

ARTISAN®
TECHNOLOGY GROUP

Your **definitive** source for quality pre-owned equipment.

Artisan Technology Group
(217) 352-9330 | sales@artisantg.com | artisantg.com

Full-service, independent repair center
with experienced engineers and technicians on staff.

We buy your excess, underutilized, and idle equipment
along with credit for buybacks and trade-ins.

Custom engineering
so your equipment works exactly as you specify.

- Critical and expedited services
- In stock / Ready-to-ship
- Leasing / Rentals / Demos
- ITAR-certified secure asset solutions

Expert team | Trust guarantee | 100% satisfaction

All trademarks, brand names, and brands appearing herein are the property of their respective owners.

Visit our website - *Click HERE*

Welcome to the 2005/2006 National Scientific Chromatography Accessories Catalog

We've assembled over a thousand products that laboratory professionals use every day in chromatography activities… consumable products that you can't work without…that make the difference between data integrity and wasteful inaccuracy.

Today no one can tolerate anything but top-of-the-line quality and uninterrupted productivity. National Scientific brings you the assurance of reliable products in greater selection than ever before. Now, incorporating products from the Kimble Chromatography line into a single, complete product portfolio, we are your premier supplier for chromatography accessories.

Table of Contents

COLOR KEY	SECTION	PAGE NUMBER
	8mm Crimp Vials	3–4
	12 x 32mm Standard Opening Crimp Vials	5–7
	12 x 32mm Target® LoVial™ Wide Opening Crimp Vials	8–11
	12 x 32mm LoVial Crimp/Snap Vials	12–15
	12 x 32mm 8-425 Screw Thread Vials	16–19
	12 x 32mm Target DP® Vials	20–25
	12 x 32mm 10-425 Screw Thread Vials	26–29
	15 x 45mm 4mL Crimp/Snap Vials	30–31
	15 x 45mm Screw Thread Vials	32–35
	Shell Vials	36–37
	Microsampling Products	38–40
	Headspace Vials	41–43
	TOC Vials	44
	Storage Vials	45–47
	EPA Vials	48
	WebSeal™ Microplate System and Mats	49–54
	Target Precision Glass Syringes	55–66
	Disposable Plastic Syringes	67
	Target Syringe Filters	68–70
	Centrifugal Filters	71
	Tools and Miscellaneous Products	72–73
	Chemical Compatibility of Glass and Plastic	74-76
	Physical Properties of Borosilicate Glass	77
	Septum Selection Guide	78
	Deactivation of Glass Vials and Inserts	79
	Autosampler Compatibility Tables	80-81
	Syringe Filter Membrane Compatibility Chart	82-83
	Syringe Filter Membrane Selection Guide	84
	Kimble® to NSC Part Number Cross Reference	85-88
	Terms and Conditions	88-89
	Chromatography Conversion Factors and Equations	90
	Notes	91
	Index	92–95
	Product Ordering Hot List	96



Company Profile

National Scientific is a manufacturer of an ever-expanding line of chromatography consumable products, serving customers in laboratories around the world. We've assembled over a thousand products that laboratory professionals use every day...products for 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 autosamplers in 1993. Polyspring® and MicroSert™ inserts, Snap-It™ and I-D™ Vials are a few of the brands popularized by NSC.

In December 2001, National Scientific acquired the consumable chromatography supplies line of Kimble Chromatography. We are now a single company capable of meeting all of the consumable product needs of the most demanding chromatographer. This catalog represents a comprehensive product portfolio combining the strengths of these two leading chromatography companies.

National Scientific offers autosampler vials, precision glass syringes, microtiter plate systems and HPLC syringe filters among over 1500 products for the laboratory. More laboratory professionals look to National Scientific to meet their critical sampling needs than any other company.

NATIONAL SCIENTIFIC


C4008-632R C4008-632C

Crimp Top

6mm Diameter—8mm Crimp Top Vials

- Versatile 6 × 32mm round or conical bottom vials
- Designed to fit PerkinElmer™ 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 8mm Crimp Top Vial, 6 × 32mm, Round Bottom	100	1000
C4008-632C	200µL	Clear Glass 8mm Crimp Top Vial, 6 × 32mm, Conical Bottom	100	1000


C4008-730 C4008-739 C4008-740 C4008-741 C4008-742

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 8mm Crimp Top Vial, 7 × 30mm, Conical Bottom	100	1000
C4008-739	450µL	Clear Glass 8mm Crimp Top Vial, 7 × 40mm, Conical Bottom	100	1000
C4008-740	450µL	Amber Glass 8mm Crimp Top Vial, 7 × 40mm, Conical Bottom	100	1000
C4008-741	650µL	Clear Glass 8mm Crimp Top Vial, 7 × 40mm, Flat Bottom	100	1000
C4008-742	650µL	Amber Glass 8mm Crimp Top Vial, 7 × 40mm, Flat Bottom	100	1000


C4008-1

Crimp Top

8mm Diameter—Flat Bottom 8mm Crimp Top Vials

- 8 × 30mm vials are designed to fit 60 and 100 position vial trays for PerkinElmer™ 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 8mm Crimp Top Vial, 8 × 30mm, Flat Bottom	200	2000

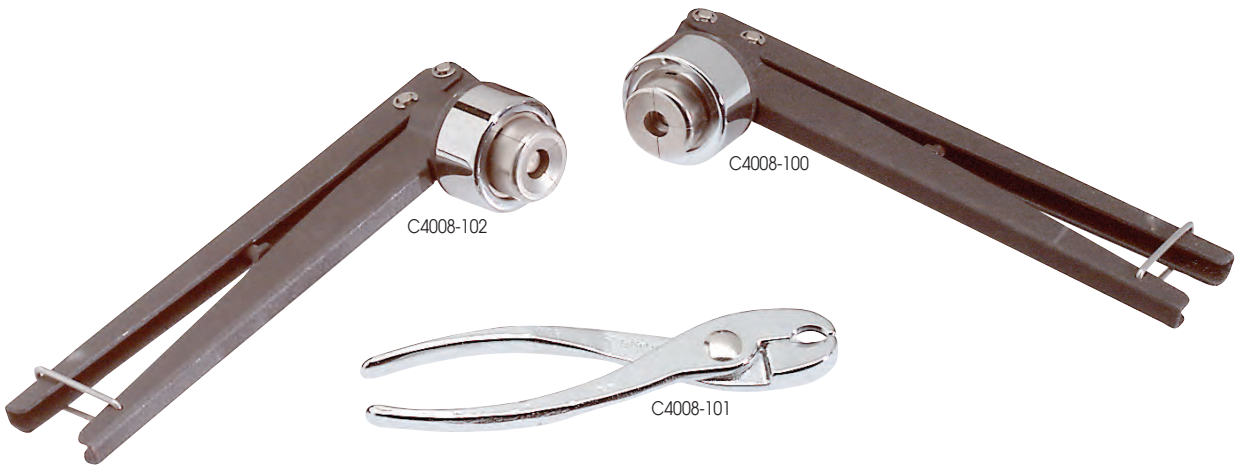


Crimp Seals

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	1000
C4008-98G	Green	Clear PTFE/Red Rubber	General purpose resealable septum	200	1000
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	1000
C4008-8K	Silver, Blue, Green, Red, Yellow	Clear PTFE/Red Rubber	Kombo Kit, 200 of each color	----	1000
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
- Decrimping tools allow easy removal of aluminum seals without vial breakage

NSC PART NO.	DESCRIPTION	USE	PACK 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


C4012-2, -1


C4012-1W


C4012-2W


C4012-10


C4012-15

Crimp Top Vials

Crimp Top Vials—Standard Opening 2mL, 12 × 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 w/patch	100	2000
C4012-2	1.8mL	2mL Amber Glass	100	2000
C4012-2W	1.8mL	2mL Amber Glass I-D w/patch	100	2000
C4012-10	150µL	150µL Clear Solid Glass Microvial™	----	12
C4012-15	150µL	Glastic® Glass Insert/TPX Vial	100	----


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


C4011-7 Series

Crimp Seals

Aluminum Crimp Seals with Prefitted Septa for 12 × 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

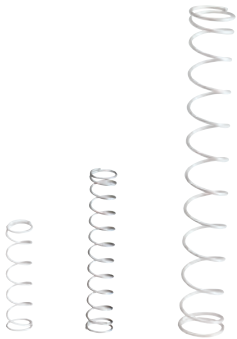
NSC PART NO.	SEAL COLOR	SEPTUM MATERIAL	COMMENT	PACK OF	CASE OF
C4011-1AP	Silver	Clear PTFE/Red Rubber	Standard GC septum	100	----
C4011-1A	Silver	Clear PTFE/Red Rubber	Standard GC septum	----	1000
C4011-98B	Blue	Clear PTFE/Red Rubber	Standard GC septum	100	1000
C4011-98R	Red	Clear PTFE/Red Rubber	Standard GC septum	100	1000
C4011-98G	Green	Clear PTFE/Red Rubber	Standard GC septum	100	1000
C4011-98Y	Yellow	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
NEW C4011-7A	Silver	Seal 2000	High Purity GC septum	100	1000
NEW C4011-7B	Blue	Seal 2000	High Purity GC septum	100	1000
NEW C4011-7G	Green	Seal 2000	High Purity GC septum	100	1000
NEW C4011-7R	Red	Seal 2000	High Purity GC septum	100	1000
NEW C4011-7Y	Yellow	Seal 2000	High Purity GC septum	100	1000
NEW C4011-7K	Silver, Blue, Green, Red, Yellow	Seal 2000	Kombo Kit; 200 of each Seal 2000 color	----	1000


C4012-465, C0413-K465


C4012-530


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


C4012-529L


C4012-540

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 Insert	Glass	Flat bottom	200µL	12µL	500	1000
C4012-530	200µL Polyspring, Conical Insert	Glass	Pulled point	175µL	5µL	100	----
C4012-529L	200µL Conical Insert	Glass	Pulled point	175µL	5µL	100	1000
C4012-531L	225µL Conical Insert	Glass	Precision point	200µL	2µL	100	1000
C4013-529T	200µL Top Spring Conical Insert	Glass	Precision point	175µL	4µL	----	500
C4012-530P	175µL Polyspring Polypropylene Insert	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-S530	200µL Polyspring, Conical	Silanized Glass	Pulled point	175µL	5µL	100	----
C4013-K465	250µL MicroSert Flat Bottom Insert	Kimshield Glass	Flat bottom	200µL	12µL	----	1000
C4012-K530	200µL Polyspring, Conical	Kimshield Glass	Pulled Point	175µL	5µL	100	----

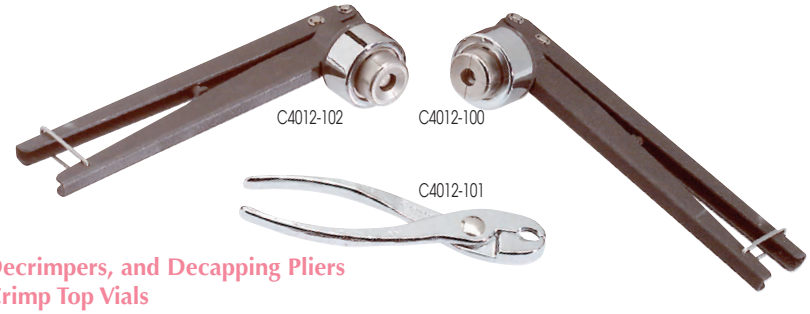


Bulk Packs

Unassembled Standard Opening Vial and Crimp Seal Bulk Packs

- Includes vials and aluminum seals with prefitted septa

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

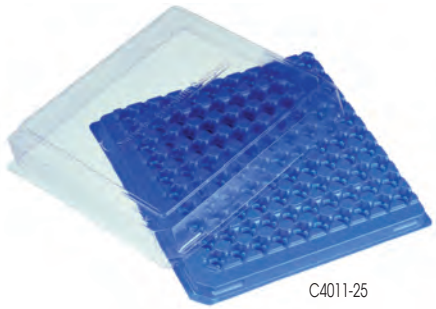


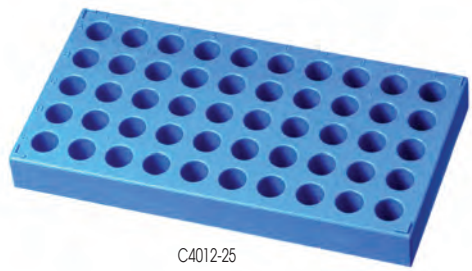
Tools and Racks

Crimpers, Decrimpers, and Decapping Pliers for 11mm Crimp Top Vials

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

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





Tools and Racks

Sample Racks for 12 × 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 × 32mm vials with clear lid	100 vials, 10 × 10	1	5
C4012-25	Polypropylene storage rack for 12 × 32mm vials, no lid	50 vials, 5 × 10	1	5


C4011-1, -1W


C4011-2W


C4011-1B, -1G, -1R, -1Y


C4011-1240


C4011-LV1

Crimp Top

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

- Wide opening vial is easier to fill
- 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 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


C4011-LV1W, -LV2W


C4011-1PT


C4011-10


C4011-V2, -V1


C4011-1.7CB

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 w/Patch	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 w/Patch	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
MICROSAMPLING VIALS FOR USE WITH 11mm ALUMINUM CRIMP SEALS					
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, w/Patch	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, w/Patch	Crimp	100	----
C4011-10	400µL	Solid Glass MicroVial™	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 MicroVial	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
DEACTIVATED VIALS					
C4011-S1	1.8mL	2mL Clear Glass Vial, NSC Silanized	Crimp	100	2000
C4011-S1W	1.8mL	2mL Clear Glass I-D Vial w/Patch, NSC Silanized	Crimp	100	2000
C4011-S2W	1.8mL	2mL Amber Glass I-D Vial w/Patch, NSC Silanized	Crimp	100	2000
C4011-S9	1.5mL	1.5mL High Recovery MicroVial, NSC Silanized	Crimp	100	----
C4011-K1W	1.8mL	2mL Clear Glass I-D Vial w/Patch, Kimshield™ Deactivated	Crimp	100	----
C4011-K2W	1.8mL	2mL Amber Glass I-D Vial w/Patch, Kimshield Deactivated	Crimp	100	----



C4011-13 C4011-16 C4011-11 C4011-15 C4011-14 C4011-26 C4011-24 C4012-15

Crimp Top

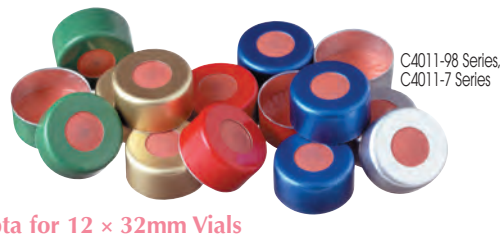
Limited Volume Plastic Crimp Top Vials

- 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 VOLUME	FINISH	PACK OF	CASE OF
	C4011-13	250µL	250µL Virgin Polypropylene MicroVial™	3µL	Crimp/Snap	100	1000
	C4011-16	350µL	600µL Virgin Polypropylene MicroVial	5µL	Crimp/Snap	100	----
	C4011-11	600µL	800µL Virgin Polypropylene MicroVial	6µL	Crimp/Snap	100	1000
NEW	C4011-15	600µL	850µL Virgin Polypropylene AP2000™ MaxVial™	15µL	Crimp/Snap	----	1000
	C4011-14	800µL	1mL Virgin Polypropylene Flat Bottom Vial	30µL	Crimp/Snap	100	1000
	C4011-26	700µL	700µL 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	----



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



C4011-98 Series, C4011-7 Series

Crimp Seals

Aluminum Crimp Seals with Prefitted Septa for 12 × 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	Yellow	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
NEW	C4011-7A	Silver	Seal 2000	High Purity GC septum	100	1000
NEW	C4011-7B	Blue	Seal 2000	High Purity GC septum	100	1000
NEW	C4011-7G	Green	Seal 2000	High Purity GC septum	100	1000
NEW	C4011-7R	Red	Seal 2000	High Purity GC septum	100	1000
NEW	C4011-7Y	Yellow	Seal 2000	High Purity GC septum	100	1000
NEW	C4011-7K	Silver, Blue, Green, Red, Yellow	Seal 2000	Kombo Kit 200 of each Seal 2000 color	----	1000
NEW	C4011-37	Silver	Gray Chlorobutyl	Resealable, Intermediate Purity	----	1000

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


C4010-629L, -S629


C4010-630TS


C4011-631, -S631


C4011-631P


C4010-630, -S630, C4010-K630

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
C4010-629L	350µL Glass Conical Insert, Precision Point	Insert rests on bottom of vial	100	1000
C4010-630TS	300µL Glass Conical Insert with Top Spring	Insert is suspended in vial by top spring	----	500
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	NSC silanized	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

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


Convenience Kits


Bulk Packs

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
NEW 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	----
NEW 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/RR w/C4011-630 Insert	C4011-1	C4011-1AP	100	----
C4011-95A	Amber Glass	PTFE/RR w/C4011-630 Insert	C4011-2	C4011-1AP	100	----
C4011-95W	Clear Glass I-D	PTFE/RR w/C4011-630 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, -88A, 88W, and -88AW are bulk packs that do not include two compartment convenience kit trays.

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
NEW	C4011-1CV	Clear Glass	Silver seal, PTFE/Red Rubber	C4011-1	C4011-1AP	100
NEW	C4011-2WCV	Amber Glass I-D™	Silver seal, PTFE/Red Rubber	C4011-2W	C4011-1AP	100

NSC 9 Drawer Storeroom





Mini Storeroom

Storerooms

Target® LoVial™ Storerooms

- Mini storeroom has 6 drawers, able to contain 5-100/pack vials and 500/pack of crimp seals
- Full-size storeroom has 9 deep drawers with a capacity of 3000 vials and seals
- Storeroom can be restocked as product is consumed

	NSC PART NO.	DESCRIPTION	VIALS CAT. NO.	SEAL PART NO.	PACK OF
NEW	C4011-688	NSC Mini Storeroom, Clear Vial, PTFE/RR Seals, 500 pieces	C4011-1	C4011-1AP	1
NEW	C4011-688W	NSC Mini Storeroom, Clear I-D Vial, PTFE/RR Seals, 500 pieces	C4011-1W	C4011-1AP	1
NEW	C4011-688AW	NSC Mini Storeroom, Amber I-D Vial, PTFE/RR Seals, 500 pieces	C4011-2W	C4011-1AP	1
	C4075-1	NSC Storeroom, Clear Vial, PTFE/RR Seals, 3000 pieces	C4011-1	C4011-1AP	1
	C4075-11	NSC Storeroom, Amber Vial, PTFE/RR Seals, 3000 pieces	C4011-2	C4011-1AP	1
	C4075-21	NSC Storeroom, Clear I-D Vial, PTFE/RR Seals, 3000 pieces	C4011-1W	C4011-1AP	1
NEW	C4000-MS	Six Drawer Mini Storeroom—Cabinet Only	N/A	N/A	1
	C4075-500	National Scientific Nine-Drawer Storeroom, Full Size—Cabinet Only	N/A	N/A	1

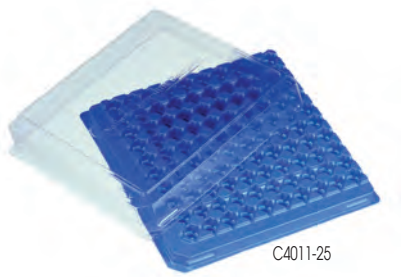
Tools and Racks

Crimpers, Decrimpers, and Decapping Pliers for 11mm Crimp Top Vials

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



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



C4011-25



C4012-25

Tools and Racks

Sample Racks for 12 × 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 × 32mm vials with clear lid	100 vials, 10 × 10	1	5
C4012-25	Polypropylene storage rack for 12 × 32mm vials, no lid	50 vials, 5 × 10	1	5

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


C4011-5, -S5


C4011-6


C4011-5W, -S5W


C4011-6W, -S6W


C4011-LV1


C4011-V5

Snap Cap Vials

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


C4011-4, -S4


C4011-13

NSC PART NO.	MAX. 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 w/Patch	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 w/Patch	100	2000
MICROSAMPLING VIALS FOR USE WITH SNAP-IT SNAP CAPS				
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 MicroVial	100	----
DEACTIVATED VIALS				
C4011-S5	1.8mL	2mL Snap-It Clear Glass Vial, NSC Silanized	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, NSC Silanized	100	2000
C4011-S4	1.5mL	1.5mL Snap-It High Recovery MicroVial, NSC Silanized	100	----


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 a clear TPX vial

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

Target® Snap-It™ Wide Opening—12 × 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 × 32mm Vials

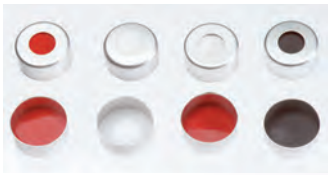
- Target Snap-It caps are easy to apply and easy to remove from Target Snap-It Vials
- Target Snap-It caps eliminate the need for crimping or decapping tools
- Target Snap-It caps are available in a variety of colors and septa choices

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, resists coring	100	1000
C4011-53B	Blue	Red PTFE/White Silicone/Red PTFE	For Aggressive Solvents, resists coring	100	1000
C4011-53G	Green	Red PTFE/White Silicone/Red PTFE	For Aggressive Solvents, resists coring	100	1000
C4011-53R	Red	Red PTFE/White Silicone/Red PTFE	For Aggressive Solvents, resists coring	100	1000
C4011-53Y	Yellow	Red PTFE/White Silicone/Red PTFE	For Aggressive Solvents, resists coring	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
C4011-56G	Green	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

Crimp Seals

Aluminum Crimp Seals with Prefitted Septa for 12 × 32mm Vials

- National aluminum crimp closures provide a secure seal when used with Target® Snap-It™ 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
- Aluminum seals must be applied with a crimping tool



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



C4011-98 Series; C4011-7K

	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	Yellow	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
NEW	C4011-7A	Silver	Seal 2000®	High Purity GC septum	100	1000
NEW	C4011-7B	Blue	Seal 2000	High Purity GC septum	100	1000
NEW	C4011-7G	Green	Seal 2000	High Purity GC septum	100	1000
NEW	C4011-7R	Red	Seal 2000	High Purity GC septum	100	1000
NEW	C4011-7Y	Yellow	Seal 2000	High Purity GC septum	100	1000
NEW	C4011-7K	Silver, Blue, Green, Red, Yellow	Seal 2000	200 of each Seal 2000 color	----	1000
NEW	C4011-37	Silver	Gray Chlorobutyl	Resealable, Intermediate Purity	----	1000



