

High Performance Products for the Laboratory

...When
High Purity
is Critical



SAINT-GOBAIN PERFORMANCE PLASTICS

HIGH PERFORMANCE LABWARE— DESIGNED FOR FUNCTION, DEMANDED FOR QUALITY

Saint-Gobain Performance Plastics manufactures quality fluoropolymer, silicone and rubber products for ultra-pure and critical laboratory applications—each engineered to meet your uncompromising standards for consistency and exceed your expectations for performance. The Chemware®, LabPure®, Bytac®, Bio-Simplex™, EZ Top®, PharmaFluor®, Norwell®, Sani-Tech®, C-Flex® and Versilic® brands represent a longstanding tradition of product excellence and ensure product integrity.

Each Saint-Gobain bottle, beaker, test tube, vial, bench protector, stopper, fitting and environmental sampling product is designed to provide the flexibility and functionality necessary to increase overall performance and support productivity in a laboratory setting. Demanding laboratory environments require products that perform consistently, reliably and flawlessly. Whether an application requires temperature sensitivity, corrosion and/or chemical resistance, leak-proof operation or ultra purity, our laboratory products are engineered to the strictest standards and ensure problem-free operation.

Our new line of polypropylene, HDPE and PETG co-polyester Bio-Simplex™ carboys—combined with EZ Top® Caps, Quick-Connect options and container closure assemblies made with C-Flex® TPE (thermoplastic elastomer) material or Sani-Tech® Silicone material—provide effective and efficient systems for aseptic liquid transfer in the laboratory, while supporting a broad spectrum of chemical compatibility.

We also offer Heavy Duty Vacuum Bottles in three durable and chemical-resistant formulations (polypropylene, HDPE and PETG co-polyester) that are ideal for storing biologicals or for any laboratory application involving cell culture, degasification and vacuum aspiration of liquid waste.

In addition, our Autofil™ filtration system is available in multiple sizes to accommodate any bench-scale filtering process. Designed for hands-free operation and to save you time, the system is gamma sterilized and ready to use directly out of the package.

Look inside this catalog for these and other innovative solutions to support the needs of your laboratory.

For the best in fluoropolymer plastics, silicone and rubber, ask your valued distributor for Saint-Gobain Performance Plastics products by name—because quality, performance and consistency do matter.

CUSTOM PRODUCTS AND SOLUTIONS

Saint-Gobain Performance Plastics has the capabilities to solve your most challenging laboratory problems. For custom solutions call: **1-800-283-5963** or **1-518-283-5963**

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NEW PRODUCTS



Bio-Simplex™ PP Carboys

Ideal for storing and dispensing solutions, samples and media, these durable translucent white carboys are fully autoclavable and resist cracks, stains and corrosion. Rigid, chemically inert polypropylene construction provides an excellent barrier against moisture and is compatible with most commonly used laboratory solvents and reagents including acids, bases and chemicals.

See page 7 for further details.



Bio-Simplex™ PETG Carboys

Combining the clarity of glass with the durability of a polymer, PETG carboys are heat stable and non-cytotoxic for the handling and storage of aqueous solutions and most life science buffer solutions. Lightweight with good chemical resistance, PETG also has excellent gas barrier properties making these carboys a strong choice for use with biologicals.

See page 7 for further details.



Bio-Simplex™ HDPE Carboys

Providing the broadest spectrum chemical resistance of all carboys, these translucent white containers are ideal for buffers, reagents, powders and solids. Highly impact-resistant and light weight, the non-toxic and non-contaminating HDPE formulation provides excellent resistance to stains and low moisture absorption.

See page 8 for further details.



Bio-Simplex™ HDPE Amber Carboys

Protect liquid and powder contents from light-induced changes and photo-oxidation with these versatile, impact-resistant carboys that reduce light absorption. Available in impact-resistant, lightweight and moisture protecting HDPE material, Bio-Simplex™ Amber Carboys meet USP 671 requirements for light transmission to allow for safe storage of photosensitive materials.

See page 8 for further details.



Bio-Simplex™ Carboy Spigot Fittings

Increase the versatility of carboys with interchangeable, leak-free spigot fittings that support drainage, pump connections, filling bells and connection to other laboratory equipment used for liquid transfer. Hose barbs are available in multiple diameters to accommodate a range of tubing diameters and fluid flows. Made from chemically resistant and autoclavable polypropylene.

See page 9 for further details.

Saint-Gobain Performance Plastics is proud to introduce the following new product innovations. Look for them on the indicated catalog pages.



Quick-Connect Cap Inserts

Transform Bio-Simplex™ Carboys and Heavy Duty Vacuum Bottles into complete fluid transfer systems with Quick-Connect Inserts for EZ Top® Caps made from autoclavable polypropylene. Durable, leak-proof top barb adapters make connecting tubing from one source to another easy, clean and efficient. A variety of hose barb configurations and cap size options are available to suit any laboratory application. See page 9 for further details.



C-Flex® EZ Top® TPE Container Closure Assemblies

Create a complete laboratory fluid handling system and eliminate potential cross-contamination with these single-use assembly closures. C-Flex® Assemblies made from pharmaceutical-grade TPE resin create a strong elastomeric seal against glass, plastic and metal, and provide an unobstructed fluid path with low extractables. See page 10 for further details.



Sani-Tech® EZ Top® Silicone Container Closure Assemblies

Save time and costs associated with assembly and cleaning with these fully characterized, platinum-cured silicone assembly closures. Designed for single-use liquid handling applications, Sani-Tech® Assemblies are an excellent option for retrofitting existing glass or plastic carboys used in aseptic fluid transfer, sampling or sealing applications. Non-cytotoxic and non-corrosive, these assemblies comply with USP Class VI standards. See page 11 for further details.



Heavy Duty Vacuum Bottles

Available in multiple lightweight and impact-resistant polymer formulations, these heavy-duty vacuum bottles provide versatility to laboratory storage and handling applications that demand temperature and pressure stability for up to 24 hours. Ideal for storing biologicals and processes involving cell culture, degasification and vacuum aspiration of liquid waste. Choose from PP, PETG or HDPE for optimal chemical compatibility. See page 12 for further details.



Autofil™ Laboratory Filtration System

Designed for efficient hands-free operation, this disposable vacuum-based filtration system quickly prepares laboratory samples and sterile aqueous solutions. Each system includes a highly effective, surfactant-free asymmetric PES membrane filter for consistent fast flow rates and throughput with low extractables. Choose from 0.22µm or 0.45µm pore sizes, which are ideal for pre-filtration and clarification applications. Aspirators are available in multiple sizes to suit your application, from 15mL to 1L. See page 14 for further details.



THE NEXT GENERATION BIO-SIMPLEX™ CARBOYS

Saint-Gobain Bio-Simplex™ Carboys provide a space-saving, ergonomic, versatile alternative to traditional round carboys. All carboys are manufactured from durable USP Class VI, FDA-grade, BPA-free material and are compatible with a broad spectrum of chemicals. Carboys are available in polypropylene (PP), high-density polyethylene (HDPE) and co-polyester (PETG) formulations in 2.5L, 5L, 10L, 20L and 40L sizes. Choose from carboys with or without an autoclavable spigot for most sizes. Well suited for use within any scientific or industrial research laboratory, including life science, bioprocess, environmental, petroleum and pharmaceutical industries. Use with carboy accessories, Quick-Connect Cap Inserts and EZ Top® Container Closure Assemblies to expand the functionality of carboys and create customized, advanced fluid handling systems for specific laboratory applications. All Carboys include a closed cap.



- 1** Optional EZ Top® container closures are available in C-Flex® thermoplastic elastomer (TPE) or Sani-Tech® platinum cured silicone; provide an unobstructed fluid path and an elastomeric seal
- 2** 83mm cap design will also fit traditional round carboys
- 3** Pinched closures on top handles guarantee no entrapment areas
- 4** Large top handles allow a full hand grip
- 5** Flat body design requires less space in the laboratory
- 6** Molded bottom handles increase grip stability during lifting, carrying and pouring
- 7** Easy filling by way of wide mouth or EZ Top® container closure technology, see list item (1)
- 8** Wide mouth for easy cleaning
- 9** All materials are Bisphenol A (BPA) free
- 10** All carboys are sterilizable by ethylene oxide gas; polypropylene (PP) carboys are fully autoclavable
- 11** Visible volume and material markings; graduation marks are within $\pm 5\%$ accuracy
- 12** Available with or without leak-proof, autoclavable spigot



BIO-SIMPLEX™ POLYPROPYLENE (PP) CARBOYS

- ◆ Polypropylene (PP) carboys are crack resistant and easy to clean; temperature resistant from -40°C to 121°C
- ◆ Good for storing and dispensing solutions and media
- ◆ Excellent chemical resistance to most weak acids, bases/alkali, and aliphatic alcohols at room temperature; good resistance to most strong acids, aldehydes, esters and aliphatic hydrocarbons
- ◆ Meets USP Class VI requirements and U.S. FDA Criteria
- ◆ Autoclavable (recommended cycle 121°C, 15 psi for 20 minutes) and ethylene oxide gas sterilization

Catalog No.	Description	Volume mL	Color	Spigot	Cap Size mm	Qty/Pack
DCB0280	PP Carboy with Closed Cap	2.5L	Natural	No	83	1
DCB0580	PP Carboy with Closed Cap	5L	Natural	No	83	1
DCB0580S	PP Carboy with Closed Cap	5L	Natural	Yes	83	1
DCB1080	PP Carboy with Closed Cap	10L	Natural	No	83	1
DCB1080S	PP Carboy with Closed Cap	10L	Natural	Yes	83	1
DCB20120	PP Carboy with Closed Cap	20L	Natural	No	120	1
DCB20120S	PP Carboy with Closed Cap	20L	Natural	Yes	120	1
DCB40120	PP Carboy with Closed Cap	40L	Natural	No	120	1
DCB40120S	PP Carboy with Closed Cap	40L	Natural	Yes	120	1



BIO-SIMPLEX™ CO-POLYESTER (PETG) CARBOYS

- ◆ Co-Polyester (PETG) carboys are clear, durable and heat stable; temperature resistant from -40°C to 80°C
- ◆ Good chemical resistance at room temperature to most weak acids, aldehydes, aliphatic alcohols and aliphatic hydrocarbons
- ◆ Good for storing biologicals and most life science buffer solutions
- ◆ Meets USP Class VI requirements and U.S. FDA criteria
- ◆ Can be sterilized by ethylene oxide gas and gamma radiation

Catalog No.	Description	Volume mL	Color	Spigot	Cap Size mm	Qty/Pack
DCC0280	PETG Carboy with Closed Cap	2.5L	Clear	No	83	1
DCC0580	PETG Carboy with Closed Cap	5L	Clear	No	83	1
DCC0580S	PETG Carboy with Closed Cap	5L	Clear	Yes	83	1
DCC1080	PETG Carboy with Closed Cap	10L	Clear	No	83	1
DCC1080S	PETG Carboy with Closed Cap	10L	Clear	Yes	83	1
DCC20120	PETG Carboy with Closed Cap	20L	Clear	No	120	1
DCC20120S	PETG Carboy with Closed Cap	40L	Clear	Yes	120	1
DCC40120	PETG Carboy with Closed Cap	40L	Clear	No	120	1
DCC40120S	PETG Carboy with Closed Cap	40L	Clear	Yes	120	1



NEW



BIO-SIMPLEX™ HDPE CARBOYS

- ◆ Scratch and impact resistant; temperature resistant from -50°C to 120°C
- ◆ The most chemical resistant of all carboys; excellent resistance to most weak acids, bases/alkali and aliphatic alcohols at room temperature; good chemical resistance to most strong acids, aldehydes, esters and aliphatic hydrocarbons
- ◆ Good for buffers, reagents, powders and solids
- ◆ Meets USP Class VI requirements and U.S. FDA criteria
- ◆ Can be sterilized by ethylene oxide gas

Catalog No.	Description	Volume mL	Color	Spigot	Cap Size mm	Qty/Pack
DCD0280	HDPE Carboy with Closed Cap	2.5L	Natural	No	83	1
DCD0580	HDPE Carboy with Closed Cap	5L	Natural	No	83	1
DCD0580S	HDPE Carboy with Closed Cap	5L	Natural	Yes	83	1
DCD1080	HDPE Carboy with Closed Cap	10L	Natural	No	83	1
DCD1080S	HDPE Carboy with Closed Cap	10L	Natural	Yes	83	1
DCD20120	HDPE Carboy with Closed Cap	20L	Natural	No	120	1
DCD20120S	HDPE Carboy with Closed Cap	20L	Natural	Yes	120	1
DCD40120	HDPE Carboy with Closed Cap	40L	Natural	No	120	1
DCD40120S	HDPE Carboy with Closed Cap	40L	Natural	Yes	120	1

NEW



BIO-SIMPLEX™ AMBER HDPE CARBOYS

- ◆ Share same features and benefits of HDPE natural-color carboys; can be sterilized by ethylene oxide gas
- ◆ Meets USP 671 requirements for light transmission to allow for safe storage of photosensitive materials
- ◆ Amber color helps protect contents from visible light, ultraviolet and infrared radiation that can alter or break down contents

Catalog No.	Description	Volume mL	Color	Spigot	Cap Size mm	Qty/Pack
D1069764	HDPE Amber Carboy with Closed Cap	2.5L	Amber	No	83	1
D1069765	HDPE Amber Carboy with Closed Cap	5L	Amber	No	83	1
D1069766	HDPE Amber Carboy with Closed Cap	5L	Amber	Yes	83	1
D1069767	HDPE Amber Carboy with Closed Cap	10L	Amber	No	83	1
D1069768	HDPE Amber Carboy with Closed Cap	10L	Amber	Yes	83	1
D1069778	HDPE Amber Carboy with Closed Cap	20L	Amber	No	120	1
D1069769	HDPE Amber Carboy with Closed Cap	20L	Amber	Yes	120	1
D1069770	HDPE Amber Carboy with Closed Cap	40L	Amber	No	120	1
D1069771	HDPE Amber Carboy with Closed Cap	40L	Amber	Yes	120	1

BIO-SIMPLEX™ CARBOY ACCESSORIES

EZ Top® Caps feature a leak-proof platinum-cured silicone gasket and large, easy-to-operate finger and hand grips. Made from fully autoclavable polypropylene, caps are offered in 83mm size to fit 2.5L, 5L and 10L Bio-Simplex™ Carboys, and a 120mm wide mouth size to fit 20L and 40L Bio-Simplex™ Carboys. Traditional Closed Top Caps are molded from a single piece of polypropylene, while two-piece Open Top Caps are designed for use with interchangeable Quick-Connect Inserts for EZ Top® Caps. Each Open Top Cap comes with a Closed Adapter Plug for added versatility. The Adapter Cone is fully autoclavable and converts 120mm Bio-Simplex™ Carboy openings to enable the use of 80mm size Quick-Connect Inserts.

The no-leak spigot features a large lever that controls two flow rates—including continuous flow. The neck is contoured to fit both 5/8" and 3/4" tubing sizes, and features an internal luer taper to accommodate optional 1/4" and 3/8" Male Hose Barb Adapter Fittings for flexibility when connecting to drains, pumps and other laboratory equipment. Both the Spigot and Fittings include a replaceable gasket and are fully autoclavable.

