

EMS CRYO SUPPLIES & ACCESSORIES CATALOG

CRYOGENIC VIALS AND RACKS, **FREEZER BOXES AND RACKS**,
CRYO-EMBEDDING, **COOLING CHAMBERS AND ICE BATHS**,
CRYOGENIC LABELS AND TAPE, **CRYO DEWARs AND FLASKS**,
FREEZE SUBSTITUTION KIT, **CRYO MARKERS**, CRYO GLOVES,
MOLDS AND CHUCKS, CRYO APRONS, **CRYO PUCKS**, CRYO
GRID STORAGE BOXES, **CRYO FACE SHIELDS**, AND MORE



C-Flat™

The premier holey carbon grids for Cryo-TEM

The perfect choice for...

- Single particle analysis
- Cryo electron tomography
- Automated TEM workflow

Better data sets

Made with **patented technology**, C-flat™ provides an ultra-flat surface that results in better particle dispersion. Patterning is done using deep-UV projection lithography, ensuring the most accurate and consistent hole shapes and sizes down to submicron features, and eliminating artifacts such as excess carbon and edges around holes.

Consistent

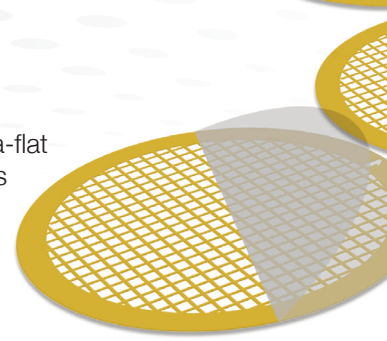
Researchers around the world report that the ultra-flat surface of C-flat™ leads to even ice thickness and uniform particle distribution, allowing for **superior 3-D reconstructions**.

Thick or thin carbon

Flexible options balance **resolution and strength**: with an enhanced patented carbon deposition process, robust carbon films are available in both thick (40 nm) and thin (20 nm) options.

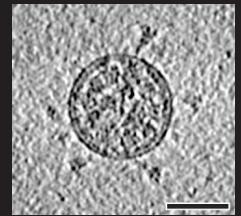
Ready to use

C-flat™ is **shipped clean**, so it can be used out of the box with no solvent washing steps required prior to use. That means less effort, less handling, and less damage to the grid and the holey carbon film.



Above: Frozen-Hydrated Bacteriophage Capsid (data acquired on CF-1.2/1.3-4C)

Right: Cryo-ET using C-Flat 2/2 hole pattern on Covid 19 Spike Protein. Ke, Z., Oton, J., Qu, K. et al. Structures and distributions of SARS-CoV-2 spike proteins on intact virions. Nature (2020). <https://doi.org/10.1038/s41586-020-2665-2>



Au-Flat™

Gold foil sample supports for Cryo-EM

Reconstruction with less data

Au-Flat significantly reduces beam-induced motion during imaging, **improving image quality and resolution**.

Uniform vitreous ice across the grid

Au-Flat uses new, ultra-flat precision gold grids which create a more planar surface. The result is **more uniform thin ice** across the entire surface, including areas near the grid bars.

Accurate defocus

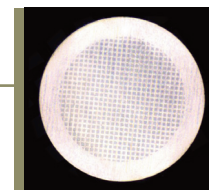
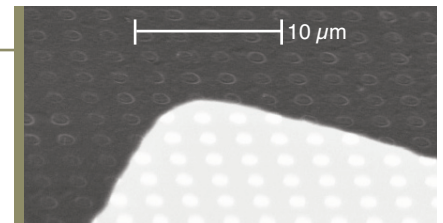
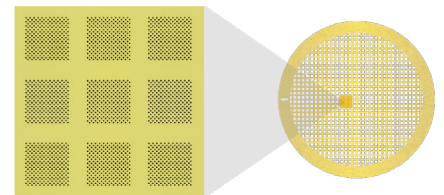
The smaller grain size of the gold film provides more features to focus on, leading to **more accurate** defocus during data collection.

No mistakes

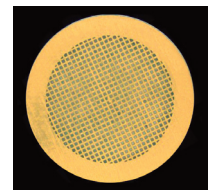
The lighter color of the Au-Pd film compared to the underlying gold mesh grid makes it **easy to identify the film side** of the grid during sample preparation.

Durable

The ultra-thin biocompatible Au-Pd film is supported by a **thicker gold grid** to improve strength during handling and sample prep, while its wider rim provides safer tweezer handling. We have also optimized our Au-Pd film stress to **maximize strength** during sample prep and vitrification.



Au/Pd Foil Side



Gold Mesh Side

100 nm

For more information,
please visit our website:
www.emsdiasum.com

EMS CRYO SUPPLIES & ACCESSORIES CATALOG

EDITION I

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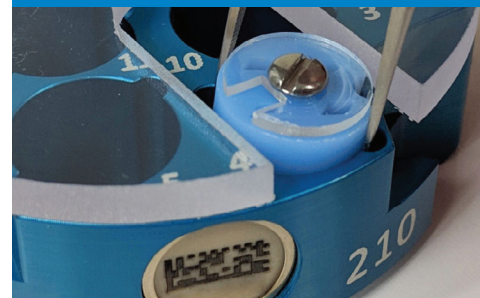
CryoClear® Cryogenic Vials

With Internal or External threads. See page 12.



Cryo Pucks

Organized storage and transport for Cryo-EM specimen grids under cryogenic conditions. See page 42-43.



PinTAG™ Cryogenic Labels

Simultaneously identify the side and bottom of automated storage tubes. See page 57.



Electron Microscopy Sciences

P.O. Box 550 • 1560 Industry Rd.
Hatfield, PA 19440
Tel: (215) 412-8400
Fax: (215) 412-8450
email: info@emsdiasum.com
or stacie@ems-secure.com
www.emsdiasum.com



CRYO SPECIMEN PREPARATION

III EMS UVC3 Ultraviolet Cryo Chamber

The EMS UVC3 Cryo Chamber has been specifically designed to provide an economical yet precisely controlled low temperature environment for polymerization of polymers and resins for cryo specimen preparation. It can also be used for dehydration and infiltration of cryo specimens. This simple and functional unit has a large insulated chamber and comprises fully automatic temperature control for the polymerization process of embedding resins and polymers.



Features

- Liquid crystal display and PLC control
- Fan cooled electronic ballast for UV lamp tubes
- Temperature range can be set from -10°C to -40°C (14°F to -40°F)
- Includes memory function for Min/Max temperatures during any run
- 365nm ultraviolet lamps thermally shielded by dual pane Plexiglas®
- Holds up to 66 samples with BEEM® Cryo Capsule Holders
- Perfect for Unicryl, LR White, LR Gold, Lowicryls, JB-4, Quetols and all other resins cured by 365nm UV radiation
- Universal voltage

Operation

- Add dry ice to the chamber
- Set temperature (-10°C to -40°C / 14°F to -40°F)
- Turn on UV lamp and cure embedding resins

Specifications

UV Light Source	Two 15-watt self-filtering long wavelength tubes 1600 μW/cm ² of 365nm UV radiation at 15cm (6")
Temperature Control	-10°C to -40°C (14°F to -40°F) Typically +/- 1.5 °C
Control Type	LCD Display with PLC with function buttons
Exterior Dimensions	64.1 L x 36.8 W x 48.9cm H (25.25" L x 14.50" W x 19.25" H)
Interior Dimensions	56.5 L x 30.5 W x 33.7cm H (22.25" L x 12" W x 13.4" H)
Power Requirements	110 - 240VAC, 50/60Hz (240V-0.5A, 110V-1A)
Weight	11.4 kg (25 lbs.) Shipping weight: 18.2kg (40 lbs.)

Cat. No.	Description	Qty.
70445-10	EMS UVC3 Cryo Chamber, 120 VAC	each
70445-20	EMS UVC3 Cryo Chamber, 220 VAC	each
70022-04	EMS Embedding Capsule Holders	4/pk
70120-04	Gelatin "00" Capsule Holder	4/pk

III Cryogenic-Gel

- Replaces the messy "runny" embedding media.
- Easy to use.
- Sticks to where you want it.
- Will not run – No waste.

It is a highly viscous, water-soluble embedding medium for frozen sections that "stays put". The gel is packaged in a pump-dispenser bottle that can instantly dispense the gel in any position. The dispenser has a built-in "guillotine" that cleanly severs the gel from the pump spouts and prevents any "stringy" medium from pulling away when the bottle is removed. To use, simply dispense gel on a room temperature block-holder. Use a cold heat extractor to form a base layer. Dispense additional gel. Place the tissue on top of the gel. Use a cold heat extractor to freeze tissue and form a block.



Cat. No.	Description	Qty.
62806-01	Cryo-Gel™, 4.3oz	each
62806-06	Cryo-Gel™, 4.3oz	12/cs

III Tissue-Tek® O.C.T. Compound

Sakura Finetek - This is a well known water soluble glycol's and resins compound that provides an excellent specimen matrix for cryostat sectioning at temperatures of -10°C and below. It leaves no residue during the staining procedure.

Not for sale overseas.



Cat. No.	Tissue-Tek	Description	Qty.
62550-01	4583	O.C.T. Compound	4 oz
62550-12	4583	O.C.T. Compound	12/cs

III PolarStat Plus™ Embedding Medium

An aqueous-based frozen section embedding medium designed to support tissue blocks in cryostat sectioning. Formulated to promote rapid freezing, enhanced sectioning and consistent results at a working temperature of -20°C. 4 oz.

Cat. No.	Description	Qty.
19222	PolarStat Plus™ Embedding Medium	each



III PolarStat Plus™ Embedding Medium for Frozen Sections

This formulation is especially well suited for Mohs cryostat sectioning. It freezes at optimum cutting temperatures of -10°C and below. No residue is left on slides during the staining procedure, thereby eliminating undesirable background staining.

Cat. No.	Description	Qty.
19221-01	PolarStat Plus™ Embedding Medium for Frozen Sections	each
19221	PolarStat Plus™ Embedding Medium for Frozen Sections	12/pk



CRYO SPECIMEN PREPARATION

III CytoFix

Cytology fixative spray designed for slide based cytology specimens for cellular preservation and transport.

Quickly spray a fine mist over the slide (covering the entire specimen) for cellular fixation and reduce air drying of the material.

CytoFix forms a thin, tough, clear protective coating over the specimen with a water and alcohol solution of Polyethylene glycol for cellular fixation and does not require rehydration by the laboratory prior to staining. Allows safe storing or transporting of slides.

Allow specimens to dry before sending to lab or for storage.

- Dries in 4 to 6 minutes
- Water soluble
- Won't cloud or obscure specimen
- Contains no chlorofluorocarbons

Available in pump bottle or aerosol can.

Cat. No.	Description	Qty
22805-01	CytoFix (Non-Aerosol)	100 ml
22805-02	CytoFix Can	4 oz



III Tissue Freezing Medium; TFM™

An embedding matrix for frozen sections. TFM™ is an ultra pure formulation of water-soluble glycols and resins that provides a solid bond between the tissue and the object holder with the following features:

- Less Ice Artifacts: TFMs reduced water content minimizes freeze-fracturing.
- Less Curling: TFM allows you to pick up flat serial sections with ease.
- Freezes Faster: TFM freezes very fast and offers better turn-around time.
- Completely water soluble: TFM reduces tissue dislodging.
- Now available in 5 colors: clear, yellow, green, red and blue.



Cat. No.	Description	Qty.
RT 72592	Tissue Freezing Medium, Clear	4 oz
RT 72593	Tissue Freezing Medium, Clear	12 x 4 oz
RT 72592-Y	Tissue Freezing Medium, Yellow	4 oz
RT 72593-Y	Tissue Freezing Medium, Yellow	4 x 4 oz
RT 72592-G	Tissue Freezing Medium, Green	4 oz
RT 72593-G	Tissue Freezing Medium, Green	4 x 4 oz
RT 72592-R	Tissue Freezing Medium, Red	4 oz
RT 72593-R	Tissue Freezing Medium, Red	4 x 4 oz
RT 72592-B	Tissue Freezing Medium, Blue	4 oz
RT 72593-B	Tissue Freezing Medium, Blue	4 x 4 oz

III LV CryoOil™

Oils are widely used in crystallography – as cryoprotectants when samples are flash cooled, and as barriers to the dehydration, solvent evaporation, and oxidation, that may occur in air near and above room temperature. LV CryoOil™ is the best solution to your oil needs. It has the lowest viscosity of any available perfluoropolyether oil (1/10 that of Paratone oil and compatible to that of vegetable oil) and very low surface tension (less than 1/3 that of water). Consequently, a dip in this oil followed by gentle tapping to shake off excess can yield protective oil films on your crystals of as little as 10 µm thick.

LV CryoOil™ has extremely low vapor pressure, excellent chemical inert and excellent thermal stability.

LV CryoOil™ comes in 1.5 ml vials, enough to protect hundreds of crystals.

Cat. No.	Description	Qty.
60166	LV CryoOil™	1.5 ml



III Quick Freeze; Shur/Freeze, Environmentally Safe

A high purity 1,1,1,2 - Tetrafluoro-ethane (R134a) that you can rely on to solidify paraffin sections or fresh tissue without disrupting cellular structure. A short spray burst will instantly freeze small areas to -45°C/-5°F. Environmentally Safe and non-flammable.

Cat. No.	Description	Qty.
72595	Quick Freeze; Shur/Freeze	10 oz
72596	Quick Freeze; Shur/Freeze	12 x 10 oz



III CytoCool II

For the flash freezing of tissue specimens in the Cryostat as well as being used to harden difficult to cut tissue on a microtome during sectioning. CytoCool II is an aerosol that does not contain any ozone depleting CFCs. Controlling the tissue freezing is simply done by varying the finger pressure on the trigger nozzle. This unique feature helps to prevent over-cooling of the specimen.

Cat. No.	Description	Qty.
72597	CytoCool II Aerosol	11 oz
72597-12	CytoCool II Aerosol	12 x 11 oz



III Frostbite® Rapid Coolant

Ozone-safe but just as effective.

Frostbite Rapid Coolant contains no CFCs yet maintains the ability to rapidly cool paraffin blocks and tissue. Two quick bursts will ensure deep penetration into both paraffin blocks and fresh tissue specimens.

- The trigger nozzle and needle tube help to localize spray, reducing excess coverage and eliminating waste.

- Nonflammable.

Cat. No.	Description	Qty.
72594-01	Frostbite® Rapid Coolant 10 oz. (300ml) Can	each
72594-10	Frostbite® Rapid Coolant 10 oz. (300ml) Can	6/case
72594-20	Frostbite® Rapid Coolant 10 oz. (300ml) Can	12/case



CRYO SPECIMEN PREPARATION

III Precision Cryo-Embedding System

This section offers you a simple system of stainless steel well bars, chucks and freezing blocks, kept cold in cryostat, allowing you to perform a variety of precision embedding techniques addressing the most difficult embedding tasks with ease and the minimum time needed.

Fast

- 20 to 60 seconds to freeze (depending on the well size)
- Multiple samples handled quickly
- No monitoring necessary (for placement of heat extractor)

Precise

- Precise flat or on edge embedding
- Predictable orientation
- Liquid samples easily embedded
- No crush artifact caused by heat extractor weight

Reduced tissue waste

- Less trimming the result of flat plane of embedding
- Minute samples embedding in the same plane.

Easy and comfortable

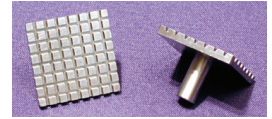
- Less cryostat adjustments
- Comfortably preformed on a shelf just inside most cryostats
- Easy to use – and saves time

III 1. Embedding Wells



Cat. No.	Description	Qty.
61710-18	Embedding Bar, 4-wells of 18 x 18mm	each
61710-24	Embedding Bar, 4 wells of 24 x 24 mm	each
61710-30	Embedding Bar, 3 wells of 30 x 30 mm	each
61712-34	Embedding Bar, 2 wells of 30 & 24 mm	each
61713-50	Embedding Bar, 2 wells of 50 x 30 mm; completely fills a standard glass slide	each
61714-20	Embedding Bar, 20 x 20 mm, 9mm Deep Wells	each
61715-24	Embedding Bar, 24 x 24 mm Deep Wells	each
61716-10	Embedding Bar, Four 10 x 10 mm Wells	each

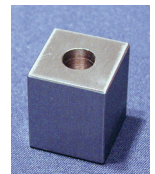
III 2. Stainless Steel Chucks



These stainless steel chucks are designed to be used cold for rapid freezing, and to maximize the gripping power required to hold the embedded tissue block. The stem of the chuck provides the focal point for a sharp tap resulting in an easily release of the block from the well. These chucks fit many of the major brand cryostat and can be used in most cryostats with use of an adapter. These Chuck Adapters have stem measures 20mm L x 9mm diameter, and fit Leica and most Microm cryostats. We also offer adapters to use these chuck for other cryostats.

Cat. No.	Description	Qty.
61720-28	Small Chuck – Made of stainless steel, 28 mm square with gridded surface	each
61720-36	Large Chuck – Made of stainless steel, 36 mm square with gridded surface	each
61721-36	Large Chuck – Stainless steel, 36 x 28 mm rectangular with gridded surface	each
61721-55	Extra Large Chuck – Stainless steel 55 x 36 mm rectangular shape with gridded surface	each

III 3. Stainless Steel Over Chucks Freezing Blocks



These stainless steel rectangular blocks are a useful tool for a number of tasks. They serve as a heat extractor, designed to fit over the stem of the chuck. The flat surfaces can also be used as an extra heat extractor when using conventional cryostat embedding technique. The freezing block also served as a dislodging tool. A light tap of the chuck stem cleaves the plane of adhesion holding of the formed block to the well. These blocks also serve as a convenient hand held flat freezing surface useful in gently cooling the tissue without the use of sprays and in plastering technique.

Cat. No.	Description	Qty.
61725-01	Over-Chuck Freezing Block	each

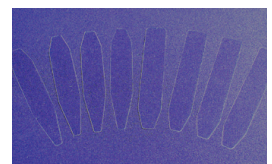
III 4. Chucks Bin



A sturdy stainless steel bin to store over-chuck freezing block while staying cold in cryostat. Removable cover for easy access the contents.

Cat #	Description	Qty
61725-50	Chuck Storage Bin	each

III 5. Dispensing Slides



These thin transparent polyvinyl slides serve as a surface to precisely orient the tissue into the desired position and as a means to accurately transfer tissue to the embedding well floor. Tissue is applied face down to the end of the dispensing slide where it can be visualized from below and manipulated into position. The face that is visible will be laid onto the well floor and will ultimately be the embedded surface to be sectioned.

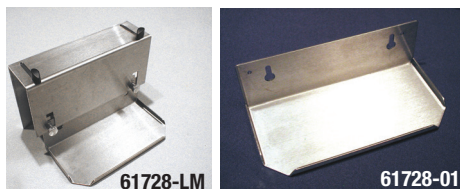
Cat. No.	Description	Qty.
61727-08	Dispensing Slide	8/pk

CRYO SPECIMEN PREPARATION

III Precision Cryo-Embedding System (continued)

III 6. Embedding Shelf

This removable shelf can be installed below the opening of the cryostat in the most convenient and location available. The shelves can be made in various sizes to accommodate most instruments.

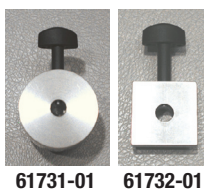


Also available two more models of 3 pieces shelf size 4 x 8" for temporary or permanent installation. One for Leica or Micron cryostats, and one for Shandon Cryostat

Cat. No.	Description	Qty.
61728-01	Embedding Shelf, size 4 x 8"	each
61728-LM	Embedding Shelf for Leica/Micron	each
61728-Sh	Embedding Shelf for Shandon	each

III 7. Chuck Adapter

This Chuck Adapter machined to fit Shandon and Ames/Tissue-Tek cryostats.



Cat. No.	Description	Qty.
61731-01	Chuck Adapter for Shandon	each
61732-01	Chuck Adapter for Ames/Tissue-Tek	each

III 8. Frozen Section Brushes

Flat white boar bristle brushes which are cut into an angle. These stiff bristles will prevent the frozen section from curling through the brush. We offer a set of four brushes: two #1 with $\frac{3}{8}$ " angle cut and #2 with $\frac{1}{4}$ " angle cut.



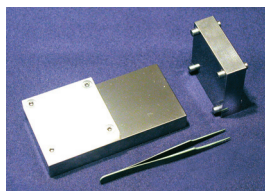
Cat. No.	Description	Qty.
61735-01	Frozen Section Brush	4/set

III Freezing Griddle/Elevated Freezing Block Set

Includes:

• Cutting Board/Freezing Griddle —

The steel "freezing griddle" serves as a freezing surface on which to prepare frozen blocks when used in conjunction with the elevated freezing block. The small attached cutting board serves as a cold surface to cut the frozen block while maintaining the freezing temperature. This simple piece of apparatus is kept cold in the cryostat and is removed to the work bench only during the process of cutting the frozen block. As sections are cut, they are kept cold on the freezing griddle.



• **Elevated Freezing Block** — This steel block is kept cold in the cryostat and is used in conjunction with the freezing griddle. The two broad sides of the block are equipped with feet measuring 3.0 mm on one side and 4.5 mm on the other. The feet create a space between the two steel bars in which the frozen blocks are prepared. Additional elevating bars are supplied to further elevate the block when preparing very thick portion of tissue.

• Epoxy Coated Forceps

• Putty knife and extra elevating bars

Cat. No.	Description	Qty.
61706-01	Freezing Griddle/ Elevated Freezing Block Set	each

III Well Bar Sets

We offer these Well Bar Sets to make your ordering easier and to offer you a complete set for facilitate your work:

Well Bars Set 101

Includes: Three sizes well bars (61710-18, 61710-24, 61710-30); Six small chucks (6 x 61720-28); Four large chucks (4 x 61720-36); Four Over-Chuck Freezing Blocks (4 x 61725-01); One Chuck Bin (1 x 61725-50); 16 Dispensing Slide (61727-08); Cutting Board/Freezing Girdle (61733-01); 1 Elevated Freezing Block (61734-01); 1 Angle Embedding Forceps (78359-124); and accessories.

Cat. No.	Description	Qty.
61700-01	Well Bars Set 101	set

Well Bars Set 102

This set is dedicated for Ames/Tissue-Tek Cryostats.

Includes: Two sizes well bars (61710-18, 61710-24); Six small chucks (6 x 61720-28); Four large chucks, 36x28mm (4 x 61721-36); One Chuck Adapter (61732-01); Four Over-Chuck Freezing Blocks (4 x 61725-01); One Chuck Bin (1 x 61725-50); 16 Dispensing Slide (61727-08); Cutting Board/Freezing Girdle (61733-01); 1 Elevated Freezing Block (61734-01); 1 Angle Embedding Forceps (78359-124); and accessories

Cat. No.	Description	Qty.
61701-01	Well Bars Set 102	set

Small Embedding Well Bar Set

Includes: One 18 mm Well Bars (61710-18); Four Small Chucks (61720-28); Two Over Chuck Freezing Blocks (61725-01); Dispensing Slides (61727-08); Accessories included.

Cat. No.	Description	Qty.
61704-01	Small Embedding Well Bar Set	set

Medium Embedding Well Bar Set

Includes: One 24 mm Well Bar (61710-24); Four Small Chucks (61720-28); Two Over Chuck Freezing Blocks (61725-01); Dispensing Slides (61727-08); Accessories included.

Cat. No.	Description	Qty.
61704-02	Medium Embedding Well Bars Set	set

Large Embedding Well Bar Set

Includes: One 30 mm Well Bars (61710-30); Four Small Chucks (61720-36); Two Over Chuck Freezing Blocks (61725-01); Dispensing Slides (61727-08); Accessories included.

Cat. No.	Description	Qty.
61704-03	Large Embedding Well Bar Set	set

24/30 mm Well Bar Set

Includes: One Well Bar with two wells 24 mm and two wells 30mm (61712-34); Two Large Chucks (61720-36); Two Small Chucks (61720-28); Two Over Chuck Freezing Blocks (61625-01); 8 Dispensing Slides (61727-08)

Cat. No.	Description	Qty.
61704-04	24/30 mm Well Bar Set	set

50/30 mm Well Bar Set

Includes: One Well Bar 50 x 30 mm (61713-50); Two Large Chucks (61720-36) Two Small Chucks 55 x 36 mm (61721-55)

Cat. No.	Description	Qty.
61704-05	50/30 mm Well Bar Set	set

20 x 20 mm Deep Well Bar Set

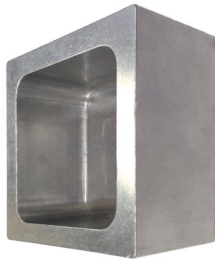
One 20 x 20 mm Deep Well Bar (61714-20); Two Small Chucks (61720-28); Two Over Chuck Freezing Blocks (61725-01); 8 Dispensing Slides (61727-08)

Cat. No.	Description	Qty.
61704-06	20 x 20 mm Deep Well Bar Set	set

CRYO SPECIMEN PREPARATION

Aluminum Base Mold

Extra large square base mold



- Made from aluminum, offering optimal thermal conductivity
- Features a well polished surface for easy block removal
- Will accommodate most samples

Interior Corner Radius: 0.250" (6.35 mm)

Interior Dimensions: 1.97 x 1.97 x 1.18" (50 x 50 x 30 mm)

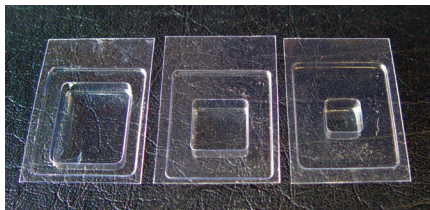
Exterior Dimensions: 2.5 x 2.5 x 1.375" (63.50 x 63.50 x 34.93 mm)

Cat. No.	Description	Qty.
62547-15	Aluminum Base Mold	each

Tissue-Tek® Cryomold®; Sakura Finetek

These disposable plastic Cryomolds produce a uniformly shaped flat surface specimen block with tissue freezing medium (O.C.T.) for frozen sectioning. Standard Cryomold fits directly into Cryobar® freezing wells of the Tissue-Tek® II microtome/cryostat. Use a Cryomold® adapter to adapt smaller biopsy and intermediate Cryomold® molds to freezing wells on the Cryobar® unit.

Not for sale overseas.



Cat. No.	Tissue-Tek	Description	Qty.
62534-10	4565	Biopsy, 10 x 10 x 5 mm	100/pk
62534-15	4566	Intermediate, 15 x 15 x 5 mm	100/pk
62534-25	4557	Standard, 25 x 20 x 5 mm	100/pk

Seal'N Freeze Cryotray and Box

For efficient, cost effective frozen tissue sample processing and storage, with a unique configuration and attached lids that help to improve sample storage and transport processes.



Our molds create the highest quality slide for imaging. With the use of the Seal'N Freeze Box, you are able to fill your embedding media with the tray and place the tray in the box, eliminating the need to handle samples and freezing media manually.

- Process and freeze four samples simultaneously; then detach individual samples from the center connector easily
- Sealable lids easily fold and snap into place to provide optimal sample protection and storage
- Durable high quality plastic construction allows for smooth and easy removal of frozen samples
- Use with all the O.C.T. products of choice



62642-01



62642-02

Cryotrays available in two sizes:

Cryotray Type	Dimensions (L x W x D)	Package Size
Intermediate/Square	15 x 15 x 5 mm	50 trays per package = 200 molds
Large/Rectangular	25 x 30 x 20 mm	50 trays per package = 200 molds

Cat. No.	Description	Qty.
62642-01	Seal'N Freeze Cryotray, Intermediate/Square	50/pk
62642-02	Seal'N Freeze Cryotray, Large/Rectangular	50/pk
62642-03	Seal'N Freeze Box	each

Article of Interest

- Electron Microscopy of vitrified ultrathin sections allows the cell structure to be studied in the hydrated state. Richter, Karsten., Gnagi, Helmut., Dubochet, Jacques. (1991). A Model for Cryosectioning Based on the Morphology of Vitrified Ultrathin Sections. *J. of Microscopy* 163, 19-28.
- It is demonstrated that cryosectioning with a diamond knife in conjunction with an ionization electrode can produce good cryosections by optimizing the cutting parameters (i.e. sectioning temperature, mechanical stability of the sample, and sectioning velocity). Michel, M., Gnagi, H., Muller, M. (1992). Diamonds are a Cryosectioner's Best Friend. *J. of Microscopy* 166, 43-56.