C4011-631, C4011-S631, C4010-K630



C4010-631P



C4010-630, -S630



C4010-627L



C4011-630P

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 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 NSC Silanized or Kimshield™ pretreated



C4010-629L, -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
C4010-629L	400µL Glass Conical Insert	Glass	Precision Point	350µL	3µL	100	1000
C4010-630TS	225µL Conical w/Top Spring	Glass	Precision Point	200µL	4µL	----	500
DEACTIVATED INSERTS							
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	----

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

NSC PART NO.	VIAL	SEAL WITH SEPTUM	VIALS PART NO.	SEAL PART NO.	PACK 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



NSC 9 Drawer Storeroom

Target® Snap-It™ Storerooms

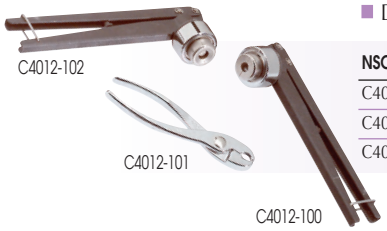
- Mini storeroom has 6 drawers, able to contain 5-100/pack of vials and one 500/pack of caps
- Full-size storeroom has 9 deep drawers with a capacity of 2000 vials and caps
- Storeroom can be restocked as product is consumed



Mini Storeroom

NSC PART NO.	DESCRIPTION	VIALS PART NO.	SEAL PART NO.	PACK OF
NEW C4011-6551	NSC Mini Storeroom, Clear Snap-It Vial, PTFE/RR Cap, 500 pieces	C4011-5	C4011-51	1
NEW C4011-65W51	NSC Mini Storeroom, Clear Snap-It I-D Vial, PTFE/RR Cap, 500 pieces	C4011-5W	C4011-51	1
NEW 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
NEW C4000-MS	Six Drawer Mini Storeroom—Cabinet Only	N/A	N/A	1
C4075-500	National Scientific Nine-Drawer Storeroom, Full Size—Cabinet Only	N/A	N/A	1

Tools and Racks



C4012-102

C4012-101

C4012-100

Crimpers, Decrimpers, and Decapping Pliers for 11mm Crimp Top Vials

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

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

Tools and Racks



C4011-25

Sample Racks for 12 × 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



C4012-25

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

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


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


C4013-2W, -K2W

C4013-1W, -K1W


C4013-12

Screw Thread Glass Vials

Standard Opening 12 × 32mm Screw Thread Glass Vials—2mL 12 × 32mm

- Standard neck vial 8-425 thread finish, 12 × 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 w/patch	100	2000
C4013-2	1.8mL	2mL Amber Glass	100	2000
C4013-2W	1.8mL	2mL Amber Glass I-D w/patch	100	2000
C4013-12	150µL	150µL MicroVial™, Clear Solid Glass	----	12
DEACTIVATED GLASS VIALS				
C4013-S1	1.8mL	2mL Clear Glass, Silanized	100	2000
C4013-S2	1.8mL	2mL Clear Glass I-D w/patch, 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, w/patch, Kimshield	100	----


C4013-11, -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.	MAXIMUM FILL VOLUME	DESCRIPTION	PACK OF	CASE OF
C4013-11	250µL	250µL Virgin Polypropylene MicroVial™	100	1000
C4013-13	650µL	750µL Virgin Polypropylene MicroVial	----	1000
C4013-15GST	100µL	150µL Glastic Glass Insert TPX MicroVial	100	----


C4013-1A, -3A


C4013-66

Empty Caps

8-425 Empty Caps—Without Septum for 8-425 Standard Opening Vials

- Open top caps are designed to be used with any NSC 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	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® autosamplers needing suspended vials.



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/Clear 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



Polypropylene Caps



Kim-Lok™ Caps

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





B7815-8

	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	Clear 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
NEW	C4013-61A	Kim-Lok™ cap w/flange	Black	Polypropylene	Kim-Lok Red PTFE/White Silicone	100	----
NEW	C4013-61B	Kim-Lok cap w/flange	Blue	Polypropylene	Kim-Lok Red PTFE/White Silicone	100	----
NEW	C4013-61G	Kim-Lok cap w/flange	Green	Polypropylene	Kim-Lok Red PTFE/White Silicone	100	----
NEW	C4013-61R	Kim-Lok cap w/flange	Red	Polypropylene	Kim-Lok Red PTFE/White Silicone	100	----
NEW	C4013-61W	Kim-Lok cap w/flange	White	Polypropylene	Kim-Lok Red PTFE/White Silicone	100	----
NEW	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	----

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



C4012-465, C4013-K465



C4012-530, -S530



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	----
C4012-529L	150µL Conical Insert	Glass	Pulled point	100	1000
C4012-531L	150µL Conical Insert	Glass	Precision point	100	1000
C4013-529T	300µL Top Spring Conical Insert	Glass	Precision point	----	500
C4012-530P	125µL Polyspring Polypropylene Insert	Polypropylene	Precision point	100	----
DEACTIVATED INSERTS					
C4012-S530	150µL Polyspring, Conical Insert	Silanized Glass	Pulled point	100	----
C4013-K465	200µL Flat Bottom MicroSert	Kimshield Glass	Flat bottom	----	1000



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
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	C4013-77A	100
NEW C4013-482	Clear Glass	Black Phenolic	PTFE/Red Rubber	C4013-1	C4013-30A	100
NEW C4013-492	Clear Glass	Black Phenolic	Red PTFE/White Silicone	C4013-1	C4013-74A	100
NEW C4013-492W	Clear I-D	Black Phenolic	Red PTFE/White Silicone	C4013-1W	C4013-74A	100
NEW 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-S15	Clear, Silanized	Black	Red PTFE/White Silicone	C4013-S1	C4013-60A	100

NOTE: All caps are manufactured from virgin polypropylene unless noted. C4013-18 septa are not pre-inserted.





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
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
NEW C4013-410A	Clear Glass	Black Phenolic	White PTFE	C4013-1	C4013-66/C4013-10	100
NEW C4013-415A	Clear Glass	Black Phenolic	White PTFE	C4013-1	C4013-66/C4013-10	100
NEW C4013-486A	Clear Glass	Black Phenolic	PTFE/Silicone/PTFE	C4013-1	C4013-66/C4013-40	100
NEW C4013-491A	Clear Glass	Black Phenolic	Tan PTFE/White Silicone	C4013-1	C4013-66/C4013-61	100
NEW C4013-492A	Clear Glass	Black Phenolic	Red PTFE/White Silicone	C4013-1	C4013-66/C4013-60	100
NEW C4013-494A	Amber Glass	Black Phenolic	Red PTFE/White Silicone	C4013-1	C4013-66/C4013-60	100
PACKAGED IN POLYBAG						
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

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



Storerooms



Standard-Opening 12 × 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

NSC PART NO.	DESCRIPTION	VIALS PART NO.	SEAL PART NO.	PACK OF
C4075-380	DP 9 Drawer Storeroom, Clear Vial, Phenolic Caps, 2000 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 × 32mm Screw Thread Vials, Caps, Septa, and Inserts



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



C4000-2W, -S2W



C4000-LV1, -LV2



C4000-1PT

Screw Thread Vials

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

- Convenience of a screw thread with the outer profile of a crimp vial for the broadest autosampler compatibility
- 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, -S9



C4000-9A, -S9A



C4000-LV1W, -LV2W

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 w/patch	100	2000
C4000-2W	1.8mL	2mL Amber Glass I-D w/patch	100	2000
NEW C4000-1PT	950µL	DP Clear Glass Precision Taper	100	----
C4000-9	1.5mL	DP Clear Glass High Recovery	100	----
C4000-9A	1.5mL	DP Amber Glass High Recovery	100	----
C4000-LV1	350µL	Macrovial™ 350µL Fused Insert Vial, Clear Glass	100	----
NEW C4000-LV1W	350µL	Macrovial 350µL Fused Insert Vial, Clear Glass I-D w/patch	100	----
C4000-LV2	350µL	Macrovial 350µL Fused Insert Vial, Amber Glass	100	----
NEW C4000-LV2W	350µL	Macrovial 350µL Fused Insert Vial, Amber Glass I-D w/patch	100	----
C4000-V1	1.5mL	Micro-V™ 1.5mL Tapered Microvial with 150µL reservoir, Clear Glass	100	----
C4000-V2	1.5mL	Micro-V 1.5mL 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 w/patch, Silanized	100	2000
C4000-S2W	1.8mL	2mL Amber Glass I-D w/patch, Silanized	100	2000
C4000-S9	1.5mL	2mL Clear Glass High Recovery, Silanized	100	----
C4000-S9A	1.5mL	2mL Amber Glass High Recovery, Silanized	100	----



C4000-V1



C4000-V2

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 five colors for separating assays, lots, and standards

NSC PART NO.	DESCRIPTION	COLOR (CLOSURE)	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



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
C4000-20	Clear PTFE/Butyl Red Rubber	Thinner PTFE lining for fragile needles	100	1000
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



C4000-64B, -75C



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
- 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
- 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
NEW C4000-64B	Polypropylene Open Top Cap	Black	Bonded PTFE/Silicone	100	1000
NEW C4000-75C	Polypropylene Open Top Cap	Gray	Bonded PTFE/Silicone, Pre-slit	100	1000
NEW C4000-99	Polypropylene Solid Top Storage Cap	Blue	PTFE/Red Rubber Liner	100	1000



C4010-631 | C4010-627L | C4010-629L, -S629 | C4010-630, -S630 | 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	Rests on vial bottom	100	1000
C4010-629L	350µL Glass Conical Insert, Precision Point	Insert rests on bottom of vial	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	----
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	NSC silanized	500	----
C4010-K630	300µL Polyspring, Glass Conical Insert, Kimshield	Precision-formed tip, Kimshield deactivated	100	----

Protect Your Instruments

Target Syringe filters provide superior performance for consistently accurate results...and peace of mind for your instruments.
Our full line of high-performance fliters meet your most stringent laboratory demands.

Laser cut membranes ensure precise size and fit.
Our polypropylene housing is precision molded and ultrasonically joined to ensure integrity and strength.



For syringe filters, see p. 68.



Convenience Kits

Target® DP® 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 pre-inserted septa are not attached to vials (packed in separate polybag)

	NSC PART NO.	VIAL	CAP COLOR	SEPTUM	VIAL PART NO.	CAP/SEPTUM PART NO.	PACK 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	C4000-1	C4000-54B	100
	C4000-94W	Amber Glass I-D	Blue	Red PTFE/White Silicone	C4000-2W	C4000-54B	100
NEW	C4000-92PT	Clear Glass	Blue	Red PTFE/White Silicone	C4000-1PT	C4000-54B	100
	C4000-92W	Clear Glass I-D	Blue	Red PTFE/White Silicone	C4000-1W	C4000-54B	100
	C4000-LV92	Clear Glass	Blue	Red PTFE/White Silicone	C4000-LV1	C4000-54B	100
	C4000-LV94	Amber Glass	Blue	Red PTFE/White Silicone	C4000-LV2	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-LV1	C4000-55B	100
	C4000-LV96	Amber Glass	Blue	Blue PTFE/White Silicone, Pre-slit	C4000-LV2	C4000-55B	100
NEW	C4000-78W	Clear Glass I-D	Black	Bonded PTFE/Silicone	C4000-1W	C4000-64B	100
NEW	C4000-98PT	Clear Glass	Black	Bonded PTFE/Silicone	C4000-1PT	C4000-64B	100
NEW	C4000-992	Clear Glass	Black	Bonded PTFE/Silicone	C4000-9	C4000-64B	100
NEW	C4000-99PT	Clear Glass	Gray	Bonded PTFE/Silicone, Pre-slit	C4000-1	C4000-75C	100
NEW	C4000-93W	Clear Glass I-D	Gray	Bonded PTFE/Silicone, Pre-slit	C4000-1W	C4000-75C	100
NEW	C4000-S75W	Silanized I-D	Gray	Bonded PTFE/Silicone, Pre-slit	C4000-S1W	C4000-75C	100



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

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
C4000-9194	Amber High Recovery	Blue	Red PTFE/White Silicone	C4000-9A	C4000-55B	100
DEACTIVATED ASSEMBLED VIAL KITS						
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



Mini Storeroom



NSC 9 Drawer Storeroom

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
NEW	C4000-680	DP Mini Storeroom, DP Clear Vial, PTFE/RR Caps	C4000-1	C4000-51B	1
NEW	C4000-680W	DP Mini Storeroom, DP Clear I-D™ Vial, PTFE/RR Caps	C4000-1W	C4000-51B	1
NEW	C4000-682W	DP Mini Storeroom, DP Amber I-D Vial, PTFE/RR Caps	C4000-2W	C4000-51B	1
NEW	C4000-686	DP Mini Storeroom, DP Clear Vial, PTFE/Silicone/PTFE Caps	C4000-1	C4000-53B	1
NEW	C4000-686W	DP Mini Storeroom, DP Clear I-D Vial, PTFE/Silicone/PTFE Caps	C4000-1W	C4000-53B	1
NEW	C4000-688W	DP Mini Storeroom, DP Amber Vial, PTFE/Silicone/PTFE Caps	C4000-2W	C4000-53B	1
NEW	C4000-692	DP Mini Storeroom, DP Clear Vial, PTFE/Silicone Caps	C4000-1	C4000-54B	1
NEW	C4000-692W	DP Mini Storeroom, DP Clear I-D Vial, PTFE/Silicone Caps	C4000-1W	C4000-54B	1
NEW	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 × 32mm Screw Thread Vials, Caps, Septa, and Inserts



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



C4010-2, -2W, -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.	MAX. FILL VOLUME	DESCRIPTION	PACK OF	CASE OF
C4010-1	1.8mL	2mL Clear Glass	100	2000
C4010-1W	1.8mL	2mL Clear Glass I-D™ w/patch	100	2000
C4010-2	1.8mL	2mL Amber Glass	100	2000
C4010-2W	1.8mL	2mL Amber Glass I-D w/patch	100	2000
MICROSAMPLING VIALS FOR 10-425				
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	----
C4010-V2	1.5mL	Micro-V 1.5mL Tapered Microvial with 150µL reservoir, Amber Glass	100	----
DEACTIVATED GLASS VIALS				
C4010-S1	1.8mL	2mL Clear Glass, Silanized	100	2000
C4010-S1W	1.8mL	2mL Clear Glass I-D w/patch, Silanized	100	2000
C4010-S2W	1.8mL	2mL Amber Glass I-D w/patch, Silanized	100	2000

C4010-11



C4010-14



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	400µL Virgin Polypropylene MicroVial™, Tapered Tip	100	1000
C4010-14	550µL	550µL Virgin Polypropylene 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 NSC 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

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
C4010-98Y	Open top cap	Yellow	Polypropylene	100	1000



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 re-sealable, 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



Pre-assembled Caps



C4010-99



NSC PART NO.	CAP TYPE	CAP COLOR	SEPTUM	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	1000

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


C4011-631, -S631


C4011-631P


C4010-630, -S630


C4010-630P


C4010-630TS


C4010-629L, -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 wtih NSC Silanized or Kimshield™ deactivation


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	Rests on vial bottom	100	1000
C4010-629L	350µL Glass Conical Insert, Precision Point	Rests on vial bottom	100	1000
C4010-630TS	250µL Glass Conical Insert with Top Spring	Insert is suspended from rim of vial	----	500
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)



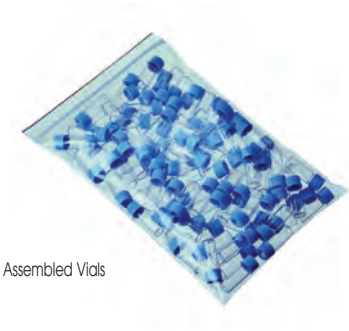
NSC PART NO.	VIAL	CAP COLOR	SEPTUM	VIAL PART NO.	CAP/SEPTUM PART NO.	PACK OF
C4010-88	Clear Glass	Lt. Blue	PTFE/Silicone	C4010-1	C4010-60A	100
C4010-88A	Amber Glass	Lt. Blue	PTFE/Silicone	C4010-2	C4010-60A	100
C4010-88W	Clear Glass I-D™	Lt. Blue	PTFE/Silicone	C4010-1W	C4010-60A	100
C4010-88AW	Amber Glass I-D	Lt. 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	Lt. Blue	PTFE/Silicone	C4010-S1	C4010-60A	100
C4010-89	Clear Glass	Lt. Blue	PTFE/Silicone/PTFE	C4010-1	C4010-40A	100
C4010-89W	Clear Glass I-D	Lt. Blue	PTFE/Silicone/PTFE	C4010-1W	C4010-40A	100
C4010-89AW	Amber Glass I-D	Lt. Blue	PTFE/Silicone/PTFE	C4010-2W	C4010-40A	100
C4010-90	Clear Glass	Lt. Blue	PTFE Unassembled	C4010-1	C4010-1A/C4010-10†	100
C4010-90A	Amber Glass	Lt. Blue	PTFE Unassembled	C4010-2	C4010-1A/C4010-10†	100
C4010-90W	Clear Glass I-D	Lt. Blue	PTFE Unassembled	C4010-1W	C4010-1A/C4010-10†	100
C4010-90AW	Amber Glass I-D	Lt. Blue	PTFE Unassembled	C4010-2AW	C4010-1A/C4010-10†	100
C4010-92	Clear Glass	Lt. Blue	PTFE/Silicone—Pre-slit	C4010-1	C4010-55A	100
C4010-S92	Clear Silanized	Lt. Blue	PTFE/Silicone—Pre-slit	C4010-S1	C4010-55A	100
C4010-93W	Clear Glass I-D	Lt. 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 I-D	White Shimadzu	PTFE/Silicone	C4010-2W	C4010-35W	100
C4010-97W	Clear Glass I-D	Black	PTFE/Silicone—Pre-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 pre-inserted into caps (packed in separate polybag).

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



Assembled Vials in Covered Trays



Polybagged Assembled Vials

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
ASSEMBLED VIALS IN COVERED TRAYS						
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	C4010-60BLK	100
C4010-17ABLK	Amber Glass	Black	PTFE/Silicone	C4010-2	C4010-60BLK	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-S19W	Clear I-D Silanized	Lt. Blue	PTFE/Silicone/PTFE	C4010-S1W	C4010-40A	100
C4010-S20W	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, Shimadzu	C4010-1	C4010-35BLK	100
C4010-67A	Amber Glass	Black	PTFE, Silicone, Shimadzu	C4010-2	C4010-35BLK	100
C4010-67W	Clear Glass I-D	Black	PTFE, Silicone, Shimadzu	C4010-1W	C4010-35BLK	100
C4010-67AW	Amber Glass I-D	Black	PTFE, Silicone, Shimadzu	C4010-2W	C4010-35BLK	100
POLYBAGGED ASSEMBLED VIALS						
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	C4010-1W	C4010-40A	100
C4010-019AW	Amber Glass I-D	Lt. Blue	PTFE/Silicone/PTFE	C4010-2W	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



NEW

Crimp/Snap-Ring Vials

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

- Fits Waters™ 4mL WISP™ and other 15 × 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 × 45mm Clear Glass	100	----
C4015-12	4mL	15 × 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 13mm crimping tool



C4015-4A



C4015-53



C4015-54



C4015-52

NSC PART NO.	SEAL COLOR	SEPTUM MATERIAL	COMMENT	PACK OF	CASE OF
KIM-SNAP					
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	----
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	----
13MM ALUMINUM SEALS					
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	----


C4015-843


C4015-638


C4015-643


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


C4015-640

Vial Inserts


C4015-641

Inserts for 15 × 45mm 4mL Vials

- These inserts all have a nominal O.D. of 6mm or 8mm to fit 15 × 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
- Inserts deactivated by NSC Silanization

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


C4013-102

C4013-101

C4013-100

Crimping and Decrimping Tools

Crimpers, Decrimpers, and Decapping Pliers for 13mm Crimp Top Vials

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

NSC PART NO.	DESCRIPTION	USE	PACK 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 × 45mm Screw Thread Vials, Caps, Septa, and Inserts


C4015-11W, -2W, -S11W, -S2W


C4015-2, -S2


C4015-9


C4015-14


C4015-15

Screw Thread Vials

4mL 15 × 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 a plastic vial
- Deactivated vials are available with either NSC Silanization or Kimshield™ pretreatment


NEW

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

NSC PART NO.	STD. FILL VOLUME	DESCRIPTION	PACK OF	CASE OF
C4015-1	4mL	15 × 45mm Clear Glass	100	2000
C4015-11W	4mL	15 × 45mm Clear Glass I-D™ w/patch	100	2000
C4015-2	4mL	15 × 45mm Amber Glass	100	2000
C4015-2W	4mL	15 × 45mm Amber Glass I-D w/patch	100	2000
C4015-9	3.5mL	15 × 45mm AP2000 High Recovery Vial, Glass	100	----
C4015-14	2.5mL	15 × 45mm AP2000 High Recovery Vial, Polypropylene	100	1000
C4015-15	1.0mL	Glastic 15 × 45mm TP × vial with glass insert	100	----
DEACTIVATED VIALS				
C4015-S1	4mL	15 × 45mm Clear Glass, Silanized	100	2000
C4015-S11W	4mL	15 × 45mm Clear Glass I-D w/patch, Silanized	100	2000
C4015-S2	4mL	15 × 45mm Amber Glass, Silanized	100	2000
C4015-S2W	4mL	15 × 45mm Amber Glass I-D w/patch, Silanized	100	2000
C4015-K1	4mL	15 × 45mm Clear Glass, Kimshield	100	----
C4015-K2	4mL	15 × 45mm Amber Glass, Kimshield	100	----


Polypropylene Caps


C4015-66

Empty Caps

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

- Open top caps are designed to be used with 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
NEW C4015-66	Open top cap	Black	Phenolic	----	1000



Septa

Septa for 4mL Screw Thread Vials

- 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
C4015-10	White Virgin PTFE	Not resealable, single use	----	1000
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



C4015-75 Series



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
- 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
NEW 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	----

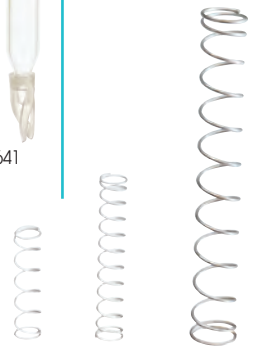
4mL 15 × 45mm Screw Thread Vials, Caps, Septa, and Inserts


C4015-843


C4015-638


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


C4015-641


C4015-640

Inserts

Inserts for 15 × 45mm 4mL Vials

- These inserts all have a nominal O.D. of 6mm or 8mm to fit 15 × 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 are treated 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
DEACTIVATED INSERTS				
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

NSC PART NO.	VIAL	CAP	SEPTUM	VIALS PART NO.	CAP/SEPTUM PART NO.	PACK 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	C4015-1	C4015-75A	100
NEW C4015-88AW	Amber Glass I-D	Black Polypropylene	PTFE/Silicone	C4015-2W	C4015-75A	100
NEW C4015-482	Clear Glass	Black Phenolic	PTFE/Red Rubber	C4015-1	C4015-66/ C4015-30	100
NEW 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.