Catalog No.	Description	Cap Size mm	Qty/Pack
DEZ080CT	EZ Top® Cap, Closed Top, White	83	2
DEZ080OT	EZ Top® Cap, Open Top, White, with Closed Adapter Plug	83	2
DEZ120CT	EZ Top® Cap, Closed Top, White	120	2
DEZ120OT	EZ Top® Cap, Open Top, White, with Closed Adapter Plug	120	2
DEZ120AC	120mm to 80mm Adapter Cone, EZ Top® Cap, White	120	1
DCB00SP	Spigot Replacement for Carboys	—	2
DCB250S	Spigot Fitting with 1/4" Male Hose Barb Adapter	—	1
DCB375S	Spigot Fitting with 3/8" Male Hose Barb Adapter	—	1



DCB250S

DCB375S

QUICK-CONNECT INSERTS FOR EZ TOP® CAPS

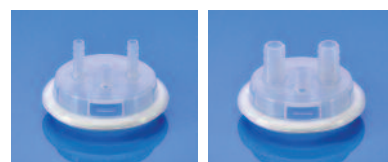
Quick-Connect Inserts for EZ Top® Caps easily adapt Bio-Simplex™ Carboys and Heavy Duty Vacuum Bottles to specific laboratory application needs and make liquid transfer clean, fast and safe. Available in a two-port configuration, removable Quick-Connect hose barb adapters come in 1/4" (6.4mm) and 3/8" (9.5mm) sizes, and molded-in Quick-Connect hose barb adapters come in 1/4" (6.4mm) and 1/2" (12.7mm) sizes. Molded adapters feature a vented cap; removable adapters are interchangeable.

Catalog No.	Description	Cap Size mm	Hose Barb Size in.	Vent	Qty/ Pack
D1069772	EZ Top® Adapter with 2 Removable Quick-Connects	83	1/4	No	1
D1069773	EZ Top® Adapter with 2 Removable Quick-Connects	83	3/8	No	1
D1069774	EZ Top® Adapter with 2 Molded Quick-Connects & Vent	83	1/4	Yes	1
D1069775	EZ Top® Adapter with 2 Molded Quick-Connects & Vent	83	1/2	Yes	1
D1069776	EZ Top® Adapter with 2 Removable Quick-Connects	120	1/4	No	1
D1069777	EZ Top® Adapter with 2 Removable Quick-Connects	120	3/8	No	1



D1069772

D1069773



D1069774

D1069775



D1069776

D1069777

EZ TOP® CONTAINER CLOSURE ASSEMBLIES FOR BIO-SIMPLEX™ CARBOYS

NEW

EZ Top® Container Closure Assemblies create efficient aseptic liquid transfer systems for laboratories when combined with EZ Top® Caps and containers. Designed for single-use laboratory applications, these economical systems eliminate potential cross-contamination from repeated use, as well as costs associated with cleaning, validation and assembly. Non-corrosive and impact resistant, they make effective replacements for stainless steel closures. Each Assembly includes tubing, a standard stopper, a 0.2µm vent filter and a cap. Two- and three- port configurations are available to fit all sizes of Bio-Simplex™ Carboys and Heavy Duty Vacuum Bottles with 83mm caps.

TUBING MATERIAL GUIDE FOR EZ TOP® CONTAINER CLOSURE ASSEMBLIES

C-Flex® TPE Tubing Material*

- ◆ Non-pyrogenic, non-cytotoxic, non-hemolytic
- ◆ Resistant to concentrated acids and alkalis
- ◆ Less permeable to gasses than silicone tubing
- ◆ Low platelet adhesion and protein binding
- ◆ Temperature range from -40°F (-40°C) to 140°F (40°C)
- ◆ Tubing meets USP Class VI and U.S. FDA criteria
- ◆ Ideal for research, biotech and pharmaceutical applications involving cell culture media and fermentation, reagent dispensing and production of pharmaceuticals

Sani-Tech® Silicone Tubing Material*

- ◆ Non-cytotoxic
- ◆ Resists ozone, corona, radiation, moisture, compression sets, weathering and chemical attack
- ◆ Ultra flexible, smooth tubing resists adhesion
- ◆ Will not impart taste or odor to fluids
- ◆ Temperature range from -80°F (-62°C) to 500°F (260°C)
- ◆ Tubing meets USP Class VI and ISO 10993 standards; has a master file with the U.S. FDA
- ◆ Ideal for aseptic fluid transfer and sampling of high-purity fluids and sensitive biologicals

*For reference only. Not to be used for specification purposes. Physical properties of cap, stopper and other components may vary. It is the user's responsibility to ensure the suitability and safety of tubing and assemblies for all intended uses.

EZ TOP® CONTAINER CLOSURE ASSEMBLIES MADE WITH C-FLEX® TPE (Thermoplastic Elastomer) MATERIAL

C-Flex® Closure Assemblies are manufactured from pharmaceutical-grade resin and tubing to ensure an unobstructed fluid path and extremely low level of extractables. The assembly creates an elastomeric seal against plastic, glass and metal surfaces. The one-piece construction eliminates product loss and contamination due to a loose connection. Each C-Flex® Assembly features a Bio-Simplex™ FlexJoint™ and dip tube to optimize fluid capture. Can be sterilized with autoclave, gamma radiation and ethylene oxide gas.

Catalog No.	Container Size L	Tubing Size (in) I.D. x O.D.	Tubing Length		Ports	Dip Tube Length in.
			in	m		
DCB02L-2EZ-CF	2.5	3/8 x 5/8	72	1.8	2	14
DCB05L-2EZ-CF	5	3/8 x 5/8	72	1.8	2	17
DCB10L-2EZ-CF	10	3/8 x 5/8	72	1.8	2	20
DCB20L-2EZ-CF	20*	3/8 x 5/8	72	1.8	2	25
DCB40L-2EZ-CF	40*	3/8 x 5/8	72	1.8	2	31
DCB02L-3EZ-CF	2.5	3/8 x 5/8	72	1.8	3	14
DCB05L-3EZ-CF	5	3/8 x 5/8	72	1.8	3	17
DCB10L-3EZ-CF	10	3/8 x 5/8	72	1.8	3	20
DCB20L-3EZ-CF	20*	3/8 x 5/8	72	1.8	3	25
DCB40L-3EZ-CF	40*	3/8 x 5/8	72	1.8	3	31

*EZ Top assemblies for 20L and 40L carboys include an adapter cone.

EZ TOP® CONTAINER CLOSURE ASSEMBLIES MADE WITH SANI-TECH® SILICONE MATERIAL

Sani-Tech® Closure Assemblies are manufactured from fully characterized, high-purity, platinum-cured silicone to provide an aseptic seal for handling various high purity fluids in biopharmaceutical applications. The smooth inner bore of the tubing eliminates risk of product entrapment and buildup. The assemblies feature overmolded sinkers to optimize fluid capture and are ideal for retrofitting existing glass or plastic carboys for fluid transfer, sampling or sealing. They are non-cytotoxic and comply with USP Class VI standards. Sani-Tech® silicone assemblies can be sterilized with autoclave, gamma radiation, and ethylene oxide gas.

Catalog No.	Container Size L	Tubing Size (in) I.D. x O.D.	Tubing Length in m	Ports	Sinker Length in.
DCB02.5L-2EZ-ST	2.5L	3/8 x 5/8	24 .61	2	11.25
DCB05L-2EZ-ST	5L	3/8 x 5/8	48 1.2	2	16
DCB10L-2EZ-ST	10L	3/8 x 5/8	48 1.2	2	19
DCB20L-2EZ-ST	20L*	3/8 x 5/8	72 1.8	2	24.5
DCB40L-2EZ-ST	40L*	3/8 x 5/8	72 1.8	2	30
DCB02.5L-3EZ-ST	2.5L	3/8 x 5/8	24 .61	3	11.25
DCB05L-3EZ-ST	5L	3/8 x 5/8	48 1.2	3	16
DCB10L-3EZ-ST	10L	3/8 x 5/8	48 1.2	3	19
DCB20L-3EZ-ST	20L*	3/8 x 5/8	72 1.8	3	24.5
DCB40L-3EZ-ST	40L*	3/8 x 5/8	72 1.8	3	30

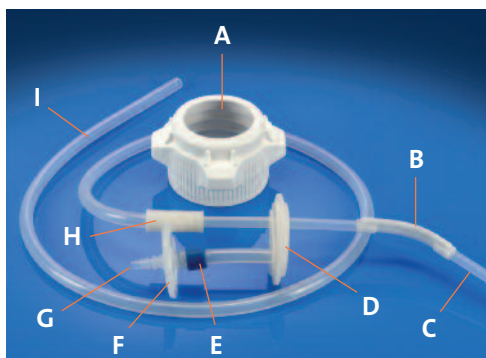
*EZ Top assemblies for 20L and 40L carboys include 120mm to 80mm Adapter Cone.



Gamma irradiation is available for EZ Top® Container Closure Assemblies. Call 1-989-435-9533 or 1-888-387-0067 for information.

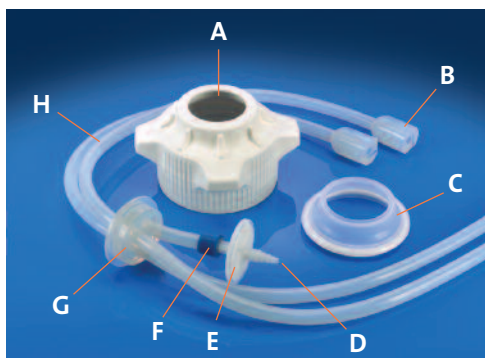
C-Flex® Image Diagram:

- A. 83mm polypropylene EZ Top® Cap with Open Top
- B. Bio-Simplex™ FlexJoint™
- C. Dip tube
- D. 2-port EZ Top® closure
- E. BarbLock® tubing retainer
- F. 0.2µm vent filter
- G. Vented port
- H. Molded coupler
- I. C-Flex® tubing



Sani-Tech® Image Diagram

- A. 120mm polypropylene EZ Top® Cap with Open Top
- B. Overmolded sinkers
- C. 120mm to 80mm Adapter Cone
- D. Vented port
- E. 0.2µm vent filter
- F. BarbLock® tubing retainer
- G. 3-Port EZ Top® closure
- H. Sani-Tech® tubing



All EZ Top® Container Closure Assemblies come fully assembled. Diagram images are solely intended to identify parts and components of each container closure assembly.

HEAVY DUTY VACUUM BOTTLES

NEW



- ◆ Ideal for storage of biologicals and applications involving cell culture, degasification and vacuum aspiration of liquid waste
- ◆ Available in three formulations: PP, HDPE and PETG
- ◆ Large, embossed graduations are easy to read; certified to $\pm 5\%$ accuracy
- ◆ Highly durable and chemical resistant
- ◆ Thick walls hold full vacuum for 24 hours (PETG holds half vacuum)
- ◆ Wide mouth 2L PETG bottles and all 4L bottles are compatible with EZ Top® and Quick-Connect Cap options
- ◆ Made in USP Class VI facility of FDA-grade materials; Bisphenol A (BPA) free

Heavy Duty Vacuum Bottles come in PP (Polypropylene), HDPE (High Density Polyethylene) and PETG (Polyethylene Terephthalate Glycol) formulations and are compatible with 50mm caps as well as 83mm EZ Tops® and 80mm Quick-Connect Cap Insert options, which allow customization and versatility in any laboratory application. Chemical-resistant, lightweight polymers have impact-resistant thick walls that can hold full vacuum for 24 hours –14.8 PSI/765 mmHg, (PETG can hold half vacuum–7.4 PSI/382.5 mmHg), making them an excellent substitute for traditional HPLC containers. Rounded-square shape is easy to store and prevents container from rolling on surfaces. Material formulation, container size and metric graduation marks are molded into the container surface for easy identification. Each bottle includes an open cap, a closed adapter plug and a 1/4" hose barb adapter.

Note: Bottles are not designed for storage of oxidizing agents or for long-term storage of strong organic compounds. They are not compatible with temperatures above the rated maximum and are not resistant to flame.

MODE OF STERILIZATION

	Autoclave*	Gas†	Radiation
HDPE	No	Yes	Not Tested
PETG	No	Yes	Yes
PP	Yes*	Yes	Not Tested

*15 psi and 121°C for 20 minutes

†Ethylene Oxide

Catalog No.	Description	Volume L	Material	Cap Size mm	Qty/Pack
D1069703	Heavy Duty Vacuum Bottle with Open Cap	1	PP	50	1
D1069702	Heavy Duty Vacuum Bottle with Open Cap	2	PP	50	1
D1069701	Heavy Duty Vacuum Bottle with Open Cap	4	PP	83	1
D1069704	Heavy Duty Vacuum Bottle with Open Cap	1	PETG	50	1
D1069705	Heavy Duty Vacuum Bottle with Open Cap	2	PETG	83	1
D1069707	Heavy Duty Vacuum Bottle with Open Cap	1	HDPE	50	1
D1069708	Heavy Duty Vacuum Bottle with Open Cap	2	HDPE	50	1
D1069709	Heavy Duty Vacuum Bottle with Open Cap	4	HDPE	83	1

SAINT-GOBAIN LABORATORY MEDIA BOTTLES

- ◆ Ergonomic bottle shape and cap for secure grip and excellent stability
- ◆ Glass-like clarity with high visibility molded graduations
- ◆ Manufactured with USP Class VI materials and can withstand 13 psi vacuum

Saint-Gobain disposable laboratory bottles are ideal for handling and storage of solutions such as serum and buffers, inorganic chemicals, tissue culture and media.

POLYSTYRENE* LABORATORY MEDIA BOTTLES WITH PP CAPS

- ◆ Appropriate for weak acids and bases and diluted alcohol, with good resistance to inorganic chemicals and oils
- ◆ High protein binding capacity
- ◆ Excellent for optical measurements and immunological assays

PETG** LABORATORY MEDIA BOTTLES WITH PP CAPS

- ◆ Good chemical resistance to oil, alcohol and weak acids
- ◆ Excellent for storing biologicals and media and cell culture applications
- ◆ 100% recyclable

POLYSTYRENE*

Catalog No.	Volume, mL	Qty/Pack
DPS0250	250	24
DPS0500	500	24
DPS1000	1,000	24

PETG**

Catalog No.	Volume, mL	Qty/Pack
DPG0250	250	24
DPG0500	500	24
DPG1000	1,000	24

* Sterilizable, not autoclavable, stable to 80°C.

** Sterilizable, not autoclavable, does not withstand heating.

Chemical compatibility is provided as a guide. Please test bottles for your specific application.



ISO 13485

Manufactured in Class
100,000 clean room

*Note: Caps are color coded
to indicate bottle type:
White cap—polystyrene bottle
Green cap—PETG bottle*

CHEMWARE® PFA CARBOYS

- ◆ Chemically inert and ultra-pure; meets USP Class VI criteria
 - ◆ Lowest metal ion content of all fluoropolymers
 - ◆ Ideal for storage during intermediate phases of pharmaceutical and semiconductor processing
- Leak-proof, unbreakable PFA carboys are used for storage of any corrosive chemicals, including hydrochloric, nitric and perchloric acids. They are also ideal for storage of HPLC mobile phase. PFA carboys reduce the risk associated with broken glass and solvent spills. They have an inert fluoropolymer plug-type seal and a PTFE cap.

Catalog No.	Volume L	Neck I.D. (plug measure) mm	Qty/Pack
D1069730	10	40.5	1
D1069731	20	40.5	1
D1069732	30	40.5	1



NEW

AUTOFIL™ LABORATORY FILTRATION SYSTEM

- ◆ Designed for sterilization or clarification of aqueous laboratory fluids
- ◆ Available in multiple sizes to accommodate any bench-scale filtering application
- ◆ Gamma sterilized and ready to use
- ◆ Hands-free vacuum operation system saves time
- ◆ Dust cap reduces environmental contamination
- ◆ Hydrophilic, asymmetric polyethersulfone (PES) membrane is low protein binding; produces high flow rate and throughput with low extractables
- ◆ 0.22µm or 0.45µm available pore sizes; suitable for final sterilization and clarification as well as pre-filtration applications

AutoFil™ Media Bottle and Centrifuge Funnel Filtration Systems are disposable, sterile, vacuum-operated units for the preparation of laboratory samples and sterile aqueous solutions such as buffers, tissue culture media, microbiological media and reagents. Available in 15mL and 50mL centrifuge tube sizes as well as 250mL, 500mL and 1L media bottle sizes with easy-to-read raised graduation marks, each system operates with a versatile polyethersulfone membrane for the removal of particulates. Hydrophilic and low protein binding, the surfactant-free asymmetric membrane produces highly consistent high flow rates and throughput with low extractables for pre-filtration and clarification applications. The optional pedestal base provides hands-free operation and features a permanent vacuum connection that saves time connecting and disconnecting the vacuum. A cost-saving cradle ring is also available.