CRYO SPECIMEN PREPARATION

III The Davidson® Cryocup® System

Streamline the work of frozen tissue preparation.

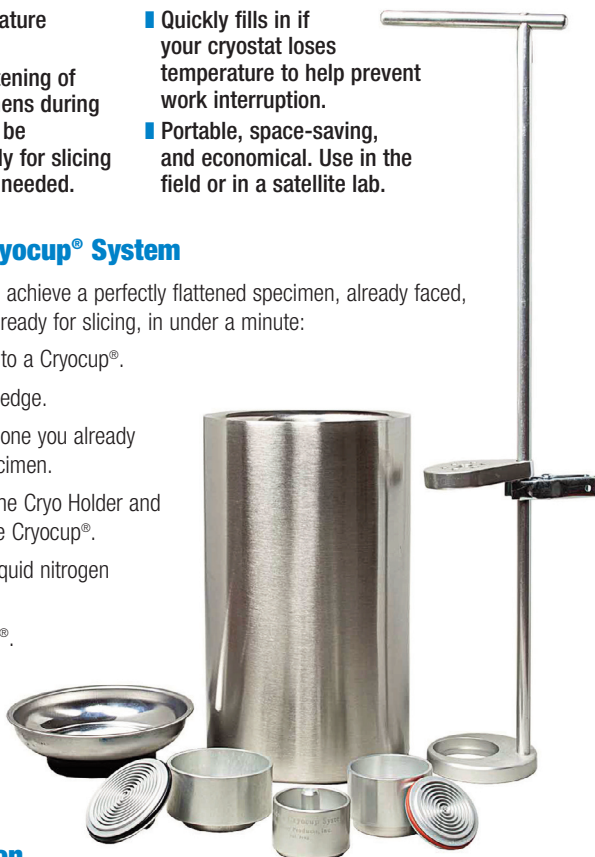
The Davidson® Cryocup® System works with your existing microtomes and cryostats. Compatibility includes Leica, Microm (Avantik), Sakura and Thermo-Shandon equipment.

- Maintains cold temperature for quick freezing.
- Facilitates perfect flattening of oriented tissue specimens during freezing. Samples can be produced quickly, ready for slicing with little or no facing needed.
- Quickly fills in if your cryostat loses temperature to help prevent work interruption.
- Portable, space-saving, and economical. Use in the field or in a satellite lab.

How to Use The Cryocup® System

Following this process can achieve a perfectly flattened specimen, already faced, mounted on a chuck, and ready for slicing, in under a minute:

1. Place dyed specimen into a Cryocup®.
2. Fill with OCT up to the ledge.
3. Place a Cryo Chuck (or one you already have) on top of the specimen.
4. Place the Cryocup® in the Cryo Holder and lower the cover onto the Cryocup®.
5. Dip the Cryocup® into liquid nitrogen (10 seconds).
6. Drain. Remove Cryocup®.
7. Warm Cryocup® slightly to release tissue specimen.



Ordering Information

Base your size choice on the size of chuck you may already have with your equipment, or the size of specimens you typically process. **NOTE:** BPI indicates compatibility with most Leica, Sakura and old style Thermo-Shandon equipment.

Cat No.	Description	Compatibility	Qty.
Cryocup® Complete Systems			
(includes Holder, 3 Cryocup®, Nitrogen Reservoir, Water Basin. Chucks are not included.)			
61736-01	30mm System	BPI and Leica 30mm Chucks	each
61736-02	30mm System	Microm 30mm Chucks	each
61736-03	40mm System	BPI 40mm Chucks	each
61736-04	40mm System	Leica 40mm Chucks	each
61736-05	40mm System	Microm 40mm Chucks	each
61736-06	50mm System	BPI 50mm Chucks (compatible with Leica)	each
Cryocup® Holders (includes dipper, cover, and clip)			
61736-07	30mm Holder	BPI, Leica (small cover, small hole)	each
61736-08	30mm Holder	Microm (small cover, small hole)	each
61736-09	40-50mm Holder	BPI, Leica (large cover, small hole)	each
61736-10	40mm Holder	Microm (large cover, large hole)	each
Cryocup®			
61736-11	30mm Cup	BPI, Leica, and Microm 30mm Chucks	each
61736-12	40mm Cup	BPI, Leica 40mm Chucks	each
61736-13	40mm Cup	Microm 40mm Chucks	each
61736-14	50mm Cup	BPI 50mm Chucks	each
Cryocup® Chucks			
61736-15	30mm Chuck		each
61736-16	40mm Chuck		each
61736-17	50mm Chuck		each

III PolarChucks™

PolarChuck™ cryostat embedding chucks are made of anodized aluminum. Deep rectangular waffle grid or circular pattern creates a more stable and secure tissue mount.



Cat. No.	Description	Qty.
70171-01	PolarChuck™ L for Leica Cryostats, Waffle Grid, 30 mm	each
70171-02	PolarChuck™ L for Leica Cryostats, Waffle Grid, 40 mm	each
70171-03	PolarChuck™ Circular Pattern, 30mm Thin St	each
70171-04	PolarChuck™ Circular Pattern, 40mm Thin St	each
70171-05	PolarChuck™ A for Avantik/Microm Cryostats, Waffle Grid, 30 mm	each
70171-06	PolarChuck™ A for Avantik/Microm Cryostats, Waffle Grid, 40 mm	each

III Microtome Chucks

Aluminum Microtome Chucks with grooved surfaces for good specimen adhesion.



EMS065



EMS067



EMS066

Cat. No.	Description	Qty.
EMS065	Aluminum Microtome Chuck, Surface Diameter 45 mm with a 9.4 mm spigot	each
EMS066	Aluminum Microtome Chuck, Surface Diameter 26 mm with a 9.4 mm spigot	each
EMS067	Aluminum Barrel Microtome Chuck, Surface Diameter 22 mm with a 9.4 mm spigot	each

CRYO SPECIMEN PREPARATION

III CryoJane® — The Cryostat Frozen Sectioning Aid System.

The CryoJane® Tape-Transfer System creates frozen sections as thin as 2 microns with the same quality as sections cut from paraffin blocks. Sections are wrinkle-free, uncompressed, and fully intact when bonded to the microscope slide. The CryoJane uses adhesive coated slides and adhesive tapes to capture sections instead of using an anti-roll plate or brush. CryoJane is suitable for routine cryosections and is indispensable for sectioning difficult tissues including fatty breast and undecalcified bone.

- Preserves sample morphology
- Increases quality, reduces repeats and streamlines workflows
- Allows fast and virtually effortless serial sectioning

With the CryoJane Tape-Transfer System, thin tissue sections remain unflawed even after mounting. This makes CryoJane ideal for applications that require perfectly thin sections to clarify structural relationships and reveal morphological detail. The CryoJane Tape-Transfer System is adaptable to most cryostats on the market.

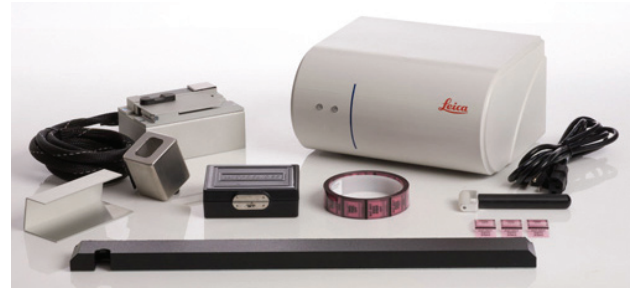
- Sections can be fixed "anhydrously" to preserve virtually all fine structures present in the snap-frozen block of tissue
- Water-soluble enzymes, antigens and nucleo-proteins are preserved in situ
- With appropriate fixation and staining, true localization of enzyme and antigen activity can be visualized
- The bond between the section and the slide is solvent resistant and permanent, preventing section loss during staining

Applications

- Histological stains
- Immuno stains
- In situ hybridization
- Laser Microdissection and Laser Capture Microdissection
- Frozen tissue arrays and other molecular diagnostic studies

Advantages

- Ideal for fatty tissues — Keeps fatty tissues such as skin, breast & undecalcified bone together. Excellent for serial sections of brain.
- Consistent results — Consistent results help operators maintain productivity and preserve tissue samples
- Safe for protocols — 8 millisecond, long-wave UV (360 nm) is safe for protocols such as In situ Hybridization
- 2-60 um — Sections can be cut between 2-60 um in thickness
- Temperature controlled — Temperature controlled pad for optimal section transfer conditions



CryoJane® System Includes the Following:

The Leica CryoJane Tape-Transfer System includes the control unit, (ECU) with a power cord, UV Flash Unit with Temperature Controlled Pad, Hand Roller and Mounting, Bracket, Door Bar, five Cable Clamps, one Slide Storage Shelf, 125 1X Adhesive Slides, 10 1/2X Adhesive Slides, 10 4X Adhesive Slides, one roll of Tape Windows (400 tapes per roll), a manual, one set of Replacement Fuses, Knife Facet Wipers and a one year Parts Warranty from date of install.

Note: System does not include: Snap Freezer, oil bath or oil embedding accessories

Products required by the CryoJane System:

III Protective Oil Accessories Kit

Oil in the bath is maintained at -8°C inside the cryostat and will not melt the tissue when brushed on the frozen block-face. Frozen blocks coated with this protective oil can be stored for up to one year in a freezer without dehydration.



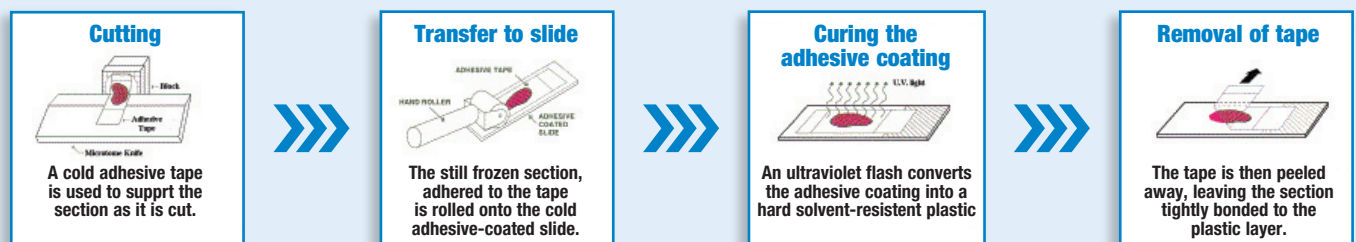
The Protective Oil Accessories Kit includes the following: Temperature controlled Oil Bath, 4 oz Bottle of Protective Oil, and Oil Brush. Please note that when purchased separately from the CryoJane system, installation of the Protective Oil Bath Accessory requires that the CryoJane® system be returned to Electron Microscopy Sciences.

Ordering Information

Cat. No.	Description	Qty.
62800-10	CryoJane® Tape-Transfer System, 110Volt	each
62800-20	CryoJane® Tape-Transfer System, 220Volt	each
62803-30	*Protective Oil Accessories Kit	each

*Installation of the Protective Oil Bath Accessory requires that the CryoJane® system be returned to Electron Microscopy Sciences.

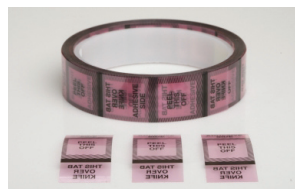
CryoJane Tape-Transfer Process



CRYO SPECIMEN PREPARATION

III CryoJane® The Cryostat Frozen Sectioning Aid System

(continued)



Tape Windows



Hand Roller

Cat. No.	Description	Application Notes	Qty.
62800-40	Block-Holder	Deep-waffled, large face block-holder securely anchors frozen embedding medium or tissue.	5/pk
62800-44	Microtome Chuck Adapter	Adapts to the microtome chuck for the use of Block-Holders above.	each
<i>(Please specify cryostat model when ordering)</i>			
62800-46	Hand Roller	Hand Roller, required in the CryoJane® process for laminating Tape Window to block-face.	each
62800-53	Fuses - 1-Amp	SLO-BLOW ceramic core wound. Used in the CryoJane™ ECU.	5/pk
62800-X	Adhesive Slides	Glass slide with adhesive coating, when polymerized, bonds the still-frozen section from the tape to the slide.	125/pk
<i>Avoid thawing the section. ½ x coating slides for mild to normal tissues.</i>			
62800-1X	Adhesive Slides	Glass slide with adhesive coating, when polymerized, bonds the still-frozen section from the tape to the slide.	125/pk
<i>Avoid thawing the section. 1x coating slides for mild to normal tissues.</i>			
62800-4X	Adhesive Slides	Glass slide with adhesive coating, when polymerized, bonds the still-frozen section from the tape to the slide.	100/pk
<i>Avoid thawing the section. 4x coating slides for use with hard un-calcified bone or fatty tissues.</i>			
62800-72	Tape Windows	CryoJane Tape, applied to the block-face with the Hand Roller to capture the frozen section as it is being cut.	200/pk
<i>Eliminate the need for a brush or anti-roll device.</i>			
62800-74	Protective Oil	Used for coating frozen section blocks to prevent dehydration during long-term storage.	4oz
62800-76	Aqueous Buffer Salt Mix	Used in the preparation of the aqueous fixative, which preserves morphological detail in frozen sections.	2/pk
<i>2 vials per package, (each vial makes 180 ml of buffer).</i>			
62800-78	Knife Facet Wipers	Effectively cleans both facets of knife-edge without dulling the blade.	10 wipers/pack

CryoJane® Accessories and Supplies Ordering

Cat. No.	Description	Qty.
62800-40	Block-Holder	5/pk
62800-44	Microtome Chuck Adapter	(Please specify cryostat model when ordering.)
62800-46	Hand Roller	
62800-53	Fuses - 1-Amp	5/pk
62800-X	Adhesive Slides - ½ x Coating	125/pk
62800-1X	Adhesive Slides - 1x Coating	125/pk
62800-4X	Adhesive Slides - 4x Coating	100/pk
62800-72	Tape Windows	200/pk
62800-74	Protective Oil	4 oz.
62800-76	Aqueous Buffer Salt Mix	2/pk
62800-78	Knife Facet Wipers	10/pk

III Sample Pin for Cryo Ultramicrotomes

This cryo pin has a diameter of 2 mm and is compatible with the Leica and RMC cryo ultramicrotomes.

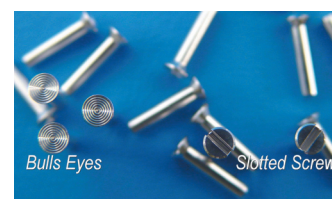
- Made from cryo compatible aluminum
- Concentric grooves on the sample surface ensure better adhesion
- Reversed tapered head with a diameter of 3.5 mm
- 10 mm long



Cat. No.	Description	Qty.
75959-05	Sample Pin for Cryo Ultramicrotomes, 2 x 10mm, Aluminum	10/pk
75959-06	Sample Pin for Cryo Ultramicrotomes, 2 x 10mm, Aluminum	50/pk

III Specimen Pins; Ultra Microtomy

Aluminum specimen mount pin for mounting samples for ultramicrotomy. Available in two types: Slotted Screw and Bullseye.



Cat. No.	Description	Qty.
70446	Aluminum Specimen Pin, Bullseye	50/pk
70447	Aluminum Specimen Pin, Slotted Screw	50/pk

III EMS Golden Brushes; Nylon

These brushes are perfect for cryomicrotomy – for controlled manipulation of frozen sections in the cryostat, as well as cryomicrotome. Easier to clean than animal hair brushes and more durable, they come in 4 sizes: ¼", ½", ¾", and 1" for large sections. These brushes are available individually or in a set of all 4 sizes.



Cat. No.	Description	Qty.
66110-01	EMS Golden Brush ¼"	each
66110-02	EMS Golden Brush ½"	each
66110-03	EMS Golden Brush ¾"	each
66110-04	EMS Golden Brush 1"	each
66110-05	EMS Golden Brushes, set of 4	4/pk

III Accessories for Paraffin Tape-Transfer System – Paraffin Sectioning Aid (PSA)

The Paraffin Tape-Transfer System is not available. Kit components are available for purchase.

Cat. No.	Description	Qty.
62820-1X	Regular Adhesive Slide, 1x	100/pk
62820-4X	Adhesive Slide for Bone and Fatty Tissue, 4x	100/pk
62820-35	TPC Solvent, 1 pt (473 ml)	each
62820-36	TPC Solvent Can	each
62800-72	Tissue Tape Window, 400/Roll	each
62800-46	Hand Roller	each

CRYOGENIC VIALS & RACKS

III Cryovials®

Specially formulated polypropylene, is certified Rnase-free, Dnase-free, pyrogen-free, and DNA-free.

- Designed for storage of biological material, human or animal cells, at temperatures as low as -190°C.
- The cap features a long skirt for one hand aseptic technique.
- A super fast thread design that allows tightening or removal with a mere 1-1/4" turn, and an inside thread design that will not contribute to possible contamination.
- Tubes are provided with white marking area for sample identification, and can be color-coded by the use of a CAPINSERT®.
- CRYOVIALS® are compatible with most storage systems.
- Vials are sterilized by gamma irradiation, and are packaged in unique tempered-proof, resealable, safety-lock-bags of 100/pack or a case of 10 x 100 packs.
- The closures and tubes are both manufactured of polypropylene having the same coefficient of expansion, which further enhances the leak-proof qualities of these vials at changing temperatures.

Ordering Information

All Cryovials® are sold by pack or case quantity (100/pk or 10x100 per case).

EMS Cat. No. 100/pk	EMS Cat. No. 10x100/case	Series #	Volume (ml)	Base	Size (mm)
Series T-309					
61800-1A-100	61800-1A	T309-1A	1.2	Flat	12.5 x 43
61800-02-100	61800-02	T309-2	2	Round	12.5 x 48
61800-2A-100	61800-2A	T309-2A	2	Flat	12.5 x 49
61800-3A-100	61800-3A	T309-3A	3	Flat	12.5 x 72
61800-4A-100	61800-4A	T309-4A	4	Flat	12.5 x 78
61800-5A-100	61800-5A	T309-5A	5	Flat	12.5 x 92
Series T-310					
61801-1A-100	61801-1A	T310-1A	1.2	Flat	12.5 x 43
61801-02-100	61801-02	T310-2	2	Round	12.5 x 48
61801-2A-100	61801-2A	T310-2A	2	Flat	12.5 x 49
61801-3A-100	61801-3A	T310-3A	3	Flat	12.5 x 72
61801-4A-100	61801-4A	T310-4A	4	Flat	12.5 x 78
61801-5A-100	61801-5A	T310-5A	5	Flat	12.5 x 92
61801-10A-100	61801-10A	T310-10A	10	Flat	17 x 84
Series T-311					
61802-1A-100	61802-1A	T311-1	1.2	Flat	12.5 x 43
61802-02-100	61802-02	T311-2	2	Flat	12.5 x 49
61802-2A-100	61802-2A	T311-3	2	Round	12.5 x 48
61802-3A-100	61802-3A	T311-4	4	Round	12.5 x 72
61802-4A-100	61802-4A	T311-4A	4	Flat	12.5 x 72
61802-5A-100	61802-5A	T311-5	5	Round	12.5 x 92

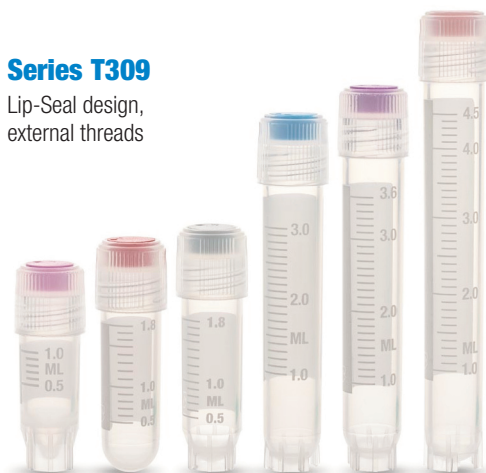
CapInsert™ for Cryovial® Tubes

Made from polypropylene. Color-coded inserts fit precisely into the cap of the CRYOVIAL® above for color identification. CapInsert® are sold 500 per bag.

EMS Cat. No.	Description	Qty.
61805-W	CapInsert™, White	500/bag
61805-B	CapInsert™, Blue	500/bag
61805-R	CapInsert™, Red	500/bag
61805-G	CapInsert™, Green	500/bag
61805-Y	CapInsert™, Yellow	500/bag
61805-T	CapInsert™, Tan	500/bag
61805-GR	CapInsert™, Gray	500/bag
61805-L	CapInsert™, Lilac	500/bag
61805-BO	CapInsert™, Burnt-Orange	500/bag
61805-V	CapInsert™, Violet	500/bag
61805-P	CapInsert™, Pink	500/bag
61805-AS	CapInsert™, Assorted Colors	500/bag

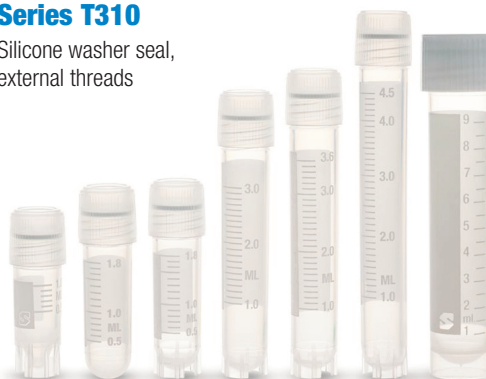
Series T309

Lip-Seal design, external threads



Series T310

Silicone washer seal, external threads



Series T311

Silicone washer seal, internal threads



CRYOGENIC VIALS & RACKS

III CryoELITE® Tissue Vial

The CryoELITE Tissue Vial is designed specifically for tissue collection, transport, and storage, to provide the utmost protection for those who value sample integrity. The CryoELITE Tissue Vials feature a wide-mouth opening, 5ml capacity and high integrity closure.



Tissue specimens have particular requirements for cryogenic storage. The CryoELITE Tissue Vial offers researchers who work with tissue samples ease of use, convenience and security. They are manufactured from low binding, cryogenic-grade virgin polypropylene that meets the USP Class VI classification and certified to be free of pyrogens, RNase/DNase and endotoxins, with a storage temperature range of -196°C to +121°C. The externally threaded cap provides a seal that exceeds DOT and IATA classifications for diagnostic specimens and are capable of maintaining a secure closure during freeze/thaw procedures during transport. They have a flat bottom and a stippled external surface to promote easier handling. Sterile.

Cat. No.	Description	Qty.
72616	CryoELITE® Tissue Vial	100/pk

III CryoELITE® Cryogenic Vials, Shelf Packs



- Unrivaled cap seal exceeds DOT and IATA regulations ensuring ultimate protection of samples during transportation and demanding freeze-thaw handling.
- Made from low binding, cryogenic grade virgin polypropylene.
- Lot certified RNase/DNase and Endotoxin Free providing assurance of product integrity.
- Conical well design allows for precise sample retrieval from both automated and manual systems.
- Loctagon™ Vial Skirt provides stability in freestanding position and locks into CryoELITE Benchmate Vial Rack in order to provide easy open and close with one hand.
- Colored cap allows for color coding projects along with Wheaton colored freezer and storage boxes.
- Writing Patch.
- Sterile.
- Packed in convenient smaller quantities.
- 2 packs of 50 vials.

Size	2 ml
Dimensions	12 mm Dia x 49 mm (H)

Cat. No.	Description	Qty.
61807-B	CryoELITE Cryogenic Vials, Blue	100/pk
61807-G	CryoELITE Cryogenic Vials, Green	100/pk
61807-N	CryoELITE Cryogenic Vials, Natural	100/pk
61807-P	CryoELITE Cryogenic Vials, Pink	100/pk
61807-R	CryoELITE Cryogenic Vials, Red	100/pk
61807-W	CryoELITE Cryogenic Vials, White	100/pk
61807-Y	CryoELITE Cryogenic Vials, Yellow	100/pk

III CryoELITE® Benchmate Vial Rack

- For use with both freestanding and round bottom vials
- One hand cap removal of freestanding vials
- Holds 50 cryogenic vials
- Manufactured from polypropylene
- Easily cleaned in an automatic washer or autoclavable at 121°C for 20 minutes
- Non-skid feet offer stability for bench work
- Stackable



Number of wells	5 deep x 10 wide
Well ID	12.5 mm
Dimensions	190 (L) x 100 (W) x 22 mm (H)

Cat. No.	Description	Qty.
62021	CryoELITE Benchmate Vial Rack	each

III CryoELITE® Cryogenic Vials, Pre-inserted Bar Codes

Same vial as above, with 2D Data Matrix Bar Code Insert. Provides unique identifier for traceability.

Cat. No.	Description	Qty.
61808-B	CryoELITE Cryogenic Vials w/Bar Code, Blue	100/pk
61808-G	CryoELITE Cryogenic Vials w/Bar Code, Green	100/pk
61808-P	CryoELITE Cryogenic Vials w/Bar Code, Pink	100/pk
61808-R	CryoELITE Cryogenic Vials w/Bar Code, Red	100/pk
61808-W	CryoELITE Cryogenic Vials w/Bar Code, White	100/pk
61808-Y	CryoELITE Cryogenic Vials w/Bar Code, Yellow	100/pk

III 2D Data Matrix Bar Code Bottom Inserts for CryoELITE® Cryogenic Vials



This optional 2D Data Matrix Bar Code Insert allows for immediate bar coding of your samples. The insert can also be applied to the vial at a future date, which eliminates jeopardizing the integrity of your sample by transferring it to another vial.

- Fits and locks into place in bottom of vial
- Bar code number guaranteed to not duplicate
- Made from the same cryogenic radiation grade virgin polypropylene as vial, ensuring uniform thermal expansion
- Data matrix readable with standard scanning hardware

Cat. No.	Description	Qty.
61808-BC	2D Data Matrix Bar Code Bottom Insert	100/pk

CRYOGENIC VIALS & RACKS

III CryoClear™ Cryogenic Vials

Innovative long-term protection for your valuable samples.

CryoClear™ vials feature innovative screw caps of polyethylene (PE) co-molded with a layer of thermoplastic elastomer (TPE), providing a superior seal that helps eliminate the risk of sample loss or contamination associated with the use of o-rings. Vials and caps are autoclavable.

Features

Lot Certified — Human DNA free, RNase free, DNase free, pyrogen free and ATP free. Tamper evident packaging

Superior Quality — Produced from medical-grade raw materials, non-pyrogenic, non-cytotoxic, non-mutagenic, heavy-metals free and BSE/TSE free. Manufactured, assembled and packaged in an ISO 7 (Class 10,000) cleanroom. Sterilized by beta radiation (SAL 10⁻⁶).

Automation-ready — Slim profile caps provide a better fit into racks and boxes and features a star socket designed for automated capping/decapping. Unique barcode printed on each vial for automated data collection

User-friendly — White writing surface for specimen identification and printed graduations for accurate measurements

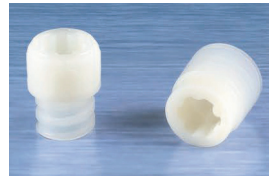
For long-term storage of samples at temperatures as low as -196°C.

