000-2	2 mL Vial	2 mL	1.5 mL
C4000-2W	2 mL Vial	2 mL	1.5 mL
C4000-9	1.5 mL Vial	1.7 mL	1.3 mL
C4000-9A	1.5 mL Vial	1.7 mL	1.3 mL
C4000-V1	1.5 mL	1.4 mL	1.0 mL
C4000-V2	1.5 mL	1.4 mL	1.0 mL
C4000-1PT	950 µL	1000 µL	800 µL
C4000-LV1	350 µL Vial	475 µL	350 µL
C4000-LV1W	350 µL Vial	475 µL	350 µL
C4000-LV2	350 µL Vial	475 µL	350 µL
C4000-LV2W	350 µL Vial	475 µL	350 µL

**STANDARD-OPENING CRIMP TOP VIALS 12 x 32 MM**



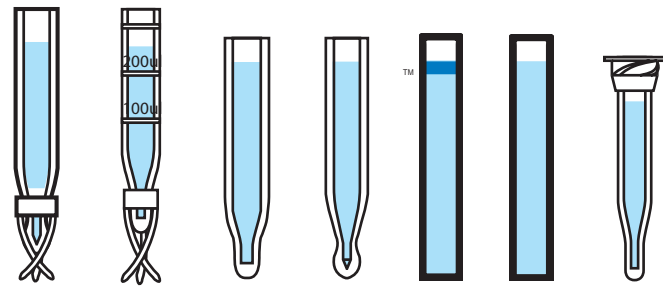
NSC #	Common Description	Approx. Total Capacity	Rec. Usable Volume
C4012-1	2 mL	2 mL	1.5 mL
C4012-1W	2 mL	2 mL	1.5 mL
C4012-2	2 mL	2 mL	1.5 mL
C4012-2W	2 mL	2 mL	1.5 mL
C4012-10	100 µL	425 µL	200 µL

**ALCOTT 8 x 35 MM**



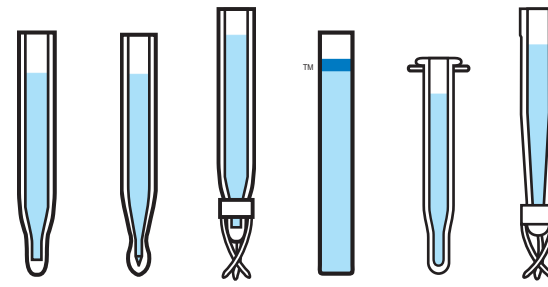
NSC #	Common Description	Approx. Total Capacity	Rec. Usable Volume
C4008-50	1 mL	1 mL	850 µL

**TARGET DP® MICROVOLUME INSERTS**



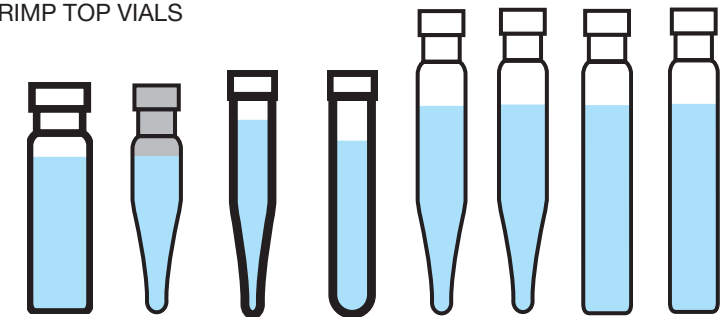
NSC #	Dimensions	Common Description	Approx. Total Capacity	Rec. Usable Volume
C4010-630	6 x 31 mm	250 µL	375 µL	300 µL
C4010-630P	6 x 29 mm	200 µL	325 µL	250 µL
C4010-627L	6 x 31 mm	300 µL	400 µL	350 µL
C4010-629L	6 x 31 mm	300 µL	400 µL	350 µL
C4011-631	6 x 31 mm	400 µL	500 µL	400 µL
C4011-631P	6 x 31 mm	300 µL	500 µL	400 µL
C4010-630TS	6 x 29 mm	150 µL	450 µL	325 µL

**STANDARD MICROVOLUME INSERTS**



NSC #	Dimensions	Common Description	Approx. Total Capacity	Rec. Usable Volume
C4012-529L	5 x 31 mm	150 µL	200 µL	170 µL
C4012-531L	5 x 31 mm	150 µL	225 µL	200 µL
C4012-530	5 x 29 mm	150 µL	200 µL	170 µL
C4012-465	5 x 31 mm	200 µL	250 µL	200 µL
C4012-529T	5 x 29 mm	125 µL	325 µL	250 µL
C4012-530P	5 x 30 mm	125 µL	175 µL	150 µL

**8 MM CRIMP TOP VIALS**



NSC #	Dimensions	Common Description	Approx. Total Capacity	Rec. Usable Volume
C4008-1	8 x 30	0.8 mL	1 mL	<80 µL
C4008-730	7 x 30	0.5 mL	550 µL	400 µL
C4008-632C	6 x 32	0.2 mL	250 µL	200 µL
C4008-632R	6 x 32	0.3 mL	325 µL	250 µL
C4008-739	7 x 40	0.7 mL	575 µL	450 µL
C4008-740	7 x 40	0.7 mL	575 µL	450 µL
C4008-741	7 x 40	0.8 mL	775 µL	650 µL
C4008-742	7 x 40	0.8 mL	775 µL	650 µL

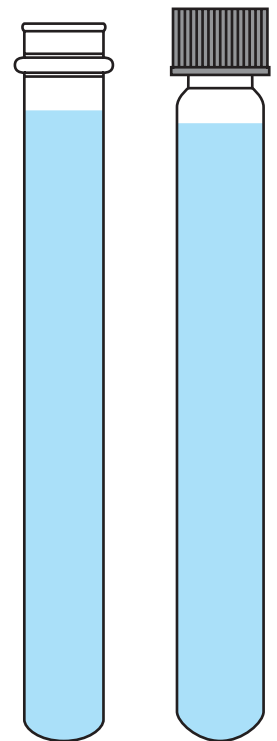
**HEADSPACE VIALS**



NSC #	Common Description	Approx. Total Capacity
C4020-20	20 mL	21 mL
C4020-10	10 mL	12 mL
C4020-2	20 mL	21.5 mL
C4020-210	10 mL	12 mL
C4020-25	20 mL	21.5 mL
C4020-410	10 mL	12.5 mL
C4020-6	6 mL	9 mL
C4020-60	6 mL	9 mL
C4020-27	27 mL	27 mL

**NSC#:** Refer to the product page for amber glass  
**Dimensions:** Does not include PolySpring height  
**Common Description:** Common name associated with the item  
**Approx. Total Capacity:** Volume when filled level with the rim  
**Rec. Usable Volume:** Maximum fill volume for routine applications on most autosamplers.

**TOC VIALS**



NSC #	Common Description	Approx. Total Capacity
C4011-1296	5 mL	5 mL
C4010-1296	5 mL	5 mL



**Distributed throughout Europe and the Middle East by Greyhound Chromatography**

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