Catalog No.	Description	Volume mL	Membrane Pore Size	Filter Dia. mm	Qty/Pack
DAF0250	Media Bottle System	250	0.22µm PES	66	12
DAF0500	Media Bottle System	500	0.22µm PES	90	12
DAF1000	Media Bottle System	1000	0.22µm PES	90	12
DAF250B	Media Bottle System	250	0.45µm PES	66	12
DAF500B	Media Bottle System	500	0.45µm PES	90	12
DAF1000B	Media Bottle System	1000	0.45µm PES	90	12
DAFCF15	Centrifuge Funnel System	15	0.22µm PES	40	24
DAFCF50	Centrifuge Funnel System	50	0.22µm PES	40	24
DAFCF15B	Centrifuge Funnel System	15	0.45µm PES	40	24
DAFCF50B	Centrifuge Funnel System	50	0.45µm PES	40	24
DAFCR01	Cradle Ring	—	—	—	1
DAFPS01	Pedestal Stand	—	—	—	1



250mL
Media Bottle
System



500mL
Media Bottle
System



1000mL
Media Bottle
System

Optional
Cradle Ring
or
Pedestal



15mL
Centrifuge
Funnel System



50mL
Centrifuge
Funnel System

CHEMWARE® PFA GRADUATED NARROW MOUTH BOTTLES

- ◆ Ultra-pure—the lowest metal ion content of all fluoropolymers
- ◆ Unbreakable
- ◆ Chemically inert
- ◆ Non-stick, easy to clean
- ◆ Use for storage in pharmaceutical and semiconductor processing (intermediate stages)

These unbreakable PFA bottles can be used for storage of virtually all corrosive chemicals, including hydrofluoric, nitric, and perchloric acids. PFA bottles are chemically inert, heat resistant with a non-stick, easy-to clean surface and are ideal for environmental sampling. The inert fluoropolymer cap liner ensures leak-proof sealing. Supplied with PFA caps.

Catalog No.	Volume mL	Capacity to Brim mL	Height (w/Closure) mm	Neck I.D. (Plug Measure) mm
D1069068*	100	126	100.8	16.7
D1069071	250	293	133.7	16.5
D1069072	500	561	165.1	17.0
D1069724*	1000	1060	202.4	25.3
D1069786	2000	2200	235	33
D1069073	3000	3350	269.9	36.6
D1069074	5000	5500	316.7	36.4
D1069787**	10000	10900	350	43

*USP Class VI

**Non-graduated



CHEMWARE® PFA GRADUATED WIDE MOUTH BOTTLES

- ◆ Wide-mouth for easy filling
- ◆ Ultra pure and chemically inert
- ◆ Non-stick and easy-to-clean

These PFA graduated bottles have a convenient wide-mouth opening for easy filling and pouring. These unbreakable, chemically inert bottles can be used for storage of virtually all corrosive chemicals. PFA material is heat resistant, non-stick and easy-to-clean. Each includes a PFA cap with an inert fluoropolymer cap liner to ensure leak-proof sealing. Ideal for environmental sampling, or for storage in pharmaceutical and intermediate-stage semiconductor processing applications.

Catalog No.	Volume mL	Capacity to Brim mL	Height (w/Closure) mm	Neck I.D. (Plug Measure) mm
D1069589*	20	26	60.3	16.4
D1069590*	100	150	106.5	25.7
D1069591	250	311	136.8	25.7
D1069588**	250	311	136.8	25.7
D1069592	500	564	173.8	33.9
D1069593*	1000	1100	207.2	36.8
D1069595***	1000	1100	207.2	36.8

*USP Class VI

**With cap hole/USP Class VI

***with 1.25" cap hole/USP Class VI





CHEMWARE® PFA NARROW MOUTH WASH BOTTLES

- ◆ Molded-in graduation marks
- ◆ Flexible nozzle with 360° swivel; small orifice tip allows accurate content dispensing
- ◆ Inert to all chemicals
- ◆ Leak-proof design
- ◆ Transparent and break resistant

Chemware® PFA narrow mouth wash bottles can be used to dispense all types of liquids. They are non-stick, easy to clean and provide superior flex life and excellent mechanical strength. PFA contains the lowest concentration of trace metal ions of all fluoropolymers making it ideal for the ultra-pure requirements of environmental analytical work.

Catalog No.	Volume mL	Capacity to Brim mL	Height (w/Closure) mm	Neck I.D. (Plug Measure) mm
D1069064	100	126	158.8	16.5
D1069066	250	320	205.6	16.5
D1069067	500	580	287.3	16.6
D1069065	1000	1081	315.1	25.5



CHEMWARE® PFA GRADUATED WIDE MOUTH WASH BOTTLES

- ◆ Wide-mouth for easy filling
- ◆ Chemically inert and leak-proof
- ◆ Flexible nozzle with 360° swivel; small orifice allows accurate content dispensing
- ◆ Transparent and break resistant
- ◆ Molded-in graduation marks

These wash bottles feature a wide-mouth opening for convenience in filling and pouring of all types of liquids. Non-stick and easy to clean, fluoropolymer construction provides superior flex life and mechanical strength. As PFA contains the lowest concentration of trace metal ions of all fluoropolymers, these bottles are ideal for ultra-pure applications and environmental work.

Catalog No.	Volume mL	Capacity to Brim mL	Height (w/Closure) mm	Neck I.D. (Plug Measure) mm
D1069739	100	151	159.5	25.5
D1069740	250	300	195.3	25.6
D1069741	500	515	293.7	33.9
D1069742	1000	1076	317.5	36.9

CHEMWARE® PFA JARS

- ◆ Chemically resistant
- ◆ Ultra-pure
- ◆ Heat resistant and usable to cryogenic temperatures
- ◆ Secondary inner seal design for safety and integrity
- ◆ Ideal for storing digestion samples

Chemware® PFA jars store solutions, paste and bulk materials with no concern about leaching, corrosion, contamination or evaporation. They are resistant to corrosive liquids, acids, solvents, sensitive reagents, and staining solutions. PFA jars feature a large mouth for easy access and non-stick surface for easy cleaning. There is an area for identification marking on side of the jars. Stackable, these jars have a knurled top for secure grip to facilitate easy opening and closing.

Catalog No.	Volume mL	Capacity mL	Height mm	Diameter mm
D1069024	60	65	46.8	50.8
D1069025	120	170	53.2	66.0
D1069027	240	245	96.8	66.8
D1069029	360	428	90.6	84.4
D1069030	480	485	94.3	65.2
D1069031	1000	1084	150.0	106.7
D1069706	2000	2000	269.1	104.1



CHEMWARE® PFA VIALS WITH PE (Polyethylene) TRAY

- ◆ Chemically resistant
- ◆ Extra sturdy construction for long life
- ◆ Includes polyethylene tray, 10 vials and 10 septa

PFA vials can be used with aggressive chemicals such as acids, bases, stains, chlorinated solvents and reagents. Each vial has a screw cap with a 1/4" (6.35mm) opening. Each set includes 10 PFA vials, a PE tray and 10 PFA/silicone laminated septa to produce a tight seal. The absence of active sites on the chemically inert surface reduces the likelihood of adsorption of metals or polar compounds from solutions. PFA vials are ideal for trace metal analysis or any application where the use of glass can alter results.

Catalog No.	Volume mL	Height (w/Closure) mm	Neck I.D. (Plug Measure) mm	Replacement Septa
D1069046	5	34.9	18.2	D1069082
D1069047	7	36.2	18.3	D1069082
D1069048	15	39.7	25.3	D1069084



CHEMWARE® LABORATORY PRODUCTS



CHEMWARE® PTFE GRIFFIN BEAKERS

- ◆ Can be heated to 550°F (288°C) and used in a microwave
- ◆ Chemically resistant to acids and bases
- ◆ Ultra-pure

PTFE beakers are non-contaminating and completely inert to highly corrosive reagents. They are non-wettable, unbreakable, lightweight, and heat resistant. Easy to clean, these beakers have a broad spout for easy pouring. They can be heated on a hot plate up to 550°F (288°C) when proper care is exercised. The specially molded bottom allows rapid heat transfer. Use Chemware® PTFE watch glasses as beaker covers (p. 21).

Catalog No.	Volume mL	Capacity to Brim mL	Height (w/o Closure) mm	Neck I.D. (Plug Measure) mm
D1069032	1	2	12.7	10.5
D1069033	3	4	12.7	14.8
D1069034	5	7	25.3	17.8
D1069320	10	12	32.1	21.8
D1069035	30	40	45.0	32.9
D1069036	50	63	52.3	38.9
D1069037	100	129	65.5	48.3
D1069038	250	320	92.3	65.7
D1069039	400	490	107.0	76.0
D1069040	600	750	124.5	85.0
D1069041	1000	1250	146.2	104.7



CHEMWARE® PFA GRIFFIN BEAKERS

- ◆ Can be heated up to 500°F (260°C) and used in a microwave
- ◆ Ideal for ultra-pure applications
- ◆ Low metal ion content for trace metal analysis

Chemware® PFA Griffin Beakers have a specially machined bottom designed for rapid, efficient heat transfer. They are transparent for easy viewing and graduated for easy measuring. They feature a non-stick, easy-to-clean surface. Use Chemware® PTFE watch glasses as beaker covers (page 21).

Catalog No.	Volume mL	Capacity to Brim mL	Height (w/o Closure) mm	Neck I.D. (Plug Measure) mm
D1069536	50	59	43.3	42.7
D1069537	125	164	60.8	59.7
D1069538	250	294	76.2	71.6
D1069539	500	537	89.7	88.8

CHEMWARE® PFA GRADUATED ERLENMEYER FLASKS

- ◆ Chemically inert for ultra-pure applications
- ◆ Graduated
- ◆ Transparent for easy viewing
- ◆ Non-stick PFA surface—easy to clean
- ◆ Can be used in a microwave

Chemware® PFA graduated Erlenmeyer flasks are chemically inert for ultra-pure applications. The neck of each flask is slightly rounded for pouring and can be plugged with a stopper. The conical shape and neck design allow contents to be mixed or stirred with reduced risk of splashing. The narrow neck also helps limit evaporation and contamination. PFA material has the lowest metal ion content of any fluoropolymer. Ideal for use in titration and for the preparation of microbial cultures.

Catalog No.	Volume mL	Height mm	Neck I.D. (Plug Measure) mm
D1069075	100	97	18
D1069076	200	123	23
D1069077	300	130	23



CHEMWARE® PFA GRADUATED CYLINDERS

- ◆ Easy-to-read graduations
- ◆ Smooth pouring, drip-free spout
- ◆ Broad base for stability

These graduated cylinders offer all the advantages of non-stick inert fluoropolymers. PFA is temperature resistant from -320°F (-196°C) to 500°F (260°C) and has the lowest metal ion content. As a result, Chemware® cylinders are excellent for trace metal analysis.

Catalog No.	Volume mL	Capacity to Brim mL	Height mm	Neck I.D. (Plug Measure) mm
D1069601	30	41	165.9	17.8
D1069602	50	67	216.7	20.0
D1069603	100	116	231.8	25.7
D1069604	200	248	281.8	33.6
D1069605	300	367	295.3	40.7
D1069606	500	615	352.4	49.5
D1069607	1000	1365	316.7	77.7
D1069608*	2000	2275	520.7	77.7

*Special order





CHEMWARE® PFA EVAPORATING DISH

- ◆ Chemically inert
- ◆ Ideal for trace metal analysis
- ◆ Transparent for easy viewing
- ◆ Perfect for microwave use
- ◆ Smooth, non-stick surface

The PFA Evaporating Dish design promotes evaporation of excess fluids to produce a concentrated solution or solid precipitate. The flat bottom provides good surface contact with a heat source, while the non-stick angled walls direct fluids to the base, which limits condensation on the dish wall. This PFA dish can be used in a wide range of temperatures, from cryogenics to 500°F (260°C). The dish is also ideal for holding solid samples or small volumes of liquid. Features a broad spout for easy pouring.

Catalog No.	Volume mL	Capacity to Brim mL	Height mm
D1069543	100	116	29.5



CHEMWARE® PTFE EVAPORATING DISHES

- ◆ Chemically inert
- ◆ Ideal for ultra-pure samples
- ◆ Withstands temperatures up to 550°F (288°C)

This PTFE Evaporating Dish can be used to concentrate a solution or to create solid precipitates. The evaporating dish can also be used as a shallow bath, as a drying dish or as a beaker cover to protect contents from dust and other contaminants. PTFE material is unbreakable, chemically inert, and withstands temperatures up to 550°F (288°C). The non-stick surface is stain resistant and easy to clean. Features a broad spout for easy pouring.

Catalog No.	Volume mL	Capacity to Brim mL	Height mm
D1069044	100	139	37.3
D1069045	400	470	45.2

CHEMWARE® PFA PETRI DISHES

- ◆ Inert surface
 - Non-stick
 - Non-protein binding
 - Transparent
- ◆ Uniform flat bottom

The non-stick, chemically inert surface of PFA petri dishes is non-contaminating and ideal for high-purity biological applications that range in temperature from -370°F (-200°C) to 500°F (260°C). Each petri dish is shallow, cylindrical and translucent with a flat bottom that allows for easy observation and uniform specimen growth. Ideal for cell culture or drying applications. Stackable one-piece design does not require a separate lid. Can be autoclaved for repeat use.

Catalog No.	Volume mL	Diameter mm	Height mm
D1069544	20	50	10
D1069545	100	100	15



CHEMWARE® PTFE WATCH GLASSES

- ◆ Inert—chemically resistant
- ◆ Smooth and unbreakable
- ◆ Use as beaker covers

This ultra-shallow, concave dish is ideal for holding, weighing, crystallizing, evaporating and drying small samples of liquids, powders and solids. It can also be used as a convex cover for beakers and Erlenmeyer flasks to limit airborne contaminants, while still allowing gas exchange. All sizes are molded to the same contour for easy stacking. Shatter-proof PTFE material is chemical resistant and easy to clean.

Catalog No.	Diameter cm	Diameter (Ring Measure) mm	Capacity to Brim mL
D1069012	5.0	51.0	11
D1069013	7.5	77.4	21
D1069014	10.0	103.0	33
D1069015	12.5	125.3	86
D1069016	15.0	153.4	237





CHEMWARE® PFA TEST TUBES

- ◆ Made from fluoropolymer PFA resin
- ◆ Low metal ion content
- ◆ Inert

These unbreakable test tubes are excellent for trace metal analysis. They are inert, non-contaminating, and transparent for easy viewing of contents. They withstand temperature extremes. Can be sterilized repeatedly.