NOT TO BE USED IN THE LIQUID PHASE OF LIQUID NITROGEN

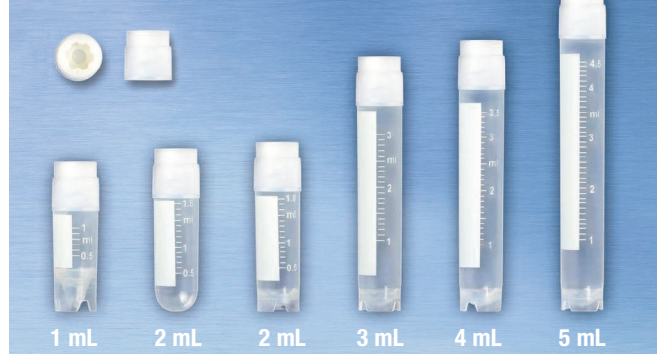
Ordering Information

Cat No.	Volume	Self-Standing	Bottom	Cap Color	Qty.
External Threads					
61803-01	1mL	Yes	Conical	—	50/pk
61803-02	1mL	Yes	Conical	—	10 x 50/pk
61803-03	2mL	No	Round	—	50/pk
61803-04	2mL	No	Round	—	10 x 50/pk
61803-05	2mL	Yes	Round	—	50/pk
61803-06	2mL	Yes	Round	—	10 x 50/pk
61803-06-B	2mL	Yes	Round	Blue	10 x 50/pk
61803-06-G	2mL	Yes	Round	Green	10 x 50/pk
61803-06-R	2mL	Yes	Round	Red	10 x 50/pk
61803-06-V	2mL	Yes	Round	Violet	10 x 50/pk
61803-06-W	2mL	Yes	Round	White	10 x 50/pk
61803-06-Y	2mL	Yes	Round	Yellow	10 x 50/pk
61803-07	3mL	Yes	Round	—	50/pk
61803-08	3mL	Yes	Round	—	10 x 50/pk
61803-09	4mL	Yes	Round	—	50/pk
61803-10	4mL	Yes	Round	—	10 x 50/pk
61803-11	5mL	Yes	Round	—	50/pk
61803-12	5mL	Yes	Round	—	10 x 50/pk

Cat No.	Volume	Self-Standing	Bottom	Qty.
Internal Threads				
61803-13	1mL	Yes	Conical	50/pk
61803-14	1mL	Yes	Conical	10 x 50/pk
61803-15	2mL	Yes	Round	50/pk
61803-16	2mL	Yes	Round	10 x 50/pk
61803-17	2mL	No	Round	50/pk
61803-18	2mL	No	Round	10 x 50/pk
61803-19	4mL	No	Round	50/pk
61803-20	4mL	No	Round	10 x 50/pk
61803-21	4mL	Yes	Round	50/pk
61803-22	4mL	Yes	Round	10 x 50/pk
61803-23	5mL	No	Round	50/pk
61803-24	5mL	No	Round	10 x 50/pk
61803-25	5mL	Yes	Round	50/pk
61803-26	5mL	Yes	Round	10 x 50/pk



External Threads



Internal Threads



CRYOGENIC VIALS & RACKS

Cap Inserts for CryoClear™ Cryogenic Vials

Available in nine different colors or an assortment. These Polypropylene (PP) inserts are ideal for color coding and sample identification and fit easily into place. Use for both internal and external caps.



Cat No.	Description	Qty.
61803-27	Cap Inserts, Gray	1000/pk
61803-28	Cap Inserts, Blue	1000/pk
61803-29	Cap Inserts, Green	1000/pk
61803-30	Cap Inserts, Orange	1000/pk
61803-31	Cap Inserts, Pink	1000/pk
61803-32	Cap Inserts, Red	1000/pk
61803-33	Cap Inserts, Violet	1000/pk
61803-34	Cap Inserts, White	1000/pk
61803-35	Cap Inserts, Yellow	1000/pk
61803-36	Cap Inserts, Assortment of 6 colors (100 of each color)	600/pk

Vial Picker



Use this handy tool to safely and conveniently remove frozen vials from storage boxes. Made from Thermoplastic Elastomer (TPE). Simply insert the picker into the notch in the top of the CryoClear™ caps and pull out the vial.

Cat No.	Description	Qty.
61803-37	Vial Picker	10/pk

Wide Mouth Cryogenic Vial

A wide mouth vial with 15 ml capacity. Useful for the storage and retrieval of solid specimens, such as bone, tumor, and organ samples. Made from polypropylene with high-density polyethylene screw closures. Self-standing. Radiation sterilized, non-cytotoxic, non-pyrogenic. Caps are attached in 15 bags of 5 vials each or 75 per case.



Cat No.	Description	Qty.
61850-15	Wide Mouth Cryogenic Vial	75/case

Cryule Cryogenic Ampoules

For biological sample preservation in glass.

- Allows for storage at low temperatures
- Made from low extractable borosilicate glass that conforms to USP Type I and ASTM E 438 Type I, Class A requirements
- Can be used in the vapor phase of liquid nitrogen
- 60609-01 and 60609-02 are pre-scored to eliminate filing
- 60609-03, 60609-04, 60609-05 (not shown) have a special design which allows for storage at low temperatures as well as rapid thawing



Specifications

EMS Cat #	60609-01	60609-02	60609-03	60609-04	60609-05
Scoring	Pre-Scored	Pre-Scored	Non-Scored	Non-Scored	Non-Scored
Height (mm)	58	70	58	70	98
Diameter (mm)	11.8	11.5	11.8	11.5	16.5
Approx. OD at Top (mm)	5	5	5	5	8
Capacity/Vol (ml)	1.2ml	2ml	1.2ml	2ml	5ml
Capacity/Vol (oz)	0.04oz	0.07oz	0.04oz	0.07oz	0.17oz
Capacity (dr)	0.3dr	0.5dr	0.5dr	0.5dr	1.4dr
Material	Type I Borosilicate Glass				
Color	Clear				
Category	Cryovials				
Bottle/Vial Style	Ampoules				
Bottom Style	Freestanding				

Cat. No.	Description	Qty.
60609-01	Cryule Cryogenic Ampoules, 1.2ml, Pre-Scored	144/pk
60609-02	Cryule Cryogenic Ampoules, 2.0ml, Pre-Scored	144/pk
60609-03	Cryule Cryogenic Ampoules, 1.2ml, Non-Scored	144/pk
60609-04	Cryule Cryogenic Ampoules, 2.0ml, Non-Scored	144/pk
60609-05	Cryule Cryogenic Ampoules, 5.0ml, Non-Scored	293/pk

E-Z Microtubes

E-Z Microtubes are suitable for a wide range of applications, including storage of cryogenic samples. They have permanent 2D Data Matrix barcodes that are 100% readable. The 2D Data Matrix barcode is white on black and is fully ECC2000 adherent standard.

Made of high quality polypropylene and available with a standard internal thread screw cap, the vials are able to withstand storage to -196°C.

- Long lasting performance stability
- Uniquely numbered bar codes to ensure zero duplication
- Fully traceable for perfect data management
- 1.0 and 1.4ml tubes supplied in standard twist-lock 96-well rack with locking lid
- 8.4mm Diameter



Cat. No.	Description	Qty.
63029-02	E-Z Microtube, 1.0ml	100/pk

CRYOGENIC VIALS & RACKS

Transport Tubes, 5mL and 10mL

These transparent polypropylene (PP) tubes are designed for the safe transport and storage of biological samples and materials. They are shatter-proof and can be exposed to freezing temperatures. Their leak-resistant polyethylene (PE) screw caps can be sealed or removed with a single turn

- Allow unobstructed viewing of samples
- Self-standing with conical bottom
- Molded graduations

5mL Polypropylene

Dimensions: 16 x 56mm

Cat No.	Description	Qty.
63032-01	5mL Transport Tube with White Screw Cap, unassembled	500/pk
63032-02	5mL Transport Tube with White Screw Cap, unassembled	1000/pk
63032-03	5mL Transport Tube with Blue Screw Cap, unassembled	500/pk
63032-04	5mL Transport Tube with Blue Screw Cap, unassembled	1000/pk
63032-05	5mL Transport Tube with Green Screw Cap, unassembled	500/pk
63032-06	5mL Transport Tube with Green Screw Cap, unassembled	1000/pk
63032-07	5mL Transport Tube with Red Screw Cap, unassembled	500/pk
63032-08	5mL Transport Tube with Red Screw Cap, unassembled	1000/pk
63032-09	5mL Transport Tube with Yellow Screw Cap, unassembled	500/pk
63032-10	5mL Transport Tube with Yellow Screw Cap, unassembled	1000/pk
63032-11	5mL Transport Tube with Attached White Screw Cap	500/pk
63032-12	5mL Transport Tube with Attached White Screw Cap	1000/pk
63032-13	5mL Transport Tube with Attached White Screw Cap, STERILE	500/pk
63032-14	5mL Transport Tube, (no caps)	500/pk
63032-15	5mL Transport Tube, (no caps)	1000/pk



10mL Polypropylene

Dimensions: 16 x 92mm

Cat No.	Description	Qty.
63032-16	10mL Transport Tube with White Screw Cap, unassembled	500/pk
63032-17	10mL Transport Tube with White Screw Cap, unassembled	1000/pk
63032-18	10mL Transport Tube with Blue Screw Cap, unassembled	500/pk
63032-19	10mL Transport Tube with Blue Screw Cap, unassembled	1000/pk
63032-20	10mL Transport Tube with Green Screw Cap, unassembled	500/pk
63032-21	10mL Transport Tube with Green Screw Cap, unassembled	1000/pk
63032-22	10mL Transport Tube with Red Screw Cap, unassembled	500/pk
63032-23	10mL Transport Tube with Red Screw Cap, unassembled	1000/pk
63032-24	10mL Transport Tube with Yellow Screw Cap, unassembled	500/pk
63032-25	10mL Transport Tube with Yellow Screw Cap, unassembled	1000/pk
63032-26	10mL Transport Tube with Attached White Screw Cap	500/pk
63032-27	10mL Transport Tube with Attached White Screw Cap	1000/pk
63032-28	10mL Transport Tube with Attached White Screw Cap, STERILE	500/pk
63032-29	10mL Transport Tube (no caps)	500/pk
63032-30	10mL Transport Tube (no caps)	1000/pk
63032-31	Amber-Colored 10mL Transport Tube with Screw Cap (packed separately)	500/pk
63032-32	Amber-Colored 10mL Transport Tube with Screw Cap (packed separately)	1000/pk



Screw Caps for 5mL and 10mL Transport Tubes

Polyethylene (PE)

Cat No.	Description	Qty.
63032-33	Screw Cap, White	500/pack
63032-34	Screw Cap, White	1000/pack
63032-35	Screw Cap, Blue	500/pack
63032-36	Screw Cap, Blue	1000/pack
63032-37	Screw Cap, Green	500/pack
63032-38	Screw Cap, Green	1000/pack
63032-39	Screw Cap, Red	500/pack
63032-40	Screw Cap, Red	1000/pack
63032-41	Screw Cap, Yellow	500/pack
63032-42	Screw Cap, Yellow	1000/pack



CRYOGENIC VIALS & RACKS

Multi-Purpose Sample Cups

These multi-purpose sample cups are available in a variety of sizes and can be used for many laboratory applications. They provide excellent optical properties and are made to precise specifications.



0.25mL



0.5mL



1.5mL



2mL



3mL



4mL

Specifications

Material	Polystyrene (PS)
Autoclavable	No
Temperature Range	-10°C to +70°C
Sterility	Non-sterile

Cat No.	Capacity	Dimensions	Qty.
60994-01	0.25mL	14mm x 16mm	500/pk
60994-02	0.25mL	14mm x 16mm	1000/pk
60994-03	0.5mL	13.55mm x 24.50mm	500/pk
60994-04	0.25mL	14mm x 16mm	1000/pk
60994-05	1.5mL	13.8mm x 22.60mm	500/pk
60994-06	1.5mL	13.8mm x 22.60mm	1000/pk
60994-07	2mL	16mm x 24mm	500/pk
60994-08	2mL	16mm x 24mm	1000/pk
60994-09	3mL	17 mm x 38mm	500/pk
60994-10	3mL	17 mm x 38mm	1000/pk
60994-11	4mL	17.26mm x 37.90mm	500/pk
60994-12	4mL	17.26mm x 37.90mm	1000/pk

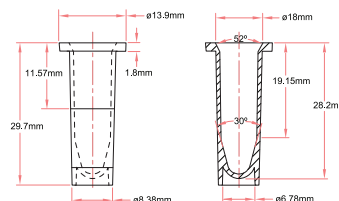
Nesting Sample Cups

These nesting sample cups are useful when smaller sampling is necessary. Use them together with other test tubes or original blood collection tubes. Simply transfer the sample from the original collection tube into the nesting cup. Then, place the nesting cup back into the original collection tube. Using this procedure allows you to make use of the original tube's label and/or barcode.

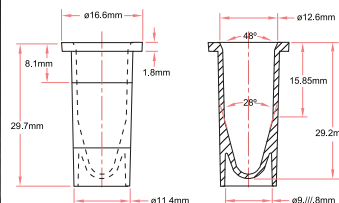
Ideal for use on direct-tube sampling machines:
Dade Dimension®, Hitachi® 747, and more.



1mL



2mL



Specifications

Material	Polystyrene (PS)
Autoclavable	No
Temperature Range	-10°C to +70°C
Sterility	Non-sterile

Cat No.	Capacity	Dimensions	Nests in...	Qty.
60994-13	1mL	13mm x 30mm	12mm, 13mm Tubes	500/pk
60994-14	1mL	13mm x 30mm	12mm, 13mm Tubes	1000/pk
60994-15	2mL	16mm x 30mm	16mm Tubes	500/pk
60994-16	2mL	16mm x 30mm	16mm Tubes	1000/pk

You can find a comprehensive range of Beakers, Bottles, and Containers on our website:

www.emsdiasum.com

CRYOGENIC VIALS & RACKS

III NovaRack™ and NovaChamber™

Unique cone-shaped storage racks for easy sample viewing.

Organize – Easily view, organize and track up to 46 tubes including 24 - 0.5 to 2.0ml tubes, 14 tubes up to 8ml in size including cryovials and 12x75mm culture/blood collection tubes, 7 - 15ml tubes and 1 - 50ml tube

Durable – Constructed of durable polypropylene and autoclavable

Stackable – Use the Stacking Adapter to double available bench space

Freezable – Turn the rack over and fill with water for freezing. A non-slip rubber bottom (included with each NovaChamber) contains the water/ice for a portable ice chamber rack.

Molded numbers – For easy sample tracking each rack rack has molded numbers.

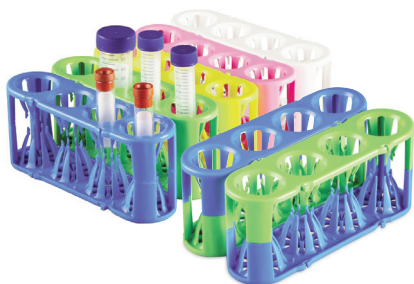


Cat #	Description	Color	Qty
61610-1	NovaRack	Red	each
61610-2	NovaRack	Teal	each
61610-3	NovaRack	Yellow	each
61610-4	NovaRack	Pink	each
61610-5	NovaRack	Purple	each
61611-1	NovaChamber	Red	each
61611-2	NovaChamber	Teal	each
61611-3	NovaChamber	Yellow	each
61611-4	NovaChamber	Pink	each
61611-5	NovaChamber	Purple	each
61610-50	Stacking Adapter	Purple	each

III Adapt-a-Racks™

Holds different size tubes in each slot

- Open sides allow for label viewing
- Flat base to hold tubes upright
- Available in solid or combination colors for application, end user or environment identification



Capacity	4 x 5 ml to 50 ml tubes (12 mm to 30 mm)
Dimensions	181 x 56 x 76 mm
Material	Polypropylene

Cat No.	Description	Qty.
61626-1	Adapt-A-Rack™, Blue/Green	2/pk
61626-2	Adapt-A-Rack™, Blue/Yellow	2/pk
61626-4	Adapt-A-Rack™, Blue/Blue	2/pk
61626-5	Adapt-A-Rack™, Green/Green	2/pk
61626-6	Adapt-A-Rack™, Pink/Pink	2/pk
61626-7	Adapt-A-Rack™, White/White	2/pk
61626-8	Adapt-A-Rack™, Yellow/Yellow	2/pk

III Rota-Rack™ Tube Racks

Connect up to 4 interlocking racks. Twist and turn to suit your application!

Rotate each of the four modules independently. Use several sizes of test tubes, culture tubes, centrifuge tubes, or microcentrifuge tubes at the same time. Click each module into place, load with tubes, and carry! Rack maintains its orientation until you twist it again. Comes fully assembled. Autoclavable. Each module of the Rota-Rack for large tubes holds two 50 ml tubes, eight 15 ml tubes, six 20 mm tubes, or ten 10-13 mm tubes. Each module of the Rota Rack for microtubes holds six 15 ml tubes, nine 1.5/2.0 ml tubes, twelve 0.5/0.6 ml tubes, or thirty-two 0.2 ml PCR* tubes or four 8-tube strips.



Cat No.	Description	Qty.
61604-10	Rota-Rack for Large Tubes	each
61604-20	Rota-Rack for Microtubes	each

III 4-Way Microtube Racks



Create as large a rack as you need by linking together multiple racks. Heavy duty polypropylene racks feature a unique system of tabs and slots, that facilitate easy connection and sturdy fit. Autoclavable. Assorted colors or natural.

Dimensions: 174 x 95 x 52 mm

Cat #	Description	Qty
61615-00	4-Way Microtube Rack, Assorted	5/pk
61615-20	4-Way Microtube Rack, Natural	5/pk

III The SecuRack™

High-impact polystyrene (PS) construction.

50-place rack for 12 x 75mm and 13 x 100mm tubes.

Tubes are held secure by silicone tabs at their base.

Each tube position is identified through an alpha-numeric grid.

This handy 50-place rack holds your 12 x 75mm and 13 x 100mm tubes securely in place for convenient emptying or water bath. Units can be attached laterally to one another with two supplied screws.

Dimensions: 250 x 128 x 50mm H (9-3/4 x 5 x 2 in. H)

Cat No.	Description	Qty.
72370-01	The SecuRack™	each
72370-02	The SecuRack™	2/pk



CRYOGENIC VIALS & RACKS

Expandable Tube Rack

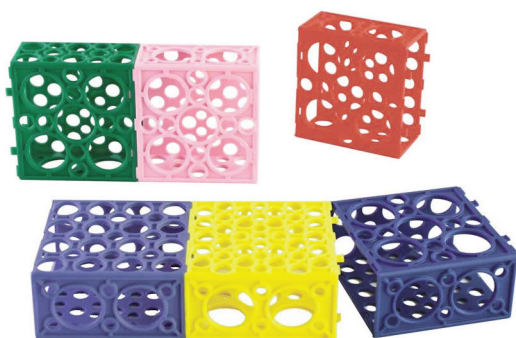
- Interlocking for maximum flexibility
- Light-weight design uses less plastic while remaining sturdy
- Fits a variety of tube sizes
- Autoclavable and freezable.

This handy 50-place rack holds your 12 x 75mm and 13 x 100mm tubes securely in place for convenient emptying or water bath. Units can be attached laterally to one another with two supplied screws.

Assorted Colors: Blue, green, pink, red, yellow.

Capacity: 50 ml (5/2), 15 ml (6), 0.5 ml (13), 1.5/2.0 ml (26/6/8)

Dimensions: 101 x 101 x 50 mm



Cat No.	Description	Qty.
61601-52	Expandable Tube Rack, Assorted	5/pk

80-Well Microtube Rack

Popular fraction-collector-plate style rack. Rack holds 1.5 to 2.0 ml microtubes in a 5 x 16 array. Tubes sit in large wells with conical bottoms. Polypropylene rack is ideal for freezer storage. Autoclavable.

Dimensions: 8.875 x 2.625 x 1.125".



Cat #	Description	Color	Qty
61603-A	80-Well Microtube Rack	Assorted Colors	5/pack
61603-B	80-Well Microtube Rack	Blue	5/pack
61603-G	80-Well Microtube Rack	Green	5/pack
61603-N	80-Well Microtube Rack	Natural	5/pack
61603-O	80-Well Microtube Rack	Orange	5/pack
61603-P	80-Well Microtube Rack	Pink	5/pack
61603-Y	80-Well Microtube Rack	Yellow	5/pack

One-Rack® Test Tube Racks

These durable racks are molded in a single, continuous piece - no assembly required and no detachable pieces. Racks are made of Delrin® fiberglass-reinforced polyoxymethylene, an engineered polymer developed by DuPont to have exceptional chemical and heat resistance. Molded index coordinates and flat labeling areas keep samples organized. Delrin® is a registered trademark of E.I. du Pont de Nemours and Company

Temp. Range: -40°C to 140°C

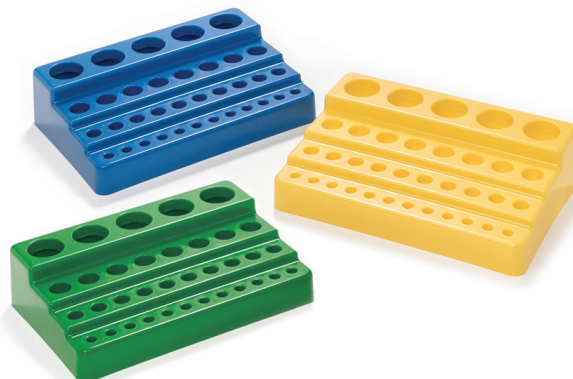
Cat #	Color	Qty	Cat #	Color	Qty	Cat #	Color	Qty
For 16mm Tubes, 36-place 127x250x70mm			For 20mm Tubes, 20-place 100x252x83mm			For 30mm Tubes, 9-place 110x282x85mm		
61617-01	Blue	each	61618-01	Blue	each	61619-01	Blue	each
61617-02	Green	each	61618-02	Green	each	61619-02	Green	each
61617-03	Magenta	each	61618-03	Magenta	each	61619-03	Magenta	each
61617-04	White	each	61618-04	White	each	61619-04	White	each

Universal Tube Racks

Unique multi-tiered tube racks in 3 colors.

These high-impact polypropylene racks allow for the storage of multiple-sized centrifuge tubes in one versatile rack. They accommodate 15ml, 30ml, and 50ml centrifuge tubes as well as microcentrifuge tubes and test tubes.

- Accommodates (5) 30ml or 50ml centrifuge tubes of either freestanding or conical configuration in the top row.
- The second row holds up to (8) 15ml centrifuge tubes.
- The third row holds up to (10) 12 x 75mm tubes.
- The front row holds up to 12 microcentrifuge tubes.



Cat No.	Description	Qty.
72666-01	Universal Tube Rack, Blue	each
72666-02	Universal Tube Rack, Green	each
72666-03	Universal Tube Rack, Yellow	each

50-Place Cryogenic Vial Rack

Made from durable polycarbonate. Its unique design with slotted cavities accepts vials with slotted skirts. When placed in the holes the vials become locked in position, enabling the user to attach or remove the cap with one hand. It accommodates up to 50 vials (½" or 12.7mm diameter) in a 5x10 array with alphanumeric indexing. Autoclavable at 121°C.

Dimensions: 7½" x 4½" x ¾" (190 x 108 x 22 mm).



Cat. No.	Description	Qty.
62015-01	50-Place Cryogenic Vial Rack	each
62015-04	50-Place Cryogenic Vial Rack	4/pack



CRYOGENIC VIALS & RACKS

Work2Store™ Expanding Storage Rack

Single rack, double function. U.S. Patent Pending.



Reduce sample handling time and the need for several racks when working with samples for cold temperature storage with the Work2Store expanding storage rack.

The opening and closing mechanism allows the rack to expand, creating needed room for sample manipulation. Then simply collapse the rack back to its compact form and it is ready for the freezer.

Temperature range -80 to 121°C.



- Holds up to 64 x 1.5/2.0 ml micro-centrifuge tubes and/or most standard cryogenic vials up to 2.0 ml
- Clear lid locks the rack together for safe handling and transportation.
- Wells have a center depression to stabilize conical tubes and a cryogenic vial lock for one handed cap removal.
- Stackable, autoclavable and with alphanumeric well identification.
- Will fit into standard 2" (52 mm) freezer racking.
- Open dimensions 310 x 128 x 33.5 mm.
- Closed dimensions (with lid in place) 133 x 133 x 53 mm.

Cat No.	Description	Qty
41002	Work2Store™ Expanding Storage Rack	each

Cryo Transport Box

Made from high impact polystyrene.

- Ideal for transporting and organizing small amounts of Cryo Vials.
- Durable construction.
- Organizes
- Holds 1.0–2.0ml Cryo Vials.



Cat. No.	Description	Qty.
62004-05	Cryo Transport Box for 5 Tubes	20/pk
62004-10	Cryo Transport Box for 10 Tubes	10/pk

DuraPorter® Sealed Specimen Sample Transport Box

The DuraPorter® translucent sealed specimen or sample transport tote is ideal for holding and storing a variety of laboratory equipment and samples, including:

- Hazardous/sensitive research samples
- Clinical and Phlebotomy samples
- Blood bags and/or tissue/organ samples
- Public Health samples
- Laboratory instruments
- Biotransport carrier

Hospitals, field hospitals, sea ports, airports, clinical and research laboratories worldwide are experiencing a heightened focus on disease control. Help these establishments safely handle, store and transport potentially infectious specimens within the facility with the DuraPorter®.

The DuraPorter® is an easy-to-load, durable, waterproof, and leak-proof container that securely locks for transport. Available in clear, translucent yellow and translucent red, the DuraPorter® provides visibility for content identification and protection during sample transport.

Features

- Polycarbonate construction
- Silicone water-tight seal and three lid clasps provide secure closure
- Carry handle folds neatly into body space allowing the units to be stacked
- Lid opens a full 180°, allowing total access to contents and making it easier to clean
- Accommodates 13 and 16 mm tubes in a 72-place OneRack™, or similar sized/brand of rack
- Autoclavable
- Available in three colors for user/owner identification

The entire unit can be placed in a freezer or refrigerator if the enclosed samples need to be kept chilled. Included separators can also be used to create inner compartments. Or, use without racks or separators as one large storage space for larger samples or supplies.

The DuraPorter® is in compliance with U.S. standards, OSHA 29 CFR 1910.1030



62011-C



62011-R



62011-Y

Cat. No.	Description	Qty.
62011-C	DuraPorter Specimen Transport Box, Clear	each
62011-Y	DuraPorter Specimen Transport Box, Yellow	each
62011-R	DuraPorter Specimen Transport Box, Red	each

CRYOGENIC VIALS & RACKS

III Cryostore® Boxes

Polycarbonate boxes for freezer storage

Stackable – Racks stack on top of each other to consolidate storage space.

Easy Reference – Transparent lid allows for easy viewing of samples and location.

Autoclavable – Polycarbonate boxes are autoclavable at 120°C for 20 min. at 15psi.

Self Draining – Each box includes drain holes in the base and air vents in the lid to minimize condensation.

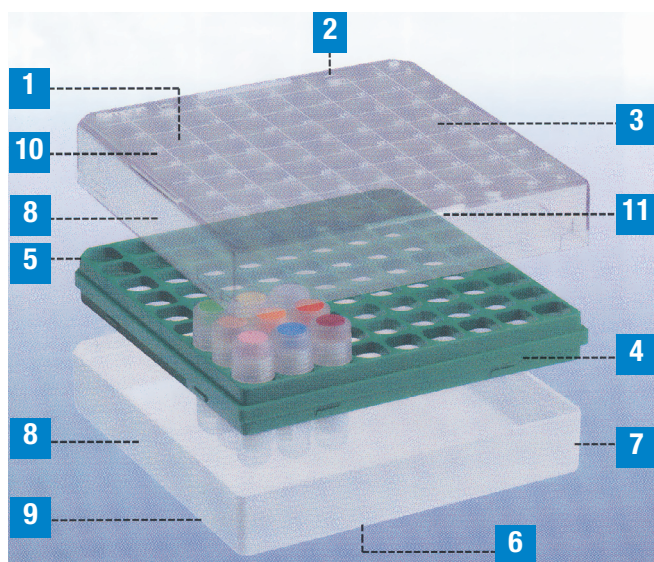
Multiple Colors – Available in Blue, Green, Red and Yellow.

Made from strong Polycarbonate, these durable cryogenic storage boxes are designed to be used at temperatures between -190°C and +121°C and are auto-clavable. Different models are available to accommodate tubes from 1 ml to 5 ml.