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
ASSEMBLED VIALS IN NSC STACKABLE TRAYS WITH CLEAR COVERS						
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	C4015-75A	100
C4015-17W	Clear Glass I-D	Black Polypropylene	PTFE/Silicone	C4015-11W	C4015-75A	100
C4015-17AW	Amber Glass I-D	Black Polypropylene	PTFE/Silicone	C4015-2W	C4015-75A	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
POLYBAGGED ASSEMBLED VIALS						
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 12 × 32mm vials with clear lid	100 vials, 10 × 10	1	5
C4015-25	Polypropylene storage rack for 12 × 32mm vials, no lid	50 vials, 5 × 10	1	5


C4015-96


C4015-99


C4015-95P

Convenience Kits

1mL 8 × 40mm Shell Vial Kits

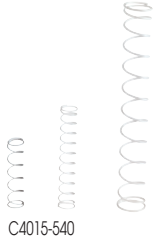
- Original 1mL shell vial for the Waters™ 96-position tray
- Manufactured from superior quality borosilicate glass
- Polyethylene SepCap™ with starburst center design eases syringe needle penetration
- Convenient vial kits include equal quantities of vials and caps

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


C4015-96A, -S96A


C4015-96PA


C4015-536


C4015-540

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 C4015-48 C4015-47 C4015-46P

Convenience Kits

2mL 12 × 32mm 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 × 45mm 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

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

NSC PART NO.	DESCRIPTION	TIP FORM	FILL VOLUME	RESIDUAL VOLUME	PACK OF
C4015-638	950µL Glass Conical Insert	Pulled Point	800µL	9µL	100



Vials

8 × 35mm 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 borosilicate glass
- Natural color virgin polyethylene push-in caps are included in each kit
- Meet or exceed original equipment manufacturer's requirements

NSC PART NO.	DESCRIPTION	PACK OF
C4008-50	1mL Clear Glass 8 × 35mm Positive Displacement Vial with Plug Cap	1000

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 size autosampler vial


C4012-465, -K465


C4012-530, -S530


C4012-529L


C4012-529T, -530P, -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
C4012-531L	200µL	150µL Conical Insert	Glass	Precision 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, -S631


C4011-631P


C4010-630, -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 loss
- Deactivated inserts are treated with NSC Silanization or Kimshield™ deactivation


C4010-629L,-S629


C4010-630TS

NSC PART NO.	FILL VOLUME	DESCRIPTION	COMMENT	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	250µL	300µL Polyspring, Polypropylene Conical Insert	Precision formed tip with Polyspring	100	1000
C4010-627L	350µL	350µL Glass Conical Insert, Pulled Point	Insert rests on bottom of vial	100	1000
C4010-629L	350µL	350µL Glass Conical Insert, Precision Point	Precision formed tip, rests on vial bottom	100	1000
C4010-630TS	250µL	250µL Glass Conical Insert with Top Spring	Insert is suspended in vial by top spring	----	500
C4010-S629	250µL	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	NSC silanized	500	----
C4010-K630	300µL	300µL Polyspring, Glass Conical Insert, Kimshield	Precision formed tip, Kimshield deactivated	100	----


C4015-643


C4015-843


C4015-638


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


C4015-641

Vial Inserts for 4mL Vials

Inserts for 15 × 45mm 4mL Vials

- These inserts all have a nominal O.D. of 6mm or 8mm to fit 15 × 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
- Inserts deactivated by NSC silanization


C4015-640

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	----


C4013-12


C4013-15GST


C4011-1PT


C4000-9A


C4011-LV1


C4011-LV1W, LV2W


C4000-V2

Dedicated Microsampling Vials

Dedicated 12 × 32mm Microsampling Vials

- National Scientific Microsampling vials are designed to fit directly into 12 × 32mm sample trays without the need for adapters. These vials feature standard screw thread, snap cap or crimp seal finish for assured instrument compatibility. The internal contours of the vials are constructed to allow for optimal performance with limited sample volumes. Tapered bases allow for maximum sample extraction.

See Ordering Table on following page.

Dedicated Microsampling Vials, contd.


C4010-LV1


C4010-V1


C4012-10


C4012-15


C4011-13


C4011-16


C4011-11


C4011-15


C4011-14 NEW


C4011-24 NEW NEW


C4011-1.7CB


C4011-1240 NEW


C4008-632R


C4008-632C


C4008 Series

NSC PART NO.	DESCRIPTION	CLOSURE	MAX. FILL VOL.	PACK OF	CASE OF
C4013-12	150µL MicroVial™, Clear Solid Glass	8-425	150µL	----	12
C4013-11	250µL Virgin Polypropylene MicroVial	8-425	250µL	100	1000
C4013-13	750µL Virgin Polypropylene MicroVial	8-425	650µL	----	1000
C4013-15GST	150µL Glastic® Glass Insert TPX MicroVial	8-425	100µL	100	----
C4000-1PT	2mL Clear Glass Precision Taper	9-425	950µL	100	----
C4000-9	2mL Clear Glass High Recovery	9-425	1.5mL	100	----
C4000-9A	2mL Amber Glass I-D with patch, High Recovery	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 with patch	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 with patch	9-425	350µL	100	----
C4000-V1	Micro-V™ 1.5mL Tapered MicroVial with 150µL reservoir, Clear Glass	9-425	1.5mL	100	----
C4000-V2	Micro-V 1.5mL Tapered MicroVial with 150µL reservoir, Amber Glass	9-425	1.5mL	100	----
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-V2	Micro-V 1.5mL Tapered MicroVial with 150µL reservoir, Amber Glass	10-425	1.5mL	100	----
C4010-11	600µL Virgin Polypropylene MicroVial, Tapered Tip	10-425	400µL	100	1000
C4010-14	750µL Virgin Polypropylene High-Recovery Vial	10-425	550µL	100	1000
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 × 45 TPX Vial with glass insert	13-425	1.0mL	100	----
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 Vial, Clear Glass	11mm Crimp/Snap	250µL	100	----
C4011-LV1W	MacroVial 250µL Fused Insert Vial, Clear Glass I-D, with patch	11mm Crimp	250µL	100	----
C4011-LV2	MacroVial 250µL Fused Insert Vial, Amber Glass	11mm Crimp/Snap	250µL	100	----
C4011-LV2W	MacroVial 250µL Fused Insert Vial, Amber Glass I-D, w/Patch	11mm Crimp	250µL	100	----
C4011-10	Solid Glass Microvial	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-V2	Micro-V Amber Glass microsampling vial, 15µL Reservoir	11mm Crimp	1.1mL	100	----
C4011-9	1.5mL High-Recovery MicroVial	11mm Crimp	1.5mL	100	----
C4011-13	450µL Virgin Polypropylene MicroVial; residual volume: 3µL	11mm Crimp/Snap	3µL	100	1000
C4011-16	600µL Virgin Polypropylene MicroVial; residual volume: 5µL	11mm Crimp/Snap	5µL	100	----
C4011-11	800µL Virgin Polypropylene MicroVial; residual volume: 6µL	11mm Crimp/Snap	6µL	100	1000
C4011-15	850µL Virgin Polypropylene AP-2000 MaxVial; residual volume: 15µL	11mm Crimp/Snap	15µL	----	1000
C4011-14	1mL Virgin Polypropylene Flat-Bottom Vial; residual volume: 30µL	11mm Crimp/Snap	30µL	100	1000
C4011-24	1mL TPX High-Recovery Vial; residual volume: 25µL	11mm Crimp/Snap	25µL	100	1000
C4011-1.7CB	1.7mL Conical Bottom Crimp Top LoVial	11mm Crimp	1.1mL	----	1000
C4011-1240	2.5mL Clear Glass Crimp Top Vial, 40mm Vial Height	11mm Crimp	2.3mL	----	1000
C4008-632R	Clear Glass 8mm Crimp Top Vial, 6 × 32mm, Round Bottom	8mm Crimp	250µL	100	1000
C4008-632C	Clear Glass 8mm Crimp Top Vial, 6 × 32mm, Conical Bottom	8mm Crimp	200µL	100	1000
C4008-730	Amber Glass 8mm Crimp Top Vial, 7 × 30mm, Conical Bottom	8mm Crimp	400µL	100	1000
C4008-739	Clear Glass 8mm Crimp Top Vial, 7 × 40mm, Conical Bottom	8mm Crimp	450µL	100	1000
C4008-740	Amber Glass 8mm Crimp Top Vial, 7 × 40mm, Conical Bottom	8mm Crimp	450µL	100	1000
C4008-741	Clear Glass 8mm Crimp Top Vial, 7 × 40mm, Flat Bottom	8mm Crimp	650µL	100	1000
C4008-742	Amber Glass 8mm Crimp Top Vial, 7 × 40mm, Flat Bottom	8mm Crimp	650µL	100	1000
C4008-1	Clear Glass 8mm Crimp Top Vial, 8 × 30mm, Flat Bottom	8mm Crimp	800mL	200	1000



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



C4020-60 C4020-6 C4020-10 C4020-210 C4020-410

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
NEW	C4020-60	6mL	22 × 38mm	Beveled Edge	Flat Bottom	----	1000
NEW	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
NEW	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
NEW	C4020-25	20mL	23 × 75mm	Square Rim	Flat Bottom	----	1000
NEW	C4020-27	27mL	30 × 60mm	Beveled Edge	Flat Bottom	----	1000
	DEACTIVATED						
	C4020-S10	10mL	23 × 46mm	Beveled Edge	Flat Bottom	100	----
	C4020-S20	20mL	23 × 75mm	Beveled Edge	Flat Bottom	100	----



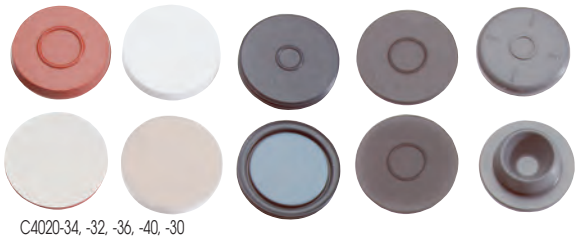
C4020-3A C4020-6A C4020-5A C4020-3M

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 tin-plate seals for autosamplers employing magnetic vial transport

	NSC PART NO.	SEAL COLOR	DESCRIPTION	OPENING SIZE	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
NEW	C4020-3M	Silver	One-piece Unlined Tin-plated Steel Crimp Seal	5mm	1000



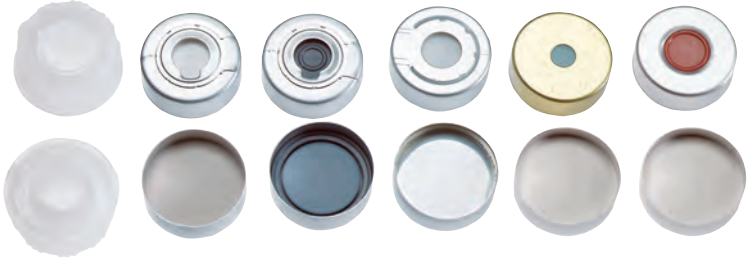
C4020-34, -32, -36, -40, -30

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 78 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	1000
NEW	C4020-37	Aluminum Foil/White High Temp. Silicone	-60° to +220°C	100	----
	C4020-40	Black Rubber	-20° to +100°C	100	----



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
NEW	C4020-42A	Clear PTFE/Translucent Blue Silicone	Magnetic Steel	-60° to +200°C	100	----
NEW	C4020-42AP	Clear PTFE/Translucent Blue Silicone	Pressure Release	-60° to +200°C	100	----
NEW	C4020-37AP	Aluminum Foil/White High Temp. Silicone	Pressure Release	-60° to +220°C	100	----
NEW	C4020-31	SepCap Integral Molded Polyethylene	Molded Polyethylene Storage Cap	----	----	250

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

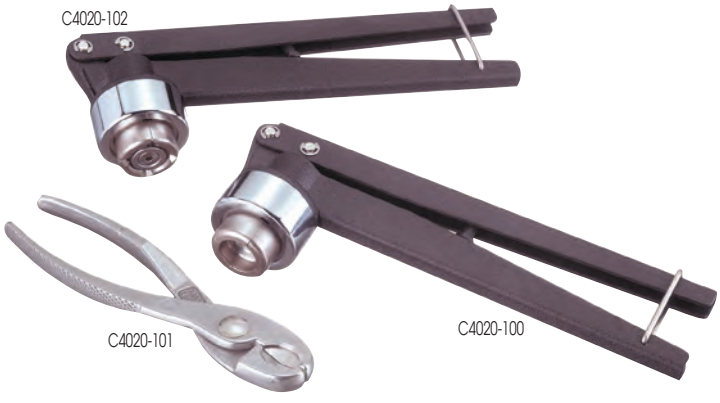


Convenience Kits

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, Decrimpers and Decapping Pliers for 20mm Crimp Top Vials

- Crimping tools provide a reproducible, secure vial closure for all 20mm vial and seal combinations
- Manual decrimping 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



C4011-1296, C4010-1296VO, C4010-1296

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 preassembled product)
- Open top vial was designed in cooperation with the original equipment manufacturer

	NSC PART NO.	MAX. FILL VOLUME	DESCRIPTION	PACK OF	CASE OF
NEW	C4011-1296	5mL	Open Top TOC Vial	----	1000
NEW	C4010-1296VO	5mL	Screw Thread TOC Vial, without closure	----	1000
NEW	C4010-1296	5mL	Screw Thread TOC Vial, Polypropylene Cap with PTFE septum	100	----



Sample Vials

Sample Storage Vials

- Superior quality 33 expansion borosilicate clear glass (Type 1, Class A) or 51A 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
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	10	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	10	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
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



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, Phenolic	13-425	Black	----	1000



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	0.01″	0.05″	8-425	100	1000
B7995-13	0.01″	0.05″	13-425	100	1000
B7995-15	0.01″	0.09″	15-425	100	1000
B7995-18	0.01″	0.09″	18-400	100	1000
B7995-20	0.01″	0.09″	20-400	100	1000
B7995-24	0.01″	0.09″	24-400	100	1000
B7995-26	0.005″	0.12″	24-400	100	1000



Storage Caps

PTFE-Lined Sample Storage Caps

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

NSC PART NO.	THREAD SIZE	CAP COLOR	PACK OF
B7815-8	8-425	White	100
B7815-13	13-425	White	100
B7815-15	15-425	White	100
B7815-18	18-400	White	100
B7815-20	20-400	White	100
B7815-24	24-400	White	100



Convenience Kits

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

- Each carton contains shrink-wrapped vials and plastic bags containing storage caps

NSC PART NO.	GLASS	CAPACITY (mL)	CAPACITY (DRAMS)	VIAL PART NO.	CAP PART NO.	PACK 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	22	6	B7999-5	B7815-20	200
B7800-6	Clear	40	10	B7999-6	B7815-24	100
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





Unassembled Convenience Kits: Sample Vials with Caps and Septa

- Each carton contains shrink-wrapped vials and separately packaged caps and B7995 Series PTFE/Clear silicone septa in plastic bags

NSC PART NO.	GLASS	CAPACITY (mL)	CAPACITY (DRAMS)	VIAL PART NO.	CAP PART NO.	PACK 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	10	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	B7807-18	200
B7990 6A	Amber	40	10	B7999-6A	B7807-24	100



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

NSC PART NO.	GLASS	CLASS	SIZE	PACK 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



Unassembled 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 plastic bags

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

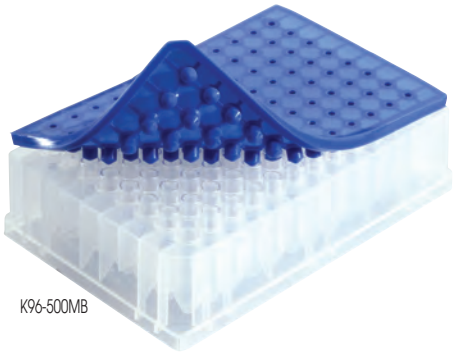
Components for the Above Kits

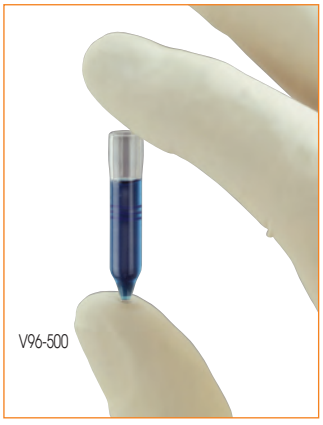
NSC PART NO.	DESCRIPTION	PACK OF	CASE OF
B7950-VO	Clear 40mL vials, 28 × 95mm	100	500
B7951-VO	Amber 40mL vials, 28 × 95mm	100	500
B7920-VO	Clear 20mL vials, 28 × 57mm	100	500
B7921-VO	Amber 20mL vials, 28 × 57mm	100	500
B7950-1A	Cap only, 24-400	100	500
B7995-24	Septa only, 0.01" PTFE / 0.09" Silicone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

Miscellaneous

Bottles

NSC PART NO.	DESCRIPTION	CAPACITY	PACK OF	CASE OF
B7832-125	Wide Mouth Bottle, HDPE	4 oz.	12	72
B7832-1L	Wide Mouth Bottle, HDPE	32 oz.	6	24
B7832-250	Wide Mouth Bottle, HDPE	8 oz.	12	72
B7832-500	Wide Mouth Bottle, HDPE	16 oz.	12	48
B7854-1L	Narrow Mouth Bottle, LDPE	32 oz.	6	24


K96-500MB


V96-500

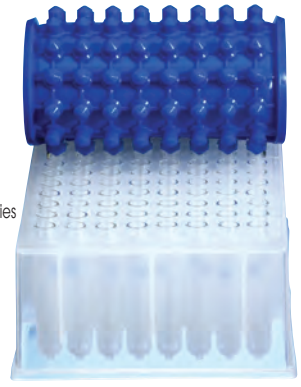
NEW

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
K96-500MB	96-well microtiter plate with 500µL glass vials and sealing mats	5
ACCESSORIES		
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


K96-700 MBT Series



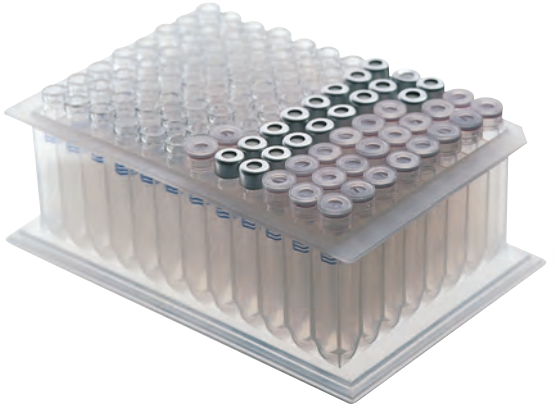
NEW

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
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
ACCESSORIES		
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	100
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


K96-1.1CT

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	----
ACCESSORIES			
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	
ACCESSORIES			
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	----

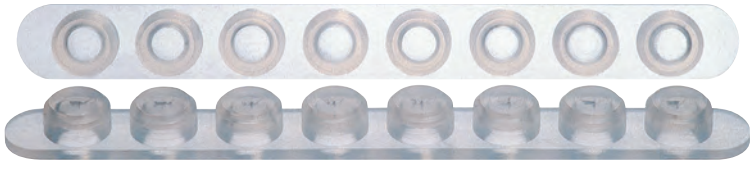


MicroMat™ CLR Sealing Mats

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
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



M0800-C

M0800-PSC

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
M0800-C	96 round well, 8mm strips, silicone only	12
M0800-PSC	96 round well, 8mm strips, silicone only, pre-slit	12



NEW

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	PACK OF
M9601-RD1LB	96 round well, dome base, silicone/PTFE coated sealing mat	Lt. Blue	10
M9601-RD1DB	96 round well, dome base, silicone/PTFE coated sealing mat	Dk. Blue	5
M9601-RD2DB	96 round well, dome base, silicone/PTFE coated sealing mat, pre-slit	Dk. Blue	5
M9601-RF1LB	96 round well, flat base, silicone/PTFE coated sealing mat	Lt. Blue	10
M9601-RF2P	96 round well, flat base, silicone/PTFE coated sealing mat, pre-slit	Pink	10
M9601-RF2LB	96 round well, flat base, silicone/PTFE coated sealing mat, pre-slit	Lt. Blue	5
M9601-SQ1LB	96 square well, silicone/PTFE coated sealing mat	Lt. Blue	10
M9601-SQ2Y	96 square well, silicone/PTFE coated sealing mat, pre-slit	Yellow	10
M9601-SQ2LB	96 square well, silicone/PTFE coated sealing mat, pre-slit	Lt. Blue	5
M3841-R1R	384 round well, silicone/PTFE coated sealing mat	Red	10
M3841-R2LB	384 square well, silicone/PTFE coated sealing mat, pre-slit	Lt. Blue	5
M3841-R1LB	384 square well, silicone/PTFE coated sealing mat	Lt. Blue	5



NEW

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	PACK OF
M9602-RD1	96 round well, domed base, silicone/PTFE layer sealing mat	Blue/Red	5
M9602-RF1	96 round well, flat base, silicone/PTFE layer sealing mat	Blue/Red	5
M9602-SQ1	96 square well, silicone/PTFE layer sealing mat	Blue/Red	5
M3842-SQ1	384 square well, silicone/PTFE layer sealing mat	Blue/Red	5
M3842-R1	384 round well, silicone/PTFE layer sealing mat	Blue/Red	5



NEW

WebSeal™ Mat Applicator

WebSeal Mat Applicator

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



NEW

MiniVap™ Sample Concentrator

MiniVap Sample Concentrator

- Sample concentrator, evaporating 500µL methanol in less than 10 minutes

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

NEW

Sample Concentrator

UltraVap™ High-Speed Sample Concentrator

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



NSC PART NO.	DESCRIPTION	PACK OF
M229070	UltraVap 96-Well High Speed Sample Concentrator	1
M229074	Replacement Spiral Needle Kit, with Fitting Tool	10