Catalog No.	Volume mL	I.D. x O.D. x L mm
With Caps		
D1069598	5	8 x 10 x 132
D1069688	10	10 x 12 x 152
D1069599	15	14 x 16 x 162
D1069689	20	14 x 16 x 175
D1069690	25	16 x 19 x 185
D1069691	50	19 x 22 x 235
D1069692	60	19 x 22 x 245
Without Caps		
D1069693	5	8 x 10 x 120
D1069694	10	10 x 12 x 140
D1069695	15	14 x 16 x 150
D1069696	20	16 x 19 x 160
D1069697	25	16 x 19 x 170
D1069698	50	19 x 22 x 220
D1069699	60	19 x 22 x 230



CHEMWARE® PFA TRAY WITH COVER

- ◆ Chemically resistant
- ◆ Excellent for corrosive and solvent baths
- ◆ Low- and high-temperature resistant

This chemically resistant tray is compatible with temperatures between -370°F to 500°F (-200°C to 260°C). Size is ideal for staining standard microscope slides. Cover prevents evaporation of liquid contents.

Catalog No.	Size W x L x H in.	Size W x L x H mm
D1069670	1.5 x 3.25 x 0.75	37 x 82 x 19

CHEMWARE® PFA STERILIZATION TRAY

Can be used at high or cryogenic temperatures.

Catalog No.	Size W x L x H in.	Size W x L x H mm
D1069686	6 x 4 x 2	15 x 10 x 5

CHEMWARE® PFA FUNNEL

- ◆ Non-contaminating
- ◆ Inert
- ◆ Non-stick surface reduces residual material left in funnel

The Chemware® funnel is used for ultra-pure liquid transfer in biotechnology applications, environmental analysis, semiconductor and electronic labs. The low surface energy of PFA facilitates quantitative transfer.

Catalog No.	Top Diam. mm	Height Stem mm
D1069642	95	112



CHEMWARE® PFA SIEVES

- ◆ Non-contaminating and resistant to most chemicals
- ◆ Ideal for coarse sorting or draining of aggressive media
- ◆ Handle hooks over edge of vessel for draining

Resistant to most chemicals, Chemware® sieves are ideal for ultra-pure applications. Two mesh sizes are available—0.5mm and 1.0mm. Use with containers that have openings of 80mm or greater and a capacity ranging from 300mL to 1000mL.

Catalog No.	Mesh Opening mm	Diameter mm	Length w/Handle mm
D1069100	0.5	76	180
D1069101	1.0	76	180



CHEMWARE® PFA DIPPER

- ◆ Non-contaminating
- ◆ Superior chemical resistance
- ◆ Lowest concentration of metal ions of any fluoropolymer

Resistant to most chemicals, the Chemware® dipper is ideal for ultra-pure applications and use with aggressive media. Handle design allows dipper to hook over edge of vessel, eliminating dripping of corrosive fluids onto surrounding surface. Use with containers that have at least an 80mm opening.

Catalog No.	Volume to Brim mL	Diameter mm	Length w/Handle mm
D1069102	53	76	180





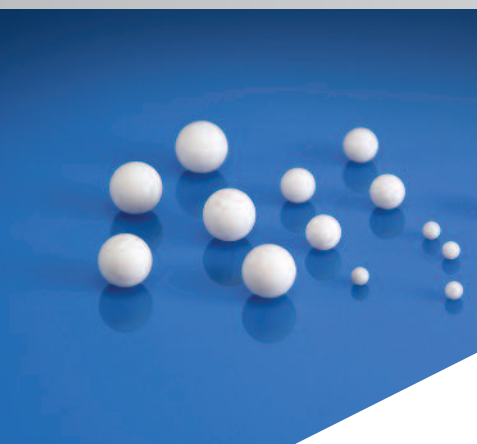
CHEMWARE® PTFE BOILING STONES

- ◆ Chemical resistant
- ◆ Ideal for boiling organic liquids
- ◆ Minimizes superheating

Ultra-pure, virgin PTFE chips promote gentle, efficient boiling and help prevent overheating, even of highly volatile liquids. Ideal for continuous extraction methods. Stones minimize “bumping” during reflux and distillation.

The boiling stones are not affected by acids, hydrocarbons, ketones, esters, alcohols or alkalis. They are easily cleaned and non-contaminating. Shows no trace of free acidity or alkalinity. They will not scratch or abrade glassware and leave no residue. Usable up to 550°F (288°C).

Catalog No.	Weight grams
D1069103	450



CHEMWARE® PTFE BALLS

- ◆ For column packing and mixing beds
- ◆ Resistant to most chemicals
- ◆ Non-contaminating

PTFE balls minimize “bumping” during boiling. They are inert and can be used up to 550°F (288°C). 100 balls per package.

Catalog No.	Diameter in.	Diameter mm
D1069326	1/8	3.2
D1069390	1/4	6.4
D1069391	3/8	9.5
D1069327	1/2	12.7



CHEMWARE® PTFE RASCHIG RINGS FOR DISTILLATION

- ◆ Packing for distillation columns
- ◆ Chemically inert
- ◆ High surface area per unit of volume
- ◆ Minimum resistance to gas and liquid flow

Catalog No.	Length x Diameter mm	Pieces per pkg
D1069133	3.0 x 3	500
D1069134	6.0 x 6	300

To calculate quantities use chart below:

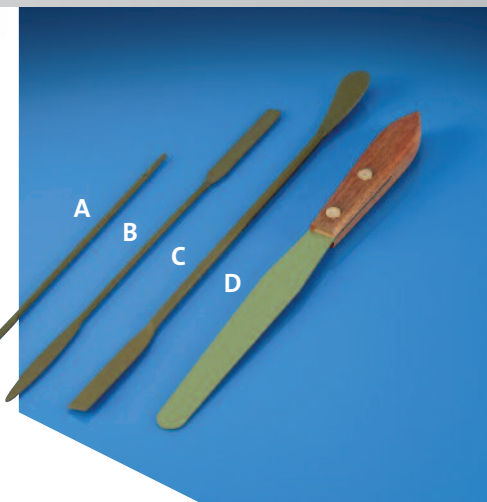
Catalog No.	Approx. Weight cu. ft.	Approx. Count lb./cu. ft.
D1069133	675,000	49
D1069134	86,000	35

CHEMWARE® PTFE FLUOROPOLYMER COATED SPATULAS

- ◆ Extra heavy-duty PTFE coatings
- ◆ Resistant to low and high temperatures
- ◆ Use for handling chemically active materials

These spatulas are designed for use in the most severe laboratory conditions. They are made of nickel-plated stainless steel and fluoropolymer coating. The coating eliminates surface buildup or loss of valuable sample due to sticking. Will not scratch or damage delicate surfaces.

Catalog No.	Style	Description	Length	
			in.	cm
D1069292	A	Hayman Style	6	15
D1069294	B	Double Flat Ends	8	20
D1069296	C	Lab Spoon	9	22.5
D1069298	D	Tapered Pallet (Hardwood Handle)	8	20



CHEMWARE® PTFE FLUOROPOLYMER COATED TONGS

- ◆ Opposing grip handle for easy operation
- ◆ Coated tension screw will not corrode
- ◆ Contoured jaw enables handling of crucibles and other objects
- ◆ Tapered tips for enhanced grip; rounded for safety
- ◆ Use for handling chemically active materials

The stainless steel tongs are covered with extra-heavy, non-stick PTFE coating and have the same great feature as the PTFE coated spatulas.

Catalog No.	Length	
	in.	cm
D1069290	9.4	24



CHEMWARE® PTFE FLUOROPOLYMER COATED FORCEPS

- ◆ Ridged grips prevent slips
- ◆ Inner pin retains closed position
- ◆ Rounded precision tip for accuracy and safety

Forceps are made of nickel-plated steel and have an extra heavy-duty coating of PTFE. The forceps have the same great features as the spatulas and tongs.

Catalog No.	Length	
	in.	cm
D1069288	4.5	11.6





CHEMWARE® PTFE FORCEPS

- ◆ Chemically inert
- ◆ Non-contaminating
- ◆ Will not scratch delicate surfaces

Made from PTFE resin with an encapsulated metal insert for strength. Chemically inert and non-contaminating, these forceps are ideal for laboratory work involving hot, cold, delicate or highly reactive materials.

Catalog No.	Length	
	in.	cm
D1069095	6	15



CHEMWARE® PTFE STIRRERS

- ◆ Highly inert PTFE coating
- ◆ Non-stick, easy to clean
- ◆ Low and high temperature resistant

These stirrers are ideal for scraping precipitates and residues. Chisel tip on one end and diagonal cut on other end permits applications in confined vessels. Chemically inert PTFE offers resistance to adhesion of any material. Unbreakable and heat resistant to 550°F (288°C), they will not crack or break under severe conditions, such as thermal and mechanical shock, and will not scratch glassware.

Catalog No.	Length	
	in.	cm
D1069092	4	10
D1069093	6	15
D1069094	8	20



CHEMWARE® PTFE FLUOROPOLYMER STIRRING RODS

- ◆ Inert to corrosives
- ◆ Easy to clean
- ◆ Bendable into shapes

Contains fully enclosed steel insert for stiffness, yet can be bent to various shapes for use as a powered stirrer. Heat resistant to 550°F (288°C) and completely inert to highly corrosive reagents. Antistick properties facilitate cleaning.

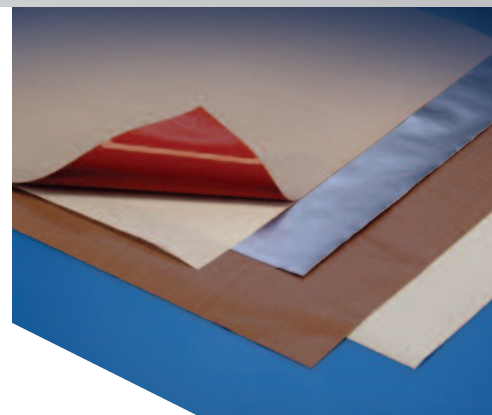
Catalog No.	Length		Diameter	
	in.	cm	in.	cm
D1069087	8	20	.25	0.6
D1069088	10	25	.25	0.6
D1069089	12	30	.25	0.6
D1069091	16	40	.30	0.8

BYTAC® BENCH PROTECTORS

- ◆ Inert to most chemicals
- ◆ Non-stick and easy to clean
- ◆ Easily cut and mounted
- ◆ Use to resurface bench tops and line fume hoods

Bytac® is a laminate consisting of FEP film that is bonded to a support backing of either vinyl or aluminum. The backing is coated with a pressure-sensitive, acrylic adhesive. Bytac® adheres to most surfaces and conforms to minor irregularities.

Bytac® provides an easy and economical way to protect bench tops, fume hood surfaces, tables, walls/ceilings, splash screens, and other surfaces with non-stick, chemical-resistant film. Corrosive chemicals, paint, oil, grease, and sticky foods are easily removed by wiping with a damp sponge. Bytac® can be used to protect surfaces from adsorption of radioactive chemicals. It is also useful to contrast surfaces for better observation. Removal of Bytac® is a simple peel-off process that leaves no sticky residue.



BYTAC® FEP FILM WITH VINYL BACKING

Vinyl backing is recommended for all applications up to 200°F (93°C).

Catalog No.	Width		Length		Backing
	in.	mm	yds	m	
D9860002	1	25	36	33	FEP/Vinyl
D9860003	2	50	36	33	FEP/Vinyl
D9860004	4	100	36	33	FEP/Vinyl
D9860005	12.5	320	5	4.6	FEP/Vinyl
D1069324	25	635	5	4.6	FEP/Vinyl
D9860007	1	25	0.33	0.30	FEP/Vinyl



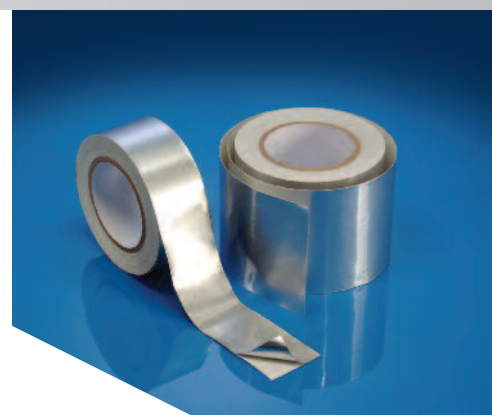
BYTAC® FEP FILM WITH ALUMINUM FOIL BACKING

Aluminum foil backing is resistant to high temperatures up to 360°F (182°C) for up to one hour.

Catalog No.	Width		Length		Backing
	in.	mm	yds	m	
D9860008	1	25	36	33	FEP/Alum.
D9860010	2	50	36	33	FEP/Alum.
D9860011	4	100	36	33	FEP/Alum.
D9860012	12.5	320	5	4.6	FEP/Alum.
D1069329	25	635	5	4.6	FEP/Alum.

Applications:

- ◆ Rejuvenate old benches with Bytac®
- ◆ Expand your work surface by covering a table with Bytac®
- ◆ Line a fume hood to protect against damage from corrosives
- ◆ Line the apron (ledge) at the front of the fume hood
- ◆ Create a non-absorbent, contamination-free surface that can be washed with chlorine bleach for clinical and biological labs
- ◆ Make a splash screen behind the sink or work area for easy cleanups





CHEMWARE® PTFE LABORATORY MATTING

- ◆ Corrosion resistant
- ◆ Non-wettable
- ◆ Chemically inert

Chemware® PTFE Laboratory Matting resists stains and adhesion of a wide range of materials and it is easy to clean. It can be used on benches, sinks, drain boards and shelves to reduce breakage of glassware. The laboratory matting has a diamond-shaped PTFE mesh and is 1/16" (1.6mm) thick with 1/4" (6.35cm) openings. Useful as a mesh bag for dipping parts in corrosive chemicals and solvents, it is also excellent as liner for cryogenic units. To create a bag, use the Chemware® cord.

Catalog No.	Width		Length	
	in.	cm	ft	m
D1069328	12	31	10	3



CHEMWARE® PTFE CORD

- ◆ Corrosion resistant
- ◆ Chemically inert
- ◆ Easy to tie

Using this chemically inert cord, secure the edges of the Chemware® PTFE laboratory matting to create a dipping basket for corrosive baths. The cord acts as a "thread." Sew the edges together and leave the top open for adding parts to be etched or plated.

Catalog No.	Diameter		Length	
	in.	mm	ft./roll	m/roll
D1069137	.031	0.8	200	61
D1069138	.047	1.2	100	30
D1069139	.062	1.6	100	30
D1069140	.078	2.0	50	15



CHEMFLUOR® PTFE FLUOROPOLYMER FILM

- ◆ Temperature and corrosion resistant
- ◆ Non-stick surface
- ◆ Non-porous and non-absorbent

This premium-grade reusable and easy-to-clean film is made from virgin PTFE. The non-stick surface, temperature, and corrosion resistance features make Chemfluor® Film an ideal lining or covering for shelves, drawers, tables, trays, drain boards, and sinks. The film will not stain or retain odors, flavors or other contaminants. Cut to size and use as weighing sheets.

Catalog No.	Width		Thickness		Length	
	in.	cm	in.	mm	ft	m
D1069278	6	15.2	.005	0.127	50	15.2
D1069279	12	30.5	.005	0.127	25	7.6

ZITEX® FILTERS

- ◆ Temperature resistant
- ◆ Compatible with virtually all solutions
- ◆ Non-clogging

Zitex® membranes act as “depth filters” with high retention efficiency and non-clogging characteristics. They are used for filtration of corrosive and other aggressive chemicals or gases up to 400°F (204°C).

Unlike cellulose filter paper, the PTFE interstices are bonded together resulting in a stabilized pore configuration. This unique combination of depth filter and screen characteristics creates a highly effective filter media. Zitex® membranes have a better controlled pore size distribution than other high temperature, chemically resistant membranes with similar pore size ratings.

Zitex® filters are strong enough to be self supporting and may be used without any additional backing material, which could compromise results.