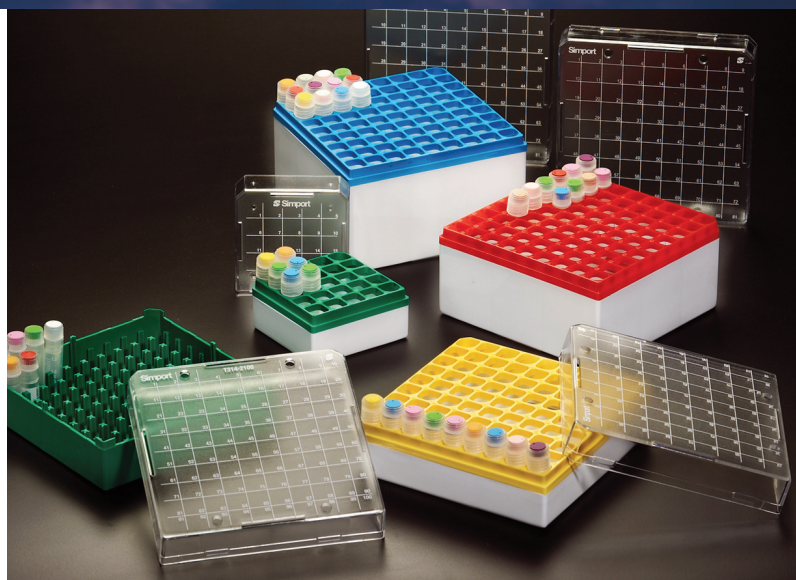
A transparent cover allows the user to see the contents of the box, and is keyed to the base to prevent misalignment. Being printed with a series of squares (numbered from 1 to 81, or from 1 to 100), the surface accepts writing with markers for better inventory control.

A unique color-coding system uses color plastic grids inserted to separate the cover from the base of the 81-place box. Boxes are made to accept 100 tubes have a colored base instead of grid. A choice of four popular colors is available: blue, green, red and yellow.

Removal of vials is facilitated by an innovative tool called the Vial Picker, which is supplied with each storage box.



- 1) Writing surface has numbered squares for easy sample identification
- 2) Stackable
- 3) Vials readily visible through transparent cover
- 4) Four colors available for better color-coding
- 5) Cover and base are keyed to prevent misalignment
- 6) Drain holes under base
- 7) Made to fit freezer metal racks
- 8) Writing surface for identifying base and/or cover
- 9) Autoclavable at 120°C, 15 psig (1 bar) for 20 minutes
- 10) Numeric identification of each vial
- 11) Air vents minimize condensation



Ordering Information

Cat. No.	Box Type	For Tubes	Color	Square	Height	Qty.
Size: 76 x 76 x 52 H (3" x 3" x 2 1/16"H) 25-Place						
61809-B	25-Place	1–2ml	Blue	3"	2-1/16"	8/pk
61809-G	25-Place	1–2ml	Green	3"	2-1/16"	8/pk
61809-R	25-Place	1–2ml	Red	3"	2-1/16"	8/pk
61809-Y	25-Place	1–2ml	Yellow	3"	2-1/16"	8/pk
Size: 133 x 133 x 52 H (5 1/4" x 5 1/4" x 2 1/16"H) 81-Place						
61810-B-1	81-Place	1–2ml	Blue	5-1/4"	2-1/16"	4/pk
61810-G-1	81-Place	1–2ml	Green	5-1/4"	2-1/16"	4/pk
61810-R-1	81-Place	1–2ml	Red	5-1/4"	2-1/16"	4/pk
61810-Y-1	81-Place	1–2ml	Yellow	5-1/4"	2-1/16"	4/pk
61810-B	81-Place	1–2ml	Blue	5-1/4"	2-1/16"	24/cs
61810-G	81-Place	1–2ml	Green	5-1/4"	2-1/16"	24/cs
61810-R	81-Place	1–2ml	Red	5-1/4"	2-1/16"	24/cs
61810-Y	81-Place	1–2ml	Yellow	5-1/4"	2-1/16"	24/cs
Size: 133 x 133 x 76 H (5 1/4" x 5 1/4" x 3 1/8"H) 81-Place						
61811-B-1	81-Place	4ml	Blue	5-1/4"	3-1/8"	6/pk
61811-G-1	81-Place	4ml	Green	5-1/4"	3-1/8"	6/pk
61811-R-1	81-Place	4ml	Red	5-1/4"	3-1/8"	6/pk
61811-Y-1	81-Place	4ml	Yellow	5-1/4"	3-1/8"	6/pk
61811-B	81-Place	4ml	Blue	5-1/4"	3-1/8"	12/cs
61811-G	81-Place	4ml	Green	5-1/4"	3-1/8"	12/cs
61811-R	81-Place	4ml	Red	5-1/4"	3-1/8"	12/cs
61811-Y	81-Place	4ml	Yellow	5-1/4"	3-1/8"	12/cs
Size: 133 x 133 x 95 H (5 1/4" x 5 1/4" x 3 3/4"H) 81-Place						
61812-B-1	81-Place	5ml	Blue	5-1/4"	3-3/4"	5/pk
61812-G-1	81-Place	5ml	Green	5-1/4"	3-3/4"	5/pk
61812-R-1	81-Place	5ml	Red	5-1/4"	3-3/4"	5/pk
61812-Y-1	81-Place	5ml	Yellow	5-1/4"	3-3/4"	5/pk
61812-B	81-Place	5ml	Blue	5-1/4"	3-3/4"	10/cs
61812-G	81-Place	5ml	Green	5-1/4"	3-3/4"	10/cs
61812-R	81-Place	5ml	Red	5-1/4"	3-3/4"	10/cs
61812-Y	81-Place	5ml	Yellow	5-1/4"	3-3/4"	10/cs
Size: 133 x 133 x 52 H (5 1/4" x 5 1/4" x 2 1/16"H) 100-Place						
61813-B-1	100-Place	1–2ml	Blue	5-1/4"	2-1/16"	4/pk
61813-G-1	100-Place	1–2ml	Green	5-1/4"	2-1/16"	4/pk
61813-R-1	100-Place	1–2ml	Red	5-1/4"	2-1/16"	4/pk
61813-Y-1	100-Place	1–2ml	Yellow	5-1/4"	2-1/16"	4/pk
61813-B	100-Place	11–2ml	Blue	5-1/4"	2-1/16"	24/cs
61813-G	100-Place	1–2ml	Green	5-1/4"	2-1/16"	24/cs
61813-R	100-Place	1–2ml	Red	5-1/4"	2-1/16"	24/cs
61813-Y	100-Place	1–2ml	Yellow	5-1/4"	2-1/16"	24/cs

CRYOGENIC VIALS & RACKS

III CryoSette™ Frozen Tissue Storage Container

The CryoSette is designed for frozen tissue collection, transport and storage. It can also be used for storing a multitude of other specimens in all laboratories. The robust design of the cryosette ensures that tissue morphology will be well preserved.

This 2.5 ml container features a wide-mouth opening and a high integrity screw closure. It is designed with a flat bottom and straight sides for easy tissue removal. The specific shape of the Cryosette allows its manipulation to be optimized, whether you are using gloves or not. The CryoSette efficiently stores tissue samples in -86°C ULT freezers or in the gas phase of liquid nitrogen in Dewar flasks at -196°C, but not in LN₂ liquid phase.

The CryoSette screw closure and base are designed so they will not seize at low temperatures. Rapid visual 1-1/4 turn, even during repeated freeze/thaw cycles.

The CryoSette offers two surfaces for handwriting or applying labels: an anterior surface and a larger space underneath the base. A thin cardboard I.D. label and a plastic transparent cover are available for the latter. The anterior writing surface is improved for ink adherence.

Features

- 95 kPa tested
- Maintains the integrity of tissue samples
- Color-coded inserts are available in 5 colors
- Offers sample specimen storage in upright chest freezers and vapor-phase Dewar flasks at -196°C*

Specifications

Base Material	Acetal
Screw Closure Material	High-Density Polyethylene
Chamber Dimensions	21 mm O.D x 18 mm I.D. x 10.5 mm H
Total CryoSette Dimensions	24 mm x 38 mm x 11 mm H

*Use only in the gas phase of liquid nitrogen

Ordering Information

Cat. No.	Description	Qty.
62014-01	CryoSette Frozen Tissue Storage Container	50/pk
62014-02	Cardboard I.D. Label	100/pk
62014-03	Transparent Plastic I.D. Label Cover	100/pk
62014-04	CryoSette Color Insert, Blue	100/pk
62014-05	CryoSette Color Insert, Green	100/pk
62014-06	CryoSette Color Insert, Lilac	100/pk
62014-07	CryoSette Color Insert, Red	100/pk
62014-08	CryoSette Color Insert, Yellow	100/pk

III CryoSette™ Frozen Tissue Storage Boxes



CryoSette 21 Place Storage Box

This storage rack is designed to contain 21 frozen tissue Cryosette containers. The box is compact and has an SBS standard footprint to make suitable to several robotic storage systems. These innovative boxes can be stored in low-temperature freezers.

Features

- Made of polypropylene
- Autoclavable
- Rack orientation marks on sides
- Latches for locking and unlocking rack lid
- Compatible with leading frozen sample storage systems
- Thick walls minimizing deformation due to temperature changes
- Can be handled by robotic equipment

Temperature range: -196°C to 121°C. Suitable for cryogenic storage, but only in gas phase of liquid nitrogen.

Dimensions: 127.76 mm x 85.48 mm x 41.6 mm H

CryoSette 40 Place Storage Box (Separator included)

This CryoSette storage box can accommodate up to 40 Tissue Storage Containers in a space as small as 133 x 133 x 52 mm H.

Made of extra strong polycarbonate, this durable cryogenic storage box is designed to be used at temperatures between -196°C and +121°C and are autoclavable at 120°C, 15 psig (1 bar) for 20 minutes. Only in gas phase of LN₂.

The frosted cover allows the user to write directly on top of the box, and is keyed to the base to prevent misalignment.

Ordering Information

Cat. No.	Description	Qty.
62016-01	CryoSette 21 Place Storage Box	10/pk
62016-02	CryoSette 40 Place Storage Box	10/pk
62016-03	Cardboard Separator Kit for 62016-02	6/pk
62014-04	CryoSette Color Insert, Blue	100/pk
62014-05	CryoSette Color Insert, Green	100/pk
62014-06	CryoSette Color Insert, Lilac	100/pk
62014-07	CryoSette Color Insert, Red	100/pk
62014-08	CryoSette Color Insert, Yellow	100/pk

CRYOGENIC VIALS & RACKS

50-Well Microtube Storage Rack

- Ideal for sample or case study storage
- Hinged lid with snap-clasp
- Pleasant, vibrant colors
- Autoclavable
- Designed for 1.5/2.0ml tubes and cryogenic vials

Assorted Colors: Blue, green, purple, orange, yellow

Dimensions: 142 x 89 x 56 mm



Cat. No.	Description	Color	Qty
61601-62	50-Well Storage Rack	Assorted	5/pk

81-Well Freezer Storage Rack

Durable polypropylene rack fits in standard 5.25" square freezer modules and holds 1.5 to 2.0 ml microtubes and cryovials. Features molded grid lines on the lid, imprinted

coordinates on the bottom of base, and a molded reference point on the lid. Rack measures 5.125 x 5.125 x 1.75".



Cat. No.	Description	Color	Qty
61600-A	81-Well Storage Rack	Assorted Colors	5/pack
61600-B	81-Well Storage Rack	Blue	5/pack
61600-G	81-Well Storage Rack	Green	5/pack
61600-N	81-Well Storage Rack	Natural	5/pack
61600-O	81-Well Storage Rack	Orange	5/pack
61600-P	81-Well Storage Rack	Pink	5/pack
61600-Y	81-Well Storage Rack	Yellow	5/pack

96-Well PCR Tube Storage Box

- Accommodates individual tubes or strips
- Molded numbers and letters for identification
- Lid is removable to create a fully accessible workspace

Assorted Colors: Blue, green, purple, orange, yellow

Dimensions: 127 x 89 x 32 mm

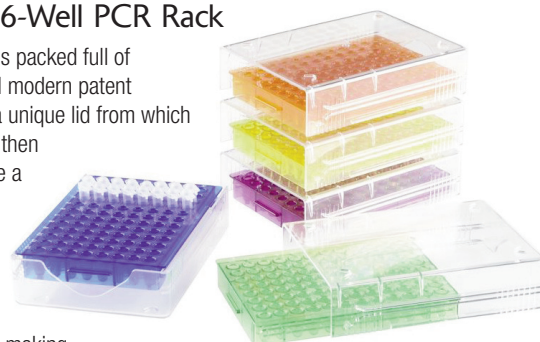


Cat. No.	Description	Color	Qty
61601-70	96-Well PCR Tube Storage Box	Assorted	5/pk

Low Temp 96-Well PCR Rack

This PCR storage rack is packed full of features. The sleek and modern patent pending design offers a unique lid from which the rack slides out and then rotates 180° to become a convenient stand.

Ergonomic textured finger grips provide a secure hold, reducing the chance of dropping the PCR rack, making transportation easy, especially when using gloves.



To ensure integrity, the translucent polycarbonate lid has a side opening for faster cooling of samples. The base is made from robust ABS construction, with a closed base design to keep samples safe and cold longer. A location ID of numbers and letters allows for organized sample placement for easy and quick sample retrieval.

The rack is versatile and can be used on a bench top or for freezer storage. The compact footprint is stackable, which helps save valuable space in the lab. Available in multiple colors for coding options.

Detachable and ambidextrous lid

Holds 0.2 ml tubes, individual or strip

96 wells, 5.2 mm dia., 8 x 12 configuration

Store down to -80°C (-112°F)

Patent Pending

Assorted Colors: Blue, green, orange, purple, yellow

Dimensions: 12.5 x 9.2 x 3.7 cm

Cat. No.	Description	Color	Qty
61607-A	Low Temp 96-well PCR Rack	Assorted	5/pk
61607-B	Low Temp 96-well PCR Rack	Blue	5/pk
61607-G	Low Temp 96-well PCR Rack	Green	5/pk
61607-P	Low Temp 96-well PCR Rack	Purple	5/pk

100-Well Microtube Storage Rack

Polypropylene rack features durable three point hinges and clasp for secure lid closure. Holds 1.5 to 2.0 ml

microtubes and cryovials. User friendly rack features molded gridlines on the lid, imprinted coordinates on the bottom of base, and imprinted and raised coordinates on the box. Rack measures 5.625 x 5.875 x 2.25".



Cat #	Description	Color	Qty
61601-A	100-Well Storage Rack	Assorted Colors	5/pack
61601-B	100-Well Storage Rack	Blue	5/pack
61601-G	100-Well Storage Rack	Green	5/pack
61601-N	100-Well Storage Rack	Natural	5/pack
61601-O	100-Well Storage Rack	Orange	5/pack
61601-P	100-Well Storage Rack	Pink	5/pack
61601-Y	100-Well Storage Rack	Yellow	5/pack

CRYOGENIC VIALS & RACKS

Arctic Squares® Polycarbonate Cryostorage Boxes

Safely store vials in liquid nitrogen or mechanical freezers.



These polycarbonate boxes are specifically designed to help position, identify, and access vials easily.

- Access samples with one hand using hinged lid with built-in stop (not on 25 place).
- Forward-sloping base and easy-to-read index on the lid allow quick visual inspection.
- Stackable and autoclavable.
- All styles have ventilation and drainage holes.

5 x 5 Array Boxes:

Hold 25 vials. Slide-on friction-fitting lid.

9 x 9 Array Boxes:

Hold 81 vials. Hold tubes in easy-to-pick formation for efficient sample retrieval. Hinged lid. Includes magnetic tip forceps.

10 x 10 Array Boxes:

Hold the maximum number of tubes in standard footprint. Hold 100 vials. Hinged lid. Includes magnetic tip forceps.

Specifications

Temperature Range	196 to +121° C.
Well Diameter	12.5mm

Cat No.	Tube Size	Wells	Dimensions (LxWxH)	Color	Qty.
5 x 5 Array Boxes					
61612-01	2.0 mL	25	2.99 x 2.99 x 2.0 in (7.6 x 7.6 x 5.3 cm)	Red	8/pk 6/cs
9 x 9 Array Boxes					
61612-03	2.0 mL	81	5.23 x 5.23 x 2.0 in 13.3 x 13.3 x 5.3 cm)	Red	4/pk 6/cs
61612-04	2.0 mL	81	5.23 x 5.23 x 2.0 in (13.3 x 13.3 x 5.3 cm)	Purple	4/pk 6/cs
61612-05	2.0 mL	81	5.23 x 5.23 x 2.0 in (13.3 x 13.3 x 5.3 cm)	Blue	4/pk 6/cs
61612-06	2.0 mL	81	5.23 x 5.23 x 2.0 in (13.3 x 13.3 x 5.3 cm)	Blue	4/pk 6/cs
61612-07	2.0 mL	81	5.23 x 5.23 x 2.0 in (13.3 x 13.3 x 5.3 cm)	Blue	4/pk 6/cs
61612-08	2.0 mL	81	5.23 x 5.23 x 2.0 in (13.3 x 13.3 x 5.3 cm)	Blue	4/pk 6/cs
61612-09	2.0 mL	81	5.23 x 5.23 x 2.0 in (13.3 x 13.3 x 5.3 cm)	Green	4/pk 6/cs
61612-10	2.0 mL	81	5.23 x 5.23 x 2.0 in (13.3 x 13.3 x 5.3 cm)	Green	4/pk 6/cs
10 x 10 Array Boxes					
61612-11	2.0 mL	100	5.23 x 5.23 x 2.0 in (13.3 x 13.3 x 5.3 cm)	Blue	4/pk 6/cs
61612-12	2.0 mL	100	5.23 x 5.23 x 2.0 in (13.3 x 13.3 x 5.3 cm)	Blue	4/pk 6/cs

for Arctic Squares® Freezer Racks, see page 25.

KeepIT® Freezer Boxes

Six different colors match the colors of CryoELITE® Cryogenic Vials, creating alternatives for batching and identifying groups of samples



- KeepIT-25 accommodates up to 25 internal or external threaded cryogenic vial sizes 1.2-2 ml
- KeepIT-81 accommodates 81 external threaded cryogenic vial sizes 1.2-2 ml
- KeepIT-100 accommodates up to 100 internal threaded cryogenic vial sizes 1.2-2 ml
- Openings in bottom facilitate scanning CryoELITE® 2D Data Matrix Bar Code Inserts
- Made from Eastman Tritan™ BPA free, shatter-resistant resin
- Standard footprint compatible with liquid nitrogen storage shelves and freezer drawers

Dimensions

KeepIT-25: 75 (L) x 75 (W) x 52 mm (H)

KeepIT-81: 130 (L) x 130 (W) x 52 mm (H)

KeepIT-100: 130 (L) x 130 (W) x 52 mm (H)

Cat. No.	Description	Color	Qty
61606-25B	KeepIT-25	Blue	each
61606-25G	KeepIT-25	Green	each
61606-25P	KeepIT-25	Pink	each
61606-25R	KeepIT-25	Red	each
61606-25Y	KeepIT-25	White	each
61606-25W	KeepIT-25	Yellow	each
61606-81B	KeepIT-81	Blue	each
61606-81G	KeepIT-81	Green	each
61606-81P	KeepIT-81	Pink	each
61606-81R	KeepIT-81	Red	each
61606-81Y	KeepIT-81	White	each
61606-81W	KeepIT-81	Yellow	each
61606-100B	KeepIT-100	Blue	each
61606-100G	KeepIT-100	Green	each
61606-100P	KeepIT-100	Pink	each
61606-100R	KeepIT-100	Red	each
61606-100Y	KeepIT-100	White	each
61606-100W	KeepIT-100	Yellow	each

144 Place Freezer Storage Box

Designed to fit in a standard 2" freezer rack, this 144-place PCR Tube Freezer Box will hold individual and/or strip 0.2ml PCR tubes.



Dimensions: 13.2 x 13.2 x 2.5 cm (5¼ x 5¼ x 1")

- Designed for ULT freezer storage at temperatures down to -86°C
- Durable and impervious to moisture
- Clear polycarbonate lid and base and alpha-numeric index make it easy to identify samples within the box
- Two boxes may be stacked to fit together in one space in a 2" freezer storage rack if using flat-capped PCR tubes

Cat. No.	Description	Qty
61605	144 Place Freezer Storage Box	5/pk

CRYOGENIC VIALS & RACKS

True North® Corrugated Freezer Boxes

Economical, reusable, moisture-resistant plastic.

True North® freezer boxes (cryo box) are made from a specially formulated corrugated or thin film polypropylene and were designed with sustainability in mind. With superior durability, polypropylene outlasts the cardboard box alternatives that are susceptible to softening and producing dust. They can freeze down to temperatures of -80°C and thaw multiple times without a problem.

They are moisture resistant, significantly reducing the chance of mold growth. When it comes to saving valuable lab space, True North® Flatpack Freezer Boxes are supplied "flat-packed", which eliminates the hassle of stacking and reduces the amount of space needed for test tube storage.

When ready to use, assembly is easy and pre-assembled dividers are included with each box. True North® freezer boxes come complete in packs of 10, and multiple sizes and colors available.



Specifications

Cat. No.	Tubes	Wells	Well Dia.	L x W x H (cm)	L x W x H (in)
61630-x	0.2 ml	144	7.99 mm	13.3 x 13 x 3	5.2 x 5.1 x 1.2
61631-x	0.5 ml	81	12 mm	13.3 x 13 x 4.2	5.2 x 5.1 x 1.6
61632-x	1.5/2.0 ml	81	12 mm	13.3 x 13 x 5.1	5.2 x 5.1 x 2
61633-x	5.0 ml	25	26 mm	13.3 x 13 x 7.5	5.2 x 5.1 x 2.9
61634-x	15 ml	36	19.8 mm	14.7 x 14.5 x 12.0	5.78 x 5.7 x 4.72
61635-x	50 ml	16	31.6 mm	14.7 x 14.4 x 12.0	5.78 x 5.7 x 4.72

Cat. No.	Description	Qty	Cat. No.	Description	Qty
61630-B	True North Corrugated Freezer Box 0.2 ml, Blue	10/pk	61632-P	True North Corrugated Freezer Box 1.5/2.0 ml, Purple	10/pk
61630-N	True North Corrugated Freezer Box 0.2 ml, Natural	10/pk	61632-R	True North Corrugated Freezer Box 1.5/2.0 ml, Red	10/pk
61630-P	True North Corrugated Freezer Box 0.2 ml, Purple	10/pk	61633-B	True North Corrugated Freezer Box 5.0 ml, Blue	10/pk
61630-R	True North Corrugated Freezer Box 0.2 ml, Red	10/pk	61633-N	True North Corrugated Freezer Box 5.0 ml, Natural	10/pk
61631-B	True North Corrugated Freezer Box 0.5 ml, Blue	10/pk	61634-B	True North Corrugated Freezer Box 15 ml, Blue	10/pk
61631-N	True North Corrugated Freezer Box 0.5 ml, Natural	10/pk	61634-N	True North Corrugated Freezer Box 15 ml, Natural	10/pk
61631-P	True North Corrugated Freezer Box 0.5 ml, Purple	10/pk	61634-R	True North Corrugated Freezer Box 15 ml, Red	10/pk
61631-R	True North Corrugated Freezer Box 0.5 ml, Red	10/pk	61635-B	True North Corrugated Freezer Box 50 ml, Blue	10/pk
61632-B	True North Corrugated Freezer Box 1.5/2.0 ml, Blue	10/pk	61635-N	True North Corrugated Freezer Box 50 ml, Natural	10/pk
61632-N	True North Corrugated Freezer Box 1.5/2.0 ml, Natural	10/pk	61635-P	True North Corrugated Freezer Box 50 ml, Purple	10/pk

True North® Thin Film Freezer Boxes

More durable than card boxes – not susceptible to moisture

True North® thin film polypropylene freezer boxes are made from specially formulated thin film polypropylene, designed with sustainability in mind. They are moisture resistant, significantly reducing the chance of mold growth. Safe to -196°C, they are compatible with mechanical freezers and low temperature storage vessels, as well as with most standard 2" (50 mm) freezer racking.

With superior durability, thin film polypropylene will outlast cardboard boxes that are susceptible to softening and producing dust, as well as provide a cost effective alternative to polycarbonate boxes. They are supplied in flat packs to save storage space and are easy to assemble. Four colors available in packs of ten.



Specifications

Cat. No.	Tubes	Wells	Well Dia.	L x W x H (cm)	L x W x H (in)
61636-x	1.5/0.2 ml	81	12.1 mm	12.5 x 12.5 x 4.9	4.92 x 4.92 x 1.92

Cat. No.	Description	Qty	Cat. No.	Description	Qty
61636-B	True North Thin Film Freezer Box, Blue	10/pk	61636-P	True North Thin Film Freezer Box, Purple	10/pk
61636-G	True North Thin Film Freezer Box, Green	10/pk	61636-W	True North Thin Film Freezer Box, White	10/pk

True North® Slide Boxes

Protect your slides in ultra-low temperature ranges down to -80°C with these stackable slide boxes. Safely store and transport 25 x 75 mm (3 x 1 inch) slides. The uniform grooved slide slots separate slides, preventing slide contact. They feature a temperature-resistant numbered foam lining and an identification sheet. Two types available

- Durable purple polycarbonate with a stainless steel clasp and nickel hinges; holds 100 slides
- Durable blue polycarbonate with a friction-fit lid; holds 25 slides

Cat. #	Description	Dimensions (mm)	Qty
71485-01	True North™ Slide Box, 100 Slides, Purple	208 x 175 x 34	each
71485-02	True North™ Slide Box, 25 Slides, Blue	141 x 88 x 35	each



CRYOGENIC VIALS & RACKS

Cardboard Cryogenic Vial Boxes and Partitions

Economical storage solutions in a box.

Store cryogenic vials in liquid nitrogen, or in mechanical freezers in our freezer storage boxes. Box footprint is 133 x 133 mm.

Select a box and a partition that fit the size and number of vials for your needs.

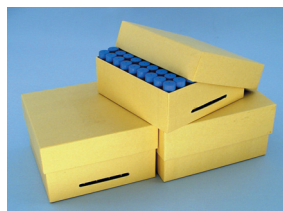
Colored cardboard boxes are ideal for identification and sorting purposes. Choose blue, red, yellow or assorted pack (four each of blue, red, and yellow).



Cat. #	Description	Color	Height	Qty.
41110	Vial Box and Lid	White	50 mm	12/pk
41111	Vial Box and Lid	White	75 mm	12/pk
41112	Vial Box and Lid	Assorted	50 mm	12/pk
41113	Vial Box and Lid	Blue	50 mm	12/pk
41114	Vial Box and Lid	Red	50 mm	12/pk
41115	Vial Box and Lid	Yellow	50 mm	12/pk
41117	100-Cell Partition (10 columns x 10 rows)			12/pk
41118	81-Cell Partition (9 columns x 9 rows)			12/pk
41119	64-Cell Partition (8 columns x 8 rows)			12/pk
41120	49-Cell Partition (7 columns x 7 rows)			12/pk

Cryo Storage Boxes

These heavy-duty chip-board boxes store vials neatly and fit most standard rack systems. They come with dividers and are slotted for cross-ventilation. 5-1/4 (132mm) square, 2" (50mm) high and contains divided spaces for up to 81 2ml vials.



Cat. No.	Description	Qty
62010-10	Small Cryo Storage Box	4/pk

Cardboard Freezer Boxes and Dividers

For use with stainless steel freezer racks.

Store cryogenic vials in liquid nitrogen or mechanical freezers in our freezer storage boxes. Box footprint is 133 x 133 mm. Select a box and a partition that fit the size and number of vials for your needs.



Cat. No.	Description	Dimensions	Qty
61615-65	2" Freezer Boxes	133mm x 133mm, 50mm	12/pk
61615-70	3" Freezer Boxes	133mm x 133mm, 75mm	12/pk
61615-75	Divider, 64 Hole	8 Columns, 8 Rows	12/pk
61615-80	Divider, 81 Hole	9 Columns, 9 Rows	12/pk
61615-85	Divider, 49 Hole	7 Columns, 7 Rows	12/pk
61615-90	Divider, 100 Hole	10 Columns, 10 Rows	12/pk

15 and 50mL Cardboard Cryogenic Boxes and Dividers

Low-cost choice with excellent low-temperature storage properties.

One-size box safely stores 15 and 50 mL tubes in LN₂ or mechanical freezers.

Two partitions to choose from.

Measures: 145 x 145 x 122 mm.