NEW

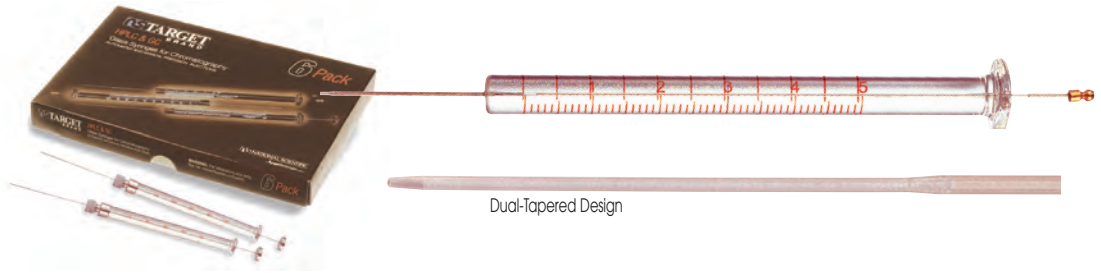
Microplates

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



NSC PART NO.	DESCRIPTION	PACK 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



NEW

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
NS104304	5µL	42mm	5181-1273	1/
NS104404	10µL	42mm	5181-1267	1
NS104314	5µL	42mm	5181-8810	6
NS104414	10µL	42mm	5181-3360	6

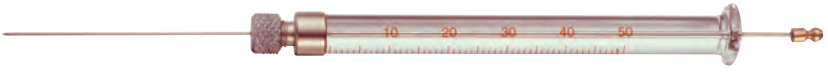
Fixed Needle Syringes/PTFE-tipped plunger

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



Removable Needle Syringes/PTFE-tipped plunger

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

Replacement Needles

- 23-26s Tapered needle

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



NEW

Precision GC Syringes for Agilent Technologies®

Fixed Needle Syringes with Super-Elastic Plunger

- 23-26s Tapered needle
- 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
NS164304	5µL	42mm	N/A	1
NS164404	10µL	42mm	N/A	1



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
NS104305	5µL	42mm	9301-0892	1
NS104405	10µL	42mm	9301-0713	1
NS104315	5µL	42mm	5182-0875	6
NS104415	10µL	42mm	9301-0725	6



Fixed Needle Syringes/PTFE-Tipped Plunger

NSC PART NO.	VOLUME	NEEDLE LENGTH	AGILENT NO.	PACK OF
NS604305	5µL	42mm	N/A	1
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
NS104303	5µL	42mm	9301-0891	1
NS104403	10µL	42mm	9301-0714	1
NS104313	5µL	42mm	5183-4728	6
NS104413	10µL	42mm	5181-4729	6

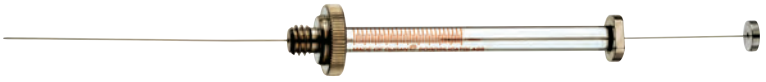
NEW

Precision GC Syringes for Agilent Technologies®

Fixed Needle Syringes/PTFE-Tipped Plunger

NSC PART NO.	VOLUME	NEEDLE LENGTH	AGILENT NO.	PACK OF
NS604303	5µL	42mm	N/A	1
NS604403	10µL	42mm	N/A	1
NS604313	5µL	42mm	N/A	6
NS604413	10µL	42mm	N/A	6

NEW



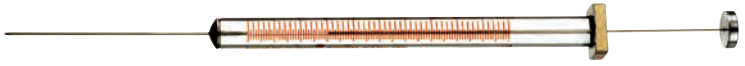
Precision GC Syringes for Perkin Elmer®

Fixed Needle Syringe/PTFE-Tipped Plunger

- 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
NS608302	5µL	70mm	26s	N6101390	1
NS608303	5µL	70mm	23s	N6101380	1

NEW



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
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

NEW

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
NS108302	5µL	70mm	26s	Cone Shape	1
NS100401	10µL	51mm	26s	Bevel	1

Fixed Needle Syringes/PTFE-Tipped Plunger

- 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
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

NEW

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
NS606405	10µL	51mm	26s	Bevel	1

NEW

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



Target® Series N Fixed Needle Syringe

- 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
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 Syringe

- 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
NS101502	25µL	51mm	22s	90° Blunt End	1
NS101602	50µL	51mm	22s	90° Blunt End	1
NS101702	100µL	51mm	22s	90° Blunt End	1
NS101802	250µL	51mm	22s	90° Blunt End	1



Target® Series N Removable Needle Syringe

- 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
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
BEVEL STYLE				
NS832301	5µL	51mm	26s	3
NS832401	10µL	51mm	26s	3
NS832501	25-100µL	2"/51mm	22s	3
NS832601	250-500µL	2"/51mm	22s	3
BLUNT STYLE FOR MERLIN* AND JADE* SEPTUMLESS INJECTORS				
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

NEW



Precision Syringes for Accurate Dosing of Liquids or Gases

Fixed 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
NS600301	5µL	51mm	26s	Bevel	1
NS600302	5µL	51mm	26s	90° Blunt End	1
NS600401	10µL	51mm	26s	Bevel	1
NS600402	10µL	51mm	26s	90° Blunt End	1
NS600501	25µL	51mm	22s	Bevel	1
NS600502	25µL	51mm	22s	90° Blunt End	1
NS600601	50µL	51mm	22s	Bevel	1
NS600602	50µL	51mm	22s	90° Blunt End	1
NS600701	100µL	51mm	22s	Bevel	1
NS600702	100µL	51mm	22s	90° Blunt End	1
NS600901	500µL	51mm	22s	Bevel	1
NS600902	500µL	51mm	22s	90° Blunt End	1
NS600904	500µL	51mm	22s	Side Hole	1
NS600000	1mL	51mm	22s	Bevel	1
NS600001	1mL	51mm	22s	90° Blunt End	1
NS600002	1mL	51mm	22s	Side Hole	1
NS600040	5mL	51mm	22s	Bevel	1
NS600041	5mL	51mm	22s	90° Blunt End	1
NS600042	5mL	51mm	22s	Side Hole	1
NS600060	10mL	51mm	22s	Bevel	1
NS600061	10mL	51mm	22s	90° Blunt End	1
NS600062	10mL	51mm	22s	Side Hole	1





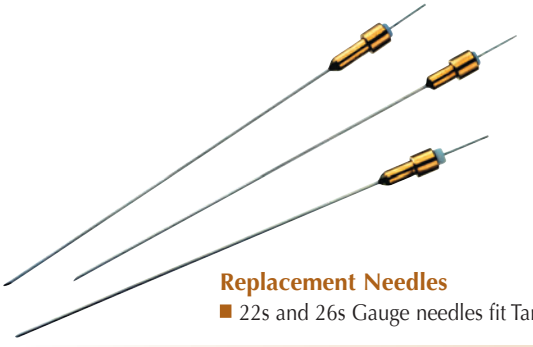
NEW

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
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
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



Replacement Needles

- 22s and 26s Gauge needles fit Target® removable needle syringes

NSC PART NO.	VOLUME	NEEDLE LENGTH	GAUGE	NEEDLE TYPE	PACK OF
NS834307	5mL	42mm	26s	90° Blunt End	3
NS834407	10mL	42mm	26s	90° Blunt End	3
NS832301	5µL	51mm	26s	Bevel	3
NS832401	10µL	51mm	26s	Bevel	3
NS831014	25-100µL	51mm	22s	90° Blunt End	3
NS831015	25-100µL	51mm	22s	Side Hole	3
NS831013	25-100µL	51mm	22s	Bevel	3
NS841014	250µL-10mL	51mm	22s	90° Blunt end	3
NS841015	250µL-10mL	51mm	22s	Side Hole	3
NS841013	250µL-10mL	51mm	22s	Bevel	3


NS600709


NS607051

NEW

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
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

NSC PART NO.	NEEDLE LENGTH	GAUGE	NEEDLE TYPE	PACK 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

NEW

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
NS600002	1mL	51mm	22s	Side Hole	1
NS600022	2.5mL	51mm	22s	Side hole	1
NS600042	5mL	51mm	22s	Side Hole	1

NEW

Precision Syringes for CTC/Leap™ Technologies

Fixed Needle Syringes

- For Combi-Pal™ Headspace Autosampler
- 22s Gauge needles
- PTFE-tipped stainless-steel plunger


NS620023

NSC PART NO.	VOLUME	NEEDLE LENGTH	GAUGE	NEEDLE TYPE	PACK OF
NS620013	1mL	56mm	22s	Side hole	1
NS620023	2.5mL	56mm	22s	Side hole	1
NS620049	5mL	56mm	22s	Side hole	1

NEW

On-Column Syringes

Removable Needle Syringes

- Fused silica needles
- Stainless-steel plunger

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

NEW

On-Column Syringes

Replacement Needles

- Fused silica

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



NEW

Precision Syringes Featuring Plunger Within Needle Design

Microvolume Syringes

- 26s, 25s, and 22s Gauge needles
- Plunger-in-needle design for zero-dead volume sample delivery
- 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
NS200101	1µL	70mm	26s	Bevel	1
NS200102	1µL	70mm	26s	90° Blunt end	1
NS200201	2µL	80mm	22s	Bevel	1
NS200202	2µL	80mm	22s	90° Blunt end	1
NS200301	5µL	70mm	25s	Bevel	1
NS200302	5µL	70mm	25s	90° Blunt end	1



NEW

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
- Protects heat-sensitive samples from thermal transfer from operator's hand

NSC PART NO.	VOLUME	NEEDLE LENGTH	GAUGE	NEEDLE TYPE	PACK 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
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

NEW

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
NS606500	25µL	9301-0633	1
NS606800	250µL	9301-0678	1

NEW

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
NS606615	25µL	09923304	1
NS606815	250µL	09923270	1
NS606915	500µL	09923306	1
NS606015	1mL	09923307	1
NS606035	2.5mL	09923219	1

NEW

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
NS606814	250µL	A3587-020	1
NS606914	500µL	A3588-010	1
NS606015	1mL	A3587-030	1
NS606035	2.5mL	A3588-020	1

NEW

Precision LC Syringes for CTC/Leap Technologies®

Fixed Needle Syringe

- Use with CTC/Leap Technologies needle assembly
- PTFE-tipped stainless-steel plunger
- Use with A200LC, HTS, HTC PAL

NSC PART NO.	VOLUME	NEEDLE LENGTH	GAUGE	NEEDLE TYPE	PACK 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

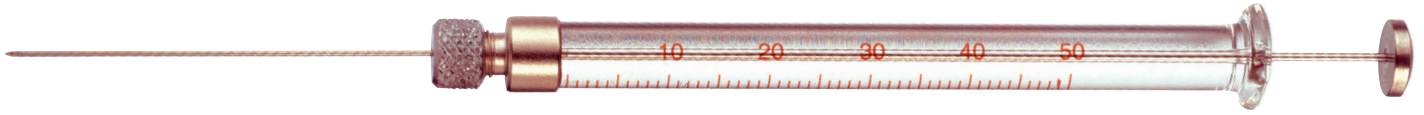
NEW

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
NS663514	25µL	9301-0633	1
NS663814	250µL	9301-0678	1



NEW

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
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

NEW

Precision LC Syringes for Manual Injection Valves

Manual Injector Syringe—Fixed Needle

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

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

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
NS161302	5µL	51mm	90° Blunt end	1
NS161402	10µL	51mm	90° Blunt end	1

Manual Injector Syringe—Removable Needle

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

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

Replacement Needles

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



NEW

Precision Gas Tight and Liquid-Tight Syringes for Macro Volume Sampling



Large-Volume Syringe—Fixed Needle

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

NSC PART NO.	VOLUME	NEEDLE LENGTH	GAUGE	NEEDLE TYPE	PACK 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 Syringe—Removable Needle

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

NSC PART NO.	VOLUME	NEEDLE LENGTH	GAUGE	NEEDLE TYPE	PACK 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

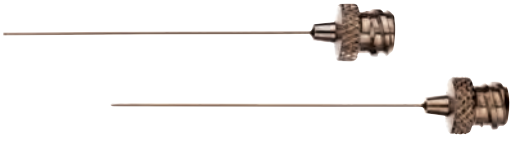
NSC PART NO.	VOLUME	LENGTH	GAUGE	NEEDLE TYPE	PACK OF
NS841014	250µL-10mL	51mm	22s	90° Blunt end	3
NS841015	250µL-10mL	51mm	22s	Side hole	3
NS841013	250µL-10mL	51mm	22s	Bevel	3



Large-Volume Syringe—PTFE Luer-Lok™

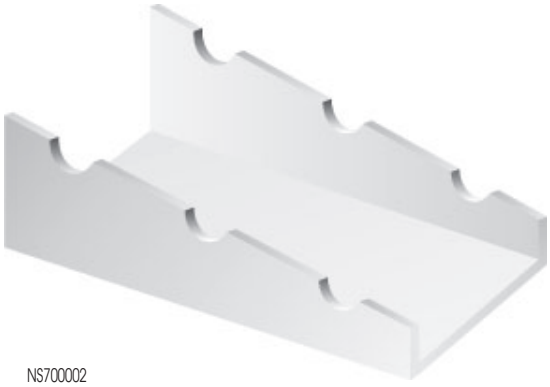
- Precision-machined PTFE-tipped plunger

NSC PART NO.	VOLUME	NEEDLE LENGTH	GAUGE	NEEDLE TYPE	PACK 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
NS842047	51mm	26s	90° Blunt end	3
NS840047	51mm	26s	Bevel	3
NS842070	51mm	22s	90° Blunt end	3
NS840070	51mm	26s	Bevel	3



NS700002

NEW

Storage, Cleaning and Dispensing Aids

Syringe Rack

- Anodized aluminum rack securely holds up to 3 glass syringes
- Holds syringes up to 500µL size
- Holds syringes securely to prevent breakage

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



NS700001

Syringe Guide—Chaney Adapter

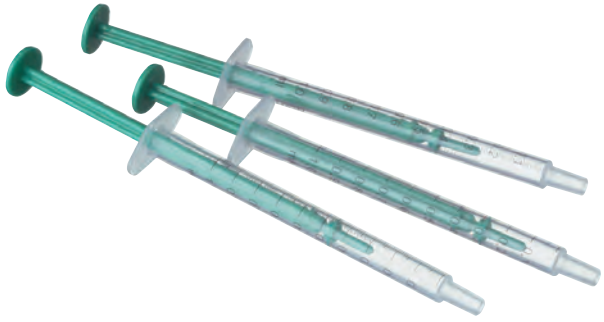
- Use with syringes up to 100µL
- Constructed of stainless steel and anodized aluminum
- Can be fitted to a manually operated syringe to increase precision and reproducibility
- Simply set the lock nuts to control distance travel of the plunger to a preset level
- Prevents plunger blow-out due to high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

NSC PART NO.	DESCRIPTION	PACK OF
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





Luer-Slip Syringes

- All-plastic syringes with polyethylene barrels and polypropylene 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	500
S7510-30	30mL	50	500
S7510-50	50mL	30	300



Luer-Lok™ Syringes

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

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

NEW

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 sample



NEW

Nylon Syringe Filters

Target® Nylon Syringe Filters

- Membrane: HPLC Certified Nylon
- Housing: medical grade, virgin polypropylene
- 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	500
F2513-1	17mm	0.45µm	No	100	500
F2513-2	17mm	0.2µm	No	100	500
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	500
F2502-2	30mm	0.2µm	Yes	100	500

NEW

PTFE Syringe Filters

Target® PTFE Syringe Filters

- Membrane: HPLC certified PTFE, with polypropylene support
- Housing: medical grade, 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	500
F2504-4	4mm	0.2µm	No	100	500
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	500
F2502-3	30mm	0.45µm	Yes	100	500

NEW

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

NEW

Regenerated Cellulose Syringe Filters

Target® Regenerated Cellulose Syringe Filters

- Membrane: HPLC Certified Regenerated Cellulose
- Housing: medical grade, virgin polypropylene
- Protein binding: <5µg/cm^2
- 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

NEW

PES Syringe Filters

Target® PES (Polyethersulfone) Syringe Filters

- Membrane: ICP Certified PES
- Housing: medical grade, virgin polypropylene
- 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
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

NEW

GMF 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

NEW

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

NEW

Cellulose Acetate Syringe Filters

Target® Cellulose Acetate Syringe Filters

- Membrane: HPLC Certified Cellulose Acetate
- Housing: medical grade, virgin polypropylene
- Protein binding: <24µg/cm²
- 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

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



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

NSC PART NO.	MEMBRANE	PORE SIZE	PACK 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



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
- 5000×G maximum centrifugal force

NSC PART NO.	MEMBRANE	PORE SIZE	PACK OF
F2520-1	Cellulose Acetate	0.22µm	25
F2520-2	Cellulose Acetate	0.45µm	25
F2520-3	Nylon	0.2µm	25
F2520-4	Nylon	0.45µm	25
F2520-5	PVDF	0.2µm	25
F2520-6	PVDF	0.45µm	25
F2520-7	PTFE	0.2µm	25
F2520-8	PTFE	0.45µm	25





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 thicknesses
- Factory set to properly crimp standard thickness seals

NSC PART NO.	CRIMP SEAL SIZE	CRIMP SEAL TYPE	PACK 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
C4028-100	28mm	Standard aluminum crimp seal	1
C4030-100	30mm	Standard aluminum crimp seal	1
C4032-100	32mm	Standard aluminum crimp seal	1

Decrimpers

Manual Decrimpers

- Lightweight, precision decrimpers 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

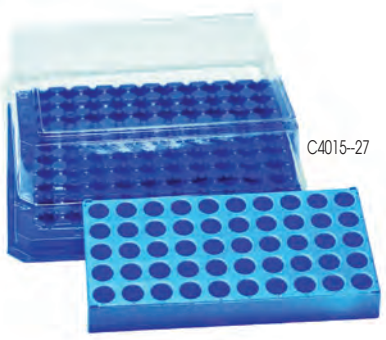
NSC PART NO.	CRIMP SEAL SIZE	PACK OF
C4008-102	8mm	1
C4012-102	11mm	1
C4013-102	13mm	1
C4020-102	20mm	1
C4028-102	28mm	1
C4030-102	30mm	1
C4032-102	32mm	1

De-Capping Pliers

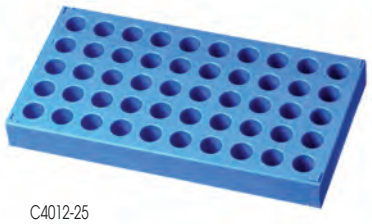
Manual De-Capping Pliers

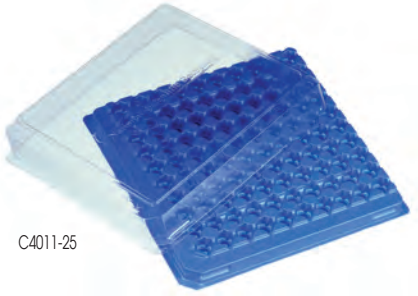
- Forged pliers feature a fitted gripping surface designed to allow removal of the listed sizes of seals
- Simply grip the pliers around the top of the seal, squeeze and pry upward to remove

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


C4015–27

C4015-25


C4012-25


C4011-25

Vial Racks

National Scientific 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



Vial Crusher

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, $24^{1}/_{2}$H × $8^{1}/_{2}$W × $23^{1}/_{2}$" D; Pneumatic, 28H × 10W × $28^{1}/_{2}$"D

NSC PART NO.	DESCRIPTION	PACK OF
C4040-VC	Manual bench top 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

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. 82-83.