The non-stick nature of Zitex® allows easy removal of the filter cake. Zitex® can be sterilized with steam or bactericidal solutions. It is suitable for chromatography solvent filtration and degassing. Zitex® membranes are inherently hydrophobic, which makes them ideal as venting devices.

However, aqueous solutions can be filtered by using pressures exceeding the membrane’s water initiation pressure, or with the aid of wetting agents, such as methanol or ethanol. Disks are interleaved with separators for cleanliness and ease of handling. Sheets and rolls are available by special order.



Catalog No.	Size mm (packed 10 per box)	Grade*
D1069168	20	Extra Fine
D1069170	20	Medium
D1069174	47	Extra Fine
D1069175	47	Fine
D1069176	47	Medium
D1069173	47	Coarse
D1069179	75	Coarse
D1069186	90	Extra Fine
D1069187	90	Fine
D1069188	90	Medium
D1069185	90	Coarse
D1069151	110	Coarse
D1069161	150 (5/box)	Coarse

*Fine and extra fine grades may shrink at temperatures above 150°F (66°C).

Properties	Units	Type			
Description		Extra Fine	Fine	Medium	Coarse
Grade		G110	G108	A145	A135
Functional Pore Size Range*	microns	1-3	3-5	10-20	20-30
Thickness	mil	8-12	6-10	3.7-5.7	4.5-7.0
	mm	0.20-0.30	0.15-0.25	0.09-0.15	0.11-0.18
Flow Rate (Water)					
gal/min/sq ft @ 13.5	psi	20-30*	30-50*	30-80	110-155
mL/min/sq cm @ 70 cm	Hg	80-120*	120-200*	120-320	440-620
Initiation Pressure (Water)*	lb/sq in	5.5-6.5	3.5-4.5	0.90-1.80	0.60-1.20
	kg/sq cm	0.37-0.43	0.23-0.30	0.06-0.13	0.04-0.08
Ethanol Bubble Point	lb/sq in	1.0-1.4	0.8-1.2	0.38-0.70	0.25-0.40
	atm	0.068-0.100	0.054-0.081	0.026-0.048	0.017-0.027
Average Breaking Strength*	lb/in width	12.0	9.6	0.7-1.3	0.9-1.2
Avg. Pore Volume*	%	40	45	65	65

* Indicates representative physical property data, but not specification limits.

ENVIRONMENTAL SAMPLING PRODUCTS



NORWELL® BAILER ASSEMBLIES

The Norwell® Bailer Assembly includes a complete set of mix-and-match PTFE/FEP bailer components that are ideal in either dedicated or portable applications. Norwell® bailers are the sampling devices of choice because of their innovative functional designs. Select individual top, body and bottom bailer components to create a customized bailer. All parts sold separately.

Norwell® Bailer Assembly Component Options:

Suspension Cord (A)—Made of stainless steel wire covered with FEP resin and sealed with caps.

Standard Top—Has a “v” notched opening for accurate pouring and a round thread design for easy cleaning.

Point Sampling Top (B)—Similar to Standard Top, but features an added check valve that closes during sample retrieval and isolates samples taken at specific depths.

Bailer Body (C)—Transparent non-graduated cylinder tube made of 100% virgin FEP resin (available in several sizes).

Extension Coupling—Used to increase bailer capacity by joining multiple bailers together.

Standard Bottom—Precision ground check valve stays confined to bottom section, preventing loss of sampled material.

Bottom Emptying Check Assembly—Used for rapid purging of a well. Check valve opens when plunger contacts sample vessel.

Control Flow Bottom Emptying Assembly (D)—The valve controls the flow rate while emptying samples and minimizes agitation, aeration and exposure to air.

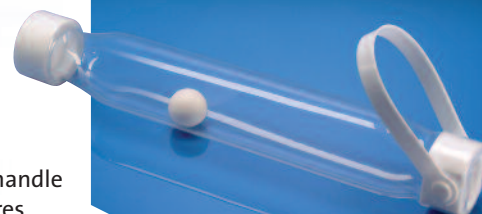
Norwell Quick-Connect—Attach and detach suspension cords, cables and bailers with a simple nut-style connection that prevents bailer loss due to knot release.

Catalog No.	Description
1-7/8" Norwell Bailer Assemblies	
D8653000	350cc Standard Top & Bottom
D8653005	1050cc Standard Top & Bottom
D8653020	350cc Standard Top & Bottom Emptying Bottom
D8653025	1050cc Standard Top & Bottom Emptying Bottom
D8653030	350cc Point Sampling Top & Standard Bottom
D8653050	350cc Standard Top & Control Flow Bottom
D8653193	240cc FEP Bailer Standard Top & Bottom
1-7/8" Norwell Bailer Components	
D8653010	350cc Bailer Body—1 ft.
D8653014	700cc Bailer Body—2 ft.
D8653015	1050cc Bailer Body—3 ft.
D8653011	Standard Top
D8653214	Standard Bottom (Ball Style)
D8653022	Bottom Emptying Check Assembly (Poppet Style)
D8653221	Point Sampling Top—(Ball Style)
D8653301	Control Flow Bottom Body Assembly—(Ball Style)
D8653053	Control Flow Bottom Valve Assembly
D8653013	Extension Coupling
D8653219	Control Flow Bottom
D8653187	240cc Extension Tube FEP
D8653154	Norwell Quick-Connect
D8653155	Replacement Pin-Norwell Quick-Connect
D8653156	Replacement Body-Norwell Quick-Connect
Norwell Sampling Accessories	
D8651936	Bailer Suspension Cord, 50 ft (15.2m) Spool
D8651937	Bailer Suspension Cord, 100 ft (30.5m) Spool
D8651938	Bailer Suspension Cord 250 ft (76.2m) Spool

ECONOMY BAILERS

- ◆ Reusable and economical
- ◆ Chemically resistant PTFE and FEP resin fabrication
- ◆ Graduation marks and transparent body for sample monitoring
- ◆ PTFE ground ball check valve secures fluids in bailer
- ◆ Easy to disassemble and clean

This reusable low-cost bailer has a clear, non-graduated body made of FEP resin and a secure handle to provide a convenient and secure method of sampling water from a well or container. Features a PTFE ground ball check valve that allows water to enter the cylinder and be retained when the bailer is raised. The top and bottom are constructed of PTFE fluoropolymer, and easily disassemble for cleaning. Bailer has a ¾" outer diameter, and fits into wells or containers that exceed 2".



Catalog No.	Description	O.D. in.	I.D. mm
D8653070	350cc Economy Bailer	.75	19
D8653075	1050cc Economy Bailer	.75	19

NORWELL® UNIVERSAL DRUM AND TANK SAMPLERS—ENVIRONMENTAL

Norwell® Universal Samplers including Norwell® Mucksuckers, Pinpointers and Dipsticks allow safe, accurate sample collection from 55-gallon drums, truck and rail tank cars, large tanks, process vessels and bodies of water to support sampling applications within laboratory, pharmaceutical, environmental, chemical, food and beverage, semiconductor and power generation industries. Engineered to last, Norwell® samplers are designed to handle liquids from very low levels of viscosity to thick sludge with high solids content. All sampling tubes are translucent to permit visual inspection of contents and are virtually corrosion-free and unbreakable—making them ideal for the most rigorous field applications. PTFE fluoropolymer and polypropylene samplers are chemically inert for broad chemical resistance. Polypropylene samplers are cost effective, while PTFE samplers are plasticizer- and filler-free to promote unbiased sampling.

- ◆ Retrieve substances of low to high viscosity
- ◆ Translucent for visual inspection
- ◆ Chemically inert and non-contaminating for safe, accurate sampling

NORWELL® MUCKSUCKERS

Piston-style extractor provides high-suction syringe action for liquid sampling. Norwell® Mucksuckers feature a push/seal bottom that closes the sampling tube with a quick push against a solid surface and a wide-mouth coring bottom that easily screws onto the end of the sampling tube for drawing up sludge-like substances.

Catalog No.	Description	Volume mL	Length in.	Length m	Qty/Pack
D8653259	Mucksucker, 40" PTFE Fluoropolymer	200	40	1.02	1
D8653260	Mucksucker, 84" PTFE Fluoropolymer	475	84	2.13	1
D8653258	Piston Assembly for 84" Mucksucker	—	84	2.13	1
D8653255	Replacement End for 84" Mucksucker Piston Assembly	—	—	—	1
D8653256	Replacement Coring Bottom	—	—	—	1

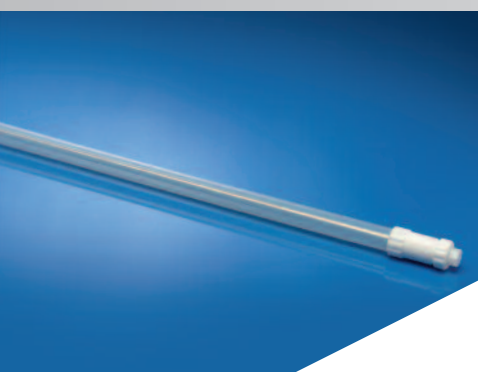




NORWELL® DIPSTICKS

Norwell® Dipsticks are outstanding tools for sampling free-flowing liquids in almost any application. Features an easy-to-operate push/seal bottom to close the tube once the sample is collected and a safety pouring top to safely empty contents. Available in PTFE or polypropylene.

Catalog No.	Description	Volume mL	Length in.	Length m	Qty/Pack
D8653242	Dipstick, 40" PTFE Fluoropolymer	300	40	1.02	1
D8653274	Dipstick, 84" PTFE Fluoropolymer	650	84	2.13	1
D8653276	Dipstick, 40" polypropylene	300	40	1.02	12
D8653276-1	Dipstick, 40" polypropylene	300	40	1.02	1
D8653275	Dipstick, 84" polypropylene	650	84	2.13	12
D8653275-1	Dipstick, 84" polypropylene	650	84	2.13	1
D8653231	Dipstick Top Assembly	—	—	—	1
D8653236	Dipstick Bottom Assembly	—	—	—	1



NORWELL® PINPOINTERS

Accurate and easy to operate, Norwell® Pinpointers feature a valve assembly for precision extraction of liquids and sludge.

Catalog No.	Description	Volume mL	Length in.	Length m	Qty/Pack
D8653268	Pinpointer, 40" PTFE Fluoropolymer	200	40	1.02	1
D8653269	Pinpointer, 84" PTFE Fluoropolymer	475	84	2.13	1



ENVIRONMENTAL SAMPLING ACCESSORIES AND REPLACEMENT PARTS

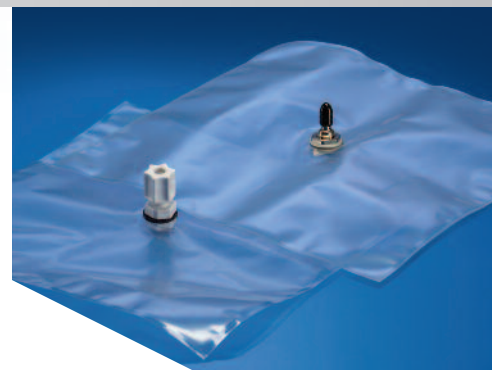
Catalog No.	Description	Volume mL	Length in.	Length m	Qty/Pack
D8653241	Universal Sample Tube Assembly Extension	300	40	1.02	1
D8653254	Viton® "O" Ring (samplers each require 2)	—	—	—	1
D8653284	Cleaning Brush	—	54	1.37	1
D8653279	Brush Handle Extension	—	24	.61	1
D8653271	Extension Coupling	—	—	—	1

CHEMWARE® FEP GAS & LIQUID SAMPLING BAGS

- ◆ Chemically resistant
- ◆ Flexible
- ◆ Will not contaminate sample

Made from 5 mil FEP fluoropolymer film, these flexible, sturdy bags are heat sealed on all four sides for complete chemical resistance and leak-proof operation. They are inert to most chemicals and have low permeability which limits sample loss. Available with either a nickel-plated, brass on/off valve that accepts 1/4" (6.4mm) I.D. flexible tubing or with PTFE/silicone septum in polypropylene housing for use with a hypodermic needle.

These FEP bags are easy to use. They can be stored for an unlimited period prior to use. Applications include gas sample analysis, extracting air samples from smokestack exhaust systems, monitoring air quality or calibrating instruments in the field. Custom sizes and configurations available on request. The bags are individually packaged. All bags also available in a pack of 10, except 50L size which is available in a pack of 5.



Catalog No.	Volume L	Fitting	Size		Qty/Pack
			in.	mm	
D1075002	0.5	On/Off	6x6	152x152	1
D1075002-10	0.5	On/Off	6x6	152x152	10
D1075001	1.2	On/Off	6x10	152x254	1
D1075001-10	1.2	On/Off	6x10	152x254	10
D1075003	4.7	On/Off	12x12	304x304	1
D1075003-10	4.7	On/Off	12x12	304x304	10
D1075004	50.0	On/Off	24x36	610x914	1
D1075004 -5	50.0	On/Off	24x36	610x914	5
D1075005	0.5	Septum	6x6	152x152	1
D1075005-10	0.5	Septum	6x6	152x152	10
D1075006	1.2	Septum	6x10	152x254	1
D1075006-10	1.2	Septum	6x10	152x254	10
D1075007	4.7	Septum	12x12	304x304	1
D1075007-10	4.7	Septum	12x12	304x304	10
D1075008	50.0	Septum	24x36	610x914	1
D1075008-5	50.0	Septum	24x36	610x914	5



CHEMWARE® PVDF TEDLAR® GAS & LIQUID BAGS

- ◆ Flexible
- ◆ Will not contaminate sample
- ◆ Choice of fitting style: on/off or septum
- ◆ For use in gas sampling trains
- ◆ Use for gas or liquid sample containment

Reusable bags made of 2 mil PVDF fluoropolymer film, Chemware® Gas Bags offer an economical alternative for analysis of noncorrosive gases. Durable, heat-sealed seams ensure leak-proof operation. Available with either a nickel-plated, brass on/off valve that accepts 1/4" (6.4mm) I.D. flexible tubing or with a PTFE/silicone septum in a polypropylene housing for use with a hypodermic needle.

Applications include sampling carbon monoxide, sulfur dioxide, hydrogen sulfide, radon and mercaptan. The bags are individually packaged. When used for liquid samples, bags should be supported with a tray. Not pressure rated. Custom sizes and configurations available on request.

Catalog No.	Fitting	Size		Qty/Pack
		in.	mm	
D1075009	on/off	6 x 6	152x152	1
D1075009-10	on/off	6 x 6	152x152	10
D1075016	septum	6 x 6	152x152	1
D1075016-10	septum	6 x 6	152x152	10
D1075010	on/off	9 x 9	229x229	1
D1075010-10	on/off	9 x 9	229x229	10
D1075018	septum	9 x 9	229x229	1
D1075018-10	septum	9 x 9	229x229	10
D1075011	on/off	12 x 12	304x304	1
D1075011-10	on/off	12 x 12	304x304	10
D1075017	septum	12 x 12	304x304	1
D1075017-10	septum	12 x 12	304x304	10
D1075012	on/off	15 x 15	381x381	1
D1075012-10	on/off	15 x 15	381x381	10
D1075019-10	septum	15 x 15	381x381	10
D1075013	on/off	18 x 18	457x457	1
D1075013-5	on/off	18 x 18	457x457	5
D1075020	septum	18 x 18	457x457	1
D1075020-5	septum	18 x 18	457x457	5
D1075014-5	on/off	24 x 24	610x610	5
D1075021	septum	24 x 24	610x610	1
D1075021-5	septum	24 x 24	610x610	5

PHARMAFLUOR® PFA COMPRESSION FITTINGS*

- ◆ Simple design for ease of installation
- ◆ No special tools required
- ◆ Withstand temperatures up to 212°F (100°C)

PharmaFluor® PFA Compression Fittings are manufactured for handling corrosive or ultra-pure fluids under contamination-free conditions. The PharmaFluor® compression fitting line offers PFA purity combined with the robust performance of compression style fittings. These fittings are ideal for gas or pneumatic connections in applications that do not require flared connections. Once tubing has been cut to the desired length, PharmaFluor® fittings require no tools for installation.