Cat. No.	Description	Qty.
41004	15 and 50 mL Box and Lid	Case of 40
41005		Pack. of 10
41006	50 mL, 16 Cell Partition	Case of 20
41007		Pack. of 10
41008	15 mL, 36 Cell Partition	Case of 20
41009		Pack. of 10

15 and 50 mL 2 x 3 Upright Freezer Rack

High-durability, corrosion-resistant stainless steel.

Stainless steel racks can accommodate various sizes and styles of storage boxes. Rack features high-durability, corrosion-resistant stainless steel material and handles for easy removal.



Stainless steel racks can accommodate various sizes and styles of storage boxes. Rack features high-durability, corrosion-resistant stainless steel material and handles for easy removal. Designed to fit most freezer models and makes.

15 mL and 50 mL Cardboard Cryogenic Box (Holds 6 each/1 per compartment).

Cat No.	Configuration	Opening Dimensions L x W x H mm	Overall Dimensions L x W x H mm	Qty
41000	2 x 3	152 x 157 x 134	459 x 159 x 271	each

Assay Plate Freezer Rack

For Assay Plate and PCR rack storage in upright freezers.

Constructed of corrosion-resistant stainless steel with 16 (4 x 4) rack spaces. Rack includes 3 wire handles and 4 vertical locking rods.



Cat. No.	Description	Qty
61614	Assay Plate Freezer Rack	each

CRYOGENIC VIALS & RACKS

Arctic Squares® Freezer Racks

Innovative horizontal drawer system for upright freezers.



Boxes shown not included.

for Arctic Squares® Polycarbonate Cryostorage Boxes, **see page 22.**

This freezer rack is constructed of corrosion-resistant stainless steel. Measures 13.9 (L) x 57.1 (W) x 23.8 (H) cm.

- Features four drawers to hold 16 boxes.
- Ideal for storage of boxes up to 133 x 133 x 53 mm in size.
- Drawers pivot down when fully extended, allowing for easy access.
- Polycarbonate drawer handles provide a user-friendly grip.
- Includes a slot and label for drawer/sample identification.
- Freezer rack includes a pull-out wire handle for easy removal off the freezer shelf.
- Fits most standard upright freezers.

Cat. No.	Description	Qty
61612	Arctic Squares Freezer Rack	each

Slide Box Freezer Rack

For slide boxes, reversible PCR® and 50-well EPS racks in upright freezers.



Constructed of corrosion-resistant stainless steel with 9 (3 x 3) rack spaces. Openings measure: 5½ x 5¾ x 2½ in (13.3 x 13.7 x 5.5 cm).

Overall measurements: 16½ x 7¾ x 5½ in (42 x 18 x 14 cm).

Cat. No.	Description	Qty
61613	Slide Box Freezer Rack	each

Electropolished Stainless Steel Freezer Racks

High quality, ultra-durable freezer racks for long term sample storage

No Sharp Edges - All edges have been ground down to remove the sharp surfaces that plague standard freezer racks

Electropolished - This step cleans up all weld points that, over time, may be the starting points for corrosion.

Superior Construction - Superior construction and design have created a more sturdy rack than what is currently available on the market

Durable - Racks are designed and finished to last longer in the demanding freezer environment where samples are housed

Surgical Finish - Electropolishing leaves racks ultra-shiny and free from any surface contaminants

Multiple Sizes - Several vertical and horizontal options are available to fit a variety of freezer configurations

- A superior design was chosen to increase structural integrity.
- All weld points have been ground down to eliminate sharp points and areas where corrosion can occur.
- Structural edges and shelves have been ground and racks have been electropolished to remove sharp edges.



61615-25



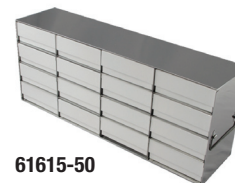
61615-30



61615-35



61615-40



61615-50



61615-45



61615-55



61615-60

Cat. No.	Description	Dimensions	Qty
61615-25	4 x 4 Freezer Rack, holds (16) 3" boxes	22.125" L x 5.50" W x 12.625" H	each
61615-30	3 x 4 Freezer Rack, holds (12) 3" boxes	16.625" L x 5.50" W x 12.625" H	each
61615-35	3 x 3 Freezer Rack, holds (9) 3" boxes	16.625" L x 5.50" W x 9.625" H	each
61615-40	3 x 4 Freezer Rack, holds (12) 2" boxes	16.318" L x 5.50" W x 8.875" H	each
61615-45	4 x 4 Freezer Rack, holds (16) 2" boxes	21.625" L x 5.50" W x 8.875" H	each
61615-50	4 x 5 Freezer Rack, holds (20) 2" boxes	21.625" L x 5.50" W x 11.063" H	each
61615-55	1 x 9 Freezer Rack, holds (9) 3" boxes	5.63" L x 5.63" W x 28.875" H	each
61615-60	1 x 9 Freezer Rack, holds (9) 2" boxes	5.63" L x 5.63" W x 19.25" H	each

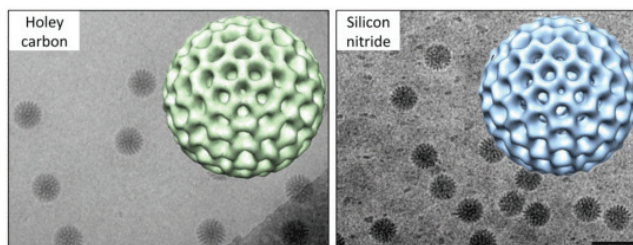
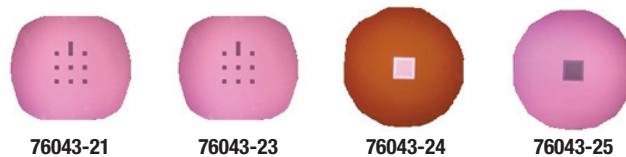
III Cryo-SiN

An ideal substrate for cryo-microscopy.

"Our initial findings indicate that viral particles prepared on Cryo-SiN, exhibited greater contrast in comparison to those prepared on holey carbon films under the same conditions. As a result, we were able to calculate 3D reconstructions of viral particles prepared on Cryo-SiN using a fraction of the images required for samples prepared on holey carbon films."

Tanner et al. Microscopy & Microanalysis Abstract, 2013

- Avoid substrate degradation seen with carbon grids.
- Plasma cleanable to reduce contaminants.
- Our proprietary carbon coating may also improve charge dissipation leading to a reduction in beam induced movement.
- Large 500 µm windows provide ~50 x 50 µm viewing from any orientation at 70 degrees of tilt for tomography.



Cat. No.	Description	Qty
76043-21	Silicon Nitride 20 nm thick TEM Windows (9 Windows)	each
76043-22	Silicon Nitride 20 nm thick TEM Windows - Single 500 micron window	each
76043-23	Silicon Nitride 10 nm thick TEM Windows (9 Windows)	each
76043-24	Silicon Nitride 50 nm thick Microporous (Single 500 micron window)	each
76043-25	Silicon Nitride 20 nm thick Microporous (Single 500 micron window)	each

You may also need...

III EMS Freezer Hats

Made from brass, these planchets are used for high pressure freezing. They are able to be stacked, allowing for greater depth. The measurements of the planchets are as follows: Planchet A has 2 chambers at 0.1mm deep and 0.2mm deep. Planchet B has 1 chamber at 0.3mm deep.



Cat No.	Description	Qty.
71167-01	Brass Planchet A, 2 Chambers	50/pk
71167-02	Brass Planchet B, 1 Chamber	50/pk

III TEM Grid Freeze Drying Holder

Freeze drying holder to hold 24 standard TEM grids.



Cat No.	Description	Qty.
EMS063	TEM Grid Freeze Drying Holder	each

III Vitrobot™ Filter Paper

This special Filter Paper has an outer diameter of 55 mm, with an inner diameter of 20 mm. Made from Grade 595 paper.

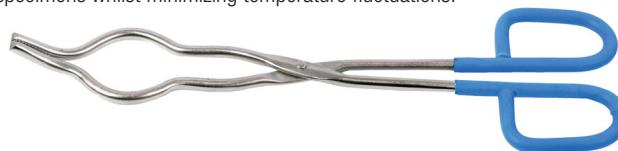


Cat No.	Description	Qty.
71166-65	Vitrobot™ Filter Paper	100/pk

III Stainless Steel Freeze Drying Pots

An interlocking 25 or 50 mm diameter sample holder for bulk specimens.

The material is plunged into cryogen and transferred into the precooled sample holder. Using the handling tongs, the pots can be stacked onto a freeze drying stage. Allows safe handling of valuable low temperature specimens whilst minimizing temperature fluctuations.

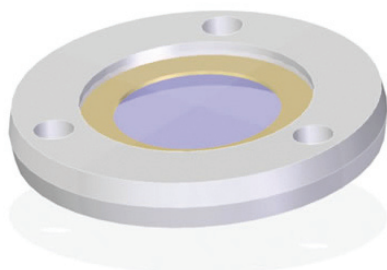


Cat No.	Description	Qty.
EMS007	25 mm Bulk F Dryer	each
EMS008	25 mm Bulk F Dryer Set of 3 (same as EMS011)	each
EMS009	Handling Tongs	each
EMS010	25mm F.M. Freeze Drying Pot	each
EMS012	50mm F.M. Freeze Drying Pot	each
EMS013	50mm F.M. Freeze Drying Pot Set of Three	set

III CryoCapsule®

Bringing Correlative light and electron microscopy forward.

High pressure freezing is the most advanced technology when it comes to vitrifying a hydrated biological specimen while preserving the ultrastructure. Developed in the 1980s[1], the technology evolved progressively to become accessible to a larger community. Still, the sample preparation prior to HPF remains tedious and often comes to advance expertise depending on the specimen[2].



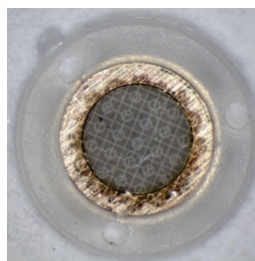
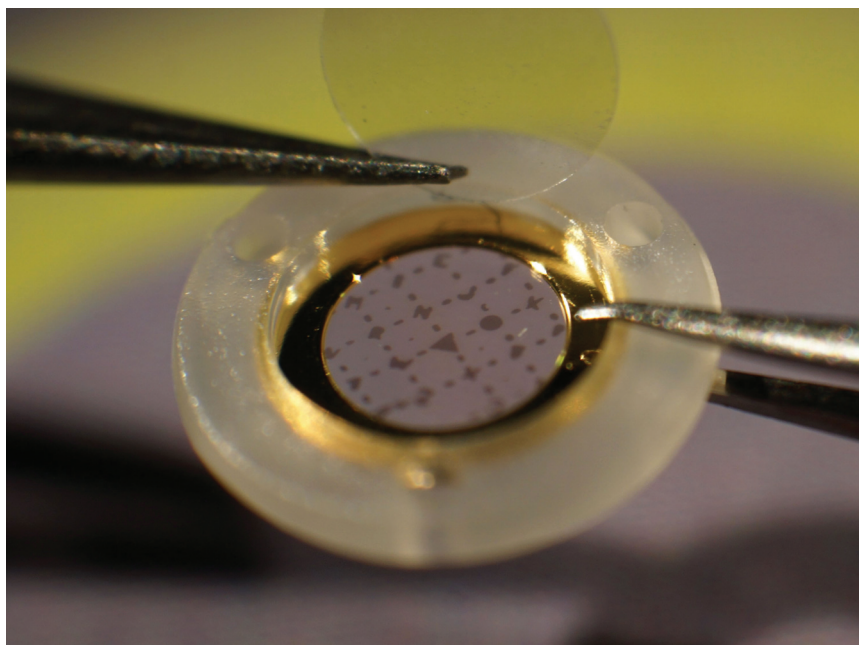
The CryoCapsule® is a new tool in the field of High Pressure Freezing (HPF) and correlative light and electron microscopy (CLEM). Comparable to a small petri dish, it is composed of a landmarked sapphire disc and a gold spacer ring (50µm thick) maintained together by a plastic ring[3].

The specimens are encapsulated between the support sapphire disc (carbon landmarked) and a covering sapphire disc.

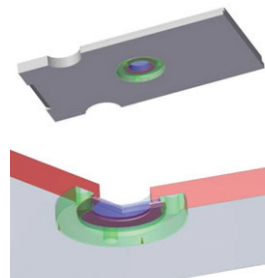
The CryoCapsule® is loaded into a specific adaptor (HPM010, HPM100, HPF compact 02). Live cell imaging is done directly on the specimen in the CryoCapsule® prior to HPF.

Post-HPF, the specimen is processed for freeze substitution[4] and room temperature sectioning.

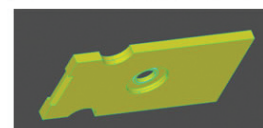
CryoCapCell has developed a set of tools to manipulate the CryoCapsule® [4] in most scientific environments.



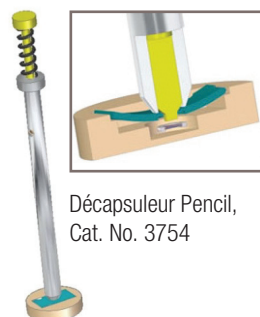
CryoCapsule® 3mm,
Cat. No. 3750



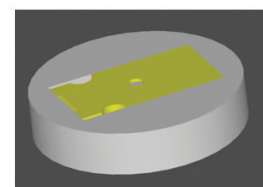
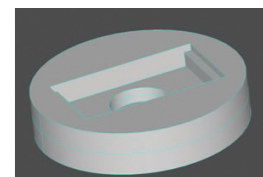
HMP100 Leica Adaptor, Cat. No. 3752



HMP100 Leica Adaptor,
Cat. No. 3752



Décapsuleur Pencil,
Cat. No. 3754



Décapsuleur, Cat. No. 3753

Ordering Information

Cat. No.	Description	Qty
3750	CryoCapsule® 3mm	10/pk
3751	HPM010 Abra Fluid Adaptor	each
3752	HPM100 Leica Adaptor	10/pk
3753	Décapsuleur	5/pk
3754	Décapsuleur Pencil	each
3755	Perforated Petri Dish for live cell imaging	5/pk

References

- Moor H, Bellin G, Sandri C, Akert K. The influence of high pressure freezing on mammalian nerve tissue. *Cell Tissue Res* [Internet] 1980 [cited 2013 Jul 24];209:201-16.
- Mcdonald KL, Schwarz H, Thomas M, Müller-Reichert T, Webb R, Buser C, Morpew M. "Tips and tricks" for high-pressure freezing of model systems. *Methods Cell Biol* [Internet] 2010 [cited 2011 Apr 19];96:671-93.
- Heiligenstein X, Heiligenstein J, Delevoe C, Hurbain I, Bardin S, Paul-Gilloteaux P, Sengmanivong L, Régnier G, Salamero J, Antony C, Raposo G. The CryoCapsule: Simplifying Correlative Light to Electron Microscopy. *Traffic* [Internet] 2014 [cited 2014 May 14];15:700-16.
- Heiligenstein X, Hurbain I, Delevoe C, Salamero J, Antony C, Raposo G. Step by step manipulation of the CryoCapsule with HPM high pressure freezers. *Methods Cell Biol* [Internet] 2014 [cited 2014 Nov 27];124:259-74.

COOLING CHAMBERS AND ICE BATHS

III The CoolSafe™ — The world's most versatile and effective benchtop cooling and storage system.

Complete CoolSafe Systems

Versatile — Designed for 0.2ml tubes (strips or trays), 96- well and 384-well microplates, 0.5ml, 1.5ml, 5ml tubes

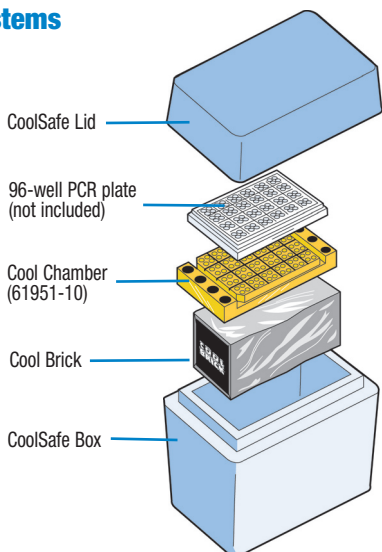
Specially Formulated — Cool Bricks maintain a constant temperature (1°C or -10°C) for up to 10 hours

Quality Engineering — Each aluminum Cool Chamber surrounds tubes to guarantee sustained cold temperatures

Durable — The CoolSafe box is made of triple density expanded polystyrene and molded under extreme pressure creating a durable container that guarantees temperature stability.

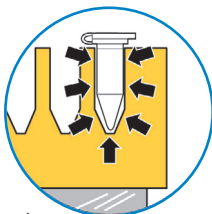
Easy to Use — Easily interchange Cool Chambers and Cool Bricks for different sized tubes.

No Mess — Messy ice buckets are now a thing of the past!



“Surround-a-Tube” Engineering

Super temperature-conducting solid metal surrounds the vast majority of the surface area of the microtube, keeping the entire sample or tray of samples cool.



Ordering the Complete CoolSafe Systems

Each complete CoolSafe System includes:

1 CoolSafe box with lid, 1 Cool Chamber, 2 Cool Bricks (1°C & -10°C)

Cat. #.	Description	Holes	Unit
61950-10	For 0.2ml PCR plates or tubes	96**	kit
61950-20	For 0.5ml tubes	91	kit
61950-30	For 1.5ml tubes	48	kit
61950-40	For 1.5ml Cryogenic tubes	55	kit
61950-50	For 384-well plates	384**	kit
61950-60	For 5ml tubes	32	kit
61950-70	For 0.2ml, 0.5ml, 1.5ml tubes	79	kit
61950-80	For flat-bottom microplates	None**	kit

**These Chambers also include 4 holes for 1.5ml tubes and 6 holes for 0.5ml tubes

III The CoolSafe™ Deluxe

- Additional sample protection
- Smaller bench-top footprint
- Improved portability
- Clear lid for sample visibility

Each complete CoolSafe Deluxe system includes:

1 CoolSafe Deluxe box, 1 Cool Chamber, 2 Cool Bricks (1°C & -10°C)

Cat. #	Description	Holes	Unit
61954-10	For 0.2ml PCR plates or tubes	96**	Kit *
61954-20	For 0.5ml tubes	91	Kit *
61954-40	For flat-bottom microplates		Kit *
61954-55	CoolSafe™ Deluxe box	None**	each

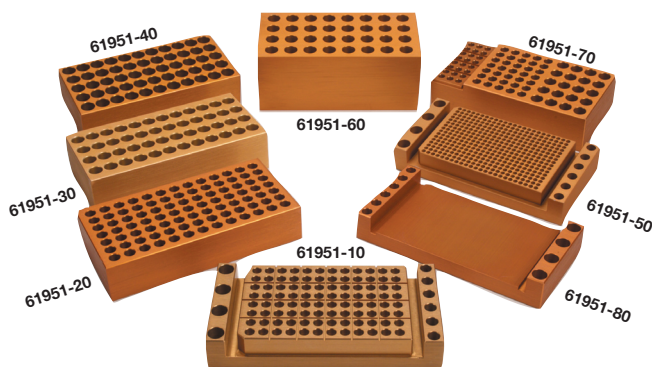
**These Chambers also include 4 holes for 1.5ml tubes and 6 holes for 0.5ml tubes



CoolSafe Individual Components

III Cooling Chambers

Each Cooling Chamber is a solid aluminum block that surrounds inserted tubes to guarantee sustained hot or cold temperatures.



Cat. #	Dimensions	Ideal Use	Qty.
61951-10	6 1/8"(L) x 3 3/8"(W) x 1"(H)	0.2ml tubes	each
61951-20	6 1/8"(L) x 3 3/8"(W) x 1 1/4"(H)	0.5ml tubes	each
61951-30	6 1/8"(L) x 3 3/8"(W) x 1 1/2"(H)	1.5ml tubes	each
61951-40	6 1/8"(L) x 3 3/8"(W) x 1 1/2"(H)	1.5ml Cryogenic tubes	each
61951-50	6 1/8"(L) x 3 3/8"(W) x 1"(H)	384-well microplates	each
61951-60	6 1/8"(L) x 3 3/8"(W) x 2 1/2"(H)	5ml tubes	each
61951-70	6 1/8"(L) x 3 3/8"(W) x 1 1/2"(H)	Multi-tube format	each
61951-80	6 1/8"(L) x 3 3/8"(W) x 1"(H)	Microplate Chamber	each

III Cool Bricks

Each Cool Brick allows up to 10 hours of benchtop temperature stability. Two temperature zones are available: 1°C and -10°C.



Cat. #.	Ideal Use	Temp	Qty
61952-10	For 5ml tubes	1°C	each
61952-20	For 0.2ml, 0.5ml, 1.5ml & 5ml tubes	-10°C	each
61952-30	For 0.2ml, 0.5ml & 1.5ml tubes	1°C	each

III CoolSafe Box

The CoolSafe Box is made of triple density expanded polystyrene and is molded under extreme pressure to create a durable container that guarantees temperature stability.



III CoolBag

The CoolBag is an insulated cooler for added coolness of critical samples. Use the shoulder strap for easy transporting from lab to lab.

Cat. #.	Description	Qty
61953-01	CoolSafe Box	each

COOLING CHAMBERS AND ICE BATHS

III Benchtop Cryo-Station

A compact desktop workstation for freezing samples.

- Super-insulating triple density expanded polystyrene.
- Low thermal mass of EPS minimizes initial liquid nitrogen boil-off.
- Lightweight construction.
- No glass liner to break.
- 2" thick lid eliminates condensation.

III Cryo-Dipper

Organized sample freezing, storage and retrieval.

- Quickly load tubes for freezing.
- Holds 36 externally threaded cryo vials, 0.5 ml & 1.5/2.0 ml tubes.
- Easily retrieve tubes.
- Movable weights prevent floating.
- Durable PVC construction.



77518-03

77518-04

Cat No.	Description	Qty.
77518-03	Benchtop Cryostation	each
77518-04	Cryo-Dipper	each

III Stand Alone Specialty Cooling Chambers

Ideal for ice pans, ice buckets, and cold or hot plates.

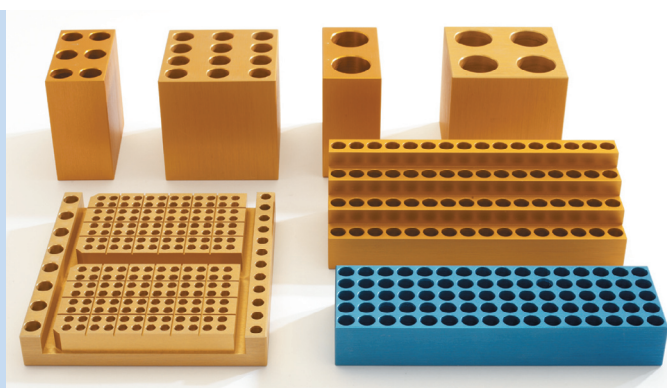
Multiple Uses – Ideal for use on hot or cold plates or for temperature sensitive liquid transfers

Durable – Anodized aluminum blocks will not rust or corrode

Ideally Sized – A variety of options are available to accommodate PCR tubes and trays, 1.5ml tubes, 15ml and 50ml conical tubes

A variety of Specialty Chambers are available to keep samples cool and on ice while you work. Freeze these Chambers overnight for added cooling convenience.

These Chambers do not fit the CoolSafe system; use separately (*61955-30 not pictured)



III 15ml & 50ml Chambers

Each Chamber is an anodized aluminum block. Excellent temperature conductors. Use with hot plates or with our Ice Pans & Ice Buckets.

Cat. #	Dimensions	Ideal Use	Holes	Qty
61951-10	6 1/8"(L) x 3 3/8"(W) x 1"(H)	15ml tubes	6	each
61955-21	3 1/2"(L) x 3 3/2"(W) x 3 3/2"(H)	15ml tubes	12	each
61955-40	3 1/2"(L) x 1 3/4"(W) x 3 3/2"(H)	50ml tubes	2	each
61955-41	3 1/2"(L) x 3 3/2"(W) x 3 3/2"(H)	50ml tubes	4	each

III 80-Well Chamber

The 80-well Chamber is a solid, anodized aluminum block sized to fit 1.5ml microtubes. An excellent temperature conductor for use with hot plates and ice buckets. It measures 8.25" x 2.625" x 1.25".

Cat. #	Dimensions	Ideal Use	Holes	Qty
61955-80	8 1/4"(L) x 2 5/8"(W) x 1 1/4"(H)	1.5ml tubes	80	each

III 64-Place Step Chamber

Description: Anodized aluminum block sized to fit 64 1.5ml microtubes (16 holes per 'step') for easy viewing of samples when in the freezer, on the bench-top or in an ice pan or ice bucket.

Cat. #	Dimensions	Ideal Use	Holes	Qty
61955-30	8 3/4"(L) x 3"(W) x 2 1/2"(H)	1.5ml tubes	64	each

III Double Chamber for 0.2ml tubes

The Double Chamber fits two 96-well PCR trays or individual tubes and strips. Each edge can accommodate up to (12) 0.5ml and (8) 1.5ml tubes. Great for temperature sensitive liquid transfers. It measures 6 3/8" x 1 1/2" x 1".

Cat. #	Dimensions	Ideal Use	Holes	Qty
61955-10	6 3/8"(L) x 6 3/4"(W) x 1"(H)	0.2ml PCR Plates, tubes	192	each

III Mini-Cooling Chambers

Ideal for ice pans and ice buckets.

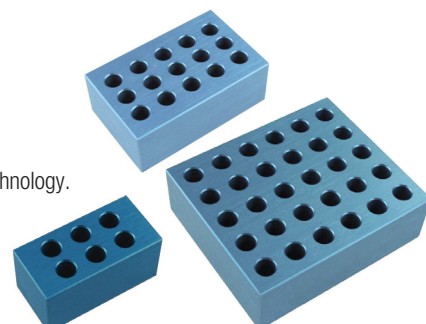
Ideally Sized - For use when only a small number of microtubes are required.

Maximize Work Area - Each Mini-Chamber will fit 1L Glacierbrand™ Ice Pans (6.13" x 6.13" x 3.61").

Minimize Ice - Less Ice is needed to cool these chambers. Less ice means less mess.

Great Engineering - Mini-Chambers are anodized aluminum and utilize "Surround-A-Tube" cooling technology.

Cat. No.	Dimensions	Ideal Use	Holes	Qty.
68600-10	3" x 1 1/2" x 1 1/2"	1.5- 2.0ml Tubes	6	each
68600-20	4" x 2 1/2" x 1 1/2"	1.5- 2.0ml Tubes	15	each
68600-30	4 11/16" x 4" x 1 1/2"	1.5- 2.0ml Tubes	30	each



COOLING CHAMBERS AND ICE BATHS

III CryoVial® Cooling Chamber

“Locks in” CryoVials for easy cap removal.

One-Hand Operation –

Locking base holds vial in place as cap is removed

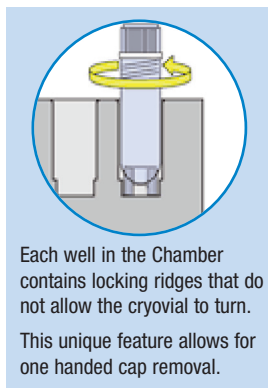
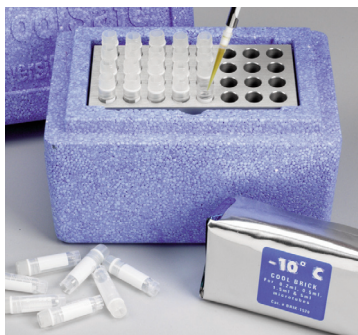
Universal – Fits most major cryogenic vial brands

Preserve Cells – Minimize cell loss from exothermic reactions by preparing samples inside chambers

Quality Engineering – Each aluminum CryoVial Cooling Chamber surrounds tubes to guarantee sustained cold temperatures

Durable – Each Chamber is anodized clear to protect from rust and corrosion ensuring longevity

Versatile – Use with Cool Bricks to maintain a constant temperature (1°C or -10°C) for up to 10 hours



Cat. No.	Dimensions	Ideal Use	Holes	Unit
61956-1	6½ x 3¾ x 1¼	1.2ml cryovials	32	each
61956-2	6½ x 3¾ x 1¼	2.0ml cryovials	32	each
61956-3	6½ x 3¾ x 2¼	3.0-4.0ml cryovials	32	each

Complete CryoVial CoolSafe System includes:

- 1 CoolSafe box with lid,
- 1 CryoVial Cooling Chamber, and
- 2 Cool Bricks (1°C & -10°C)

Cat. No.	Description	Qty.
61956-31	CryoVial CoolSafe System* (1.2ml cryovials)	each
61956-32	CryoVial CoolSafe System* (2.0ml cryovials)	each

III True North® Mini Coolers

Protect temperature-sensitive samples at the bench or in the freezer.