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
1,4-Dioxane	GF	GG	FN	GF	EE
2,2,4-Trimethylpentane	FN	FN	FN	FN	EE
2-Methoxyethanol	EG	EE	GE	EE	EE
2-Propanol	EE	EE	EE	EE	EE
Acetaldehyde	GN	GF	GN	GN	EE
Acetamide, Sat.	EE	EE	EE	EE	EE
Acetic Acid, 5%	EE	EE	EE	EE	EE
Acetic Acid, 50%	GF	EG	EE	EE	EE
Acetic Acid, Glacial	GN	GG	EG	GG	EE
Acetic Anhydride	NN	FF	GF	EG	EE
Acetone	NN	NN	GN	EE	EE
Acetonitrile	EE	EE	EG	FN	EE
Acetophenone	NN	FF	FN	GN	EE
Acrylonitrile	EE	EE	EG	FN	EE
Adipic Acid	EG	EE	EE	EE	EE
Alanine	EE	EE	EE	EE	EE
Allyl Alcohol	EE	EE	EE	EG	EE
Aluminum Chloride	EE	EE	EE	EE	EE
Aluminum Hydroxide	EG	EE	EG	EG	SS
Aluminum Salts	EE	EE	EE	EE	EE
Amino Acids	EE	EE	EE	EE	EE
Ammonia (pure)	EE	EE	EE	EE	SS
Ammonia, 25%	EE	EE	EE	EE	SS
Ammonium Acetate, Sat.	EE	EE	EE	EE	EE
Ammonium Chloride	EE	EE	EE	EE	EE
Ammonium Glycolate	EG	EE	EG	EG	EE
Ammonium Hydroxide, 5%	EE	EE	EE	EE	SS
Ammonium Hydroxide, 30%	EG	EE	EG	EG	SS
Ammonium Oxalate	EG	EE	EG	EG	EE
Ammonium Salts	EE	EE	EE	EE	EE
Amyl Alcohol	EE	EE	EF	GF	EE
Amyl Chloride	NN	FN	NN	FF	EE
Aniline	EG	GF	EG	GF	EE
Aqua Regia	NN	NN	NN	NN	SS
Arsenic Acid	GF	EE	EE	EE	EE
Benzaldehyde	EG	GN	EG	EF	EE
Benzenamine	EG	GF	EG	GF	EE
Benzene	NN	NN	NN	NN	EE
Benzoic Acid, Sat.	EE	EE	EG	EE	EE
Benzyl Acetate	EG	EE	EG	EG	EE
Benzyl Alcohol	NN	FN	GG	GG	EE
Boric Acid	EE	EE	EE	EE	EE
Bromine	NN	FN	NN	NN	EE
Bromobenzene	NN	NN	NN	NN	EE
Bromoform	NN	NN	NN	NN	EE
Butadiene	NN	FN	NN	NN	EE
Butyl Acetate	GF	GF	FN	FF	EE
Butyl Chloride	NN	NN	NN	FN	EE
Butyric Acid	NN	FN	NN	NN	EE
Calcium Chloride	EE	EE	EE	EE	EE
Calcium Hydroxide, Conc.	EE	EE	EE	EE	SS
Calcium Hypochlorite, Sat.	EE	EE	EE	EG	EE
Carbazole	EE	EE	EE	EE	EE
Carbon Disulfide	NN	NN	NN	NN	EE
Carbon Tetrachloride	FN	GF	GF	NN	EE
Caustic Potash	EE	EE	EE	EE	SS
Caustic Soda, 1%	EE	FF	EE	EE	SS
Caustic Soda	GG	GF	EE	EE	SS
Cedarwood Oil	NN	FN	NN	NN	EE
Cellosolve Acetate	EG	EE	FN	EG	EE
Chlorine Water	GN	GF	FN	NN	EE
Chlorine, 10% (Moist)	GN	GF	FN	NN	EE
Chlorine, 10% in air	GN	EF	FN	GN	EE
Chlorine, wet gas	GN	GF	FN	NN	EE
Chloroacetic Acid	EE	EE	EG	EG	EE
Chlorobenzene	NN	NN	NN	NN	EE
Chloroform	FN	FN	NN	NN	EE
Chromic Acid, 10%	EE	EE	EE	EE	EE
Chromic Acid, 20%	EE	EE	GG	EE	EE
Chromic Acid, 50%	EE	EE	GF	GG	EE
Chromic:Sulfuric	NN	NN	NN	NN	EE

CHEMICAL	LDPE	HDPE	PP	TPX	GLASS
Cinnamon Oil	NN	NN	NN	NN	EE
Citric Acid, 10%	EE	EE	EE	EE	EE
Copper Sulfate	EE	EE	EE	EE	EE
Cresol	NN	FN	GF	NN	EE
Cyclohexane	FN	FN	GN	NN	EE
Cyclohexanone	NN	FN	FN	GF	EE
Cyclopentane	NN	FN	FN	FN	EE
Decahydronapthtalene	GF	EG	NN	FN	EE
Decalin	GF	EG	NN	FN	EE
Diacetone	NN	NN	GF	FF	EE
Diacetone Alcohol	FN	EE	GF	EE	EE
Dibutylphthalate	FN	FN	GN	GG	EE
Diethyl Benzene	NN	FN	NN	NN	EE
Diethyl Ether	NN	FN	FN	NN	EE
Diethyl Ketone	NN	NN	GG	GF	EE
Diethyl Malonate	EE	EE	EE	EG	EE
Diethylamine	NN	FN	GN	FF	EE
Diethylene Dioxide	GF	GG	NN	FN	EE
Diethylene Glycol	EE	EE	EE	EE	EE
Diethylene Glycol Ethyl Ether	EE	EE	EE	EE	EE
Dimethyl Acetamide	FN	EE	EE	FG	EE
Dimethyl Formamide	EE	EE	EE	EE	EE
Dimethylsulfoxide	EE	EE	EE	EE	EE
Dioxane	GF	GG	NN	FN	EE
Dipropylene Glycol	EE	EE	EE	EE	EE
DMSO	EE	EE	EE	EE	EE
Ethanol, 40%	EG	EE	EE	EG	EE
Ether	NN	FN	NN	FN	EE
Ethyl Acetate	EE	EE	GN	FN	EE
Ethyl Alcohol (Absolute)	EG	EE	EE	EG	EE
Ethyl Alcohol, 40%	EG	EE	EE	EG	EE
Ethyl Alcohol, 96%	EG	EG	EE	EG	EE
Ethyl Benzene	NN	FN	NN	NN	EE
Ethyl Benzoate	FF	GG	GF	GF	EE
Ethyl Butyrate	GN	GF	GN	FN	EE
Ethyl Chloride	FN	NN	FN	FN	EE
Ethyl Chloride, Liquid	FN	FF	FN	FN	EE
Ethyl Cyanoacetate	EE	EE	EE	EE	EE
Ethyl Lactate	EE	EE	EE	EE	EE
Ethylene Chloride	NN	NN	NN	NN	EE
Ethylene Glycol	EE	EE	EE	EE	EE
Ethylene Glycol Monomethyl Ether	EG	EE	GF	EE	EE
Ethylene Oxide	FF	GF	FN	FN	EE
Ethylene Oxide Gas	GG	GG	GG	GG	EE
Ethylene Oxide, 100%	FF	GF	FN	FN	EE
EtO Gas	GG	EE	EE	GG	EE
EtO	GF	GF	FN	FN	EE
Fatty Acids	EG	EE	EG	EG	EE
Fluorides	EE	EE	EE	EE	EE
Fluorine	FN	GN	NN	FN	EE
Formaldehyde, 10%	EE	EE	EE	EE	EE
Formaldehyde, 40%	EG	EG	EE	EE	EE
Formalin, 10%	EE	EE	EE	EE	EE
Formalin, 40%	EG	EG	EE	EE	EE
Formic Acid	GG	EE	EG	EE	EE
Formic Acid, 3%	EG	EE	EE	EE	EE
Formic Acid, 100%	GG	EE	EG	EE	EE
Formic Acid, 50%	GG	EE	EG	EE	EE
Formic Acid, 85%	GG	EE	EG	EE	EE
Freon TF	EG	EG	EG	FN	EE
Fuel Oil	FN	GF	EF	GF	EE
Gasoline	NN	FN	FN	GF	EE
Glutaraldehyde	EG	EE	EE	FF	EE
Glutaraldehyde Disinfectant	EG	EE	EE	FF	EE
Glycerine	EE	EE	EE	EE	EE
Glycerol	EE	EE	EE	EE	EE
Hexane	NN	GF	GF	FN	EE
Hydrazine	NN	NN	NN	NN	EE
Hydrobromic Acid, 69%	EE	EG	EG	EE	EE
Hydrochloric Acid, 5%	EE	EE	EE	EE	EE
Hydrochloric Acid, 20%	EE	EE	EE	EE	EE

CHEMICAL	LDPE	HDPE	PP	TPX	GLASS
Hydrochloric Acid, 35%	EE	EE	EG	EG	EE
Hydrofluoric Acid, 4%	EE	EE	EE	EE	SS
Hydrofluoric Acid, 48%	EE	EE	EG	EG	SS
Hydrogen Peroxide, 3%	EE	EE	EG	EE	EE
Hydrogen Peroxide, 30%	EG	EE	EF	EG	EE
Hydrogen Peroxide, 90%	EN	EE	EF	EG	EE
Iodine Crystals	NN	NN	EE	GN	EE
Iso-Propanol, 100%	EE	EE	EE	EG	EE
Isobutanol	EE	EE	EE	EG	EE
Isobutyl Alcohol	EE	EE	EE	EG	EE
Isopropanol	EE	EE	EE	EG	EE
Isopropanol, 100%	EE	EE	EE	EE	EE
Isopropyl Acetate	GF	EG	GF	GF	EE
Isopropyl Alcohol	EE	EE	EE	EG	EE
Isopropyl Alcohol, 100%	EE	EE	EE	EG	EE
Isopropyl Benzene	FN	FN	FN	NN	EE
Isopropyl Ether	NN	FN	NN	NN	EE
Jet Fuel	FN	FN	FN	FN	EE
Kerosene	FN	FN	FN	GF	EE
Lacquer Thinner	NN	FN	FN	FF	EE
Lactic Acid, 3%	EG	EE	EE	EG	EE
Lactic Acid, 85%	EG	EE	EG	EG	EE
Lead Acetate	EE	EE	EE	EE	EE
Magnesium Chloride	EE	EE	EE	EE	EE
MEK	NN	NN	EG	FN	EE
Mercuric Chloride	EE	EE	EE	EE	EE
Methanol	EG	EE	EE	EG	EE
Mercury	EE	EE	EE	EE	EE
Methanol, 100%	EG	EE	EE	EG	EE
Methoxyethyl Oleate	EG	EE	EG	EG	EE
Methyl Acetate	EN	FF	GF	EE	EE
Methyl Alcohol	EG	–	EE	EG	EE
Methyl Alcohol, 100%	EG	EE	EE	EG	EE
Methyl Ethyl Ketone	NN	NN	EG	FN	EE
Methyl Isobutyl Ketone	NN	NN	GF	FF	EE
Methyl Propyl Ketone	NN	FN	GF	FF	EE
Methyl-t-Butyl Ether	NN	FN	FN	EE	EE
Methylene Chloride	NN	FN	FN	EN	EE
MIBK	NN	NN	GF	FF	EE
Mineral Oil	GN	EF	EF	EG	EE
Mineral Spirits	FN	FN	FN	EE	EE
n-Amyl Acetate	GF	EG	GF	GF	EE
n-Butanol	EE	EE	EE	EG	EE
n-Butyl Acetate	GF	GF	GF	GF	EE
n-Butyl Alcohol	EE	EE	EE	EG	EE
n-Decane	FN	FN	FN	FN	EE
n-Heptane	NN	FF	FF	FF	EE
n-Octane	EE	EE	EE	EE	EE
Nitric Acid, 10%	EE	EE	EE	EE	EE
Nitric Acid, 20%	EE	GG	FF	EE	EE
Nitric Acid, 50%	GF	FN	FN	FN	EE
Nitric Acid, 70%	EN	FN	NN	FN	EE
Nitrobenzene	NN	NN	NN	FN	EE
Nitromethane	NN	FN	FN	EF	EE
o-Dichlorobenzene	FN	NN	FN	FN	EE
Oil, Cedarwood	NN	FN	NN	NN	EE
Oil, Cinnamon	NN	FN	NN	NN	EE
Oil, Mineral	GN	EE	EE	EG	EE
Oil, Pine	GN	FN	EG	GF	EE
Orange Oil	FN	GF	GF	FF	EE
Oxalic Acid, 10%	EE	EE	EE	EE	EE
Ozone	GN	GN	FN	EE	EE
p-Chloroacetophenone	EE	EE	EE	EE	EE
p-Dichlorobenzene	FN	NN	GF	GF	EE
Perchloric Acid	GN	GN	GN	GN	EE
Perchloric Acid, Concentrated (70%)	GN	GN	GN	GN	EE
Perchloroethylene	NN	NN	NN	NN	EE
Petroleum	NN	GN	NN	GF	EE
Phenol, 100%	NN	NN	NN	NN	EE
Phenol, 50%	NN	NN	NN	NN	EE
Phenol, Crystals	FN	GF	GN	FG	EE

CHEMICAL	LDPE	HDPE	PP	TPX	GLASS
Phenol, Liquid	NN	NN	NN	NN	EE
Phosphoric Acid, 5%	EE	EE	EE	EE	EE
Phosphoric Acid, 85%	EN	EE	EG	EG	EE
Picric Acid	NN	NN	NN	EE	EE
Pine Oil	GN	FN	EG	GF	EE
Potassium Chloride	EE	EE	EE	EE	EE
Potassium Hydroxide, 01%	EE	FF	EE	EE	SS
Potassium Hydroxide, 30%	EE	EE	EE	EE	SS
Potassium Hydroxide, Concentrated	EE	EE	EE	EE	SS
Potassium Permanganate	EE	EE	EG	EE	EE
Propane Gas	NN	EE	NN	NN	EE
Proprionic Acid	FN	EF	EG	EF	EE
Propylene Glycol	EE	EE	EE	EE	EE
Propylene Oxide	EG	EE	EG	EG	EE
Pyridine	NN	NN	EE	FN	EE
Resorcinol, 5%	EE	EE	EE	EE	EE
Resorcinol, Sat.	EE	EE	EE	EE	EE
Salicylaldehyde	EG	EE	EG	EG	EE
Salicylic Acid, Powder	EE	EE	EE	EE	EE
Salicylic Acid, Sat.	EE	EE	EE	EG	EE
Salt Solutions, Metallic	EE	EE	EE	EE	SS
sec-Butanol	EE	EE	EE	EG	EE
sec-Butyl Alcohol	EE	EE	EE	EG	EE
Silicone Oil	EG	EE	EE	EE	EE
Silver Acetate	EE	EE	EE	EE	EE
Silver Nitrate	EG	EE	EE	EE	EE
Skydrol LD4	GF	EG	EG	EG	EE
Sodium Acetate, Sat.	EE	EE	EE	EE	EE
Sodium Carbonate	EE	EE	EE	EE	EE
Sodium Dichromate	EE	EE	EE	EE	EE
Sodium Hydroxide, 1%	EE	FF	EE	EE	SS
Sodium Hydroxide, 10%	EE	EE	EE	EE	SS
Sodium Hydroxide, Concentrated (50%)	GG	EE	EE	EE	SS
Sodium Hypochlorite, 15%	EF	EG	FN	EE	EE
Stearic Acid	EE	GG	EE	EE	EE
Stearic Acid, Crystals	EE	EE	EE	EE	EE
Sulfur Dioxide	NN	EN	EE	NN	EE
Sulfur Dioxide, Liquid	NN	FN	NN	NN	EE
Sulfur Dioxide, Wet or Dry Gas	EE	EE	EE	EE	EE
Sulfur Salts	FN	GF	FN	FN	EE
Sulfuric Acid, 6%	EE	EE	EE	EE	EE
Sulfuric Acid, 20%	EE	EE	EE	EE	EE
Sulfuric Acid, 30%	EE	EE	EE	EE	EE
Sulfuric Acid, 60%	EG	EG	GF	EG	EE
Sulfuric Acid, 98%	GG	FN	FN	GF	EE
Sulfuric Acid, Concentrated (96%)	GG	FN	FN	GF	EE
Tartaric Acid	EE	EE	EE	EE	EE
TCA	FN	FN	GF	EE	EE
tert-Butanol	EG	EE	EG	EG	EE
tert-Butyl Alcohol	EG	EE	EG	EG	EE
Tetrahydrofuran	FN	FN	GF	FF	EE
THF	FN	FN	GF	FF	EE
Thionyl Chloride	NN	NN	NN	NN	EE
Tincture of Iodine	EG	GF	EE	NN	EE
Toluene	FN	NN	NN	FF	EE
Tributyl Citrate	GF	EG	GF	GF	EE
Trichloroacetic Acid	FN	FN	GF	EE	EE
Trichloroethane	NN	NN	NN	NN	EE
Trichloroethylene	NN	NN	NN	NN	EE
Triethylene Glycol	EE	EE	EE	EE	EE
Tripropylene Glycol	EE	EE	EE	EE	EE
Tris Buffer, Solution	EG	EG	EG	EG	EE
Trisodium Phosphate	EE	EE	EE	EE	EE
Turpentine	FN	FN	FN	FN	EE
Undecyl Alcohol	EF	EG	EG	EG	EE
Urea	EE	EE	EE	EG	EE
Vinylidene Chloride	NN	FN	NN	NN	EE
Xylene	NN	FN	NN	NN	EE
Zinc Chloride, 10%	EE	EE	EE	EE	EE
Zinc Stearate	EE	EE	EE	EE	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.

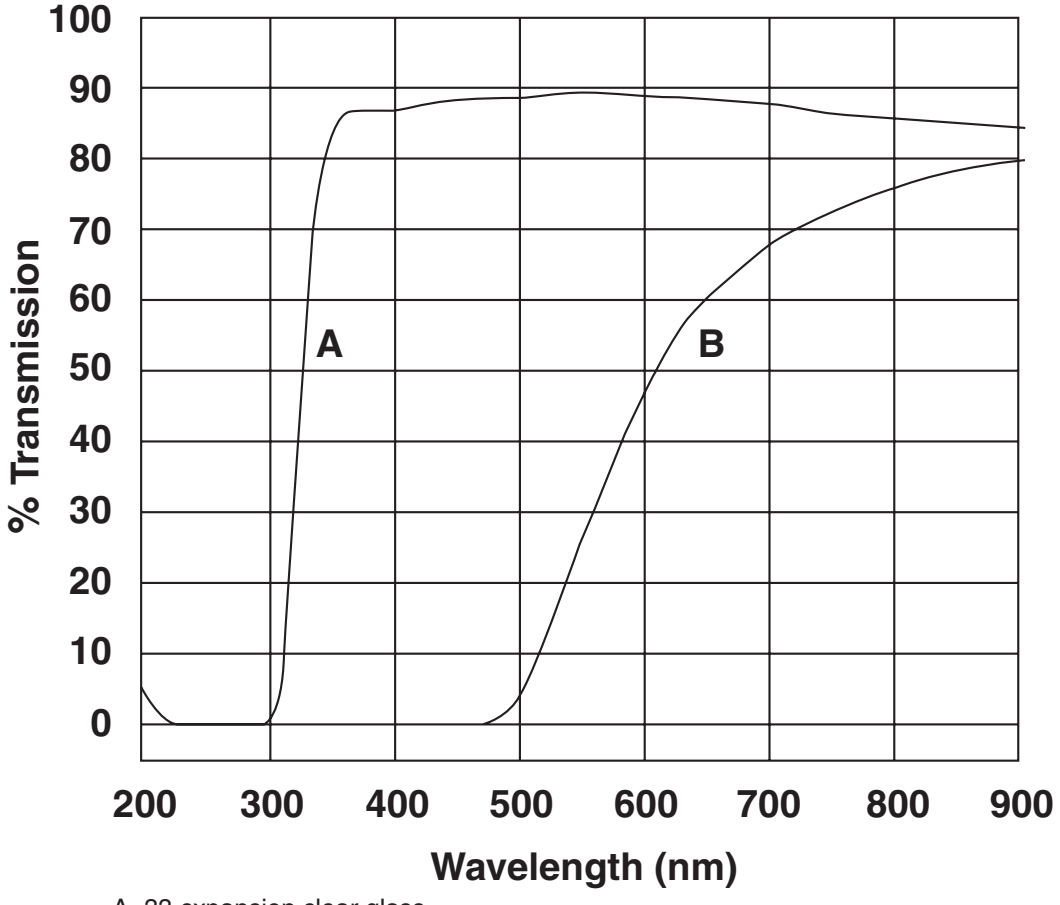
Clear glass products are manufactured from 33 expansion borosilicate glass with a low coefficient of expansion and very high resistance to chemical attack. It has low alkali content and is free of elements from the calcium, magnesium, and zinc group of heavy metals. The total of combined oxides of arsenic 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_2)	80%	72%
Boron Oxide (B_2O_3)	13%	12%
Aluminum Oxide (Al_2O_3)	3%	7%
Calcium Oxide (CaO)	0.1%	1%
Magnesium Oxide (MgO)	Not Detected	Not Detected
Sodium Oxide (Na_2O)	4%	6%
Potassium Oxide (K_2O)	0.1%	2%
Barium Oxide (BaO)	<0.1%	<0.1%

Optical Properties of Glass



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

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, untreated 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.



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 a 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 indicates 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		X		X				
	1090A	X	X	X	X				
	1100 Wellplate		X		X				X
	6850ALS		X						
	7673A		X						
	7683		X						
	G1888							X	
	7694E							X	
	220								X
AI	42 Position Tray		X						
	60 Position Tray	X							
AIM	CPS-100		X	X	X				
	CPS-200								
ALCOTT®	728								
	708AL								
	718AL		X	X	X				X
	718ALD		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		X	X	X				
	System Gold 508	X	X	X	X		X		
BRUKER	Map II		X	X	X	X			X
	LC51						X		
CTC™	CLPAL/GC PAL	X	X	X	X				X
	Combi PAL	X	X	X	X			M	X
	HTC PAL/HTS PAL	X	X	X	X				X
DANI	ALS-1000/39.80/86.80		X						
	HSS 39.50/ 86.50/ SPT 37.50							X	
DIONEX	ASI-100		X	X	X	X	X		
	AS-40/50			X			X		
	FAMOS		X	X	X				X
D-STAR	DAS-10		X	X	X				
DYNATECH	LC-241	X	X	X	X				
	LC-2000		X						
ESA	540		X	X	X	X	X		
	540-MT		X	X	X	X			X
	542		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	X	X	X	X				
	215		X	X	X	X			X
	250		X	X	X				X
GYNKOTEK/SOFTRON	GINA 50/160		X	X	X				
JASCO®	851/AS950/1550/1555			F					
	AS-2059/AS2059Plus	X		F		X			X
	AS-2055/AS/2057	X		F		X			X
KONIK	K-Mass		X						
KONTRON®	MSI-660						X		
	360/460/560/565		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
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			
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	X		
NLG	HT300A		X	X	X				
	HT200H							X	
PERKIN ELMER™	Autosystem/AS-2000		X	X	X		X		
	Clarus 500		X		X				
	Integral 4000		X	X	X				
	TurboMatrix 16.40/110							X	
	ISS-100/200/Series 200	X	X	X	X				
	HS16/40/120							X	
	LC Plus	X	X	X	X				X
PHARMACIA	2157/Akta A-900		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-2A					X	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
SPECTRA-PHYSICS™	SP8875/8800		X	X	X	X			
	AS100/300/1000/3000		X	X	X	X			
THERMO ELECTRON®	Surveyor LC		X	X	X				X
	AS 3000/Trace GC/Focus LC		X		X				
	TriPlus		X	X	X	X		X	
TOA	ICA-5000450/5450		X	F		X			
TOSOH®	TSK-6080/AS-8010/AS-8020		X	F		X	X		
TEKMAR®	7000/7050							X	
	HT3							X	
TSP	AM4100		X						
	AS3000		X	X	X				
TRACOR®	770/771/772		X		X				
PYE-UNICAM	LC-XP/4710/4247		X		X		X		
	4700GC/LC/S4/S8	X	X		X				
	612	X	X		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				
	Polaris		X	X	X	X			
	Prostar 400/410/420		X	X	X	X			
	Prostar 430		X	X	X	X			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

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
ACIDS								
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	CA	LC	C	ND
Formic, 25%	IC	C	ND	ND	LC	C	C	C
Trichloroacetic, 10%	IC	C	ND	ND	CA	C	C	ND
ALCOHOLS								
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
ALKALIES								
Ammonium Hydroxide, 25%	C	C	LC	C	C	LC	C	C
Sodium Hydroxide, 3N	C	C	C	C	IC	LC	C	IC
AMINES AND AMIDES								
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, cont'd.