*Please request the PharmaFluor® Tubing and Fitting brochure (FLS-3316-1M-0608-SGCS) for sizes and more information on PharmaFluor® fittings.



UNION ADAPTER MALE/MALE NPT THREADS

Catalog No.	O.D. Tube Size		Male NPT Size		Orifice	
	in.	mm	in.	mm	in.	mm
G1077067	1/8	3.17	1/8	3.17	0.09	2.29
G1077054	1/8	3.17	1/4	6.35	0.09	2.29
G1077053	1/4	6.35	1/8	3.17	0.19	4.83
G1077002	1/4	6.35	1/4	6.35	0.19	4.83
G1077080	1/4	6.35	3/8	9.52	0.19	4.83
G1077081	1/4	6.35	1/2	12.70	0.19	4.83
G1077382	3/8	9.52	1/8	3.17	0.19	4.83
G1077003	3/8	9.52	1/4	6.35	0.31	7.87
G1077004	3/8	9.52	3/8	9.52	0.31	7.87
G1077051	3/8	9.52	1/2	12.70	0.31	7.87
G1077050	1/2	12.70	1/4	6.35	0.29	7.37
G1077005	1/2	12.70	3/8	9.52	0.42	10.67
G1077001	1/2	12.70	1/2	12.70	0.46	11.68
G1077104	1/2	12.70	3/4	19.05	0.46	11.68
G1077052	3/4	19.04	1/2	12.70	0.44	19.04
G1077006	3/4	19.04	0.68	17.27	0.75	19.04
G1077302	3/4	19.04	0.68	17.27	1	25.40
G1077303	1	25.40	0.94	23.80	1	25.40



UNION ADAPTER FEMALE/FEMALE NPT THREADS

Catalog No.	O.D. Tube Size		Female NPT Size		Orifice	
	in.	mm	in.	mm	in.	mm
G1077055	1/4	6.35	1/4	6.35	0.19	4.83
G1077086	1/4	6.35	1/2	12.70	0.19	4.83
G1077377	3/8	9.52	1/8	3.17	0.25	6.35
G1077056	3/8	9.52	1/4	6.35	0.31	7.87
G1077057	3/8	9.52	3/8	9.52	0.31	7.87
G1077087	3/8	9.52	1/2	12.70	0.31	7.87
G1077088	1/2	12.70	1/4	6.35	0.31	7.87
G1077090	1/2	12.70	1/2	12.70	0.46	11.68





ELBOW ADAPTER MALE/MALE NPT THREADS

Catalog No.	O.D. Tube Size		Male NPT Size		Orifice	
	in.	mm	in.	mm	in.	mm
G1077072	1/8	3.17	1/8	3.17	0.09	2.29
G1077091	1/8	3.17	1/4	6.35	0.09	2.29
G1077059	1/4	6.35	1/8	3.17	0.19	4.83
G1077007	1/4	6.35	1/4	6.35	0.19	4.83
G1077321	1/4	6.35	3/8	9.52	0.19	4.83
G1077008	3/8	9.52	1/4	6.35	0.31	7.87
G1077009	3/8	9.52	3/8	9.52	0.31	7.87
G1077094	3/8	9.52	1/2	12.70	0.31	7.87
G1077058	1/2	12.70	1/4	6.35	0.31	7.87
G1077010	1/2	12.70	3/8	9.52	0.42	10.67
G1077012	1/2	12.70	1/2	12.70	0.46	11.68



ELBOW ADAPTER FEMALE/FEMALE NPT THREADS

Catalog No.	O.D. Tube Size		Female NPT Size		Orifice	
	in.	mm	in.	mm	in.	mm
G1077317	1/4	6.35	1/4	6.35	0.09	2.29
G1077318	3/8	9.52	1/4	6.35	0.31	7.87
G1077095	3/8	9.52	3/8	9.52	0.31	7.87
G1077316	3/8	9.52	1/2	12.70	0.31	7.87
G1077322	1/2	12.70	3/8	9.52	0.44	11.18
G1077096	1/2	12.70	1/2	12.70	0.40	10.16



MALE BRANCH TEE MALE NPT THREADS

Catalog No.	O.D. Tube Size		O.D. Tube Size		NPT Size		Orifice	
	in.	mm	in.	mm	in.	mm	in.	mm
G1077097	1/8	3.17	1/8	3.17	1/8	3.17	0.09	2.29
G1077047	1/4	6.35	1/4	6.35	1/4	6.35	0.19	4.83



MALE RUN TEE MALE NPT THREADS

Catalog No.	O.D. Tube Size		O.D. Tube Size		NPT Size		Orifice	
	in.	mm	in.	mm	in.	mm	in.	mm
G1077101	1/8	3.17	1/8	3.17	1/8	3.17	0.09	2.29
G1077039	1/4	6.35	1/4	6.35	1/4	6.35	0.19	4.83
G1077338	1/2	12.70	1/2	12.70	1/2	12.70	0.44	11.18

STRAIGHT UNION

Catalog No.	O.D. Tube Size		Orifice	
	in.	mm	in.	mm
G1077070	1/8	3.17	0.09	2.29
G1077019	1/4	6.35	0.19	4.83
G1077020	3/8	9.52	0.31	7.87
G1077021	1/2	12.70	0.44	11.18
G1077022	3/4	19.05	0.69	17.53



UNION ELBOW

Catalog No.	O.D. Tube Size		Orifice	
	in.	mm	in.	mm
G1077071	1/8	3.17	0.09	2.29
G1077023	1/4	6.35	0.19	4.83
G1077024	3/8	9.52	0.31	7.87
G1077025	1/2	12.70	0.44	11.18
G1077026	3/4	19.05	0.69	17.53



UNION TEE

Catalog No.	O.D. Tube Size		Orifice	
	in.	mm	in.	mm
G1077066	1/8	3.17	0.09	2.29
G1077027	1/4	6.35	0.19	4.83
G1077028	3/8	9.52	0.31	7.87
G1077029	1/2	12.70	0.44	11.18



STRAIGHT UNION REDUCER

Catalog No.	O.D. Tube Size		O.D. Tube Size		Orifice	
	in.	mm	in.	mm	in.	mm
G1077060	1/8	3.17	1/4	6.35	0.09	2.29
G1077061	1/4	6.35	3/8	9.52	0.19	4.83
G1077062	1/4	6.35	1/2	12.70	0.19	4.83
G1077063	3/8	9.52	1/2	12.70	0.31	7.87
G1077103	1/2	12.70	3/4	19.05	0.70	17.78





UNION ELBOW REDUCER

Catalog No.	O.D. Tube Size		O.D. Tube Size		Orifice	
	in.	mm	in.	mm	in.	mm
G1077388	1/8	3.17	1/4	6.35	0.09	2.29
G1077387	1/4	6.35	3/8	9.52	0.19	4.83
G1077386	1/4	6.35	1/2	12.70	0.25	6.35
G1077390	3/8	9.52	1/2	12.70	0.31	7.87
G1077384	1/2	12.70	3/4	19.05	0.44	11.18



UNION TEE REDUCER

Catalog No.	O.D. Tube Size		O.D. Tube Size		NPT Size		Orifice	
	in.	mm	in.	mm	in.	mm	in.	mm
G1077395	3/8	9.52	3/8	9.52	1/4	6.35	0.19	4.83
G1077392	1/2	12.70	1/2	12.70	1/4	6.35	0.19	4.83



STRAIGHT UNION PANEL

Catalog No.	O.D. Tube Size		Orifice	
	in.	mm	in.	mm
G1077068	1/8	3.17	0.09	2.29
G1077013	1/4	6.35	0.19	4.83
G1077014	3/8	9.52	0.31	7.87
G1077015	1/2	12.70	0.44	11.18

Ferrule

Catalog No.	O.D. Tube Size	
in.	mm	
G1077073	1/8	3.17
G1077036	1/4	6.35
G1077038	3/8	9.52
G1077035	1/2	12.70
G1077037	3/4	19.05
G1077325	1	25.4

Nut

Catalog No.	O.D. Tube Size	
in.	mm	
G1077313	1/8	3.17
G1077314	1/4	6.35
G1077315	3/8	9.52
G1077319	1/2	12.70
G1077324	1	25.4

Plug

Catalog No.	O.D. Tube Size	
in.	mm	
G1077307	1/8	3.17
G1077308	1/4	6.35
G1077310	1/2	12.70



MALE BRANCH TEE REDUCER

Catalog No.	O.D. Tube Size		O.D. Tube Size		Orifice	
	in.	mm	in.	mm	in.	mm
G1077334	1/4	6.35	1/8	3.17	1/4	6.35
G1077333	1/2	12.70	3/8	9.52	3/8	9.52

SANI-TECH® SILICONE STOPPERS*

- ◆ Made from ultra-pure biopharmaceutical grade silicone
- ◆ Unmatched smoothness of the surface
- ◆ Resist cracking and spallation
- ◆ Do not release particles and are biologically safe
- ◆ Fully autoclavable and sterilizable through ethylene oxide gas and radiation

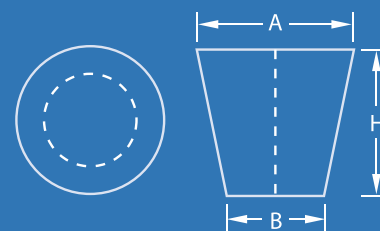
Sani-Tech® ultra-pure, platinum-cured silicone stoppers are manufactured from a biopharmaceutical grade of silicone and are fully characterized from a biological, chemical and physical perspective. They are tested to specifications including USP Class VI and FDA 177.2600 criteria. The Sani-Tech® silicone stoppers have a masterfile with the U.S. FDA.

Sani-Tech® silicone stoppers outperform standard rubber and neoprene stoppers for all critical process and laboratory applications in terms of life expectancy, consistency, and purity. They can be supplied with cored holes for use with specially designed dip tubes or vent configurations. Carefully controlled manufacturing process and lot traceability in all stages guarantee the high quality and ability to utilize the stoppers in demanding applications. They can be used with carboys, laboratory and media bottles, laboratory apparatus for experiments as well as solution storage.

SGPPL manufacturing facilities have the ability to create a wide variety of customized silicone stoppers including color coding and coring, plus custom identification marking options to meet the demanding applications of the pharmaceutical, biotechnology, and laboratory environments.



Catalog No.	Size	Qty/Pack	A		B		H	
			in.	mm	in.	mm	in.	mm
4120-1000	000	10	0.528	13.4	0.350	8.9	0.830	21.1
4120-1100	00	10	0.593	15.1	0.421	10.7	0.980	24.9
4120-1110	0	10	0.665	16.9	0.518	13.2	0.981	24.9
4120-0001	1	10	0.776	19.7	0.587	14.9	0.970	24.6
4120-0002	2	10	0.773	19.6	0.637	16.2	0.989	25.1
4120-0003	3	10	0.950	24.1	0.725	18.4	0.982	24.9
4120-0004	4	10	1.029	26.1	0.779	19.8	0.975	24.7
4120-0005	5	10	1.051	26.7	0.890	22.6	0.968	24.6
4120-0006	6	10	1.256	31.9	1.041	26.4	0.915	23.2
4120-0007	7	10	1.440	36.6	1.115	28.3	0.957	24.3
4120-0008	8	10	1.611	41.0	1.305	33.2	0.991	25.2
4120-0009	9	10	1.775	45.1	1.474	37.4	0.987	25.1
4120-0010	10	5	1.973	50.1	1.669	42.4	0.935	23.7
4120-0011	11	5	2.187	55.5	1.913	48.6	0.941	23.9
4120-0012	12	5	2.508	63.7	2.134	54.2	0.965	24.5
4120-0013	13	5	2.667	67.7	2.284	58.0	1.011	25.7
4120-0014	14	5	3.489	88.6	2.953	75.0	1.494	37.9
4120-0015	15	5	4.053	102.9	3.260	82.8	1.505	38.2
4120-0016	16	5	4.950	125.7	3.543	90.0	2.016	51.2



**Minimum purchase of 20 stoppers required. 2 bag minimum for stoppers size 9 and below; 4 bag minimum for sizes 10 and above.*

All stoppers can be supplied with cored holes for use with dip tubes, vents, etc. or can be used instead of Quick-Connect Cap Inserts. For custom options please contact customer service at 1-888-387-0067 or 1-989-435-9533.

LABPURE® STOPPERS



LYOPHILIZATION (FREEZE-DRYING) STOPPERS

LabPure® Lyophilization Stoppers are produced from a chlorobutyl rubber compound to ensure the highest level of purity. Available in both 13mm and 20mm sizes they are ideal for most lyophilization applications. Both styles—Split Legs and Gillon provide better stability than the standard lyophilization stoppers during freeze-drying processes.

Catalog No.	I.D. x O.D. mm	Description	Qty/Pack
DX444061	7 x 13	Long Gillon	5,000
DX444061-100	7 x 13	Long Gillon	100
DX445072	13 x 20	Split legs red	2,000
DX445072-100	13 x 20	Split legs red	100
DX445075	13 x 20	Split legs grey	2,000
DX445075-100	13 x 20	Split legs grey	100
DX444074	13 x 20	Gillon	2,000
DX444074-100	13 x 20	Gillon	100



INJECTION STOPPERS

LabPure® Injection Stoppers are available in a variety of rubber as well as silicone compounds to ensure the best application compatibility. Each compound exhibits a low level of extractables to ensure sample purity. Available in 20mm size, they are ideal for maintaining sterility for a wide range of sample types.

Catalog No.	I.D. x O.D. mm	Description	Qty/Pack
DX442013*	13 x 20	Chlorobutyl-Fluoropolymer	6,500
DX442013-100*	13 x 20	Chlorobutyl-Fluoropolymer	100
DX442017	13 x 20	Chlorobutyl grey	2,500
DX442017-100	13 x 20	Chlorobutyl grey	100
DX442018	13 x 20	Chlorobutyl red	2,500
DX442018-100	13 x 20	Chlorobutyl red	100
DX462008	13 x 20	Versilic Silicone	2,500
DX462008-100	13 x 20	Versilic Silicone	100

*Custom



VERSILIC® SILICONE STOPPERS

- ◆ Chemically and biologically neutral
- ◆ Non-toxic
- ◆ Temperature up to 482°F (250°C)
- ◆ DIN Standard 18271
- ◆ FDA/BGA approved

Versilic® peroxide-cured silicone stoppers are highly recommended for all types of tissue culture work. They are suitable for use at temperatures between -94°F and 482°F (-70°C and 250°C). Versilic® Silicone stoppers are odorless, tasteless, non-adherent and resistant to aging. They are ideal in biology, microbiology and hematology, as well as food science, technical, medical and hospital apparatus.

For ordering information see next page.