Ideal for keeping PCR® reagents, enzymes and other biochemical reagents cool while working at the bench. Filled with insulating gel, the Mini Coolers can also be used for controlled freezing of samples longer temperature retention.

- Polycarbonate construction with rubber non-slip feet
- Gridded and keyed one-position lids for easy sample identification
- 0.5 mL tube adapters supplied as standard with the 0.5–2.0 mL tube size versions
- Temperature-retention graph supplied with each of the 7 styles available
- Versions available for 0.5 and 1.5/2.0 mL microcentrifuge tubes and cryogenic vials and a 96-place version for 0.2 mL tubes and assay plates



Cat. No.	Temp.	No. Tubes Held/Size	Tube Array	Dimensions	Lid Type	Temp. Retention	Color	Qty.
41130	0°C	12 x 0.5/2.0 mL	3 x 4	145 x 105 x 100	Clear	1°C for 4 hr*	Green	each
41132	0°C	32 x 0.5/2.0 mL	4 x 8	245 x 105 x 100	Clear	1°C for 5 hr*	Green	each
41133	0°C	32 x 0.5/2.0 mL	4 x 8	245 x 105 x 100	Gel-Filled	1°C for 7.5 hr*	Green	each
41134	-20°C	12 x 0.5/2.0 mL	3 x 4	145 x 105 x 100	Clear	-15°C for 2.5 hr*	Blue	each
41135	-20°C	32 x 0.5/2.0 mL	4 x 8	245 x 105 x 100	Clear	-15°C for 3.5 hr*	Blue	each
41136	-20°C	32 x 0.5/2.0 mL	4 x 8	245 x 105 x 100	Gel-Filled	-15°C for 5 hr*	Blue	each
41137	-20°C	96 x 0.2 mL	8 x 12	225 x 165 x 110	Clear	-15°C for 2.5 hr	Blue	each

*Inside rows

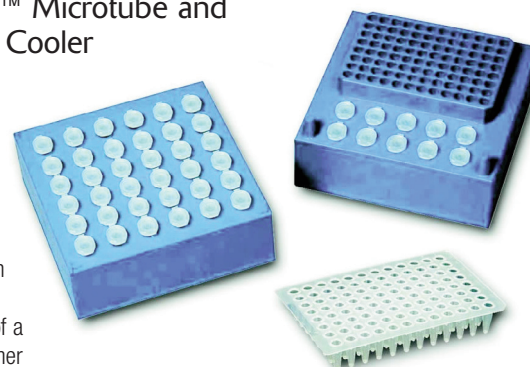
III CoolCube™ Microtube and PCR Plate Cooler

Two-sided workstation.

The CoolCube™ is made to safely store samples on the lab bench, without degradation from temperature fluctuation. Made of a high strength polymer and a gel refrigerant, it will maintain a temperature of approximately 0°C for up to 4 hours.

Store the CoolCube overnight in the freezer and it will be ready to use. It will keep samples cool, but not frozen, without messy ice buckets or wet tubes.

With two sides, it can also be used as a PCR workstation. One side has wells for 10 standard 1.5/2.0 ml microtubes and one 96-well PCR plate or 0.2 ml tubes/strips. The other side can be used to hold 36 standard 1.5/2.0 ml microtubes.



Specifications

Temperature	0°C for up to 4 hours
Capacity (side 1)	36 x 1.5/2.0 ml tubes
Capacity (side 2)	96 x 0.2 ml tubes 12 x 0.2 ml strips 1 x 96-well PCR plate 10 x 1.5/2.0 ml
Dimensions (W x D x H)	5.6 x 5.6 x 2.5" / 14.3 x 14.3 x 6.4 cm
Weight	2 lbs (1 kg)
Warranty	2 Years

Cat. No.	Description	Qty.
61957	CoolCube™	each

COOLING CHAMBERS AND ICE BATHS

CoolCaddy™ PCR Workstation

Keep your samples cool, but not frozen.

The new CoolCaddy™ keeps your reagents and samples cool, on the lab bench, without using crushed ice. Simply store your CoolCaddy overnight in any standard freezer and it's ready to hold temperature between 2° and 4°C for up to 5 hours. Vials, tubes, plates, strips and multi-channel reservoir solutions can all be kept cool while you perform your experiments.



Capacity

1.5/2.0 ml Microtubes:	9 Tubes
2.0 ml Cryotubes:	8 Tubes
0.5 ml Microtubes:	5 Tubes
PCR Plates:	1 Plate
PCR Tubes:	96 Tubes or 12 Strips
Reservoirs:	1 x 50 ml Reservoir
Dimensions:	17 x 21 x 4.5 cm (8.3 x 6.8 x 1.8")



Cat No.	Description	Qty.
61958	CoolCaddy™	each

Mr. Frosty® Cryo 1°C Freezing Containers

Polycarbonate container, high-density polyethylene closure, tube holder, foam insert.



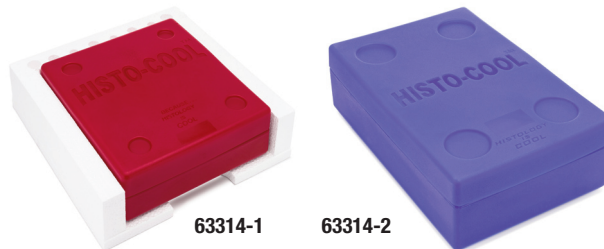
Mr. Frosty Cryo 1°C Freezing Containers are inexpensive, reusable and convenient devices for freezing biological samples. Freeze cells in tubes from 1 to 5 ml using the Mr. Frosty™ Freezing Container. The simple-to-use system is designed to achieve a rate of cooling very close to -1°C/minute, the optimal rate for cell preservation. Isopropyl alcohol is necessary to achieve the recommended rate of cooling.

- Holds 12 to 18 tubes and has profile height of 86 or 151 mm (3-7/16 to 5-5/16 in.), which saves precious freezer space during the cooling process
- Screw top lid secures samples inside in the event of accidental container tipping
- Eliminates unreliable, improvised foam container devices
- Easy to use – requires only 100% isopropyl alcohol and a mechanical freezer
- No contact with the alcohol: no wicking, no label removal and no compromise of tube hand printing
- Containers have 4.75 in. diameter (120 mm) closure
- Available in 3 convenient tube capacities

Cat. No.	Description	Tube Capacity	Qty.
72596-01	Mr. Frosty® Cryo 1°C Freezing Container	1.0-2.0 ml	each
72596-02	Mr. Frosty® Cryo 1°C Freezing Container	3.6 ml	each
72596-03	Mr. Frosty® Cryo 1°C Freezing Container	4.5-5.0 ml	each

HistoCool™ Tissue Cassette Cooling Trays

Aid in the cooling of tissue blocks.



These trays are filled with freezer gel that stays frozen longer, up to 6-8 hours. Simply refreeze at the end of each day.

Available in two sizes:

Small: 8.5 (L) x 8 (W) x 3 (H), Red, 20 cassette capacity

Large: 12.5 (L) x 8.25 (W) x 4 (H), Blue, 30 cassette capacity

Cat No.	Description	Qty.
63314-1	HistoCool™, Small	each
63314-2	HistoCool™, Large	each

ChillDown

Rapidly cool Agarose mixtures and other solutions.

Quick - Chill molten agarose down to 60°C in minutes.

Improve Results - Rapid cooling of agarose prevents an early-polymerized layer on top of the solution, which interferes with results.

Versatile - Use ChillDown whenever cooling of solutions is desirable.

Universal - Fits any 250ml beaker.

Easy-To-Use - Simply leave your ChillDown in the freezer overnight and it will be ready for you when you need it.



Cat No.	Description	Qty.
77518-01	ChillDown	each

Cryogenic Workstation

Made of auto-clavable polycarbonate.

Coming® Cryogenic Workstation features a reusable cryogenic vial rack with a removable storage tray. Rack holds 30 vials. The tray can be used to hold water or crushed ice. The racks and trays are made of auto-clavable polycarbonate. Overall measurement: 14½"(L) x 6"(W) x 3"(H)



Cat No.	Description	Qty.
62040	Cryogenic Workstation	each
62041	Reusable Vial Rack Only	each
62042	Reusable Storage Tray Only	each

COOLING CHAMBERS AND ICE BATHS

GLACIERbrand™ Ice Pans

No Sweat – Thick pan walls will not sweat or leave puddles of condensation on the benchtop

Durable – Made of triple density expanded polystyrene creating a durable container that is virtually unbreakable

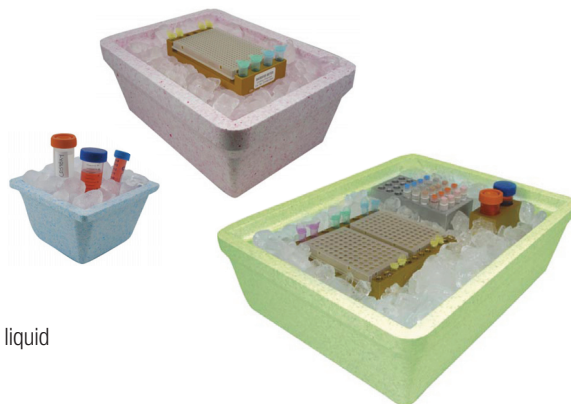
Super Insulating – Preserves ice up to 30% longer than conventional ice pans

Stackable – Designed with an inner edge enabling the pans to stack on top of one another for easy storage and to minimize bench-top space

Lightweight – Ice pans are extremely lightweight (1.1oz, 4.7oz. and 11.4oz) and easy to handle. They feature a molded lip around the edge for carefree moving and carrying

Chemically Resistant – Resistant* to mild chemicals as well as ice-alcohol slurry, dry ice and liquid nitrogen.

(*Not recommended for long-term exposure to harsh chemicals or corrosives)



Cat. No.	Dimensions	Vol.	Color	Qty
Small Ice Pans				
63311-1s	6.13" x 6.13" x 3.61" (15.6cm x 15.6cm x 9.17cm)	1L	Icy Blue	each
63311-2s	6.13" x 6.13" x 3.61" (15.6cm x 15.6cm x 9.17cm)	1L	Icy Green	each
63311-3s	6.13" x 6.13" x 3.61" (15.6cm x 15.6cm x 9.17cm)	1L	Icy Pink	each
Medium Ice Pans				
63311-1m	12.25" x 8.75" x 4.75" (31.12cm x 22.2cm x 12.1cm)	4L	Icy Blue	each
63311-2m	12.25" x 8.75" x 4.75" (31.12cm x 22.2cm x 12.1cm)	4L	Icy Green	each
63311-3m	12.25" x 8.75" x 4.75" (31.12cm x 22.2cm x 12.1cm)	4L	Icy Pink	each
Large Ice Pans				
63311-1L	17.25" x 13.50" x 4.96" (43.8cm x 34.3cm x 12.63cm)	9L	Icy Blue	each
63311-2L	17.25" x 13.50" x 4.96" (43.8cm x 34.3cm x 12.63cm)	9L	Icy Green	each
63311-3L	17.25" x 13.50" x 4.96" (43.8cm x 34.3cm x 12.63cm)	9L	Icy Pink	each

GLACIERbrand™ Ice Buckets

Excellent Insulation - Made of the same triple density expanded polystyrene as our popular Ice Pans. Preserve ice 30% longer!

Won't Sweat - Thick insulating walls will not sweat.

Easy Grip - Robust handles make buckets easy to carry.

Includes Lid - Use the supplied lid to maximize cooling.

Heavy Duty - Solidly constructed to be unbreakable under normal laboratory conditions. Resistant to mild chemicals* as well as ice-alcohol slurry, dry ice and liquid nitrogen.

(*Not recommended for long-term exposure to harsh chemicals or corrosives)



Cat. No.	Dimensions	Vol.	Color	Qty
Small Ice Buckets				
68600-40	10.625" x 4.375" (26.9cm x 11.1cm)	2.5 L	Blue	each
68600-50	10.625" x 4.375" (26.9cm x 11.1cm)	2.5	Green	each
Large Ice Buckets				
68600-60	10.625" x 6.250" (26.9cm x 15.8cm)	5L	Blue	each
68600-70	10.625" x 6.250" (26.9cm x 15.8cm)	5L	Green	each



BioBucket™ Collapsible Laboratory Bucket

BioBucket is a general laboratory container that every lab could benefit from. Its collapsible nature makes it the ideal container for any lab looking to conserve storage space. It can be used as an ice bucket to keep samples cool over long periods of time, or as portable liquid container. The attached handle makes transportation a breeze, while the molded base grip allows for easy pouring and cleaning. The BioBucket is perfect for field use as an environmental sample collection and transport receptacle.

- Collapsible body saves valuable storage space
- Useable with crushed ice
- Inner-lid access port for enhanced temperature retention
- Attached handle for easy transportation
- Molded grip on base for pouring
- 5 Liter

Cat. No.	Description	Qty.
68602	BioBucket Collapsible Laboratory Bucket	each

COOLING CHAMBERS AND ICE BATHS



True North® Cool Containers

These rigid single mold polyurethane provides durability for chilling your temperature sensitive samples. Excellent insulation properties for ultra cold--use with ice, LN₂, ice-salt slurries, and more.

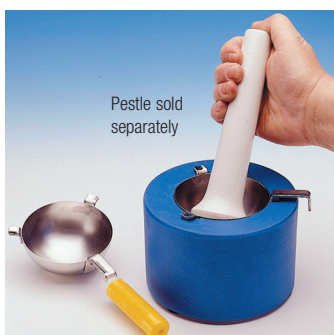
They come with a convenient lid which nests beneath bucket or pan. They are available in either a bucket or pan and come in a multiple size assortment.

Rigid single mold polyurethane provides durability for chilling your temperature sensitive samples. Excellent insulation properties for ultra cold--use with ice, LN₂, ice-salt slurries, and more. Minimize evaporation loss with snug fit lid. Easily remove with comfortable recessed knobs. Keyed lid and base fit together to conveniently store lid under base. Use handy pour spout with melted ice, water, and solutions. Ergonomic handles safely transport bucket or pan from work area to sink. Deep internal cavity has enough room to add one of your racks. Tapered sides make stacking and storage compact.

Cat. No.	Capacity	Style	Color	Units
62013-04	4L	Bucket	Black Onyx	each
62013-10	1L	Pan	Emerald	each
62013-40	4L	Pan	Arctic Blue	each
62013-90	9L	Pan	Ruby	each

Liquid Nitrogen-Cooled Mortar

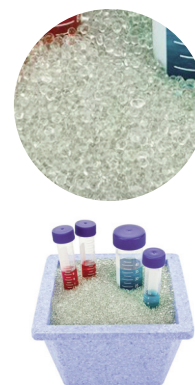
A stainless steel mortar is suspended by three brackets above a stainless steel bowl which holds the liquid nitrogen. The bowl is nested in a well insulated poly-ethylene housing. The 4" (102mm) insulated handle is removable for saving space. The housing measures 6½" (165mm) in diameter x 4½" high and has 3 suction cup-feet. Now frozen tissue samples can be ground without the hazard of liquid nitrogen droplets flying onto personnel.



Cat. No.	Description	Qty.
64470	Liquid Nitrogen-Cooled Mortar	set
64471	Spare mortar bowl	each
64472	Ceramic Pestle only, 180 mm long	each
64473	Ceramic Pestle only, 114 mm long	each

Thermal Microbeads

- Effectively heat and cool samples in most water and dry baths.
- Reduce sample contamination in applications requiring water and ice.
- Support tubes and bottles, eliminating the need for floating racks and bottle weights.
- Autoclaveable and solvent resistant.
- For use in water/drybaths, ice pans/buckets, Microbead Chambers and Microbead bag.
- Available in two sizes: 2.5-3 mm and 4-4.5 mm (XL).



Cat No.	Description	Qty.
68605-10	Thermal Microbeads, 2.5-3 mm	1L
68605-12	Thermal Microbeads, 4-4.5 mm (XL)	1L

Microbead Bag

- Nylon mesh bag with drawstring closure for storing, cleaning, using and transporting Thermal Microbeads.
- Designed to fit our Ice Buckets.
- Store Microbeads in the freezer and remove when ready for use.
- Place Microbead Bag in an ice bucket on top of Cool Bricks for prolonged cooling.



Cat No.	Description	Qty.
68605-20	Drawstring Bead Bag for Thermal Microbead, 5L capacity	each

Microbead Chambers

- Use with Thermal Microbeads to create a one size fits all dry bath solution.
- Fits all standard sized dry bath systems.
- Microbeads tightly surround tubes, microtubes and bottle so they evenly distribute temperatures.
- Single and double place chambers allow maximum flexibility when working with dry baths.
- Use with dry ice in our popular pans and buckets for fully customized sample cooling.



Cat No.	Description	Qty.
68605-25	Anodized Aluminum Microbead Chamber, Blue, 75 x 94 x 76mm	each
68605-30	Anodized Aluminum Microbead Chamber, Red, 152 x 94 x 76mm	each

CRYOGENIC PERSONAL PROTECTION EQUIPMENT

Waterproof Cryo-Grip® Gloves

Hand and arm protection when working with liquid nitrogen.

Made from state-of-the-art materials, these waterproof cryogenic gloves are designed to keep you dry and to wick moisture away from your hands, so you can work in comfort for extended periods of time.

The multi-layered construction allows for a maximum level of grip, dexterity, flexibility, and thermal protection – essential features when function is important and safety is critical.

They offer improved grip on small objects while protecting your hands and arms when working in hazardous, ultra-cold environments.

They are designed to provide a high level of thermal protection where the exposure to cryogenic fluids might exist.

Available in four different lengths: wrist, mid-arm, elbow, and shoulder. Each length available in sizes S, M, L, and XL.

Features

- Improved grip.
- Excellent dexterity.
- Maximum thermal protection.
- Lightweight.
- Comfortable.
- Waterproof.
- Breathable.
- Stay-dry lining.



Cat. No.	Description	Qty
Waterproof Cryo-Grip® Gloves, Wrist		
71126-S	Small	1 pair
71126-M	Medium	1 pair
71126-L	Large	1 pair
71126-XL	Extra Large	1 pair
Waterproof Cryo-Grip® Gloves, Mid-Arm		
71127-S	Small	1 pair
71127-M	Medium	1 pair
71127-L	Large	1 pair
71127-XL	Extra Large	1 pair

Cat. No.	Description	Qty
Waterproof Cryo-Grip® Gloves, Elbow		
71128-S	Small	1 pair
71128-M	Medium	1 pair
71128-L	Large	1 pair
71128-XL	Extra Large	1 pair
Waterproof Cryo-Grip® Gloves, Shoulder		
71129-S	Small	1 pair
71129-M	Medium	1 pair
71129-L	Large	1 pair
71129-XL	Extra Large	1 pair

Cryo-Gloves®

Cryogenic protection for ultra-cold environments.

We now offer cryogenic personal protective garments of the highest quality. Cryo-Gloves® and Cryo-Aprons® are essential accessories for those working in ultra cold environments. Providing effective protection in a wide variety of applications.

Available in four different lengths: wrist, mid-arm, elbow, and shoulder. Each length available in sizes S, M, L, and XL.

Features

- Protection from -135°C to 150°C.
- Superior thermal protection.
- Water-resistant.
- Comfortable and lightweight, with excellent dexterity.
- Breathable, stay-dry lining.

Applications

Ultra low and Blast freezers
Cold rooms
Dry ice handling
Liquid Nitrogen, liquid oxygen, liquid helium

Environment

Clinical Laboratory
Bio-Medical
Blood Banks
Frozen food processing
Pharmaceutical

Cryo-Gloves® and Cryo-Aprons® are registered trademarks of Tempshield, Mt Desert ME.

CRYOGENIC PERSONAL PROTECTION EQUIPMENT

III Cryo-Apron®

These aprons are 100% water-proof with adjustable straps, for neck and waist.

Cat. No.	Description	Qty.
71080	Cryo-Apron®, Small 36"	each
71081	Cryo-Apron®, Medium 42"	each
71082	Cryo-Apron®, Large 48"	each
71082-X	Cryo-Apron®, X-Large 54"	each



III Cryo-Protection® Face Shield

The Cryo-Protection Face Shield is not only meant to be used in cryo environments, but in any laboratory environment where face protection is needed. This shield is made from molded Polycarbonate and protects your entire face as well as your upper chest. The head gear offers a two-way adjustable fit.

- Impact-resistant.
- Lightweight. Meets ANSI 787.1.
- Optically clear.
- Shield and head gear resist cryo temperatures.



Cat. No.	Description	Qty.
71079-10	Cryo-Protection® Face Shield	each

III Safety Goggles

Two styles: vented or perforated

- The vented safety goggles help avoid chemical contact.
- Scratch-resistant lenses.



64475-01



64476-01

Cat. No.	Description	Qty.
64475-01	Safety Goggle, 4 Plastic Vent	each
64475-10	Safety Goggle, 4 plastic Vent	10/pk
64476-01	Safety Goggle, Perforated Frame	each
64476-10	Safety Goggle, Perforated Frame	10/pk
64477-01	Safety Goggle, Perforated Frame, Small Size (5¾" x 2½")	each
64477-10	Safety Goggle, Perforated Frame, Small Size (5¾" x 2½")	10/pk



Liquid Nitrogen Handling

A Safe, Responsible Lab

Liquid nitrogen is an extremely low temperature cryogenic liquid commonly used in research labs. It is liquefied under high pressure and can vaporize into a very large volume of gas. Here is some general safety guidance for handling this chemical in a lab environment. As always, a principal investigator or lab manager is responsible for developing and implementing standard operating procedures (SOPs) for the safe handling of chemicals.

Hazards

Extreme Cold

The liquid nitrogen vapor can rapidly freeze tissue and eye fluid. Even brief exposure can cause frostbite, cold burns, or permanent eye damage.

One liter of liquid nitrogen expands to **24.6 ft³/0.7 m³ of nitrogen gas** when it vaporizes.

Asphyxiation

The vapor that appears when liquid nitrogen is exposed to the air is condensed moisture, not the gas itself. The nitrogen gas actually causing the condensation and freezing is completely invisible and has no warning properties such as color, odor, or taste. It expands 695 times in volume when it vaporizes. Therefore, if enough liquid nitrogen is vaporized such that oxygen levels in an enclosed space fall below 19.5%, oxygen deficiency may result and cause unconsciousness. Extreme oxygen deficiency may result in death. Preventing asphyxiation hazards requires well-ventilated rooms when using cryogenics indoors.

Oxygen Enrichment

When transferring liquid nitrogen, ambient oxygen surrounding a cryogen containment system can dissolve and create an oxygen-enriched environment. Liquid oxygen evaporates more slowly than liquid nitrogen and may therefore build up to levels which can increase the flammability of materials such as clothing near the system. Keep equipment containing cryogenic fluids clear of combustible materials in order to minimize fire hazards.

Pressure Buildup and Explosions

Cryogen evaporation can lead to very high pressures in containers. Always ensure that cryogenic liquids are never contained in a closed system. Use a vessel with pressure relief or a venting lid to protect against pressure build-up.

Always ensure that cryogenic liquids are **never contained in a closed system.**

continued...

CRYOGENIC PERSONAL PROTECTION EQUIPMENT

III Cryo-Protection® Safety Kits

Essential PPE for those working with cryogenic liquids.

Each kit includes a pair of Waterproof Cryo-Gloves®, a Cryo-Apron® and a Cryo-Protection® Face Shield.

- Cryogenic protection for ultra-cold applications down to -196°C (-320°F).
- Multi-layered construction with state-of-the-art materials provides maximum thermal protection, flexibility, and dexterity — maintaining both proper function and safety.
- High performance, thermal inner glove lining wicks moisture away from hands, and provides comfort over extended periods.
- Safety certified to meet EU standards for CE Cat. III: EN 511, EN 388, EN 420.



with Mid-Arm Glove Style



with Elbow Glove Style

Applications:

Dispensing/transferring cryogenic liquids, removing samples from cryogenic liquids, operations involving cryogenic containers where there is a chance of exposure to splashes or liquids.

Caution: Not intended for immersion in liquid nitrogen or other cryogenic liquids.

Cat No.	Description	Glove Style	Glove Size	Apron Length	Color	Qty.
71083-01	Cryo-Protection® Safety Kit	Mid-Arm	Small	42"	Blue	kit
71083-02	Cryo-Protection® Safety Kit	Mid-Arm	Medium	42"	Blue	kit
71083-03	Cryo-Protection® Safety Kit	Mid-Arm	Large	42"	Blue	kit
71083-04	Cryo-Protection® Safety Kit	Mid-Arm	X-Large	42"	Blue	kit
71083-05	Cryo-Protection® Safety Kit	Elbow	Small	48"	Blue	kit
71083-06	Cryo-Protection® Safety Kit	Elbow	Medium	48"	Blue	kit
71083-07	Cryo-Protection® Safety Kit	Elbow	Large	48"	Blue	kit
71083-08	Cryo-Protection® Safety Kit	Elbow	X-Large	48"	Blue	kit

III Cryo-Protection® Grip Safety Kits

Essential PPE for those working with cryogenic liquids

Each kit includes a pair of Waterproof Cryo-Grip® Gloves, a Cryo-Apron® and a Cryo-Protection® Face Shield.

- Cryogenic protection for ultra-cold applications down to -196°C (-320°F).
- Multi-layered construction with state-of-the-art materials provides maximum thermal protection, flexibility, and dexterity — maintaining both proper function and safety.
- Grip palm for improved dexterity handling small objects.
- High performance, thermal inner glove lining wicks moisture away from hands, and provides comfort over extended periods.
- Safety certified to meet EU standards for CE Cat. III: EN 511, EN 388, EN 420.



with Mid-Arm Glove Style



with Elbow Glove Style

Applications:

Dispensing/transferring cryogenic liquids, removing samples from cryogenic liquids, operations involving cryogenic containers where there is a chance of exposure to splashes or liquids.

Caution: Not intended for immersion in liquid nitrogen or other cryogenic liquids.

Cat No.	Description	Glove Style	Glove Size	Apron Length	Color	Qty.
71083-09	Cryo-Protection® Grip Safety Kit	Mid-Arm	Small	42"	Blue	kit
71083-10	Cryo-Protection® Grip Safety Kit	Mid-Arm	Medium	42"	Blue	kit
71083-11	Cryo-Protection® Grip Safety Kit	Mid-Arm	Large	42"	Blue	kit
71083-12	Cryo-Protection® Grip Safety Kit	Mid-Arm	X-Large	42"	Blue	kit
71083-13	Cryo-Protection® Grip Safety Kit	Elbow	Small	48"	Blue	kit
71083-14	Cryo-Protection® Grip Safety Kit	Elbow	Medium	48"	Blue	kit
71083-15	Cryo-Protection® Grip Safety Kit	Elbow	Large	48"	Blue	kit
71083-16	Cryo-Protection® Grip Safety Kit	Elbow	X-Large	48"	Blue	kit

CRYOGENIC PERSONAL PROTECTION EQUIPMENT

LOX Safety Kits

Essential PPE for those working with liquid oxygen

Each kit includes a LOX-Glove® pair, a LOX-Apron™ and a Cryo-Protection® Face Shield.

- Static dissipative
- Flame resistant
- Protection from liquid oxygen splashes
- Provides superior LOI (Limited Oxygen Index) results

Applications: General laboratory operations involving liquid oxygen, handling cryogenic valves, compressed gas cylinders, and transfer hoses.