Chemical	Nylon	PTFE	PVDF	PES	CA	RC	PP	GMF
ESTERS								
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
HALOGENATED HYDROCARBONS								
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
HYDROCARBONS								
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
KETONES								
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
ORGANIC OXIDES								
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
MISCELLANEOUS								
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 CRF 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 flow rate with most sample matrices; not compatible with strong acids or bases	General laboratory filtration; filtration for most HPLC samples. **NOTE:** Nylon binds protein, do not use when high protein recovery is desired
Polyethersulfone	High flow rates 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

Kimble® to National Scientific Part Number Cross-Reference

National Scientific acquired the Kimble Chromatography range of products in December 2001. The products from these two strong companies are now offered as a single complete portfolio, making it possible for the chromatographer to select the best combinations of features for every application. Many Kimble Chromatography products will continue to be manufactured and offered under the original specifications. Packaging, labeling, and part numbers have been modified to allow for a better match between the products. Many Kimble Chromatography products are now offered in the smaller pack sizes popularized by National Scientific. Please refer to the product listing on the following pages to find the new National Scientific Product Code that replaces your original Kimble part number. Contact National Scientific for information about product listed as Not Available.

DISCONTINUED KIMBLE NO	REPLACED BY NSC NO	PAGE NUMBER
60200-1232	C4011-9	8,40
60210-1545	C4015-9	32,40
60210-1545A	C4015-9	32,40
60210-1545B	Not Available	----
60222-1232	C4011-4	12
60250-1232	C4000-9	20,40
60715-110	Not Available	----
60715-1232	Not Available	----
60730-1232	C4012-10	5,40
60732-1232	C4011-10	8,40
60735-1232	Not Available	----
60740-1232	C4013-11	16,40
60740-1545	C4015-14	32,40
60740A-1232	C4013-15GST	16,40
60740A-1545	C4015-15	32,40
60740B-1232	C4010-11	26
60743-1232	C4011-LV1W	8,40
60743A-1232	C4011-LV1	12, 40
60743N-1232	Not Available	----
60745-1232	C4011-LV1	8,12,40
60745A-1232	C4011-LV1	8,12,40
60745N-1232	C4011-LV1W	8,40
60747A-1232	C4000-LV1	20,40
60747N-1232	C4000-LV1W	20,40
60749-1545	C4015-46P	37
60750-1232	C4011-13	9,12,40
60750-1545	C4015-12	30
60750A-1232	C4012-15	5,9,12,40
60750A-1545	Not Available	----
60750B-1232	C4011-14	9,12,40
60780L-1232	Not Available	----
60780T-1232	Not Available	----
60781L-1232	Not Available	----
60781T-1232	Not Available	----
60782L-1232	C4011-87	10
60782T-1232	C4011-87	10
60783L-1232	C4011-87W	10
60783T-1232	C4011-87W	10
60784T-1232	C4011-87AW	10
60785L-1232	C4011-92W	10
60785T-1232	C4011-92	10
60786L-1232	C4011-92AW	10
60786T-1232	C4011-92AW	10
60787L-1232	C4011-94W	10
60787T-1232	C4011-94W	10
60788L-1232	C4011-94AW	10
60788T-1232	C4011-94AW	10
60790A-1232	C4000-192	24
60790B-1232	C4075-219	25
60790L-1232	C4000-92	23
60790T-1232	C4000-92	23
60792A-1232	C4000-192W	24
60792B-1232	C4075-221	25
60792L-1232	C4000-92W	23
60792T-1232	C4000-92W	23
60793A-1232	C4000-194W	24
60793B-1232	C4075-225	25
60793L-1232	C4000-94W	23
60793T-1232	C4000-94W	23
60794A-1232	C4000-195W	24
60794L-1232	Not Available	----
60794T-1232	Not Available	----
60796A-1232	C4000-195W	24
60796L-1232	C4000-95W	23
60796T-1232	C4000-95W	23
60797A-1232	C4000-196W	24
60797L-1232	C4000-96W	23
60797T-1232	C4000-96W	23
60800-1232	C4000-1	20
60800V-1232	C4000-1	20
60800W-1232	C4000-1W	20
60801A-1232	C4000-180	24
60801B-1232	C4075-201	25
60801L-1232	C4000-80	23
60801T-1232	C4000-80	23
60802A-1232	C4000-180W	24
60802B-1232	C4075-203	25
60802L-1232	C4000-80W	23
60802T-1232	C4000-80W	23
60803A-1232	C4000-186	24
60803B-1232	C4075-211	25
60803L-1232	C4000-86	23
60803T-1232	C4000-86	23
60804A-1232	C4000-186W	24
60804B-1232	C4075-213	25
60804L-1232	C4000-86W	23
60804T-1232	C4000-86W	23
60805-1232	C4000-2W	20
60805A-1232	C4000-86W	23
60805W-1232	C4000-2W	20
60805WL-1232	C4000-2W	20
60807A-1232	C4000-182W	24
60807B-1232	C4075-207	25
60807L-1232	C4000-82W	23
60807T-1232	C4000-82W	23
60809A-1232	C4000-188W	24
60809B-1232	C4075-217	25
60809L-1232	C4000-88W	23
60809T-1232	C4000-88W	23
60810-1232	C4013-1	16
60810-1545	C4015-1	32
60810A-1232	C4013-13	16,40
60810V-1232	Not Available	----
60810W-1232	C4013-1W	16
60810W-1545	C4015-11W	32
60811P-1232	C4011-77P	37
60811P-1545	C4015-47P	37
60812-1232	C4010-1	26
60812-1296	C4010-1296VO	44
60812A-1232	C4010-14	26,40
60812W-1232	C4010-1W	26
60813A-1232	Not Available	----
60813T-1232	Not Available	----
60815-1232	C4013-2	16
60815-1545	C4015-2	32
60815A-1232	C4010-2W	26
60815V-1232	Not Available	----
60815W-1232	C4013-2W	16
60815W-1545	C4015-2W	32
60820-1232	C4012-1	5
60820-1240	C4011-1240	8,40
60820-740	C4008-741	3,40
60820-830	C4008-1	3,40
60820-840	Not Available	----
60820A-740	C4008-739	3,40
60820V-1232	Not Available	----
60820W-1232	C4012-1W	5
60821G-1232	C4011-1	8
60821V-1232	Not Available	----
60821W-1232	C4011-1W	8
60822-1545	C4011-15	9,12,40
60822A-1232	C4011-24	9,12,40
60822B-1232	C4011-15	9,12,40
60822T-1232	C4011-5	12
60822V-1232	C4011-5	12
60822W-1232	C4011-5W	12
60825-1232	C4012-2	5
60825-740	C4008-742	3,40
60825-830	Not Available	----
60825A-1232	C4011-2W	8
60825A-730	C4008-730	3,40
60825A-740	C4008-740	3,40
60825B-732	Not Available	----
60825P-1232	C4011-2W	8
60825V-1232	Not Available	----
60825W-1232	C4012-2W	5
60826T-1232	C4011-6	12
60826W-1232	C4011-6W	12
60827-2238	C4020-6	41
60827-2346	C4020-410	41
60827-2375	C4020-25	42
60827-3060	C4020-27	41
60827A-2346	C4020-210	41
60827A-2375	C4020-2	41
60827T-2238	C4020-60	41
60827T-2238S	Not Available	----
60827T-2346	C4020-10	41
60827T-2375	C4020-20	41
60828-1544	C4015-48	37
60829-1544	Not Available	----
60830-531	C4012-465	5-6,18,38
60830-631	C4011-631	10,14,22,28,38
60830-633	Not Available	----
60830-843	C4015-843	34,39
60831-1231	Not Available	----

Kimble®—National Scientific Cross-Reference, cont'd. next page.

DISCONTINUED KIMBLE NO	REPLACED BY NSC NO	PAGE NUMBER
60831D-1231	Not Available	----
60831D-1544	Not Available	----
60831L-1232	C4011-72W	15
60831T-1232	C4011-72W	15
60832-840	Not Available	----
60832A-840	C4015-96	36
60832B-840	Not Available	----
60832C-840	Not Available	----
60832D-840	Not Available	----
60832L-1232	C4011-73W	15
60832P-840	C4015-95P	36
60832T-1232	C4011-73W	15
60833-840	Not Available	----
60833A-840	C4015-99	36
60833D-835	Not Available	----
60833L-1232	C4011-74W	15
60833T-1232	C4011-74W	15
60834A-835	C4008-50	37
60834B-835	Not Available	----
60834D-835	Not Available	----
60834L-1232	Not Available	----
60834T-1232	Not Available	----
60835-1231	Not Available	----
60835D-1231	Not Available	----
60835D-1544	Not Available	----
60835L-1232	Not Available	----
60835T-1232	Not Available	----
60837-632	C4008-632R	3,40
60837A-1232	C4011-1.7CB	8,40
60837B-632	C4008-632C	3,40
60837H-1032	Not Available	----
60837L-1232	C4010-88W	28
60837V-11	Not Available	----
60837W-5	Not Available	----
60838-1296	C4011-1296	44
60838L-1232	C4010-88AW	28
60839-1232	Not Available	----
60839L-1232	Not Available	----
60840-538	C4015-536	36
60840-629	C4010-629L	10,14,22,28,38
60840-631	C4010-627L	10,14,22,28,38
60840C-1232	C4013-458	18
60840K-529	C4015-96A	36
60840L-1232	C4013-458	18
60840P-639	Not Available	----
60840T-531	C4012-529	18
60840T-542	Not Available	----
60840T-639	C4015-643	34,39
60840W-529	C4015-536	36
60840X-639	C4015-642	39
60841-529	C4013-529T	5-6,18,38
60841-629	C4010-630TS	10,14,28,38
60841-639	C4015-639TS	34,39
60841C-1232	C4013-458	18
60841L-1232	C4013-458	18
60842-1	C4015-540	36
60842A-2	C4015-640	39
60842C-1232	Not Available	----
60842L-1232	C4013-17	18
60843-529	C4012-530	5-6,18,38
60843-536	C4015-96A	36
60843-629	C4010-630	10,14,22,28,38
60843-629PPD	Not Available	----
60843-638	C4015-641	34,39
60843C-1232	C4013-15	18
60843L-1232	C4013-15	18
60843P-529	C4012-530P	5-6,18,38
60843P-629	C4010-630P	10,14,22,28,38
60843P-638	C4015-638P	34,39
60844C-1232	C4013-17	18
60845C-1232	C4013-95W	18
60845L-1232	C4013-95W	18
60846C-1232	Not Available	----
60846L-1232	Not Available	----
60847L-1232	Not Available	----
60848L-1232	C4010-89	28
60849L-1232	C4010-89W	28
60850-1	C4075-500	11,15,25
60850C-1232	C4013-482	18
60850L-1232	C4013-482	18
60850T-1232	C4013-492	18
60851-740	Not Available	----
60851B-1232	C4075-1	11
60851L-1232	C4011-89W	10
60851T-1232	C4011-89W	10
60852-740	Not Available	----
60852C-1232	Not Available	----
60852L-1232	Not Available	----
60852T-1232	Not Available	----
60853-740	Not Available	----
60853L-1232	C4011-94	10
60853T-1232	C4011-94	10
60854-740	Not Available	----
60855-740	Not Available	----
60855L-1232	C4012-88	5,7
60855T-1232	C4012-88	5,7
60856-740	Not Available	----
60856L-1232	C4011-87AW	10
60856T-1232	C4012-88A	5,7
60857B-1232	Not Available	----
60857L-1232	C4011-72	15
60857T-1232	C4011-72	15
60858L-1232	C4011-72AW	15
60858T-1232	C4011-72AW	15
60859L-1232	Not Available	----
60859T-1232	Not Available	----
60860A-1545	C4015-482A	35
60860L-1232	Not Available	----
60860T-1545	C4015-482	34
60861-1232	Not Available	----
60861L-1232	Not Available	----
60862-1232	C4013-458	18
60863C-1232	Not Available	----
60863L-1232	Not Available	----
60865A-1232	C4013-491A	19
60865T-1232	Not Available	----
60866-2346	Not Available	----
60866-2375	C4020-139	43
60866C-1232	C4013-492W	18
60866L-1232	C4013-492W	18
60867-2346	Not Available	----
60867-2375	C4020-143	43
60867L-1232	Not Available	----
60868-2346	Not Available	----
60868-2375	Not Available	----
60870L-1232	Not Available	----
60870T-1232	C4011-92	10
60871L-1232	Not Available	----
60871T-1232	Not Available	----
60872L-1232	C4011-73	15
60872T-1232	C4011-73	15
60873L-1232	C4011-74	15
60873T-1232	C4011-74	15
60875T-1545	C4015-492	34
60877A-1232	C4013-410A	19
60877T-1232	Not Available	----
60878A-1232	C4013-486A	19
60879A-1232	Not Available	----
60880A-1232	C4013-494A	19
60880A-1545	C4015-21AW	35
60880T-1232	Not Available	----
60881A-1232	C4013-15A	19
60881A-1545	C4015-17	35
60881B-1232	C4075-380	25
60881C-1232	C4013-15	18
60881C-1545	C4015-88	34
60881L-1232	C4013-15	18
60881T-1232	Not Available	----
60881T-1545	C4015-88	34
60882A-1232	C4013-492A	19
60882A-1545	Not Available	----
60882C-1232	C4013-492	18
60882C-1545	C4015-88	34
60882L-1232	C4013-492	18
60882T-1232	Not Available	----
60883A-1545	Not Available	----
60883C-1545	Not Available	----
60883L-1232	Not Available	----
60883T-1232	Not Available	----
60884A-1232	C4013-415A	19
60884A-1545	C4015-17A	35
60884C-1232	C4013-415W	18
60884C-1545	C4015-88AW	34
60884L-1232	C4013-415W	18
60884T-1232	Not Available	----
60884T-1545	Not Available	----
60885A-1232	C4013-195	19
60885C-1232	Not Available	----
60885L-1232	C4011-73AW	15
60885T-1232	C4011-73AW	15
60885T-1545	Not Available	----
60886-1232	Not Available	----
60886A-1232	C4010-67	29
60886C-1232	C4010-88	28
60886L-1232	C4011-74AW	15
60886T-1232	C4011-74AW	15
60887A-1232	C4010-19	29
60887C-1232	C4010-92	28
60888-1232	C4010-90	28
60888A-1232	C4010-21	29

Kimble®—National Scientific Cross-Reference, cont'd. next page.

DISCONTINUED KIMBLE NO	REPLACED BY NSC NO	PAGE NUMBER
60888A-1296	C4010-1296	44
60889-1232	Not Available	----
60890A-1545	C4015-21	35
60890T-1545	C4015-93	34
60891A-1545	C4015-410A	35
60896-1232	Not Available	----
60896A-1232	C4010-67AW	29
60897A-1232	C4010-19AW	29
60898-1232	C4010-90AW	28
60898A-1232	C4010-21AW	29
69901-11	C4012-100	5,7,11,15,72
69901-13	C4013-100	31,72
69901-20	C4020-100	43,72
69901-8	C4008-100	4,72
69901A-13	Not Available	----
69901A-20	Not Available	----
69902-11	C4012-101	5,7,11,15,72
69902-13	C4013-101	31,72
69902-20	C4020-101	43,72
69902-8	C4008-101	4,72
69903-11	C4012-102	5,7,11,15,72
69903-13	C4013-102	31,72
69903-20	C4020-102	43,72
69903-8	C4008-102	4,72
73655-12	C4012-25	5,7,11,15,73
73656-1	Not Available	----
73656-12	Not Available	----
73656-15	Not Available	----
73656-5	Not Available	----
73656-7	Not Available	----
73656-8	Not Available	----
73791A-9425	C4000-51A	21
73791B-9425	C4000-51G	21
73791C-9425	C4000-51R	21
73791D-9425	C4000-51Y	21
73792A-9425	C4000-53A	21
73792B-9425	C4000-53G	21
73792C-9425	C4000-53R	21
73792D-9425	C4000-53Y	21
73793A-9425	C4000-54A	21
73793B-9425	C4000-54G	21
73793C-9425	C4000-54R	21
73793D-9425	C4000-54Y	21
73794A-9425	C4000-55A	21
73794B-9425	C4000-55G	21
73794C-9425	C4000-55R	21
73794D-9425	C4000-55Y	21
73801A-9425	C4000-98BLK	20
73801B-9425	C4000-98G	20
73801C-9425	C4000-98R	20
73801D-9425	C4000-98Y	20
73801E-9425	Not Available	----
73804-8425	Not Available	----
73804-8425B	Not Available	----
73804-8425G	Not Available	----
73804-8425R	Not Available	----
73804-8425Y	Not Available	----
73804A-10425	C4010-35BLK	27
73804A-13425	C4015-75A	33
73804A-8425	C4013-60A	17
73804B-10425	Not Available	----
73804B-13425	C4015-66A	33
73804B-8425	C4013-74A	17
73804C-10425	C4010-55BLK	27
73804C-13425	Not Available	----
73804C-8425	C4013-77A	17
73804D-8425	C4013-71A	17
73804E-8425	C4013-63W	17
73804T-13425	C4015-66	32,45
73804T-8425	C4013-66	16,45
73805-8	C4013-61A	17
73805-8B	C4013-61B	17
73805-8G	C4013-61G	17
73805-8R	C4013-61R	17
73805-8RP	Not Available	----
73805-8W	C4013-61W	17
73805-8Y	C4013-61Y	17
73806A-10425	C4010-98BLK	26
73806A-13425	C4015-1A	32
73806A-8425	C4013-3A	16
73806B-10425	C4010-98R	26
73806B-13425	C4015-97R	32
73806B-8425	C4013-98R	16
73806C-10425	C4010-1A	26
73806C-13425	C4015-97B	32
73806C-8425	C4013-98B	16
73806D-10425	C4010-98G	26
73806D-13425	C4015-97G	32
73806D-8425	C4013-98G	16
73806E-10425	C4010-98Y	26
73806E-13425	C4015-97Y	32
73806E-8425	C4013-98Y	16,26
73806F-10425	C4010-98W	26
73806K-10425	Not Available	----
73806K-13425	Not Available	----
73806K-8425	C4013-98K	16
73807-10425	C4010-5A	27
73807-13425	C4015-5A	33
73807-8425	C4013-5A	17
73807F-8425	Not Available	----
73809A-8	C4000-30	21
73809B-8	C4000-40	21
73809C-8	C4000-60	21
73812-10	C4010-40	27
73812-13	C4015-40	33
73812-8	C4013-40	17
73813T-11	C4011-37	9,14
73813T-8	C4008-7A	4
73814T-11	C4011-2A	5,9,14
73814T-8	C4008-2A	4
73815A-11	Not Available	----
73815B-11	Not Available	----
73816T-13	C4015-30	33
73816T-8	C4013-30	17
73818A-10	C4010-35	27
73818B-13	C4015-60	33
73818B-8	C4013-60	17
73818C-13	Not Available	----
73818H-10	C4010-55	27
73818H-13	Not Available	----
73818H-8	C4013-60TW	17
73818T-13	C4015-61	33
73818T-8	C4013-60	17
73819-10	C4010-10	27
73819B-11	C4011-6A	9,14
73819B-8	C4008-6A	4
73819T-13	C4015-10	33
73819T-8	C4013-10	17
73820-20	Not Available	----
73821-20	Not Available	----
73822A-11	Not Available	----
73822A-20	C4020-3A	41
73823-13	C4015-1AP	30
73823-20	Not Available	----
73823A-20	C4020-40	42
73823B-8	C4008-98R	4
73823C-8	C4008-98B	4
73823D-8	C4008-98G	4
73823E-8	C4008-98Y	4
73823K-8	C4008-8K	4
73823T-20	C4020-34A	42
73823T-8	C4008-1A	4
73824-13	C4015-4A	30
73824S-8	Not Available	----
73824T-11	C4011-4A	5,9,14
73824T-20	C4020-32A	42
73824T-8	C4008-4A	4
73825-11	C4011-7A	5,9,14
73825B-11	C4011-7R	5,9,14
73825C-11	C4011-7B	5,9,14
73825D-11	C4011-7G	5,9,14
73825E-11	C4011-7Y	5,9,14
73825K-11	C4011-7K	5,9,14
73825T-11	C4011-3A	5,9,14
73826-4	C4015-52	30
73826-5	C4015-54	30
73826-6	C4015-53	30
73826-7	C4011-50	13
73826-8	C4011-55	13
73826A-4	C4015-51	30
73826B-1	C4011-52R	13
73826B-2	C4011-54R	13
73826B-3	C4011-53R	13
73826B-4	C4011-51R	13
73826B-8	C4011-55R	13
73826C-1	C4011-52B	13
73826C-2	C4011-54B	13
73826C-3	C4011-53B	13
73826C-4	C4011-51B	13
73826C-8	C4011-55B	13
73826D-1	C4011-52G	13
73826D-2	C4011-54G	13
73826D-3	C4011-53G	13
73826D-4	C4011-51G	13
73826D-8	C4011-55G	13
73826E-1	C4011-52Y	13
73826E-2	C4011-54Y	13
73826E-3	C4011-53Y	13
73826E-4	C4011-51Y	13
73826E-8	C4011-55Y	13

DISCONTINUED KIMBLE NO	REPLACED BY NSC NO	PAGE NUMBER
73826L-3	Not Available	----
73826L-B	Not Available	----
73826L-G	Not Available	----
73826L-R	Not Available	----
73826L-Y	Not Available	----
73826T-1	C4011-52	13
73826T-2	C4011-54	13
73826T-3	C4011-53	13
73826T-4	C4011-51	13
73826T-B	Not Available	----
73826T-G	Not Available	----
73826T-R	Not Available	----
73826T-Y	Not Available	----
73827-21	Not Available	----
73829T-1	C4011-57	13
73830A-20	C4020-34	42
73831A-20	C4020-32	42
73832-20	C4020-36A	42
73832A-20	C4020-36	42
73832C-20	Not Available	----
73832P-20	C4020-36AP	42
73833C-20	C4020-42A	42
73833P-20	C4020-42AP	42
73834A-20	C4020-37AP	42
73834B-20	C4020-37	42
73834C-20	C4020-43A	42
73834P-20	C4020-43AP	42
73834T-20	C4020-39A	42
73835-11	C4011-1A	5,9,14
73835-12	Not Available	----
73835-2	Not Available	----
73835-3	Not Available	----
73836-8	Not Available	----
73836B-8	Not Available	----
73836C-8	Not Available	----
73836D-8	Not Available	----

DISCONTINUED KIMBLE NO	REPLACED BY NSC NO	PAGE NUMBER
73836E-8	Not Available	----
73838-1	Not Available	----
73838-2	Not Available	----
73839-8	Not Available	----
73840-11	Not Available	----
73840-8	C4008-10	4
73840T-5	C4011-61	Special Order
73841-11	Not Available	----
73841-20	C4020-31	42
73841T-5	C4011-64	Special Order
73842T-5	C4011-63	Special Order
750200-0096	Not Available	----
750200-0500	Not Available	----
750200-0750	Not Available	----
750200-1000	Not Available	----
750200-1500	Not Available	----
750200-2000	Not Available	----
750201-0096	Not Available	----
750202-0096	Not Available	----
750202-0500	Not Available	----
750202-0750	Not Available	----
750202-1000	Not Available	----
750202-1500	Not Available	----
750202-2000	Not Available	----
750203-0096	Not Available	----
750203-0096P	Not Available	----
750204-0096	Not Available	----
750360-0450	Not Available	----
750360-0500	Not Available	----
D60800-1232	Not Available	----
D60805-1232	Not Available	----
D60805W-1232	Not Available	----
D60810-1232	C4013-K1	16
D60810-1545	C4015-K1	32
D60810W-1232	C4013-K1W	16
D60812-1232	Not Available	----

DISCONTINUED KIMBLE NO	REPLACED BY NSC NO	PAGE NUMBER
D60815-1545	C4015-K2	32
D60815A-1232	Not Available	----
D60815W-1232	C4013-K2W	16
D60815W-1545	Not Available	----
D60821G-1232	Not Available	----
D60821W-1232	C4011-K1W	8
D60822T-1232	Not Available	----
D60822W-1232	Not Available	----
D60825P-1232	C4011-K2W	8
D60826W-1232	Not Available	----
D60832A-840	Not Available	----
Z60800-1232	Not Available	----
Z60805W-1232	Not Available	----
Z60810-1232	Not Available	----
Z60810-1545	Not Available	----
Z60810W-1232	Not Available	----
Z60812-1232	Not Available	----
Z60815-1545	Not Available	----
Z60815A-1232	Not Available	----
Z60815W-1232	Not Available	----
Z60815W-1545	Not Available	----
Z60821G-1232	Not Available	----
Z60821W-1232	Not Available	----
Z60822T-1232	Not Available	----
Z60822W-1232	Not Available	----
Z60825P-1232	C4011-K2W	8
Z60826W-1232	Not Available	----
Z60830-531	C4013-K465	5-6,18,38
Z60830-631	Not Available	----
Z60832A-840	Not Available	----
Z60843-529	C4012-K530	5-6
Z60843-536	Not Available	----
Z60843-629	C4010-K630	10,14,22,28,38
Z60843-638	C4015-S641	34,39

Terms and Conditions

Copyright © 2005 National Scientific Company. All rights reserved.