VERSILIC® SILICONE STOPPERS, CONTINUED

Catalog No.	Number	Bottom mm	Top mm	H mm	Qty/Pack
DX263006-50	6D	3.5	6.5	15	50
D1069804	6D	3.5	6.5	15	10
DX263008-50	8D	4	8	20	50
D1069805	8D	4	8	20	10
DX263010-50	10D	5	9	20	50
D1069806	10D	5	9	20	10
DX263013-50	13D	8	12	20	50
D1069807	13D	8	12	20	10
DX263015-50	15D	10.5	14.5	20	50
D1069808	15D	10.5	14.5	20	10
DX263016-50	16D	12.5	16.5	20	50
D1069809	16D	12.5	16.5	20	10
DX263018-20	18D	14	18	20	20
D1069810	18D	14	18	20	10
DX263021-20	21D	17	22	25	20
D1069811	21D	17	22	25	10
DX263024-20	24D	18	24	30	20
D1069812	24D	18	24	30	10
DX263027-10	27D	21	27	30	10
DX263029-10	29D	23	29	30	10
DX263031-10	31D	26	32	30	10
D1069816	34D	29	35	30	10
DX263034-05	34D	29	35	30	5
D1069817	38D	31	38	35	10
DX263038-05	38D	31	38	35	5
D1069818	41D	34	41	35	10
DX263041-05	41D	34	41	35	5
D1069819	45D	36	44	40	10
DX263045-05	45D	36	44	40	5
D1069820	49D	41	49	40	5
DX263049-02	49D	41	49	40	2
D1069821	54D	47	55	40	5
DX263054-02	54D	47	55	40	2
D1069822	60D	50.5	59.5	45	5
DX263060-02	60D	50.5	59.5	45	2
DX263065-02	65D	56	65	45	2
D1069823	65D	56	65	45	1
DX263070-02	70D	60	70	50	2
D1069824	70D	60	70	50	1
DX263075-02	75D	64.5	75.5	55	2
D1069825	75D	64.5	75.5	55	1
DX263083-02	83D	71	83	60	2
D1069826	83D	71	83	60	1
DX263092-01	92D	79	92	65	1
DX263100-01	100D	87	100	65	1
DX263107-01	107D	94	107	65	1





FOLDING SKIRT STOPPERS

Two-part folding skirt stoppers are designed with a double seal to keep container contents secure. The lower section grips the outside of the container and the upper hollow plug features annular serrations to provide a tight seal at the rim. The stoppers are ideal for securing glass, metal and plastic containers. Upper hollow plug section can be perforated to extract contents without removing the stopper and remains watertight even after several perforations.

VERSILIC® SILICONE FOLDING SKIRT STOPPERS

- ◆ Low and high temperature resistant from -76°F (-60°C) to 482°F (250°C)
- ◆ Translucent
- ◆ Chemically and biologically neutral—FDA/BGA approved

Catalog No.	Std. Size Number*	Qty/Pack
DX467007-100	7.1	100
DX467010-50	10.2	50
DX467013-50	12.7	50
DX467015-20	14.9	20
DX467018-20	15.9	20
DX467020-20	19.4	20
DX467025-10	23.7	10
DX467030-05	30.7	5

*See chart below for standard size dimensions.

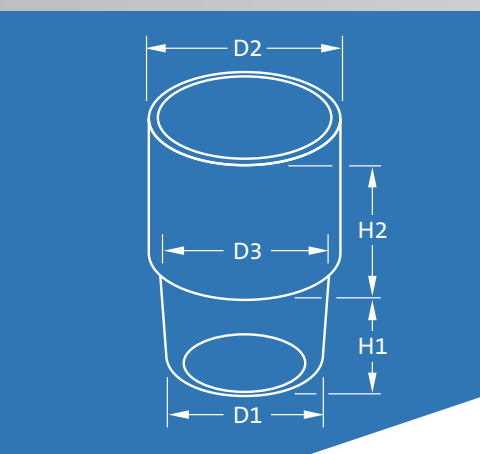


NATURAL RUBBER FOLDING SKIRT STOPPERS

- ◆ Ideal for chemical transfer
- ◆ Temperature resistant from -4°F (-20°C) to 212°F (100°C)

Catalog No.	Std. Size Number*	Qty/Pack
DX407007-100	7.1	100
DX407010-50	10.2	50
DX407013-50	12.7	50
DX407015-20	14.9	20
DX407018-20	15.9	20
DX407020-20	19.4	20
DX407025-10	23.7	10
DX407030-05	30.7	5

*See chart below for standard size dimensions.



STANDARD SIZE DIMENSIONS FOR FOLDING SKIRT STOPPERS

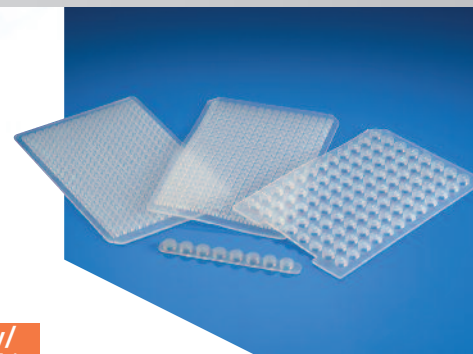
Std. Size Number	D1 mm Bottom Dia.	D2 mm Top Dia.	D3 mm Middle Dia.	H1 mm Bottom Height	H2 mm Top Height
7.1	4.5	7.5	5.5	8	9
10.2	9.8	10.7	8.7	9	14
12.7	12.3	13.3	11.3	10	20
14.9	14.2	15.5	13.5	11	20
15.9	14.5	16.5	14.5	11.5	19.5
19.4	15.8	17.8	15.8	13.5	19
23.7	21.2	24.4	22.4	18	25
30.7	28	31.4	29.4	22	27.5

LABPURE® MULTISEP™ MICROPLATE CAP MATS

Microplate Cap Mat seals lock into wells to create an inert environment.

- ◆ Made from high-purity clear silicone for clean applications
- ◆ Resistant to most common chemicals
- ◆ FDA complaint material
- ◆ Temperature resistant -76°F to 392°F (-60°C to 200°C)
- ◆ Self-sealing; cap maintains integrity after puncture
- ◆ Available for round and square wells in 96- and 384- well sizes

Catalog No.	Description	Slit	Plug Size in.	mm	Qty/ Pack*
62895-C30	Microplate Cap Mat for 96 wells, round well design	No	0.28	7	10
62897-C30	Microplate Cap Mat for 96 wells, round well design	Cross	0.27	7	10
62898-C30	Microplate Cap Mat for 96 wells, round well design	No	0.34	8.5	10
62906-C30	Microplate Cap Mat for 96 wells, round well design	Cross	0.34	8.5	10
62907-C30	Microplate Cap Mat for 384 wells square well design	No	0.15	3.9	10
62908-C30	Microplate Cap Mat for 384 wells, square well design	Straight	0.15	3.9	10
62909-C30	Microplate Cap Mat for 96 wells, square well design	No	0.33	8.4	10
62910-C30	Microplate Cap Mat for 96 wells, square well design	Cross	0.33	8.4	10
62918-C30	8 well Sealer Strip for 96 round well design	No	0.28	7	10
62919-C30	8 well Sealer Strip for 96 round well design	Cross	0.28	7	10



**LabPure® Multisep™ Microplate Cap Mats can be custom configured to specifications. Please contact customer service at: 1-800-253-5963 or 1-518-283-5963.*

RUBBER SAMPLING BULBS

- ◆ Contoured inner chamber for increased fluid retention
- ◆ Deep orifice holds instrument securely in place
- ◆ Thick wall provides strong seal for maximum intake

Long-lasting, natural rubber sampling bulbs feature a thickened wall that firmly grips and protects pipettes and medicine droppers. Contoured inner chamber widens out for greater fluid retention and reduced sampling time. Bulb sizes range from 1mL to 15mL.

Catalog No.	Item	Qty/Pack
DX101010-10	1 mL - Green	10
DX101011-10	2 mL - Grey	10
DX101012-10	5 mL - Yellow	10
DX101013-10	10 mL - Blue	10
DX101014-10	15 mL - Red	10



NATURAL RUBBER FILTER CONES

- ◆ Set of seven cones

Designed to fit any Büchner funnel, vacuum filter vial or flask, regardless of size. These filter cones can be used with filters, microfilters, porcelain filters, and crucibles. Depression ensures contact between the cone and its support. The cone acts as a joint not as a stopper.

Catalog No.	Qty/Pack
DX101032	1 set of seven cones



CHEMICAL COMPATIBILITY CHART

Legend: E ...Excellent
G...Good
F...Fair
X...Not Recommended
Environment: % Concentration*

Ratings in these charts are based on the results of both laboratory and field tests. They reflect the relative capabilities of various formulations to withstand specific chemicals. Corrosive chemicals that will be destructive during long exposure can be handled for short periods of time if flushed with water after use. All ratings are based on room temperature (73°F -13°C). Chemical resistance will be adversely affected by elevated temperatures.

Important: It is the user's responsibility to ensure the suitability and safety of products for all intended uses. Laboratory, field or clinical tests must be conducted in accordance with applicable requirements in order to determine the safety and effectiveness for use in any particular application.

	Silicone	Fluoroelastomer	FEP Fluoropolymer	PFA Fluoropolymer	PTFE Fluoropolymer	Natural Rubber		Silicone	Fluoroelastomer	FEP Fluoropolymer	PFA Fluoropolymer	PTFE Fluoropolymer	Natural Rubber
Acetaldehyde	F	X	E	E	E	F	Carbon Tetrachloride	X	X	E	E	E	X
Acetamide, 67% in water	E	X	E	E	E	F	Carbonic Acid	E	E	E	E	E	E
Acetate Solvents	X	X	E	E	E	X	Castor Oil	E	E	E	E	E	E
Acetic Acid, 10% in water	E	X	F	F	F	G	Cellosolve	X	X	E	E	E	X
Acetic Acid, 50-60% in water	E	X	E	E	E	G	Cellosolve Acetate	X	X	E	E	E	X
Acetic Acid, Glacial, 100%	X	X	E	E	E	G	Chlorine, Dry Gas	X	E	E	E	E	X
Acetic Anhydride	E	X	E	E	E	G	Chlorine, Wet Gas	X	E	E	E	E	X
Acetone	F	X	E	E	E	G	Chloroacetic Acid, 20% in water	E	X	E	E	E	F
Acetonitrile	X	G	E	E	E	X	Chlorobenzene, Mono, Di, Tri	X	X	E	E	E	X
Acetyl Bromide	X	X	E	E	E	X	Chloroform	X	X	E	E	E	X
Acetyl Chloride	X	X	F	F	F	X	Chlorosulfonic Acid	X	X	E	E	E	X
Acetylene Gas	E	E	E	E	E	G	Chromic Acid, 10-20% in water	X	E	E	E	E	X
Acrylonitrile	X	G	E	E	E	X	Chromic Acid, 50% in water	X	E	E	E	E	X
Adipic Acid, 100% in alcohol	X	X	E	E	E	X	Citric Acid, 10-20% in water	E	X	E	E	E	X
Air	E	E	E	E	E	G	Coconut Oil	E	X	E	E	E	X
Alcohols General	G	X	E	E	E	G	Corn Syrup	E	E	E	E	E	E
Aliphatic Hydrocarbons	X	G	E	E	E	X	Cottonseed Oil	E	E	E	E	E	X
Allyl Alcohol	X	E	F	F	F	X	Cresol (m, o, or p)	G	E	E	E	E	X
Alum, 5% in water	E	E	E	E	E	C	Cresylic Acid	X	E	E	E	E	X
Aluminum Chloride, 53% in water	E	E	E	E	E	E	Cupric Chloride, 40% in water	E	X	E	E	E	E
Aluminum Hydroxide, 2% in water	E	E	E	E	E	X	Cupric Nitrate, 70% in water	E	E	E	E	E	E
Aluminum Sulfate, 50% in water	E	E	E	E	E	G	Cupric Sulfate, 13% in water	E	E	E	E	E	G
Aluminum Salts	E	E	E	E	E	G	Cyclohexane	X	E	E	E	E	X
Amines	X	X	E	E	E	X	Cyclohexanone	X	E	E	E	E	G
Ammonia Gas	X	X	E	E	E	E	Detergent Solutions	E	X	E	E	E	G
Ammonia, Anhydrous Liquid	X	X	E	E	E	G	Dibutyl Phthalate	E	E	E	E	E	F
Ammonium Acetate, 45% in water	E	X	E	E	E	G	Diesel Fuel	X	E	E	E	E	X
Ammonium Carbonate, 20% in water	E	E	E	E	E	E	Diethylamine	X	E	E	E	E	G
Ammonium Hydroxide, 5-10% in water	X	X	E	E	E	E	Diethylene Glycol	E	X	E	E	E	E
Ammonium Hydroxide, 30% in water	X	X	E	E	E	E	Dimethylformamide	E	E	E	E	E	X
Ammonium Persulfate, 30% in water	E	E	E	E	E	E	Dimethylsulfoxide	F	X	E	E	E	X
Ammonium Salts	E	E	E	E	E	G	Diocetyl Phthalate	E	X	E	E	E	X
Ammonium Sulfate, 30% in water	E	E	E	E	E	E	Dioxane	X	E	E	E	E	X
Amyl Acetate	X	X	E	E	E	G	Ether	X	X	E	E	E	X
Amyl Alcohol	X	E	E	E	E	G	Ethyl Acetate	X	X	E	E	E	X
Amyl Chloride	X	X	E	E	E	X	Ethyl Alcohol	G	X	E	E	E	E
Aniline	X	X	E	E	E	X	Ethyl Benzoate	X	X	E	E	E	F
Aniline Hydrochloride	X	X	E	E	E	G	Ethyl Chloride	X	X	E	E	E	G
Antimony Salts	E	E	E	E	E	E	Ethyl Ether	X	X	E	E	E	X
Aqua Regia	X	X	E	E	E	X	Ethylene Bromide	E	E	E	E	E	X
Aromatic Hydrocarbons	X	X	E	E	E	X	Ethylene Chlorohydrin	G	X	E	E	E	G
Arsenic Acid, 20% in water	F	E	E	E	E	E	Ethylene Dichloride	X	X	E	E	E	X
Arsenic Salts	E	E	E	E	E	E	Ethylene Glycol	E	E	E	E	E	E
ASTM Reference No. 1 Oil	E	E	E	E	E	X	Ethylene Oxide	E	E	E	E	E	G
ASTM Reference No. 2 Oil	G	E	E	E	E	X	Fatty Acids	G	E	E	E	E	F
ASTM Reference No. 3 Oil	X	E	E	E	E	X	Ferric Chloride, 43% in water	E	E	E	E	E	E
Barium Carbonate, 1% in water	E	E	E	E	E	E	Ferric Nitrate, 60% in water	E	E	E	E	E	E
Barium Hydroxide, 5% in water	E	E	E	E	E	E	Ferric Sulfate, 5% in water	E	E	E	E	E	E
Beer	E	E	E	E	E	E	Ferrous Chloride, 40% in water	E	E	E	E	E	E
Benzaldehyde	F	X	E	E	E	X	Ferrous Sulfate, 5% in water	E	E	E	E	E	E
Benzene	X	X	E	E	E	X	Fluoboric Acid, 48% in water	X	E	E	E	E	E
Benzenesulfonic Acid	X	X	E	E	E	X	Fluorine Gas	X	G	G	G	G	X
Benzoic Acid	X	X	E	E	E	F	Fluosilicic Acid, 25% in water	F	E	E	E	E	E
Benzyl Alcohol	E	E	E	E	E	X	Formaldehyde, 37% in water	F	X	E	E	E	F
Bleach Liquor, 22% in water	X	E	E	E	E	X	Formic Acid, 25% in water	E	E	E	E	E	E
Borax, 6% in water	E	E	E	E	E	G	Formic Acid, 40-50% in water	E	F	E	E	E	E
Boric Acid, 4% in water	E	E	E	E	E	E	Formic Acid, 98% in water	E	X	E	E	E	E
Bromine, Anhydrous Liquid	X	X	X	X	X	X	Freon 11	E	G	E	E	E	E
Butadiene	E	E	E	E	E	X	Freon 12	E	G	E	E	E	X
Butane	E	E	E	E	E	X	Freon 22	E	G	E	E	E	G
Butyl Acetate	X	X	E	E	E	X	Fruit Juice	E	E	E	E	E	E
Butyl Alcohol	X	E	E	E	E	E	Fuel Oil	X	E	E	E	E	X
Butyric Acid	X	X	E	E	E	F	Furfural	X	X	E	E	E	F
Calcium Carbonate, 25% in dilute acids	E	E	E	E	E	F	Gallic Acid, 17% in acetone	X	X	E	E	E	E
Calcium Chloride, 30% in water	E	E	E	E	E	E	Gasoline, Automotive	X	E	E	E	E	X
Calcium Hydroxide, 10% in glycerol	E	E	E	E	E	E	Gelatin	E	E	E	E	E	E
Calcium Hypochlorite, 20% in water	X	E	E	E	E	X	Glucose, 50% in water	E	E	E	E	E	E
Calcium Nitrate, 55% in water	E	E	E	E	E	E	Glycerin	E	E	E	E	E	E
Calcium Salts	E	E	E	E	E	E	Glycolic Acid, 70% in water	E	X	E	E	E	G
Calcium Sulfate, 0.2% in water	E	E	E	E	E	G	Heptane	X	G	E	E	E	X
Carbon Dioxide, Wet/Dry	E	E	E	E	E	G	Hexane	X	G	E	E	E	X
Carbon Disulfide	X	G	E	E	E	X	Hydrazin	X	X	E	E	E	F
Carbon Monoxide	E	E	E	E	E	G	Hydrobromic Acid, 20-50% in water	X	E	E	E	E	E

*If concentration is not indicated, assume 100% concentration of the maximum percent solubility in water. Concentration of room temperature liquids are given in % volume. Concentration of room temperature solids are given in % weight.