Caution: *Not intended for immersion in liquid nitrogen or other cryogenic liquids.*



with Mid-Arm Glove Style

Cat No.	Description	Glove Style	Glove Size	Apron Length	Qty.
71083-33	LOX Safety Kit	Mid-Arm	Medium	42"	kit
71083-34	LOX Safety Kit	Mid-Arm	Large	42"	kit
71083-35	LOX Safety Kit	Mid-Arm	X-Large	42"	kit
71083-36	LOX Safety Kit	Elbow	Medium	42"	kit
71083-37	LOX Safety Kit	Elbow	Large	42"	kit
71083-38	LOX Safety Kit	Elbow	X-Large	42"	kit

Cryo-Industrial® Safety Kits

Essential PPE for those working with cryogenic liquids in industrial settings

Each kit includes a pair of Cryo-Industrial® Gloves, a Cryo-Industrial® Apron and a Cryo-Protection® Face Shield. Apron length: 42 inches.

- Abrasion resistant.
- Cryogenic protection for ultra-cold applications down to -196°C (-320°F).
- Multi-layered construction with state-of-the-art materials provides maximum thermal protection, flexibility, and dexterity — maintaining both proper function and safety.
- High performance, thermal inner glove lining wicks moisture away from hands, and provides comfort over extended periods.
- Safety certified to meet EU standards for CE Cat. III: EN 511, EN 388, EN 420.



with Mid-Arm Glove Style

Applications: Delivering cryogenic gases, servicing cryogenic systems, working in mining, oil, gas, and LNG facilities.

Caution: *Not intended for immersion in liquid nitrogen or other cryogenic liquids.*

Cat No.	Description	Glove Style	Glove Size	Apron Length	Qty.
71083-18	Cryo Industrial® Safety Kit	Mid-Arm	Medium	42"	kit
71083-19	Cryo Industrial® Safety Kit	Mid-Arm	Large	42"	kit
71083-20	Cryo Industrial® Safety Kit	Mid-Arm	X-Large	42"	kit

Liquid Nitrogen Handling

(continued)

Safety devices should never be tampered with or modified.

Responsible Safety Practices

- Liquid nitrogen should only be handled in well-ventilated areas.
- Transfer liquid nitrogen slowly to minimize splashing and boiling. Use tongs to insert objects into, or withdraw objects from, a cryogenic liquid. Boiling and splashing always occur in these situations.
- Do not transport liquid nitrogen in wide-mouthed glass dewars or dewars that are not protected with safety tape.
- Use only approved containers. Impact-resistant containers designed for extremely low temperatures should be used. Such containers can tolerate the rapid changes and extreme temperature differences encountered in handling liquid nitrogen. Carbon steel, plastic, and rubber are not safe for handling cryogenics. They become brittle at low temperatures.
- Container lids should always fit loosely. Never seal liquid nitrogen in a container. A tightly sealed container will build up pressure as the liquid boils and may explode after a short time.
- Never touch non-insulated vessels containing cryogenic liquids. Flesh will stick to extremely cold materials, including nonmetallic materials.
- Never tamper with or modify safety devices.
- Do not store liquid nitrogen in a confined space. It should only be stored in well-ventilated areas.
- Do not store liquid nitrogen for long periods in an uncovered container.
- Cylinders and Dewars should not be filled to more than 80% of capacity. Expansion of gases during warming may cause excessive pressure buildup.
- Never use tubes or hollow rods as dipsticks. Liquid nitrogen will vaporize inside the tube and expand. Use solid metal or wood dipsticks instead. Plastic is prone to shattering and therefore is not recommended.

Personal Protective Equipment**Eye/face protection**

A full face shield over safety glasses or chemical splash goggles are recommended during the transfer and handling of cryogenic liquids, to minimize injuries associated with splash or explosion.

Skin protection

While handling liquid nitrogen, wear loose-fitting thermal insulated or leather gloves, long sleeve shirts, and trousers without cuffs. Safety shoes are the best option for foot protection.

A special note on insulated gloves

Gloves should be loose-fitting so that they are able to be quickly removed if cryogenic liquid is spilled on them. Insulated gloves are not designed for immersion into a cryogenic liquid. They are meant to provide short-term protection from accidental contact with the liquid.

CRYOGENIC DEWARs & FLASKS

III Nalgene® Polyethylene Dewar Flask

High density polyethylene Dewar flasks with vented, insulated HDPE covers. They are unbreakable, chemically resistant, and withstand temperatures from (-196°)-(+100°C) (-321°-+212°F). Double walls are filled with foamed urethane to minimize heat exchange. May be used for short term storage of dry ice-solvent, liquid nitrogen, or for use as a hot bath. They are ideal for storing frozen biological specimens. All available sizes feature molded-in-ribs for stability and a carrying handle on the 1, 2 and 4 liter sizes.

Catalog Number	Capacity (L)	Overall Hgt. mm/in.	Mouth I.D. mm/in.	Qty
62038-01	1	229/9	95/3¾	each
62038-02	2	260/10¼	121/4¾	each
62038-04	4	324/12¾	146/5¾	each
62038-10	10	457/18	197/7¾	each

Replacement Covers for Dewar Flasks

Catalog #	For Dewar #	Qty
62039-01	62038-01	5/pk
62039-02	62038-02	5/pk



III Foam Cryo Dewars

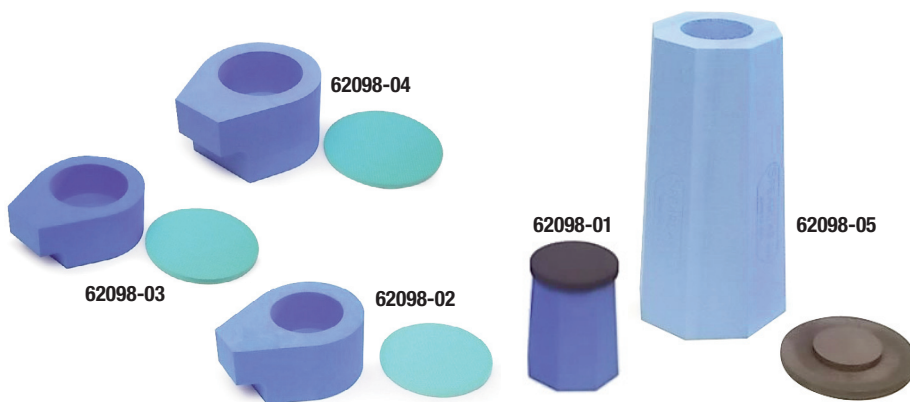
The preferred containers for handling liquid nitrogen and cryogenic materials.

These foam dewars are safe, durable, and have superior insulating properties compared to stainless or glass, at a fraction of the cost!

Foam dewars use fine closed cell foam for insulation, which is chemically inert and mechanically durable enough to be exposed directly to liquid nitrogen, without leaking or degrading.

Also, due to the lower thermal mass, foam vessels cause less liquid nitrogen boiloff when filled, and will accumulate less frost. This results in less liquid nitrogen being used.

All vessels feature a foam lid.



Cat #	Description	Vessel Capacity	Cylindrical Cavity Dim.	Qty.
62098-01	Foam Cryo Dewar Mini	130-175 ml	2" Dia x 3.5" Depth	each
62098-02	Foam Cryo Dewar Small	500 ml	4.5" Dia x 2.8" Depth	each
62098-03	Foam Cryo Dewar Standard	800 ml	5.8" Dia x 2.8" Depth	each
62098-04	Foam Cryo Dewar Large	1400 ml	6.3" Dia x 3.8" Depth	each
62098-05	Foam Cryo Dewar Tall	1800 ml	3.5" Dia x 12.3" Depth	each

III Low Form Shallow Dewars

Low Form Shallow Dewars permit essential operations that are not practical with standard cylindrical or spherical Dewars. These operations include:

- Insertion of small flasks in Dewar
- Agitation in flask with magnetic stirrer
- Rapid freezing and recovery of tissue/organ specimens
- Tempering of stirring rods, pestles and other small objects

The protective aluminum bases on both the hemispherical and cylindrical dewar styles extend the full height of the Dewars. Note that protected vacuum tip-off tubulations are offset to the side to minimize space between the Dewar bottoms and magnetic stirrers. The hemispherical line has been expanded to provide additional Dewars to fit larger flask sizes.



Hemispherical Dewars

Image	Cat. #	Description	I.D.(mm)	O.D.(mm)	Height(mm)	Flask (mm)	Cover	Qty
A	61886-01	150 ml, Full Base	80	106	66	100	Full Aluminum	each
B	61886-02	275 ml, Full Base	100	132	75	250	Full Aluminum	each
C	61886-03	600 ml, Full Base	140	165	95	500	Full Aluminum	each
D	61886-04	1000 ml, Full Base	160	186	119	1000	Full Aluminum	each
E	61886-05	2000 ml, Full Base	194	240	133	2000	Full Aluminum	each

Cylindrical Dewars

Image	Cat. #	Description	I.D.(mm)	O.D.(mm)	Height(mm)	Flask (mm)	Cover	Qty
A	61887-01	220 ml, Full Base	65	87	93	75	Full Aluminum	each
B	61887-02	150 ml, Full Base	80	101	66	100	Full Aluminum	each
C	61887-03	350 ml, Full Base	80	101	117	100	Full Aluminum	each
D	61887-04	850 ml, Full Base	130	160	110	500	Full Aluminum	each
E	61887-05	2500 ml, Full Base	170	210	185	1000	Full Aluminum	each

CRYOGENIC DEWARs & FLASKS

Lab Grade Dewars

Rated the most efficient glass Dewars in the World!

- Rigid quality control when manufacturing, along with superior design.
- Weighted bases on all models for stability
- Supplied stopper tops off Dewars to minimize evaporation
- Evacuation tip completely shielded for increased protection
- Optional full length metal housing on most models for added protection
- No pads between walls on cylindrical Dewars eliminating this heat transfer potential
- Efficiency assured by rigid bakeout and evacuation control (evacuated to 10⁻⁵ torr or better)



The protective aluminum bases on both styles extend the full height of the Dewars. Note that protected vacuum tip-off tubulations are offset to the side to minimize space between the Dewar bottoms and magnetic stirrers. All Wide Mouth models can be obtained with an exterior metal housing that extends nearly to the top rim of the Dewar (a slight extension of the glass Dewar facilitates pouring). This housing adds the safety of metal to the efficiency of glass, particularly important in handling operations. Lab Grade Dewars with a narrow mouth are ideal for temporary storage or for room-to-room transfer. Standard features include low evaporation cork stopper, fully shielded evacuation tip, weighted bases and partial aluminum base. All Lab Grade Dewars are manufactured of borosilicate glass for liquid nitrogen service. A sturdy mesh cover facilitates a firm grip, provides a cushion against bumping, and increases protection.

Image	Cat. #	Description	I.D.(mm)	O.D.(mm)	Height(mm)	Type	Cover	Qty
A	61888-01	350 ml, Standard Base	70	86	157	Cylindrical, Wide Mouth	Mesh	each
B	61888-02	350 ml, Full Base	70	86	157	Cylindrical, Wide Mouth	Full Aluminum	each
C	61888-03	1900 ml, Standard Base	120	150	252	Cylindrical, Wide Mouth	Mesh	each
D	61888-04	1900 ml, Full Base	120	150	252	Cylindrical, Wide Mouth	Full Aluminum	each
E	61888-05	1000 ml, Standard Base	70	86	337	Cylindrical, Wide Mouth	Mesh	each
F	61888-06	1000 ml, Full Base	70	86	337	Cylindrical, Wide Mouth	Full Aluminum	each
G	61888-07	4300 ml, Standard Base	143	178	365	Cylindrical, Wide Mouth	Mesh	each
H	61888-08	4300 ml, Full Base	143	178	365	Cylindrical, Wide Mouth	Full Aluminum	each
I	61888-09	665 ml, Standard Base	70	86	241	Cylindrical, Wide Mouth	Mesh	each
J	61888-10	665 ml, Full Base	70	86	241	Cylindrical, Wide Mouth	Full Aluminum	each
K	61888-11	2000 ml, Standard Base	158	184	386	Spherical, Narrow Neck, 32 I.D.-64 O.D.	Aluminum	each
L	61888-12	5000 ml, Full Base	216	255	456	Spherical, Narrow Neck, 53 I.D.-79 O.D.	Aluminum	each

Lab Grade Dewars with Handles

This handled Dewar vacuum flask is perfect for temporary storage and liquid gas service, especially Liquid Nitrogen. With a wide-mouth design and a fully silvered borosilicate glass inner flask, it incorporates the convenience of a coated handle and full aluminum base on the most popular cylindrical model sizes from the Lab Grade line. All models use fitted polyethylene caps for extended holding.

- Evacuated to 10⁻⁵ torr for efficiency.
- Bottom of Dewar base has a cushioned rim for added stability.
- The Dewar lip is extended to facilitate pouring.
- Polyethylene stopper, specially vented, minimizes evaporation.
- Aluminum metal housing extends full length of Dewar for added protection.



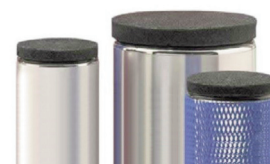
Image	Cat. #	Description	I.D.(mm)	O.D.(mm)	Height(mm)	Type	Cover	Qty
A	61889-01	350 ml, Full Base, Handle	70	86	157	Cylindrical, Wide Mouth	Full Aluminum	each
B	61889-02	1900 ml, Full Base, Handle	120	150	252	Cylindrical, Wide Mouth	Full Aluminum	each
C	61889-03	4300 ml, Full Base, Handle	143	178	365	Cylindrical, Wide Mouth	Full Aluminum	each
D	61889-04	1000 ml, Full Base, Handle	70	86	337	Cylindrical, Wide Mouth	Full Aluminum	each

Dewar Accessories

Caddies: Lightweight and sturdy, the Caddie for Part Numbers 61888-11 and 61888-12 now comes in Aluminum. These prove ideal for local carrying or decanting Lab Grade Spherical Dewars. They can be used repeatedly by simply removing bottom retainer, inserting a new Dewar, and replacing the retainer. Gaskets help center Dewar and hold it firmly in place. The aluminum top snaps into place.

Cat No.	Description	Qty.
61890-01	Caddie for 61888-11	each
61890-02	Caddie for 61888-12	each

Stoppers: Lab Grade Dewars are supplied with stoppers for both the wide mouth and narrow mouth cylindrical. Need another one? Replacement stoppers can be purchased separately. Use the Dewar model number to identify the stopper you need.



Cat No.	Description	Qty.
61890-03	Stopper for 61888-01, 61888-02, 61888-05, 61888-06, 61888-09, 61888-10, 61889-01, 61889-04	each
61890-04	Stopper for 61888-03, 61888-04, 61889-02	each
61890-05	Stopper for 61888-07, 61888-08, 61889-03	each



CRYOGENIC DEWARS & FLASKS

III Narrow Mouth Dewars

Lab grade dewars. Made from borosilicate glass and vacuumed to 10^{-7} torr, without pads between walls, eliminating heat transfer for maximum efficiency. They come with low evaporation stopper and weighted base.

Spherical Dewar Flask — Metal casting body does not extend the full length of the flask. Florence flask design, offers the most efficient way of holding liquid nitrogen. Available with an optional Fiber Glass Caddie for safety, easy carrying, and decanting liquids from the above flasks.

Cat. No.	Description	Neck I.D.	Neck O.D.	Int. Depth	Ext. Depth	Qty.
62019-20	2 L Narrow Mouth Dewar	32mm	174mm	335mm	386mm	each
62019-50	5 L Narrow Mouth Dewar	53mm	255mm	370mm	456mm	each
62019-22	Dewar Caddie for 62019-20					each
62019-52	Dewar Caddie for 62019-52					each



III Cryogenics Liquid Nitrogen Transfer Vessels

Bench top storage.

Thermo-Flask provides safe extended temperature retention for specimens stored in liquid nitrogen or solid CO₂, and thus have a broad range of applications in industrial, educational, and clinical fields.

Thermo-Flask features borosilicate glass inner liners which have been evacuated to 1×10^{-5} mm of Hg to provide maximum coolant retention.

III 1. Stainless Steel Thermo-Flask® with Handle and Lid

- Durable, corrosion-resistant stainless steel exterior construction with carrying handle and vented lid secured by toggle clamps.
- Recommended for the safe transport of liquid nitrogen.

Catalog #	Model	Capacity Liter	Inside Dia. Inches (cm)	Outside Dia. Inches (mm)	Height Inches (mm)	Ship Wt. Lbs (kg)
61891-01	2122	1.0	3 3/4 (8.5)	4 (11.6)	9 (22.9)	6 (2.7)
61891-02	2123	2.0	4 1/4 (10.8)	5 (13.9)	10 1/2 (26.7)	8 (3.6)
61891-04	2124	4.5	6 (15.2)	7 (18.4)	13 3/4 (34.9)	10 (4.5)



61891-Series

III 2. Shallow Wide Mouth Flasks

- Convenient dish-shaped design is ideal for bench top use with crushed ice, dry-ice, or alcohol.
- Also great as a hot liquid container.
- Stainless steel jacket and cushioned base (lids not included) will provide years of trouble-free use.
- Excellent for use as a cold trap.

Catalog #	Model	Capacity Liter	Inside Dia. Inches (cm)	Outside Dia. Inches (mm)	Height Inches (mm)	Ship Wt. Lbs (kg)
61892-10	2129	1000	5 1/2 (13/6)	7 1/2 (17.8)	4 (10.6)	8 (3.6)
61892-19	2130	1900	6 (15.2)	7 (18.4)	5 (14.0)	10 (4.5)



61892-Series

III 3. Enameled Steel Thermo-Flask®

- Safe storage of liquified gases, temperature retention, and versatility at an economical price.
- Enameled steel exteriors, borosilicate glass liners and cushioned bases.
- 62029 includes an insulated lids and fold-down carrying handle.
- Ideal for cold traps.

Catalog #	Model	Capacity Liter	Inside Dia. Inches (cm)	Outside Dia. Inches (mm)	Height Inches (mm)	Ship Wt. Lbs (kg)
Without Lids and Carrying Handles						
62020	2113	0.2	1 (3.8)	2 (6.9)	8 (21.6)	4 (1.8)
62024	2117	1.5	3 (8.9)	5 (12.7)	11 (29.2)	7 (3.2)
With Lids and Carrying Handles						
62029	2121	10.0	8 (20.3)	9 (23.3)	17 (343.7)	16 (7.3)

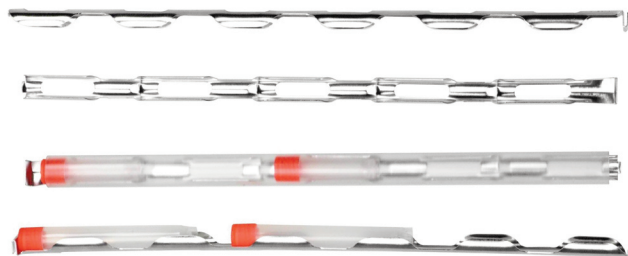


CRYOGENIC DEWARS & FLASKS

III Cryogenic Vial Canes

Organize cryogenic samples in dewars.

Aluminum canes hold vials for freezer storage or immersion in LN₂ Dewar. For use in liquid phase, use approved vials only. Canes bend to fit all major cryogenic vial brands.



Cat. #	Length	Number of Vials	Vial Size	Qty.
61067-03	290 mm	5	Up to 2.0ml	12/pk
61067-13	300 mm	6	Up to 5 ml	12/pk

III Cryo Storage Canes

Made from aluminum, 11-5/16" (28.7 cm) long. Firmly holds most Cryo Vials for liquid nitrogen storage. It stores up to 6 standard cryo vials.



Cat No.	Description	Qty.
61080-10	CryoStorage™ Cane	10/pk
61080-50	CryoStorage™ Cane	50/pk

III CryoFlex® Tubing

CryoFlex® is a hollow tube from polyethylene which is useful for encasing and sealing cryo vials, when storing samples immersed in liquid nitrogen. The tubing measures 3/16" diameter x 19 1/16" long (1.4 x 50cm)



Cat #	Description	Pack
61083-10	CryoFlex® Tubing	15/pk

III CryoSleeve®

Clear polyvinyl chloride. Ideal for enclosing Cryo Storage Canes (EMS #61080-10) for extra security during handling and storage. Fits over most other canes. Will not become brittle during freezing or thawing. Will not shred or tear after repeated use like cardboard. Length: 10 3/16" (27.5cm L).



Cat #	Description	Pack
61082-10	Cryo Sleeve®	100/pack

III EMS Cryo Preparation Kit

Electron Microscopy Sciences is proud to introduce a cryo starter kit which includes all of the supplies necessary to begin Cryo EM. The kit includes a variety of our Cryogenic Grid Storage Boxes, Manipulation Tweezers and Gripper Tools, as well as our C-Flat Holey Carbon Cryo Grids. The Tweezers we are using are coated as well as anti-magnetic.



The kit comes with the following pieces in a small display box:

- Cryo Grid Box, Round, w/Lid
- Cryo Grid Box, Square, w/Lid
- Cryo Grid Box, Round, wo/Lid
- Cryo Grid Box, w/Pin Type Lid for FEI Vitrobot
- Cryo Grid Box, w/Pin Type Lid
- Cryo Grid Box, w/Lid, Sq for Gatan CT3500
- Gripper Tool for Cryo Grid Boxes
- C-flat™ Holey Carbon Grids for TEM - Copper Only (CF-222C-25)
- ESD Ergonomic Tweezers (0304-5SAESD-ET2)
- ESD Epoxy-Coated Tweezers (0302-5-CO)

Cat. No.	Description	Qty.
71166-K	Cryo Preparation Kit	kit

Additional Kit Supplies

71166-10	Cryo Grid Box, Round, w/Lid	each
71166-10-G	Cryo Grid Box, Round, w/Lid, Green	each
71166-10-W	Cryo Grid Box, Round, w/Lid, White	each
71166-20	Cryo Grid Box, Square, w/Lid	each
71166-30	Cryo Grid Box, Round, wo/Lid	each
71166-40	Cryo Grid Box, w/Pin Type Lid for FEI Vitrobot	each
71166-50	Pin Type Lid only for Cryo Grid Box	each
71166-50B	Cryo Grid Box, w/Pin Type Lid	each
71166-60	Cryo Grid Box, w/Lid, Sq for Gatan CT3500	each
71166-SP	Gripper Tool for Cryo Grid Boxes	each

C-flat™ Holey Carbon Grids for TEM - Copper Only

Cat. No.	Hole Size	Hole Spacing	TEM mesh	TEM Grid	Qty.
CF-222C-25	2.0 µm	2.0 µm	200	Cu	25/pk

ESD Tweezers

Cat. No.	A mm	B mm	Handle	Alloy	Qty.
0304-5SAESD-ET2	0.06	0.10	Black	Antimagnetic	each
0302-5-CO	0.06	0.1	Epoxy Coated	Inox 02	each

CRYOGENIC DEWARS & FLASKS

EMS Cryo Pucks G2

Organized storage and transport for Cryo-EM specimen grids under cryogenic conditions.

We now offer a broad selection of kits and bundles to meet your needs.

- 12 wells per puck for Cryo Grid Boxes
- Each puck has a unique alpha-numeric code for easy identification
- Indexed wells for sample tracking
- Holds round Cryo Grid Boxes
- Puck depth accommodates pin type lid style Cryo Grid Boxes
- When using Cryo Grid Boxes with flat-style lids, you can store up to 24 Cryo Grid Boxes per puck
- Special tweezer slots allow easy and secure removal of Cryo Grid Boxes
- Shelved shipping Cane holds up to 8 pucks
- Shelved Storage Cane hold 10 packs
- Magnets for strong puck retention but easy removal
- 2D Barcoding and custom puck serialization for advanced sample tracking
- See-through, affixed lid retains liquid nitrogen during transfers to protect samples
- Lid-lock feature provides easy and secure loading
- 10 Unique puck colors available for easy identification (available upon request)

Limiting exposure to ambient conditions is recommended, but brief periods during puck placement and retrieval has not resulted in frost or ice accumulation. Contact us for ordering pucks in a specific color combination. Available colors include: Red, Blue, Purple, Grey, Black, Gold, Green, Violet, Brown, Orange.



Ordering Information

EMS Cryo Pucks G2 Basic Starter Set

Includes:

- (10) G2 EMS Cryo Pucks
- (1) Shelved Storage Cane
- (1) Shelved Puck Shipping Cane
- (1) Angled Cryo-Tongs

Cat. No.	Description	Qty.
71168-00	1-color	set
71168-03	rainbow	set

EMS Cryo Pucks G2 Advanced Starter Set

Includes:

- (10) G2 EMS Cryo Pucks
- (1) Puck Dewar and Insert
- (1) Shelved Puck Shipping Cane
- (1) Cryo-EM Grid Box Tweezers
- (1) Shelved Storage Cane
- (1) Screwdriver for Lid Lock
- (1) Angled Cryo-Tongs
- (1) Puck & Cane Tracking Log Book
- (1) Grasping Tongs

Cat. No.	Description	Qty.
71168-04	1-color	set
71168-05	rainbow	set

EMS Cryo Pucks G2 Facility HC34/VHC35 Starter Set

Includes:

- (60) G2 EMS Cryo Pucks
- (1) Puck Dewar and Insert
- (1) Shelved Puck Shipping Cane
- (1) Cryo-EM Grid Box Tweezers
- (6) Shelved Storage Cane
- (1) Screwdriver for Lid Lock
- (1) Angled Cryo-Tongs
- (1) Puck & Cane Tracking Log Book
- (1) Grasping Tongs
- (1) Barcode Reader

Cat. No.	Description	Qty.
71168-06	1-color	set
71168-14	rainbow	set

EMS Cryo Pucks G2 Facility HC34/VHC35 Advanced Set

Includes:

- (60) G2 EMS Cryo Pucks
- (2) Cryo-EM Grid Box Tweezers
- (1) Shelved Puck Shipping Cane
- (2) Screwdriver for Lid Lock
- (6) Shelved Storage Canes
- (2) Puck & Cane Tracking Log Book
- (2) Angled Cryo-Tongs
- (1) Barcode Reader
- (2) Grasping Tongs
- (1) HC34 Dewar & Roller Base
- (2) Puck Dewar and Insert
- (1) CX100 Dryshipper and Case

Cat. No.	Description	Qty.
71168-15	1-color	set
71168-16	rainbow	set

EMS Cryo Pucks G2 Facility HC35 Starter Set

Includes:

- (100) G2 EMS Cryo Pucks
- (1) Puck Dewar and Insert
- (1) Shelved Puck Shipping Cane
- (1) Cryo-EM Grid Box Tweezers
- (10) Shelved Storage Cane
- (1) Screwdriver for Lid Lock
- (1) Angled Cryo-Tongs
- (1) Puck & Cane Tracking Log Book
- (1) Grasping Tongs
- (1) Barcode Reader

Cat. No.	Description	Qty.
71168-17	1-color	set
71168-18	rainbow	set

EMS Cryo Pucks G2 Facility HC35 Advanced Set

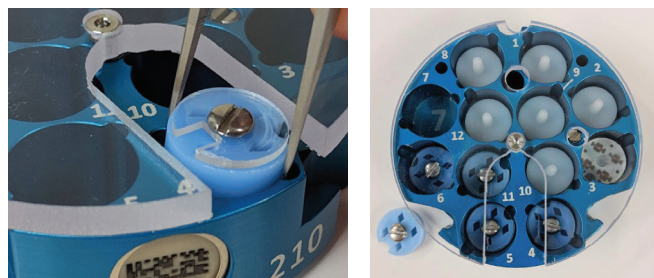
Includes:

- (100) G2 EMS Cryo Pucks
- (2) Cryo-EM Grid Box Tweezers
- (1) Shelved Puck Shipping Cane
- (2) Screwdriver for Lid Lock
- (10) Shelved Storage Canes
- (2) Puck & Cane Tracking Log Book
- (2) Angled Cryo-Tongs
- (1) Barcode Reader
- (2) Grasping Tongs
- (1) HC35 Dewar & Roller Base
- (2) Puck Dewar and Insert
- (1) CX100 Dryshipper and Case

Cat. No.	Description	Qty.
71168-19	1-color	set
71168-20	rainbow	set

CRYOGENIC DEWARS & FLASKS

EMS Cryo Pucks G2 (continued)



Cryo Pucks and Cans

Cat. No.	Description	Qty.
71168-21	EMS Cryo Pucks G2	each
71168-22	EMS Cryo Pucks G2	10/pk
71168-25	EM Puck Grasping Tongs G2	each
71168-09	G2 Shelved Storage Cane - HC34/VHC35	each
71168-27	G2 Shelved Storage Cane - HC35	each
71168-28	G2 Shelved Storage Cane - Custom	each
71168-12	G2 Shelved Puck Shipping Cane - CX100	each
71168-11	Bent Cryo Tong	each



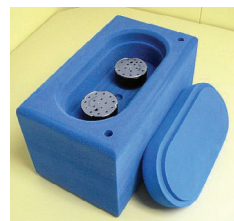
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71168-13



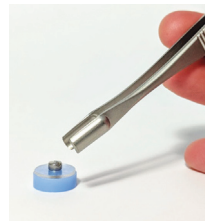
71168-42



71168-10



71168-25



71168-39

Cryo Equipment

71168-13	Cryo Express Dry Shipper with Case	each
71168-32	HC34 34 liter High-Capacity Refrigerator	each
71168-33	HC35 35 liter High-Capacity Refrigerator	each
71168-34	VHC35 Very High Capacity Refrigerator w/ Canisters (Holds up to 6 Puck Storage Cans)	each
71168-35	Roller Base for HC34, HC35 & VHC35	each

Cryo Puck Accessories

71168-08	EMS Cryo Puck Storage Case	each
71168-10	Double Puck Loading Dewar with Lid	each
71168-38	Dewar Insert	each
71168-39	Tweezers	each
71168-40	Lid Lock Screwdriver	each
71168-41	Puck and Cane Log Sheets	each
71168-42	Barcode Reader	each

Remaining EMS Cryo Pucks G1

While supplies last...