This catalog, including any portion hereof, may not be reproduced in any manner whatsoever without the prior express, written consent of National Scientific Company.

The information presented in this catalog is, to the best of our knowledge, correct and accurate at the time of publication, but is not guaranteed to be so. National Scientific Company assumes no responsibility in this respect, and reserves the right to change product specifications without notice.

Terms and Conditions of Sale

General

All orders are accepted and executed by National Scientific Company (NSC) pursuant to NSC terms and conditions of sale in effect at the time the order is placed and accepted by NSC. The terms and conditions of sale are only as stated herein and constitute the complete agreement between the parties.

Modification of Terms

The Agreement may not be altered, supplemented, or amended unless set forth in a written agreement signed by both the Purchaser and NSC. Any addition to or deviation from these Terms and Conditions of Sale, including by the use of any other document(s), shall only be binding upon NSC if expressly agreed to by an authorized officer of NSC in writing.

Quotations

Orders are not binding until accepted by NSC. NSC reserves the right to refuse the Purchaser's acceptance of a quotation unless it is accepted during the period stated for the quotation. NSC reserves the right to modify or withdraw a quotation at its reasonable discretion.

Prices and Discounts

The prices published in this catalog are those in effect on the date of publication and are subject to alteration without notice. All prices and currency transactions are in US dollars.

New Accounts

NSC reserves the right to extend or deny credit to any Purchaser at its sole discretion. A commercial bank and several financial references may be required for the purpose of establishing a credit account. Products will not be delivered prior to the completion of credit verification and account authorization.

Special Packing
A charge is made when it is necessary to dispatch goods in crates, but this amount will be credited in full on the return, within one month, of the crates in good condition, carriage paid. No charge is made for any other form of packing and no credit will be allowed for its return.

Delivery
Unless otherwise agreed by the parties, goods are delivered Ex Works (Incoterms 2000) Rockwood, TN, U.S.A. Prices are exclusive of any shipping and handling fees, duty, insurance, taxes, and VAT, which the Purchaser agrees to pay. The Purchaser shall be obliged to cooperate in the delivery of the Products ordered and to take receipt of same. NSC may retain any goods refused or not accepted by the Purchaser at the latter party's disposal for account and at the risk of the Purchaser.

All delivery times shall be approximate, except if a fixed time of delivery has been specifically agreed to in writing by NSC, in which case a delay in the delivery shall solely entitle the Purchaser to cancel, without costs, the order for the goods not delivered. Other delivery terms may incur additional charges.

Any times quoted for dispatch, delivery, repair, or replacement are to be treated as estimates only and NSC shall not be liable in any way whatsoever for failure to dispatch, deliver, repair, or replace within such time.

Loss or Damage in Transit
Clear receipts should be given only if goods have been examined, as an unqualified signature may react to the disadvantage of the Purchaser if the consignment should become the subject of a claim. In the event of short delivery or damage in transit, it is essential that NSC's dispatching depot be advised within two days of receipt of goods.

The following details should be sent in writing to NSC:

Advice note number
Carrier's name
Condition of package
Date of consignment received
Extent of damage or shortage

In the event of non-delivery, NSC's dispatching depot should be advised within seven (7) days of the date of invoice. NSC will not be responsible for goods lost or damaged in transit unless the above conditions are observed.

Payment
Where credit has been approved by NSC, unless otherwise agreed by NSC in writing, payment is due within 30 days following the date of invoice. Prices are net and are not subject to any early payment discount or settlement terms.

The Purchaser may not claim any set-off against NSC. In the event payment is not made when due, NSC shall be entitled to claim, without any notice of default being required and without prejudice to any further rights it may have, interest at the lesser of: a rate of one and a half percent (1½%) per month or at the highest interest rate allowed by law. Purchaser shall be liable for all costs of collection.

Special Orders
All orders for non-standard products or package quantities not included in current NSC Company catalogs and literature are considered to be special orders and will be handled on a case by case basis at the discretion of NSC.

Manufacture and Design
NSC reserves the right to discontinue the manufacture of, or to change or modify the design or construction of the products sold, without incurring any obligation to Purchaser. All photographs, illustrations, descriptions, specifications, drawings, and particulars of weights and dimensions issued by NSC are approximate only, and are intended only to present a general idea of the goods to which they refer and shall not form part of a contract.

Patent Indemnity
If a product furnished to Purchaser becomes or, in NSC's opinion, may become the subject of any claim, suit or proceeding for infringement of any United States patent, NSC may at its option and expense (i) obtain for Purchaser the right to use, lease or sell the product, (ii) replace the product, (iii) modify the product, or (iv) remove the product and refund the purchase price paid by Purchaser less a reasonable amount for use, damage or obsolescence. NSC will not be liable for any infringement arising from the combination of products or from the use of a product in a process. NSC's total liability to Purchaser will not, under any circumstances, exceed the purchase price paid for the allegedly infringing product. Purchaser agrees, at its expense, to protect and defend NSC against any claim of patent infringement arising from compliance with Purchaser's designs, specifications or instructions and to hold NSC harmless from damages, costs and expenses attributable to any such claim.

Applicable Law and Venue
This Agreement shall be governed in accordance with the laws of the Commonwealth of Pennsylvania (USA) without reference to any conflict of law provisions. Unless the parties agree otherwise, the state and federal courts located in Pennsylvania shall have exclusive jurisdiction over all disputes hereunder. The parties agree the UN Convention on Contracts for the International Sale of Goods (CISG) shall not apply to the sale of goods hereunder. No failure or delay by NSC in exercising any right, power or privilege hereunder will operate as a waiver thereof nor will any single or partial exercise of any right, power or privilege hereunder preclude further exercise of the same right, power or privilege. In the event any provision or any part or portion of any provision of these Terms and Conditions shall be held to be invalid, void or otherwise unenforceable, such holding shall affect the remaining part or portions of that provision, or any other provision hereof.

Compliance with Law and Export Regulations.
You agree to comply with all applicable local, federal, state, county, and municipal statutes, laws, regulations, codes, standards, ordinances and orders and to the laws of the United States. Declarations, fees and taxes resulting from resale or export of these products are the sole responsibility of the Purchaser. If the products are to be exported, the quoted shipping dates are subject to receipt of all export documents and authorizations. Unless otherwise stated in writing, the prices quoted are based on packing for domestic shipment, regardless of ultimate destination. Purchaser agrees to provide NSC in writing with the ultimate destination and the identity of the end-user prior to shipment and shall comply with all applicable laws and regulations in the transfer, export or re-export of product(s) obtained from NSC.

Warranty
NSC warrants its products to be materially free of defects in workmanship and material for one year (12 months) from the date of purchase. For parts or components not of NSC's manufacture, NSC will give the Purchaser a warranty equivalent to the warranty (if any) that NSC may have received from the supplier of such parts or components in respect thereof but not to impose on NSC a liability greater than that imposed on it by the 12-month warranty period set forth herein.

NSC does not warrant any products for any specific purpose, and products are not intended for in-vivo use. It is the responsibility of the Purchaser to assure that the product is suitable for the intended use.

EXCEPT AS EXPRESSLY SET FORTH IN THESE TERMS AND CONDITIONS, NSC DISCLAIMS ALL WARRANTIES, EXPRESS, IMPLIED OR STATUTORY, SUCH AS WARRANTIES OF MERCHANTABILITY AND/OR FITNESS FOR A PARTICULAR PURPOSE. NSC DISCLAIMS ALL WARRANTIES REGARDING ANY ANCILLARY SERVICES RENDERED. IN NO EVENT DOES NSC MAKE ANY WARRANTY OF ITS PRODUCT FOR USE IN LIFE SUPPORT EQUIPMENT.

LIMITATION OF DAMAGES.
IN NO EVENT SHALL NSC BE LIABLE, IN CONTRACT, TORT, STRICT LIABILITY, LAWS RELATING TO THE PROTECTION OF THE ENVIRONMENT, OR UNDER ANY OTHER LEGAL THEORY, FOR INCIDENTAL, INDIRECT, SPECIAL OR CONSEQUENTIAL DAMAGES, REGARDLESS OF WHETHER IT WAS INFORMED ABOUT THE POSSIBILITY OF SUCH DAMAGES, AND IN NO EVENT SHALL NSC'S LIABILITY EXCEED AN AMOUNT EQUAL TO THE SALES PRICE.

Defective Merchandise
NSC will repair or replace, at NSC's option, any defects, which under proper use, appear in the goods within the Warranty period set forth herein and which arise solely from faulty design, materials, or workmanship; provided that no complaints shall be admissible unless submitted in writing to NSC within five (5) days after the time of discovery of the defect or after the time the defect should have been discovered, whichever time comes first, it being understood that the Purchaser shall take reasonable care to discover any defect of whatever nature as soon as possible after taking delivery.

Product Returns
Goods may not be returned except for justified warranty claims. Any such returns must be authorized by NSC in advance by the issuance of a Returned Materials Authorization (RMA) number from NSC. Unauthorized returns will be refused. The RMA number must be prominently displayed on the outermost shipping container when product is returned. NSC must receive goods approved for return within 30 (thirty) days of the issuance of the RMA authorization.

A handling charge of not more than 25 percent of the invoice value of the returned goods may be assessed where it is established that the reason for the return is not through any error on the part of NSC.

NSC reserves the right to refuse the return of any product that has been used with infectious, microbiological, or radioactive substances or other materials that may be deemed hazardous to the employees of NSC.

Conversion Factors and Equations

Power of Ten Prefixes

PREFIX	ABBREVIATION	VALUE
Exa	E	10^{18}
Peta	P	10^{15}
Tera	T	10^{12}
Giga	G	10^{9}
Mega	M	10^{6}
Kilo	k	10^{3}
Hecto	h	10^{2}
Deka	Da	10^{1}
Deci	d	10^{-1}
Centi	c	10^{-2}
Milli	m	10^{-3}
Micro	μ	10^{-6}
Nano	n	10^{-9}
Pico	p	10^{-12}
Femto	f	10^{-15}
Atto	a	10^{-18}

Standard Needle Gauge

NEEDLE GAUGE	OUTER DIAMETER (mm)	INNER DIAMETER (mm)
33	0.20	0.11
32	0.25	0.11
30	0.30	0.15
29	0.35	0.15
27	0.40	0.20
26	0.45	0.25
26S	0.47	0.13
25	0.50	0.28
24	0.55	0.32
23	0.65	0.35
22	0.72	0.41
22S	0.72	0.20
21	0.80	0.50
20	0.90	0.60
19	1.10	0.80
18	1.30	0.90
17	1.50	1.10
16	1.70	1.20
15	1.80	1.40
13	2.40	1.90
12	2.80	2.20
11	3.00	2.40
10	3.40	2.70

Temperature and Pressure Conversion

TEMPERATURE	PRESSURE
°C to °F: (°C x 9/5) + 32 = °F	psi to bar: psi x 0.06895 = bar
°C to °K: °C + 273.15 = °K	bar to psi: bar x 14.50326 = psi
°F to °C: (°F - 32) x 5/9 = °C	psi to Kpa: psi x 6.8948= Kpa
°F to °K: (°F - 32) x 5/9 + 273.15 = °K	Kpa to psi: Kpa x .14504 = psi
°K to °F: (°K - 273.15) x 9/5 + 32 = °F	kg/cm^2 to psi: kg/cm^2 x 14.223343 = psi
°K to °C: °K - 273.15 = °C	

Liquid Measure Conversions

	DRAMS	OUNCES	CC	LITER
1 Dram=	1	0.125	3.69661	0.0037
1 Ounce=	8	1	29.5729	0.0296
1 Milliliter=	0.2705	0.338	1	0.001
1 Liter=	270	33.8147	1000	1
1 Pint=	128	16	473.167	0.4731
1 Imperial Pint=	---	19.21	568.095	0.5681
1 Quart=	---	32	946.333	0.09463
1 Imperial Quart=	---	38.43	1136.486	1.1365
1 Gallon=	---	128	3785.331	3.7853
1 Imperial Gallon=	---	153.72	4545.946	4.5459

Fundamental Physical Constants

CONSTANT	ABBREVIATION	VALUE
Avagadro's Number	N_a	6.022×10^{23}
Boltzmann's Constant	k	1.3806×10^{23} J/K
Coulomb's Law Constant	k	9.0×10^{9} N•m^2/C^2
Density of Dry Air (STP)		1.293 kg/m^3
Density of Water at 4°C		1000 kg/m^3
Electron Charge	e	1.60×10^{-19} C
Electron Rest Mass	m_e	9.11×10^{-31} kg
Faraday's Constant	F	9.6485×10^{4} C/mol
Gas Constant	R	8.314 J/g•mole•°K = 1.9872 cal/g•mole•°K
Gravitational Constant	G	6.67×10^{-11} N x m^2 x kg^2
Hydrogen Ground State		13.6057 eV
Neutron Rest Mass	m_n	1.67×10^{-27} kg
Permeability Constant	μ_o	$4\pi \times 10^{-7}$ N/A^2
Planck's Constant	h	6.63×10^{-34} J•sec
Proton Rest Mass	m_p	1.67×10^{-27} kg
Speed of Light	c	299,792,458 m/s
Speed of Sound in Air at 0 °C		331.4 m/s
Standard Gravitational Acceleration	g	9.81 m/s^2 = 32.17 ft/s^2

Chromatography Equations

RETENTION:

$$k' = \frac{V_2 - V_1}{V_0}$$

RESOLUTION EQUATION:

$$R = \frac{V_2 - V_1}{1/2\,(W_1 + W_2)}$$

SELECTIVITY:

$$\alpha = \frac{k'_2}{k'_1} = \frac{V_2 - V_0}{V_1 - V_0}$$

COLUMN EFFICIENCY:

$N = 16\,(V_1 / W_1)^2$ = number of theoretical plates

HENDERSON-HASSELBACK EQUATION:

$$pH = pK'_a + \log \frac{[\text{proton acceptor}]}{[\text{proton donor}]} \quad \text{or} \quad pH = pK'_a + \log \frac{[\text{ionized form}]}{[\text{un-ionized form}]}$$

where $pK'_a = \log K'_a$

EQUILIBRIUM CONSTANTS:

Equilibrium Constant for Water:

$$K_{eq} = \frac{[H^+]\,[OH^-]}{H_2O}$$ where K_{eq} for water = 1.8×10^{-16} molar (M)

Equilibrium Constant for Acids:

$$K_{eq} = \frac{[H^+]\,[X^-]}{[HX]}$$

Notes



NSC PART NO.	PAGE NO.
B7800-1	.47
B7800-12	.47
B7800-12A	.47
B7800-1A	.47
B7800-2	.47
B7800-20	.47
B7800-2A	.47
B7800-3	.47
B7800-3A	.47
B7800-4	.47
B7800-4A	.47
B7800-5	.47
B7800-6	.47
B7800-6A	.47
B7807-13	.45
B7807-15	.45
B7807-18	.45
B7807-20	.45
B7807-24	.45
B7807-8	.45
B7815-13	.33,46
B7815-15	.46
B7815-18	.46
B7815-20	.46
B7815-24	.46
B7815-8	.17,46
B7832-125	.48
B7832-1L	.48
B7832-250	.48
B7832-500	.48
B7854-1L	.48
B7920	.48
B7920-B	.48
B7920-C	.48
B7920-C3	.48
B7920-VO	.48
B7921	.48
B7921-B	.48
B7921-VO	.48
B7950	.48
B7950-1A	.48
B7950-B	.48
B7950-C	.48
B7950-C3	.48
B7950-VO	.48
B7951	.48
B7951-B	.48
B7951-C	.48
B7951-C3	.48
B7951-VO	.48
B7990 4A	.47
B7990 6A	.47
B7990-1	.47
B7990-12	.47
B7990-12A	.47
B7990-1A	.47
B7990-2	.47
B7990-2A	.47
B7990-3	.47
B7990-3A	.47
B7990-4	.47
B7990-5	.47
B7990-6	.47
B7995-13	.46
B7995-15	.46
B7995-18	.46
B7995-20	.46
B7995-24	.46, 48
B7995-26	.46
B7995-8	.46

NSC PART NO.	PAGE NO.
B7999-1	.45
B7999-12	.45
B7999-12A	.45
B7999-1A	.45
B7999-2	.45
B7999-2A	.45
B7999-3	.45
B7999-3A	.45
B7999-4	.45
B7999-4A	.45
B7999-5	.45
B7999-6	.45
B7999-6A	.45
B7999-S12A	.45
B7999-S3	.45
B7999-S6	.45
C4000-1	.20
C4000-180	.24
C4000-180W	.24
C4000-182W	.24
C4000-183W	.24
C4000-184W	.24
C4000-186	.24
C4000-186W	.24
C4000-186WR	.24
C4000-188W	.24
C4000-188WR	.24
C4000-192	.24
C4000-192W	.24
C4000-194W	.24
C4000-195W	.24
C4000-196W	.24
C4000-1PT	.20,40
C4000-1W	.20
C4000-20	.21
C4000-2W	.20
C4000-30	.21
C4000-40	.21
C4000-51A	.21
C4000-51B	.21
C4000-51G	.21
C4000-51R	.21
C4000-51Y	.21
C4000-53A	.21
C4000-53B	.21
C4000-53G	.21
C4000-53R	.21
C4000-53Y	.21
C4000-54A	.21
C4000-54B	.21
C4000-54G	.21
C4000-54R	.21
C4000-54Y	.21
C4000-55	.21
C4000-55A	.21
C4000-55B	.21
C4000-55G	.21
C4000-55R	.21
C4000-55Y	.21
C4000-57	.21
C4000-57B	.21
C4000-57G	.21
C4000-57R	.21
C4000-57Y	.21
C4000-60	.21
C4000-64B	.21
C4000-680	.25
C4000-680W	.25
C4000-682W	.25
C4000-686	.25
C4000-686W	.25

NSC PART NO.	PAGE NO.
C4000-688W	.25
C4000-692	.25
C4000-692W	.25
C4000-694W	.25
C4000-75C	.21
C4000-78W	.23
C4000-80	.23
C4000-80W	.23
C4000-82W	.23
C4000-83	.23
C4000-83W	.23
C4000-84W	.23
C4000-85W	.23
C4000-86	.23
C4000-86W	.23
C4000-88W	.23
C4000-9	.20,40
C4000-9194	.24
C4000-91AW	.23
C4000-91W	.23
C4000-92	.23
C4000-92PT	.23
C4000-92W	.23
C4000-93W	.23
C4000-94W	.23
C4000-95	.23
C4000-95W	.23
C4000-96W	.23
C4000-98B	.20
C4000-98BLK	.20
C4000-98G	.20
C4000-98PT	.23
C4000-98R	.20
C4000-98Y	.20
C4000-99	.21
C4000-992	.23
C4000-995	.23
C4000-99PT	.23
C4000-9A	.20,40
C4000-LV1	.20,40
C4000-LV1W	.20,40
C4000-LV2	.20,40
C4000-LV2W	.20,40
C4000-LV92	.23
C4000-LV94	.23
C4000-LV95	.23
C4000-LV96	.23
C4000-MS	.11,15,19,25
C4000-S1	.20
C4000-S180W	.24
C4000-S182W	.24
C4000-S192W	.24
C4000-S194W	.24
C4000-S1W	.20
C4000-S2W	.20
C4000-S75W	.23
C4000-S9	.20
C4000-S9A	.20
C4000-V1	.20,40
C4000-V2	.20,40
C4008-1	.3,40
C4008-10	.4
C4008-100	.4,72
C4008-101	.4,72
C4008-102	.4,72
C4008-1A	.4
C4008-2A	.4
C4008-4A	.4
C4008-50	.37
C4008-632C	.3,40
C4008-632R	.3,40