	Silicone	Fluoroelastomer	FEP Fluoropolymer	PFA Fluoropolymer	PTFE Fluoropolymer	Natural Rubber		Silicone	Fluoroelastomer	FEP Fluoropolymer	PFA Fluoropolymer	PTFE Fluoropolymer	Natural Rubber
Hydrobromic Acid, 100% in water	X	E	E	E	E	E	Ozone, 300pphm	E	E	E	E	E	X
Hydrochloric Acid, 10% in water	E	E	E	E	E	E	Palmitic Acid, 100% in ether	G	E	E	E	E	G
Hydrochloric Acid, 37% in water	X	G	E	E	E	E	Paraffins	X	G	E	E	E	X
Hydrocyanic Acid	E	X	E	E	E	G	Perchloric Acid, 67% in water	X	E	E	E	E	X
Hydrofluoric Acid, 10% in water	X	E	E	E	E	X	Perchloroethylene	X	X	E	E	E	X
Hydrofluoric Acid, 25% in water	X	E	E	E	E	X	Phenol, 5-10% in water	E	E	E	E	E	F
Hydrofluoric Acid, 40-48% in water	X	E	E	E	E	F	Phenol, 91% in water	G	E	E	E	E	X
Hydrogen Gas	E	E	E	E	E	G	Phosphoric Acid, <10% in water	F	E	E	E	E	G
Hydrogen Peroxide, 3% in water	E	E	E	E	E	X	Phosphoric Acid, 25% in water	X	E	E	E	E	G
Hydrogen Peroxide, 10% in water	E	E	E	E	E	X	Phosphoric Acid, 85% in water	X	E	E	E	E	X
Hydrogen Peroxide, 30% in water	E	E	E	E	E	X	Phosphorous Trichloride Acid	X	G	E	E	E	X
Hydrogen Peroxide, 90% in water	F	E	E	E	E	X	Photographic Solutions	G	E	E	E	E	F
Hydrogen Sulfide	E	E	E	E	E	X	Phthalic Acid, 9% in alcohol	G	E	E	E	E	G
Hydroquinone, 7% in water	G	E	E	E	E	G	Phthalic Anhydride, 9% in alcohol	E	X	E	E	E	G
Hypochlorous Acid, 25% in water	E	E	E	E	E	G	Picric Acid, 1% in water	X	E	E	E	E	G
Iodine, 50 ppm in water	E	E	E	E	E	E	Plating Solutions	X	E	E	E	E	X
Isobutyl Alcohol	X	E	E	E	E	E	Potassium Carbonate, 55% in water	E	E	E	E	E	E
Isooctane	X	E	E	E	E	X	Potassium Cyanide, 33% in water	E	E	E	E	E	E
Isopropyl Acetate	X	X	E	E	E	F	Potassium Dichromate, 5% in water	E	E	E	E	E	G
Isopropyl Alcohol	X	E	E	E	E	E	Potassium Hydroxide, <10% in water	E	E	E	E	E	G
Isopropyl Ether	X	X	E	E	E	X	Potassium Iodide, 56% in water	E	E	E	E	E	E
Jet Fuel, JP8	X	E	E	E	E	X	Potassium Permanganate, 6% in water	E	E	E	E	E	X
Kerosene	X	E	E	E	E	X	Potassium Salts	E	E	E	E	E	E
Ketones	X	X	E	E	E	G	Propane Gas	E	E	E	E	E	X
Lacquer Solvents	X	X	E	E	E	X	Propylene Glycol	E	E	E	E	E	E
Lactic Acid, 3-10% in water	E	X	E	E	E	E	Propylene Oxide	E	E	E	E	E	F
Lactic Acid, 85% in water	X	X	E	E	E	G	Pyridine	X	X	E	E	E	X
Lard, Animal Fat	E	E	E	E	E	X	Salicylic Acid, 1% in water	E	X	E	E	E	E
Lead Acetate, 35% in water	E	E	E	E	E	E	Silicone Oils	X	E	E	E	E	E
Lead Salts	E	E	E	E	E	E	Silver Nitrate, 55% in water	E	E	E	E	E	E
Lemon Oil	X	E	E	E	E	X	Skydrol 500A	X	E	E	E	E	X
Limonene-D	X	E	E	E	E	X	Soap Solutions	E	E	E	E	E	G
Linoleic Acid	G	E	E	E	E	X	Sodium Acetate, 55% in water	E	E	E	E	E	E
Linseed Oil	E	E	E	E	E	X	Sodium Benzoate, 22% in water	E	E	E	E	E	E
Lubricating Oils, Petroleum	G	E	E	E	E	X	Sodium Bicarbonate, 7% in water	E	E	E	E	E	E
Magnesium Carbonate, 1% in water	E	E	E	E	E	E	Sodium Carbonate, 7% in water	E	E	E	E	E	E
Magnesium Chloride, 35% in water	E	E	E	E	E	E	Sodium Chlorate, 45% in water	E	E	E	E	E	E
Magnesium Hydroxide, 10% in dil. acid	E	E	E	E	E	G	Sodium Chloride, 20% in water	E	E	E	E	E	E
Magnesium Nitrate, 50% in water	E	E	E	E	E	G	Sodium Cyanide, 30% in water	E	E	E	E	E	E
Magnesium Sulfate, 25% in water	E	E	E	E	E	G	Sodium Fluoride, 3% in water	E	E	E	E	E	E
Maleic Acid, 30% in water	G	E	E	E	E	G	Sodium Hydroxide, 10-15% in water	E	E	E	E	E	E
Malic Acid, 36% in water	E	X	E	E	E	G	Sodium Hydroxide, 30-40% in water	E	E	E	E	E	E
Manganese Salts	E	E	E	E	E	F	Sodium Hypochlorite, 5.5% in water	X	E	E	E	E	G
Mercuric Chloride, 6% in water	E	E	E	E	E	E	Sodium Hypochlorite, 12.2% in water	X	E	E	E	E	G
Mercuric Cyanide, 8% in water	E	E	E	E	E	E	Sodium Nitrate, 3.5% in water	E	E	E	E	E	G
Mercury	E	E	E	E	E	E	Sodium Salts	E	E	E	E	E	E
Mercury Salts	E	E	E	E	E	E	Sodium Sulfates, 3.6% in water	E	E	E	E	E	G
Methane Gas	E	E	E	E	E	X	Sodium Sulfide, 13% in water	E	E	E	E	E	G
Methanol	G	X	E	E	E	E	Stannic Chloride, 50% in water	E	E	E	E	E	E
Methyl Acetate	X	X	E	E	E	X	Stannous Chloride, 45% in water	E	E	E	E	E	E
Methyl Bromide	X	X	E	E	E	X	Stearic Acid, 5% in alcohol	G	E	E	E	E	G
Methyl Chloride	X	X	E	E	E	X	Styrene Monomer	X	F	E	E	E	X
Methyl Ethyl Ketone	X	X	E	E	E	X	Sulfur Chloride	X	E	E	E	E	X
Methyl Isobutyl Ketone	X	X	E	E	E	X	Sulfur Dioxide, Dry Gas	E	E	E	E	E	F
Methylene Chloride	X	X	E	E	E	X	Sulfur Dioxide, Wet Gas	E	E	E	E	E	F
Methyl Methacrylate	X	F	E	E	E	X	Sulfur Trioxide, Wet	G	G	G	G	G	G
Milk	E	E	E	E	E	E	Sulfuric Acid, 10% in water	E	E	E	E	E	F
Mineral Oil	X	E	E	E	E	X	Sulfuric Acid, 30% in water	G	E	E	E	E	G
Mineral Spirits	X	E	E	E	E	X	Sulfuric Acid, 95-98% in water	X	E	E	E	E	X
Molasses	E	E	E	E	E	E	Sulfurous Acid	E	E	E	E	E	G
Monoethanolamine	X	X	E	E	E	X	Tannic Acid, 75% in water	E	X	E	E	E	E
Motor Oil	X	E	E	E	E	X	Tartaric Acid, 56% in water	E	E	E	E	E	E
Naphtha	X	E	E	E	E	X	Tetrahydrofuran	X	X	E	E	E	X
Naphthalene	X	E	E	E	E	X	Thionyl Chloride	E	E	E	E	E	X
Natural Gas	E	E	E	E	E	F	Tin Salts	E	E	E	E	E	E
Nickel Chloride, 40% in water	E	E	E	E	E	E	Titanium Salts	E	E	E	E	E	E
Nickel Nitrate, 75% in water	E	E	E	E	E	E	Toluene	X	F	E	E	E	X
Nickel Salts	E	E	E	E	E	E	Trichloroacetic Acid, 90% in water	E	X	E	E	E	F
Nickel Sulfate, 25% in water	E	E	E	E	E	G	Trichloroethane	X	X	E	E	E	X
Nitric Acid, 10% in water	F	E	E	E	E	X	Triethanolamine	X	X	E	E	E	G
Nitric Acid, 35% in water	X	F	E	E	E	X	Trichloroethylene	X	X	E	E	E	X
Nitric Acid, 68-71% in water	X	X	E	E	E	X	Trichloropropane	X	X	E	E	E	X
Nitrobenzene	X	X	E	E	E	X	Tricresyl Phosphate	E	E	E	E	E	X
Nitromethane	X	X	E	E	E	G	Trisodium Phosphate	E	E	E	E	E	E
Nitrous Acid, 10% in water	G	E	E	E	E	X	Turpentine	X	E	E	E	E	X
Nitrous Oxide	E	E	E	E	E	X	Urea, 20% in water	E	E	E	E	E	E
Oils, Animal	E	E	E	E	E	X	Uric Acid	E	F	E	E	E	G
Oils, Essential	X	E	E	E	E	X	Vinegar	E	X	E	E	E	G
Oils, Hydraulic (Phosphate Ester)	X	E	E	E	E	X	Vinyl Acetate	X	X	E	E	E	X
Oils, Hydrocarbon	G	E	E	E	E	X	Water, Deionized	E	E	E	E	E	E
Oils, Vegetable	E	E	E	E	E	X	Water, Distilled	E	E	E	E	E	E
Oleic Acid	G	E	E	E	E	F	Xylene	X	F	E	E	E	X
Oleum, 25% in water	G	E	E	E	E	X	Zinc Chloride, 80% in water	E	E	E	E	E	E
Ortho Dichlorobenzene	X	X	E	E	E	X	Zinc Salts	E	E	E	E	E	E
Oxalic Acid, 12% in water	E	X	E	E	E	G							
Oxygen	E	E	E	E	E	G							

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DAFCF15B	14	DEZ120AC	9	DX445072-100	40	G1077066	37		
DAFCF50B	14	DPG0250	13	DX445075	40	G1077067	35		
DAFCR01	14	DPG0500	13	DX445075-100	40	G1077068	38		
DAFP501	14	DPG1000	13	DX462008	40	G1077070	37		
DCB005P	9	DPS0250	13	DX462008-100	40	G1077071	37		
DCB02L-2EZ-CF	10	DPS0500	13	DX467007-100	42	G1077072	36		
DCB05L-2EZ-CF	10	DPS1000	13	DX467010-50	42	G1077073	38		
DCB10L-2EZ-CF	10	DX101010-10	43	DX467013-50	42	G1077080	35		
DCB20L-2EZ-CF	10	DX101011-10	43	DX467015-20	42	G1077081	35		
DCB40L-2EZ-CF	10	DX101012-10	43	DX467018-20	42	G1077086	35		
DCB02L-3EZ-CF	10	DX101013-10	43	DX467020-20	42	G1077087	35		
DCB05L-3EZ-CF	10	DX101014-10	43	DX467025-10	42	G1077088	35		
DCB10L-3EZ-CF	10	DX101032	43	DX467030-05	42	G1077090	35		
DCB20L-3EZ-CF	10	DX263006-50	41	G1077001	35	G1077091	36		
DCB40L-3EZ-CF	10	DX263008-50	41	G1077002	35	G1077094	36		
DCB02.5L-2EZ-ST	11	DX263010-50	41	G1077003	35	G1077095	36		
DCB05L-2EZ-ST	11	DX263013-50	41	G1077004	35	G1077096	36		
DCB10L-2EZ-ST	11	DX263015-50	41	G1077005	35	G1077097	36		
DCB20L-2EZ-ST	11	DX263016-50	41	G1077006	35	G1077101	36		
DCB40L-2EZ-ST	11	DX263018-20	41	G1077007	36	G1077103	37		
DCB02.5L-3EZ-ST	11	DX263021-20	41	G1077008	36	G1077104	35		
DCB05L-3EZ-ST	11	DX263024-20	41	G1077009	36	G1077302	35		
DCB10L-3EZ-ST	11	DX263027-10	41	G1077010	36	G1077303	35		
DCB20L-3EZ-ST	11	DX263029-10	41	G1077012	36	G1077307	38		
DCB40L-3EZ-ST	11	DX263031-10	41	G1077013	38	G1077308	38		
DCB0280	7	DX263034-05	41	G1077014	38	G1077310	38		
DCB0580	7	DX263038-05	41	G1077015	38	G1077313	38		
DCB0580S	7	DX263041-05	41	G1077019	37	G1077314	38		
DCB1080	7	DX263045-05	41	G1077020	37	G1077315	38		
DCB1080S	7	DX263049-02	41	G1077021	37	G1077316	36		
DCB20120	7	DX263054-02	41	G1077022	37	G1077317	36		
DCB20120S	7	DX263060-02	41	G1077023	37	G1077318	36		
DCB250S	9	DX263065-02	41	G1077024	37	G1077319	38		
DCB375S	9	DX263070-02	41	G1077025	37	G1077321	36		
DCB40120	7	DX263075-02	41	G1077026	37	G1077322	36		
DCB40120S	7	DX263083-02	41	G1077027	37	G1077324	38		
DCC0280	7	DX263092-01	41	G1077028	37	G1077325	38		

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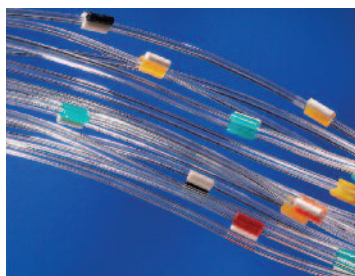


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