NSC PART NO.	PAGE NO.
C4008-6A	.4
C4008-730	.3,40
C4008-739	.3,40
C4008-740	.3,40
C4008-741	.3,40
C4008-742	.3,40
C4008-7A	.4
C4008-8A	.4
C4008-8K	.4
C4008-98B	.4
C4008-98G	.4
C4008-98R	.4
C4008-98Y	.4
C4010-017	.29
C4010-017AW	.29
C4010-017W	.29
C4010-018	.29
C4010-019	.29
C4010-019AW	.29
C4010-019W	.29
C4010-021	.29
C4010-021AW	.29
C4010-021W	.29
C4010-057	.29
C4010-057AW	.29
C4010-057W	.29
C4010-1	.26
C4010-10	.27
C4010-11	.26,40
C4010-1296	.44
C4010-1296VO	.44
C4010-14	.26,40
C4010-17	.29
C4010-17A	.29
C4010-17ABLK	.29
C4010-17AW	.29
C4010-17BLK	.29
C4010-17W	.29
C4010-19	.29
C4010-19A	.29
C4010-19AW	.29
C4010-19W	.29
C4010-1A	.26
C4010-1W	.26
C4010-2	.26
C4010-21	.29
C4010-21A	.29
C4010-21AW	.29
C4010-21W	.29
C4010-24AW	.29
C4010-24W	.29
C4010-2W	.26
C4010-30	.27
C4010-30A	.27
C4010-35	.27
C4010-35BLK	.27
C4010-35W	.27
C4010-40	.27
C4010-40A	.27
C4010-55	.27
C4010-55A	.27
C4010-55BLK	.27
C4010-57	.29
C4010-57A	.29
C4010-57AW	.29
C4010-57W	.29
C4010-5A	.27
C4010-60	.27
C4010-60A	.27
C4010-60AR	.27
C4010-60AW	.27

NSC PART NO.	PAGE NO.
C4010-60AY	27
C4010-60BLK	27
C4010-627L	10,14,22,28,38
C4010-629L	10,14,22,28,38
C4010-630	10,14,22,28,38
C4010-630P	10,14,22,28,38
C4010-630TS	10,14,28,38
C4010-65	27
C4010-65A	27
C4010-67	29
C4010-67A	29
C4010-67AW	29
C4010-67W	29
C4010-84	28
C4010-88	28
C4010-88A	28
C4010-88AW	28
C4010-88W	28
C4010-88WBLK	28
C4010-89	28
C4010-89AW	28
C4010-89W	28
C4010-90	28
C4010-90A	28
C4010-90AW	28
C4010-90W	28
C4010-92	28
C4010-93AW	28
C4010-93W	28
C4010-95	28
C4010-95AW	28
C4010-95W	28
C4010-97W	28
C4010-98BLK	26
C4010-98G	26
C4010-98R	26
C4010-98W	26
C4010-99	27
C4010-K630	10,14,22,28,38
C4010-LV1	26,40
C4010-LV2	26,40
C4010-S1	26
C4010-S19W	29
C4010-S1W	26
C4010-S20W	29
C4010-S2W	26
C4010-S629	10,14,22,28,38
C4010-S630	10,14,22,28,38
C4010-S88	28
C4010-S92	28
C4010-V1	26,40
C4010-V2	26,40
C4011-1	8
C4011-1.7CB	8,40
C4011-10	8,40
C4011-11	9,12,40
C4011-1240	8,40
C4011-1296	44
C4011-13	9,12,40
C4011-14	9,12,40
C4011-15	9,12,40
C4011-16	9,12,40
C4011-1A	5,9,14
C4011-1AP	5,9,14
C4011-1B	8
C4011-1CV	11
C4011-1G	8
C4011-1PT	8,40
C4011-1R	8
C4011-1W	8
C4011-1Y	8
C4011-2	8
C4011-24	9,12,40
C4011-25	5,7,11,15,73
C4011-26	9
C4011-2A	5,9,14
C4011-2W	8
C4011-2WCV	11
C4011-37	9,14
C4011-3A	5,9,14
C4011-4	12
C4011-4A	5,9,14
C4011-4B	9,14
C4011-4G	9,14
C4011-4R	9,14
C4011-4Y	9,14
C4011-50	13
C4011-50B	13
C4011-50G	13
C4011-50R	13
C4011-50Y	13
C4011-51	13
C4011-51B	13
C4011-51BLK	13
C4011-51G	13
C4011-51R	13
C4011-51Y	13
C4011-52	13
C4011-52B	13
C4011-52G	13
C4011-52R	13
C4011-52Y	13
C4011-53	13
C4011-53B	13
C4011-53G	13
C4011-53R	13
C4011-53Y	13
C4011-54	13
C4011-54B	13
C4011-54BLK	13
C4011-54G	13
C4011-54R	13
C4011-54Y	13
C4011-55	13
C4011-55B	13
C4011-55BLK	13
C4011-55G	13
C4011-55R	13
C4011-55Y	13
C4011-56	13
C4011-56G	13
C4011-57	13
C4011-59	13
C4011-5A	5,9,14
C4011-6W	12
C4011-6	12
C4011-5W	12
C4011-5	12
C4011-631	10,14,22,28,38
C4011-631P	10,14,28,38
C4011-6551	15
C4011-65W51	15
C4011-66W51	15
C4011-688	11
C4011-688AW	11
C4011-688W	11
C4011-6A	9,14
C4011-72	15
C4011-72AW	15
C4011-72W	15
C4011-73	15
C4011-73AW	15
C4011-73W	15
C4011-74	15
C4011-74AW	15
C4011-74W	15
C4011-75W	15
C4011-77P	37
C4011-7A	5,9,14
C4011-7B	5,9,14
C4011-7G	5,9,14
C4011-7K	5,9,14
C4011-7R	5,9,14
C4011-7Y	5,9,14
C4011-80	37
C4011-87	10
C4011-87A	10
C4011-87AW	10
C4011-87W	10
C4011-88	10
C4011-88A	10
C4011-88AW	10
C4011-88W	10
C4011-89W	10
C4011-9	8,40
C4011-92	10
C4011-92AW	10
C4011-92PT	10
C4011-92W	10
C4011-94	10
C4011-94AW	10
C4011-94W	10
C4011-95	10
C4011-95A	10
C4011-95AW	10
C4011-95W	10
C4011-98B	5,9,14
C4011-98G	5,9,14
C4011-98R	5,9,14
C4011-98Y	5,9,14
C4011-K1W	8
C4011-K2W	8
C4011-LV1	8,12,40
C4011-LV1W	8,40
C4011-LV2	8,12,40
C4011-LV2W	8,40
C4011-S1	8
C4011-S1W	8
C4011-S2W	8
C4011-S4	12
C4011-S631	10,14,22,28,38
C4011-S9	8
C4011-V1	8,40
C4011-V2	8,40
C4011-V5	12
C4011-V6	12
C4012-1	5
C4012-10	5,40
C4012-100	5,7,11,15,72
C4012-101	5,7,11,15,72
C4012-102	5,7,11,15,72
C4012-15	5,9,12,40
C4012-1W	5
C4012-2	5
C4012-25	5,7,11,15,73
C4012-2W	5
C4012-465	5-6,18,38
C4012-529	18
C4012-529L	5-6,38
C4012-530	5-6,18,38
C4012-530P	5-6,18,38
C4012-531L	5-6,18,38
C4012-540	38478
C4012-88	5,7
C4012-88A	5,7
C4012-K530	38478
C4012-S530	5-6,18,38
C4013-010A	19
C4013-015A	19
C4013-016A	19
C4013-017A	19
C4013-019A	19
C4013-1	16
C4013-10	17
C4013-100	31,72
C4013-100F	72
C4013-101	31,72
C4013-102	31,72
C4013-10A	19
C4013-11	16,40
C4013-12	16,40
C4013-13	16,40
C4013-14	18
C4013-15	18
C4013-1500	16
C4013-15A	19
C4013-15GST	16,40
C4013-16	18
C4013-17	18
C4013-17A	19
C4013-18	18
C4013-195	19
C4013-19A	19
C4013-1A	16
C4013-1W	16
C4013-2	16
C4013-2W	16
C4013-30	17
C4013-30A	17
C4013-32	17
C4013-32A	19
C4013-36A	19
C4013-3A	16
C4013-40	17
C4013-40A	17
C4013-410A	19
C4013-415A	19
C4013-415W	18
C4013-458	18
C4013-482	18
C4013-486A	19
C4013-491A	19
C4013-492	18
C4013-492A	19
C4013-492W	18
C4013-494A	19
C4013-529T	5-6,18,38
C4013-55	17
C4013-57	19
C4013-57A	19
C4013-58	19
C4013-58A	19
C4013-58AW	19
C4013-5A	17
C4013-60	17
C4013-60A	17
C4013-60TW	17
C4013-61	17
C4013-61A	17
C4013-61B	17
C4013-61G	17
C4013-61R	17
C4013-61W	17
C4013-61Y	17

NSC PART NO.	PAGE NO.
C4013-63A	.17
C4013-63W	.17
C4013-64A	.17
C4013-64W	.17
C4013-66	.16,45
C4013-71A	.17
C4013-74A	.17
C4013-77A	.17
C4013-95W	.18
C4013-98B	.16
C4013-98G	.16
C4013-98K	.16
C4013-98R	.16
C4013-98W	.16
C4013-98Y	.16,26
C4013-K1	.16
C4013-K1W	.16
C4013-K2W	.16
C4013-K465	.5-6,18,38
C4013-S1	.16
C4013-S15	.18
C4013-S2	.16
C4015-017	.35
C4015-017A	.35
C4015-017AW	.35
C4015-017W	.35
C4015-021	.35
C4015-021AW	.35
C4015-021W	.35
C4015-1	.32
C4015-10	.33
C4015-1050A	.33
C4015-11W	.32
C4015-12	.30
C4015-14	.32,40
C4015-15	.32,40
C4015-17	.35
C4015-17A	.35
C4015-17AW	.35
C4015-17W	.35
C4015-18AW	.35
C4015-18W	.35
C4015-1A	.32
C4015-1AP	.30
C4015-1W	.32
C4015-2	.32
C4015-21	.35
C4015-21AW	.35
C4015-21W	.35
C4015-25	.35,73
C4015-27	.35,73
C4015-2W	.32
C4015-30	.33
C4015-30A	.33
C4015-4	.30
C4015-40	.33
C4015-40A	.33
C4015-410A	.35
C4015-45	.33
C4015-45W	.33
C4015-46P	.37
C4015-47P	.37
C4015-48	.37
C4015-482	.34
C4015-482A	.35
C4015-492	.34
C4015-4A	.30
C4015-51	.30
C4015-52	.30
C4015-53	.30
C4015-536	.36
C4015-54	.30
C4015-540	.36
C4015-55	.33
C4015-55BLK	.33
C4015-55W	.33
C4015-5A	.33
C4015-60	.33
C4015-61	.33
C4015-638	.34,37,39
C4015-638P	.34,39
C4015-639TS	.34,39
C4015-640	.39
C4015-641	.34,39
C4015-642	.39
C4015-643	.34,39
C4015-66	.32,45
C4015-66A	.33
C4015-75A	.33
C4015-75R	.33
C4015-75W	.33
C4015-843	.34,39
C4015-85	.35
C4015-88	.34
C4015-88AW	.34
C4015-9	.32,40
C4015-93	.34
C4015-95P	.36
C4015-96	.36
C4015-96A	.36
C4015-96P	.36
C4015-96PA	.36
C4015-97B	.32
C4015-97G	.32
C4015-97R	.32
C4015-97Y	.32
C4015-99	.36
C4015-K1	.32
C4015-K2	.32
C4015-S1	.32
C4015-S11W	.32
C4015-S15	.34
C4015-S2	.32
C4015-S2W	.32
C4015-S641	.34,39
C4015-S642	.34,39
C4015-S96A	.36
C4020-10	.41
C4020-100	.43,72
C4020-100F	.72
C4020-101	.43,72
C4020-102	.43,72
C4020-139	.43
C4020-143	.43
C4020-2	.41
C4020-20	.41
C4020-210	.41
C4020-25	.41
C4020-27	.41
C4020-30	.42
C4020-31	.42
C4020-32	.42
C4020-320	.43
C4020-32A	.42
C4020-32AP	.42
C4020-34	.42
C4020-34A	.42
C4020-34AP	.42
C4020-36	.42
C4020-36A	.42
C4020-36AP	.42
C4020-37	.42
C4020-37AP	.42
C4020-39A	.42
C4020-3A	.41
C4020-3M	.41
C4020-40	.42
C4020-410	.41
C4020-42A	.42
C4020-42AP	.42
C4020-43A	.42
C4020-43AP	.42
C4020-5A	.41
C4020-6	.41
C4020-60	.41
C4020-6A	.41
C4020-S10	.41
C4020-S20	.41
C4028-102	.72
C4030-100	.72
C4030-101	.72
C4030-102	.72
C4032-100	.72
C4032-102	.72
C4040-PVC	.73
C4040-PVCM	.73
C4040-VC	.73
C4040-VCMC	.73
C4074-500	.19
C4075-1	.11
C4075-11	.11
C4075-201	.25
C4075-203	.25
C4075-207	.25
C4075-21	.11
C4075-211	.25
C4075-213	.25
C4075-217	.25
C4075-219	.25
C4075-221	.25
C4075-225	.25
C4075-227	.25
C4075-308	.25
C4075-43	.15
C4075-47	.15
C4075-49	.15
C4075-50	.15
C4075-500	.11,15,25
C4075-63	.15
C4075-73	.15
C4075-79	.15
F2500-1	.68
F2500-10	.70
F2500-12	.68
F2500-13	.69
F2500-14	.70
F2500-15	.70
F2500-16	.70
F2500-17	.70
F2500-18	.70
F2500-19	.70
F2500-2	.68
F2500-20	.70
F2500-3	.69
F2500-4	.69
F2500-5	.69
F2500-50	.68
F2500-6	.69
F2500-7	.69
F2500-8	.69
F2500-9	.70
F2502-1	.68
F2502-2	.68
F2502-3	.69
F2502-9	.70
F2504-1	.68
F2504-10	.70
F2504-15	.70
F2504-16	.70
F2504-2	.68
F2504-3	.69
F2504-4	.69
F2504-5	.69
F2504-6	.69
F2504-7	.69
F2504-8	.69
F2504-9	.70
F2513-1	.68
F2513-10	.70
F2513-14	.70
F2513-15	.70
F2513-16	.70
F2513-17	.70
F2513-2	.68
F2513-3	.69
F2513-4	.69
F2513-5	.69
F2513-6	.69
F2513-7	.69
F2513-8	.69
F2513-9	.70
F2517-1	.71
F2517-2	.71
F2517-3	.71
F2517-4	.71
F2517-5	.71
F2517-6	.71
F2517-7	.71
F2517-8	.71
F2520-1	.71
F2520-2	.71
F2520-3	.71
F2520-4	.71
F2520-5	.71
F2520-6	.71
F2520-7	.71
F2520-8	.71
K96-1.1CT	.50
K96-1.1MB	.50
K96-1.5MB	.50
K96-500MB	.49
K96-700MBT	.49
K96-700MBTA	.49
K96-700MBTTF	.49
M0800-C	.51
M0800-PSC	.51
M229070	.54
M229074	.54
M229203	.53
M3840-SQ1C	.51
M3840-SQ2C	.51
M3841-R1LB	.52
M3841-R1R	.52
M3841-R2LB	.52
M3842-R1	.52
M3842-SQ1	.52
M9600-71C	.51
M9600-72C	.51
M9600-861C	.51
M9600-862C	.51
M9600-MB1C	.51
M9600-MB2C	.51
M9600-NN1C	.51
M9600-NN2C	.51

NSC PART NO.	PAGE NO.
M9601-RD1DB	.52
M9601-RD1LB	.52
M9601-RD2DB	.52
M9601-RF1LB	.52
M9601-RF2LB	.52
M9601-RF2P	.52
M9601-SQ1LB	.52
M9601-SQ2LB	.52
M9601-SQ2Y	.52
M9602-RD1	.52
M9602-RF1	.52
M9602-SQ1	.52
M9605-R1B	.49
M9605-R2B	.49
M9606-1B	.50
M9606-2B	.50
MA-1	.53
NS100301	.58
NS100305	.58
NS100311	.58
NS100401	.57-58
NS100405	.58
NS100411	.58
NS100501	.58
NS100505	.58
NS100605	.58
NS100701	.58
NS100705	.58
NS100805	.58
NS100905	.58
NS101302	.64
NS101402	.64
NS101502	.58,64
NS101602	.58,64
NS101702	.58,64
NS101802	.58,64
NS1018300	.66
NS1018301	.66
NS101902	.64
NS104303	.56
NS104304	.55
NS104305	.56
NS104308	.55
NS104313	.56
NS104314	.55
NS104315	.56
NS104403	.56
NS104404	.55
NS104405	.56
NS104408	.55
NS104413	.56
NS104414	.55
NS104415	.56
NS105303	.57
NS105304	.57
NS105403	.57
NS105404	.57
NS108302	.57
NS142304	.61
NS142404	.61
NS161302	.64
NS161402	.64
NS164304	.56
NS164404	.56
NS200101	.62
NS200102	.62
NS200201	.62
NS200202	.62
NS200301	.62
NS200302	.62
NS506305	.62
NS506306	.62
NS506405	.62
NS506406	.62
NS506505	.62
NS506506	.62
NS506605	.62
NS506606	.62
NS600000	.59,65
NS600001	.59
NS600002	.59,61
NS600005	.60,65
NS600006	.60
NS600007	.60
NS600020	.65
NS600022	.61
NS600025	.65
NS600040	.59,65
NS600041	.59
NS600042	.59,61
NS600045	.60,65
NS600046	.60
NS600047	.60
NS600060	.59,65
NS600061	.59
NS600062	.59
NS600065	.60,65
NS600066	.60
NS600301	.59
NS600302	.59
NS600305	.60
NS600306	.60
NS600309	.61
NS600401	.59
NS600402	.59
NS600405	.60
NS600406	.60
NS600409	.61
NS600501	.59
NS600502	.59
NS600505	.60
NS600506	.60
NS600509	.61
NS600601	.59
NS600602	.59
NS600605	.60
NS600606	.60
NS600609	.61
NS600701	.59
NS600702	.59
NS600705	.60
NS600706	.60
NS600709	.61
NS600809	.61
NS600901	.59
NS600902	.59
NS600904	.59
NS600905	.60
NS600906	.60
NS600908	.60
NS600909	.61
NS601306	.64
NS601406	.64
NS601506	.64
NS601606	.64
NS601706	.64
NS601806	.64
NS601906	.64
NS602406	.64
NS602506	.64
NS602606	.64
NS602706	.64
NS602806	.64
NS604303	.57
NS604304	.55
NS604305	.56
NS604313	.57
NS604314	.55
NS604315	.56
NS604403	.57
NS604404	.55
NS604405	.56
NS604408	.55
NS604413	.57
NS604414	.55
NS604415	.56
NS606015	.63
NS606035	.63
NS606405	.58
NS606500	.63
NS606615	.63
NS606800	.63
NS606814	.63
NS606815	.63
NS606914	.63
NS606915	.63
NS607011	.61,65
NS607031	.61,65
NS607051	.61,65
NS607071	.61,65
NS607091	.61,65
NS608302	.57
NS608303	.57
NS620013	.61
NS620023	.61
NS620049	.61
NS620502	.63
NS620506	.57
NS620605	.63
NS620702	.63
NS620703	.57
NS620706	.57
NS620805	.63
NS620903	.57
NS663514	.63
NS663814	.63
NS700001	.66
NS700002	.66
NS822031	.62
NS822042	.62
NS831013	.60
NS831014	.60
NS831015	.60
NS831305	.64
NS831405	.64
NS831505	.64
NS832301	.58,60,62
NS832302	.58,62
NS832401	.58,60,62
NS832402	.58,62
NS832501	.58,62
NS832502	.58,62
NS832601	.58
NS832602	.58,64
NS834307	.60
NS834308	.55
NS834407	.60
NS834408	.55
NS840047	.61,65
NS840070	.61,65
NS841013	.60,65
NS841014	.60,65
NS841015	.60,65
NS842047	.61,65
NS842070	.61,65
P384SQ-180G	.54
P384SR-90G	.54
P96-1.1PCT	.50
P96-1.1PP	.50
P96-1.5PP	.50
P96-700PP	.49
P96F-2.0G	.54
P96F-300G	.54
P96MD-PP	.49
P96U-1.0G	.54
P96U-250G	.54
P96V-190G	.54
PCT-1	.49
S7510-1	.67
S7510-10	.67
S7510-20	.67
S7510-3	.67
S7510-30	.67
S7510-5	.67
S7510-50	.67
S7515-10	.67
S7515-20	.67
S7515-3	.67
S7515-5	.67
V96-1.1	.50
V96-1.1CT	.50
V96-1.5	.50
V96-500	.49
V96-700	.49
V96-700A	.49
V96-700PTFE	.49

Trademark Listing

The following trademarks are the property of National Scientific:
AP2000, Colorband, DP, Glastic, I-D, Kim-Lok, Kim-Snap, LoVial, MacroVial, MaxVial, Micromat, MicroSert, Micro-V, MicroVial, Polyspring, Plate+, PurePak, Robo Vial, SepCap, Snap-It, Target, WebSeal

The following trademarks are the property of their respective owners:
Agilent Technologies, Alcott, Altex, AOC-14, AOC-17, AOC-20, Autosystem, Beckman, Beckman-Coulter, Carlo Erba, Combi-Pal, CTC, Finnigan, Fisons, Freon, Gerstel, Gilson, Hitachi, JADE, Jasco, Kimble, Kimble Chromatography, Kimshield, Knauer, Kontron, Leap, Leap Technologies, Luer-Lok, Merlin, Metrohm, MiniVap, PerkinElmer, Rheodyne, Seal 2000, Shimadzu, Spectra-Physics, SpectraSYSTEM, SSI, Teflon, Tekmar, Thermo Electron, Tosoh, Tracor, UltraVap, Valco, Varian, Viton, Waters, Waters WISP, WISP

Hot List



Use this space to record ordering information for the National Scientific products you use most frequently.

Your Account Number: _____

Contact persons: _____

Product	Part No.	Qty.	Unit of Measure	Last Date Ordered	Last PO No.

Artisan Technology Group is an independent supplier of quality pre-owned equipment

Gold-standard solutions

Extend the life of your critical industrial, commercial, and military systems with our superior service and support.

We buy equipment

Planning to upgrade your current equipment? Have surplus equipment taking up shelf space? We'll give it a new home.

Learn more!

Visit us at **artisantg.com** for more info on price quotes, drivers, technical specifications, manuals, and documentation.

Artisan Scientific Corporation dba Artisan Technology Group is not an affiliate, representative, or authorized distributor for any manufacturer listed herein.

We're here to make your life easier. How can we help you today?

(217) 352-9330 | sales@artisantg.com | artisantg.com

ARTISAN® TECHNOLOGY GROUP