71168-02	EMS Cryo Pucks G1	each
71168-07	EMS Cryo Pucks G1	7/pk

Cryogenic Grid Storage Boxes; Metal

These cryogenic grid boxes are used for the storage and transfer of standard grids as well as AutoGrid rings. These boxes are durable and long-lasting. Each has a unique number, to allow for tracking.



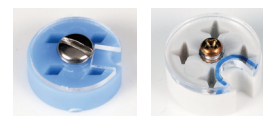
- 4-well design
- Made from medical-grade aluminum (cryogenic-grade)
- Autoclavable
- Solvent resistant
- Pin-type lid

Cat No.	Description	Qty.
71165-05	Cryogenic Grid Storage Boxes, Metal	each

Cryogenic Grid Storage Boxes

Specimen grid boxes for storing or transferring cryogenic TEM specimen grids.

- Four diamond shaped slots
- Non-static clear covershield held in place with stainless steel screw, tapped in the center of the box
- Box fits the FEI Vitrobot™, Gatan 626™, Gatan 3500™
- Available with lid, pin-type lid, or without lid



71166-10

71166-10-W



71166-20

71166-50



71166-40

71166-60

Cat No.	Description	Qty.
71166-10	Cryo Grid Box, Round, w/Lid	each
71166-10-G	Cryo Grid Box, Round, w/Lid, Green	each
71166-10-W	Cryo Grid Box, Round, w/Lid, White	each
71166-10-W-GB4R	Cryo Grid Box, Round, w/Lid, White	each
71166-20	Cryo Grid Box, Square, w/Lid	each
71166-30	Cryo Grid Box, Round, w/Lid	each
71166-40	Cryo Grid Box, w/Pin Type Lid for FEI Vitrobot	each
71166-50	Pin Type Lid only for Cryo Grid Box	each
71166-50B	Cryo Grid Box, w/Pin Type Lid	each
71166-60	Cryo Grid Box, w/Lid, Sq for Gatan CT3500	each

Gripper Tool for Cryo Grid Boxes



Use this tool to open the lid of our cryogrid box (EMS Cat. #71166-40). It features a spring loaded vise that grips the lid securely and a ribbed barrel for ease in unscrewing the lid. Made of high quality aluminum, it can be used with liquid nitrogen. Can also be used to carry the cryo grid box.

Cat No.	Description	Qty.
71166-SP	Gripper Tool for Cryo Grid Boxes	each

Cryogenic Grid Box Handling Tool



This tool has one end which is threaded and fits into the center hole of the Cryogenic Grid Storage Box (where the screw goes in to secure the lid) for moving the box in and out of the cryogenic chamber.

Cat No.	Description	Qty.
71165-50	Cryogenic Grid Box Handling Tool	each

FREEZE SUBSTITUTION

EMS Freeze Substitution Kit

Overview

Freeze Substitution is a process for low temperature dehydration and fixation of rapidly frozen cells that usually takes days to complete. With the amazing work of K.L. McDonald and R.I. Webb¹ they have now introduced a new method for freeze substitution with a basic kit that we are proud to offer.

With this unique kit researchers are now able to achieve excellent freeze substitution results in as little as 90 minutes for cells of small volume such as bacteria and tissue culture cells. For those cells of greater volume or that have significant diffusion barriers such as cuticles or thick cell walls, one can extend the time to 3 hours simply by putting a lid on the box.

Kit Features

- EMS 111 Platform Shaker
- EMS 002 Ice Chest
- EMS 003 Heater Block
- EMS 004 Temperature Probe
- EMS 005 Cryo Tubes
- EMS 006 Data Logger



EMS 111 Platform Shaker



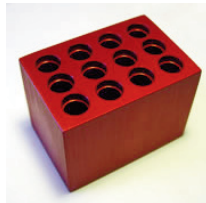
EMS 004 Temperature Probe



EMS 002 Ice Chest



EMS 005 Cryo Tubes



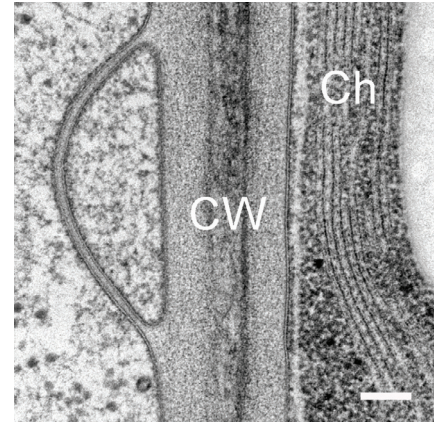
EMS 003 Heater Block



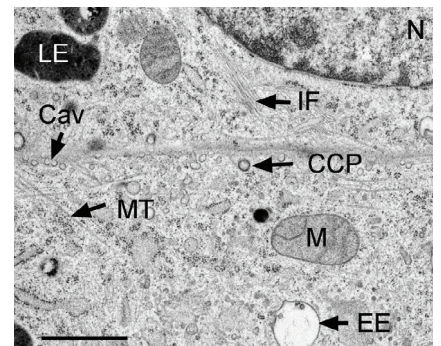
EMS 006 Data Logger

Process of Freeze Substitution

1. Cool the metal block by submerging completely in liquid nitrogen in the ice bucket. Leave for 5 minutes or until the "boiling" stops.
2. In a separate box, transfer samples into cryovials with frozen fixative, keeping everything at liquid nitrogen temperatures. Seal tightly and be very sure that there is no liquid nitrogen trapped in the vial. Trapped liquid can cause the vials to explode upon warming. It is best to use a room temperature lid when sealing the tube.
3. Put the vials with samples into holes in the cooled metal block.
4. Go to a PC (Macs won't work) that has the Lascar datalogger software installed and name and start the program.
5. Pour off the liquid nitrogen from the block and box, making sure not to let the cryovials come out of the holes in the block.
6. Arrange the block so the cryovials are horizontal and put the tops of the vials against one side of the foam box. Use a piece of foam or wadded up paper behind the block so it keeps the vials from falling out of the block during shaking.
7. Turn on the shaker at 100-125 rpm and allow it to gradually warm until the temperature is at least 0°C before removing the vials for rinsing and resin infiltration. This operation should take place in a fume hood in case there is any leakage of osmium-acetone from poorly sealed vials. Freeze substitution will take about 2 hours with the lid off, and about 3 hours with the lid on (though this may vary from lab to lab).
8. Remove the vials from the metal block and place them onto a rocker at room temperature and wait until they come to about 20°C, then stop the datalogger and save the files.



Tobacco leaf prepared as above showing details of the cell wall (CW) and chloroplast (Ch) and cell membranes. Bar = 100 nm.



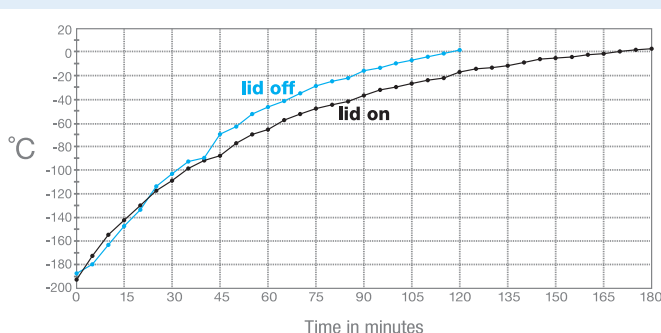
A BHK cell processed in 90 minutes by the quick FS method. Abbreviations: CCP = clathrin-coated pit, Cav = caveolae, EE = early endosome, IF = intermediate filaments, LE = late endosome, M = mitochondrion, MT = microtubule. Bar = 1 µm. Modified from McDonald and Webb (2011).

9. Rinse out the fixative with 3-4 rinses in acetone and proceed to infiltration and embedding. Take care opening the vials as pressure built up inside can cause a spray of the freeze substitution media.

**NOTE: No dry ice is required for this procedure

Why does it work?

- In well-frozen samples the water molecules are not likely to move around very much, even as the temperatures rise to a point where you would expect hexagonal ice (Dubochet, 2007).
- Agitation should speed up the substitution of



Warming Curve With and Without Use of Lid

Typical temperature curves using the EMS Freeze Substitution Kit. With the lid OFF the time to 0°C is about 2 hours. With the lid ON the time is about 3 hours. Results may vary depending on the particular setting of the shaker. For example, hood air flow can have a definite influence on the shape of the curves.

C. elegans Cross-section through nerve cells in the head of C.elegans. A BHK cell processed in 90 minutes by the quick FS method. Abbreviations: CCP = clathrin-coated pit, Cav = caveolae, EE = early endosome, IF = intermediate filaments, LE = late endosome, M = mitochondrion, MT = microtubule. Bar = 1 µm. Modified from McDonald and Webb (2011). yeast Mitotic spindle microtubules and spindle pole bodies in the budding yeast, *Saccharomyces cerevisiae*.

FREEZE SUBSTITUTION, DRY ICE MAKERS

III EMS Freeze Substitution Kit (continued)

acetone for water molecules in much the same way that agitation speeds up development of film.

- Water in the substitution mixture does not appear to slow down substitution as was once believed. In fact, it is known to help membrane contrast (Buser and Walther, 2008)..

Does it work for all samples?

If a sample can be successfully freeze substituted by the old methods, then the quick FS method should work just as well.

McDonald and Webb have used this procedure with complete success for over a year and a half for all the samples they have freeze substituted.

If samples show evidence of ice damage then it is because they were damaged during freezing and not during freeze substitution.

Safety Reminders

The equipment should be used in a fume hood in case there is a leak of osmium-acetone during a run. We suggest doing a trial run with acetone only in the cryovials to make sure that they are sealed correctly.

When sealing cryotubes that contain frozen fixative and sample, use a warm cap so that the O-ring is flexible and gives a good seal.

Take care when removing the caps after a FS run because there is some pressure built up inside the cryotubes and you can spray osmium/acetone on your hands if you are not careful. Cover the cap with a piece of lab tissue when removing and wear gloves.

Ordering Information

Cat. No.	Description	Qty.
34500	EMS Freeze Substitution Kit with Shaker	kit
34500-S	EMS Freeze Substitution Kit without Shaker	kit
34502	EMS 111 Platform Shaker, 115 Volt	each
62013-10	EMS 002 Ice Chest	each
34504-B	EMS 003 Heater Block, 12mm	each
34504-R	EMS 003 Heater Block, 13mm	each
34505	EMS 004 Temperature Probe	each
34506	EMS 005 Cryo Tubes	100/pk
34507	EMS 006 Data Logger	each

Acknowledgements:

K.L. McDonald* and R.I. Webb**, *Electron Microscope Laboratory, University of California, Berkeley, CA and ** Centre for Microscopy and Microanalysis, University of Queensland, Queensland, Australia

References:

McDonald, K, Webb, R. (2011) Freeze Substitution in 3 hours or less. J Microscopy 243, 227-233

Dubochet, J. (2007). The physics of rapid cooling and its implications for cryoimmobilization of cells. Meth. Cell Biol. 79, 7-21.

Buser, C., & Walther, P. (2008). Freeze substitution: the addition of water to polar solvents enhances the retention of structure and acts at temperatures around -60°C. J. Microsc. 230(2), 268-277.

III Frigmat® – Dry Ice Maker

US. Patent Des. 220,454

Produce the dry ice you need right in the lab.

The Frigmat® Dry Ice Maker eliminates the need to buy large quantities of dry ice when only a few blocks are needed. It employs the Joule-Thomson effect to produce a solid 454 gm (16 oz.) block of dry ice in one to two minutes. A brass relief valve safely vents excess gas. Removing the dry ice block requires just 30 seconds. Each 50 lb. cylinder of liquid CO₂ will make 8 to 9 blocks of dry ice, each measuring 8.5cm (3 $\frac{3}{8}$ " x 11cm (4 $\frac{3}{8}$ "). The unit is made from epoxy-coated steel with an aluminum ice chamber and brass valves with four non-skid rubber feet. Dimensions are 30 x 17 x 13 cm H (12" x 6 $\frac{1}{2}$ " x 5"). Shipping weight: 5.5kg (12 lbs) and includes a 1.8m (6 ft) nickel-plated copper connecting tube with standard GCA 320 (0.830" – 14) thread couplings for easy attachment to an LCO₂ cylinder.



Cat. No.	Description	Qty.
62056-10	Frigimat® Dry Ice Maker (US Model)	each
62056-20	Frigimat® Dry Ice Maker (Europe Model)	each
62056-22	Frigimat® Dry Ice Maker (Japan Model)	each

III Frigmat® CUB – Dry Ice Maker

Economical block dry ice maker for on-demand use.

In only a few minutes, this compact device can be attached to a liquid CO₂ cylinder and will produce a ready-to-use 250 – 300 gram block of dry ice. (Each 50 lb. cylinder makes from 10 to 16 blocks of dry ice). Set-up and use is safe and simple. Dry ice production can be viewed through the transparent polycarbonate body that secures without clamps or screws or tools ensuring easy removal of the solid block of dry ice and connection from the CO₂ cylinder. A rugged nickel plated "pigtail" connects the Frigmat® Cub – Dry Ice Maker to the CO₂ cylinder valve. The system operates at very low pressure (displayed on the built-in dial gauge) and incorporates multiple pressure relief safeguards.



Cylinder Connection: 1.8m (6 ft) nickel-plated copper connecting tube with standard CGA 320 thread coupling for easy attachment to a CO₂ cylinder.

Cylinder Connection: 1.8m (6 ft) nickel-plated copper connecting tube with standard CGA 320 thread coupling for easy attachment to a CO₂ cylinder.

Cat. No.	Description	Qty.
62057-10	Frigimat® Cub – Dry Ice Maker	each

III FreezGuard™ Alarm

Alarm will sound for up to three days.

Prevent costly, time consuming sample loss with this practical battery operated system. The FreeGuard™ Alarm monitors freezers and coolers and detects any variance from temperatures between -20°C and 13°C (-5°F to 55°F), ±1°C, which are preset by the user. The resonant alarm will continue to sound for up to three days if the temperature falls out of the pre-set range. Should the temperature correct itself, an LED will indicate that a variance has occurred. The alarm can be reset manually. A beep will signal when the 9V battery (not included) is low. For added protection, and extra life, a second battery can be connected. The unit mounts with self-adhesive tape or screw. Unit comes with a 3 meter probe lead, and measures 86W x 35D x 26mmH (3 5/16 x 1 1/2 x 5 1/16). The weight without the battery is 144 g (5.1 oz).



Cat. No.	Description	Qty.
72092-10	FreezGuard, Celsius	each
72092-20	FreezGuard, Fahrenheit	each

ULTRA-RAPID FREEZING

III EMS-002 Rapid Immersion Freezer

Overview

Ultra-rapid freezing, when used in conjunction with appropriate accessory processing methods has long been recognized to provide reservation of ultrastructure, localization of soluble inorganic and organic species, and preservation of antigenicity that is superior to that obtainable through conventional chemical fixation techniques and the use of cryoprotectants. Furthermore, it is the only procedure currently available for capturing events that occur on timescales less than a few seconds. Successful ultrarapid freezing requires that heat be withdrawn so rapidly from an unfixed un-cryoprotected sample that no ice crystal damage is visible at the electron microscopic level of analysis. This is not a trivial undertaking, and until recently, the improvements gained through ultrarapid freezing were often paid for in terms of decreasing productivity. However, over the last several years, improvements in methodology and the introduction of refined equipment for the ultrarapid freezing of biological samples has significantly improved both the ease of application of technique and the yield of well preserved samples. The EMS-002 Rapid Immersion Freezer allows for a reliable virtually routine freezing of biological samples.

Applications

- Cryo-fixation of virus partials
- Cryo-fixation of isolated or assembled macromolecules
- Cryo-fixation of emulsions paints and polymers
- Cryo-fixation of suspension and tissues for Cryo-techniques such as freeze fracture/etch, freeze drying, freeze substitution.

Advantages

- Economical, universal application rapid freezing unit.
- Plunge freezing with temperature controlled cryogen.
- Frozen samples handled under cold dry nitrogen atmosphere.
- Rapid set up and easy use.
- Reproducible results.
- High and low set points for cryogen control.

Process of Ultra-Rapid Sample Cooling

The EMS-002 achieves ultra-rapid cooling by quenching the sample in liquid propane or other suitable cryogen, cooled to near liquid nitrogen temperature. The EMS-002 accomplishes this by using a stainless steel vacuum insulated Dewar and copper condensation chamber. Liquid nitrogen is poured into the Dewar to a level determined by the user. The initial cooling of the cryogen condensation chamber takes about 15 to 20 minutes. Gaseous propane is then admitted to the condensation chamber slowly enough to allow it to condense and fill the chamber with liquid propane. The propane is led to cool to near liquid nitrogen temperature supervised by the digital temperature controller while the sample is being prepared for freezing. The device requires only about 10 minutes to cool to operating temperature after the first filling of propane, and less than five minutes after subsequent fillings.

The operator can increase or decrease the rate of cooling by adjusting the level of liquid nitrogen in the Dewar. Heaters built into the chamber wall, powered by the temperature controller, evenly warms the propane above its melting point. The controllers' temperature is set for the kind of cryogen being used, for instance, 185°C for commercial grade propane. Chemically pure propane (map. 190°C) can also be used, but it is significantly more expensive than commercial grade propane and confers no particular advantage. Ethane and a non-flammable cryogen, SUVA-124 produced by Dupont can also be used as a cryogen in this instrument. When using flammable cryogens like Propane & Ethane we recommend using the EMS-002 in a fume hood.



- | | |
|--|--|
| 1. Removable Drop Anvil Assembly | 5. Drop Release |
| 2. Specimen Holder | 6. Removable Cryogen Holder for safe disposal of cryogen |
| 3. Stainless Steel Liquid Nitrogen Dewar | 7. Frozen Specimen Workstation |
| 4. Cryogenic Temperature Controller | |

Sample Preparation

The sample can be prepared using any favorite size EM Grid if the system is being used for Cryo-TEM or Panama hat-shaped specimen carriers for Freeze-Fracture or Freeze Substitution. Once the sample is applied to the EM grid for instance, the excess must be carefully blotted away with a small piece of filter paper. Remember, the goal is to form a thin meniscus of specimen across the holes in the grid. Once achieved, insert the specimen holder in the "Drop Anvil" of the EMS-002.

Results and Techniques

The technique provides higher rates of cooling than can be achieved by plunging the sample into the cryogen by hand because of the high velocity and accuracy the sample enters the cryogen. The optimal plunging speed is approximately 100m per/sec it provides more efficient heat exchange. The freezing is fast enough to capture rapid events and labile structures that are not seen in chemically fixed material. The technique has been applied to many types of specimens: aqueous suspensions and emulsions, tissue culture cells, suspensions of a cells, and tissues. Specimens frozen with the EMS-002 may be freeze fractured, freeze substituted, frozen thin sectioned, or freeze dried. The samples may also be used for Cryo-SEM or Cryo-TEM.

Temperature Controller

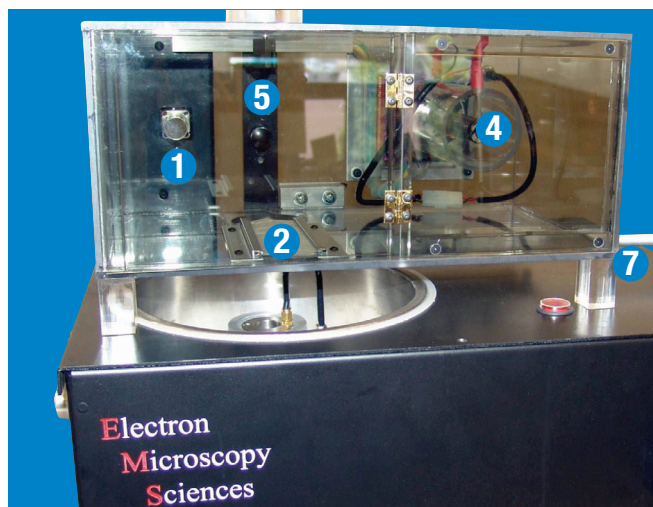
This allows the user to set desired holding temperatures of the cryogen being used for the freezing process. Easy to use controller also has settable arms to alert the user that the cryogen is warming up and the unit needs attention before the cryogen reach its evaporation temperature.



ULTRA-RAPID FREEZING

III EMS-002 Rapid Immersion Freezer (continued)

Accessories



Environmental Chamber

Some plunge freezing applications will require a controlled environment for the samples to be frozen in a satisfactory manner. The environmental chamber module can provide specific relative humidity and temperatures required for many types of samples. The dry nitrogen atmosphere below the environmental chamber allows us to precisely adjust the relative humidity, upwards, and easier to add water in this case. We choose to control the temperature then manually adjust the humidity by adding small quantities of water to the environment by vaporization. The vaporized water is quickly and evenly distributed throughout the chamber by a circulation fan. The integrated shutter mechanism prevents the sample from precooling before it is rapidly frozen.

Instrument Overview

- 1. Temperature & Humidity Sensor:** Sends temperature & humidity data to controller.
- 2. Baffle Comb:** Allows used to transfer frozen sample to be transferred to the plunge freezer's "Work Platform" without allowing the Dewar gas to enter the chamber while shutter is closed.
- 3. Shutter:** Keeps the controlled atmosphere inside the Chamber until the sample is to be frozen. It also can prevent pre-cooling of the sample. (Not shown)
- 4. Heating & Vaporizer:** This provides a good portion of the heat load. It also serves to vaporize added water if the humidity is too low.
- 5. Vertical Mounting Bar:** Serves to anchor the Chamber to the Cryo Workstation.
- 6. TEC (Thermo Electric Cooler):** This assembly has a solid state device at its center that heats & cools depending on the polarity of the voltage applied. Used for addition heating and cooling but its main function is to lower humidity if the humidity is too high.
- 7. Shutter Re-set:** Plunger is pressed in firmly to lock the shutter in the closed position.
- 8. Water Tube:** Is used to introduce tiny amounts of water into the Heating/Vaporizer assembly if the humidity inside the chamber is too low. (Not shown)

Environmental Chamber Forceps

Part # 37460

Special forceps used with the Environmental Chamber. The standard Plunge Freezer forceps (p/n 37458) are not compatible with use in conjunction with the Environmental Chamber due to space constraints inside the chamber.



Freeze Forceps Part # 37458

Special tweezers specifically for use with the Plunge Freezer that is "self-locking". Extra sets allow quicker turn around when freezing multiple samples.

Propane Transfer System

Part # 37015

Allows for the efficient transfer of propane to the condensation chamber from the propane storage vessel. A quite simple device consisting of a Propane regulator, Propane hose 1.75m, handle to control the speed at which the propane flow out of the supply tank. Finally a specially modified tip made of Copper that can be chilled in LN₂ so less time is required to fill the condensing chamber. This means less Propane gas being generated during the process, which makes the lab safety people much happier. The regulator is shipped without a connection to the Gas supply since this is different from place to place.



Recycling and Operating Costs

The recycling time of the device is less than three minutes, just long enough for it to be ready when you finish processing the last sample. The operating cost is about 0.47 per sample, depending on the price of liquid nitrogen. The device will operate for about two hours on 10 L of liquid nitrogen, including the initial cool down.

Specifications

Dimensions	Width — 11 inches (279mm)
	Depth — 13 inches (330mm)
	Height — 14 inches (356mm)
Electrical	100 VAC-240 VAC 50/60 Hz 3A
Temperature Range	+30 to -200°C
Liquid Nitrogen Consumption	1 to 2 L per hour
Cryogen Volume	approximately 20 mL

Ordering Information

Cat. No.	Description	Qty.
37000	EMS-002 Rapid Immersion Freezer Includes Removable Drop Anvil Assembly, Stainless Steel Liquid Nitrogen Dewar, Cryogen Temperature Controller, Cryogen Holder, and Instructions. 110V-240V	each
37457	Environmental Chamber	each
37460	Environmental Chamber Forceps	each
37015	Propane Transfer System	each
37458	Freeze Forceps	each

CRYO LABELING



III Laser Cryo-Babies® & Cryo-Tags – Labels for Cryogenic Storage†

Temperature-Resistant – From -196°C to 150°C. Cryo-Babies and Cryo-Tags withstand freezer temperatures down to -196°C (liquid and vapor phase nitrogen), boiling water baths (100°C), autoclaving and moderate oven temperatures (150°C).

Tough – Chemically inert labels resist most organic solvents and caustic agents. They adhere to most plastics*, glass and metals without cracking, peeling or degrading.

Specially Designed – Label sheets are specially top-coated to readily accept laser printing. Heat-resistant, stay-flat sheets will not jam in laser printers.

Innovative – Made with a flexible, polyolefin† label material and acrylic adhesive. This unique combination expands and contracts together with temperature fluctuations resulting in a strong adhesive bond.

Packs are available in Individual Colors or in *Rainbow Packs (4 sheets of each color)

Blue	Green
Orange	Red
Yellow	White

1. 1.28" x 0.50"
for 1.5–2.0ml tubes
(white and colors)

3. 1.50" x 0.75"
General Purpose
(white and colors)

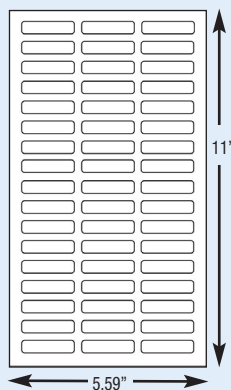
2. 0.94" x 0.50"
for 0.5ml tubes
(white and colors)

4. 1.69" x 0.75"
CryoVials
(white and colors)

NEW: Mini Sheets

51 Labels Per Sheet (3 Across - 17 Down)

Now available in our most popular label size, 1.28" x 0.50", combine the reliability of Cryo-Tags and the convenience of printing less at a time. This is a perfect solution for small experiments and clinical trials.



Cat. #	Color	Labels per Sheet	Layout Across	Layout Down	Labels per Pack
77559-W	White	51	3	17	1020

Cat. #	Color	Labels per Sheet	Layout Across	Layout Down	Labels per Pack
1. Laser Cryo-Babies 1.28" x 0.50" (33mm x 13mm) Ideal use: 1.5ml tubes					
77560-W	White	85	5	17	1,700
77560-B	Blue	85	5	17	1,700
77560-G	Green	85	5	17	1,700
77560-O	Orange	85	5	17	1,700
77560-R	Red	85	5	17	1,700
77560-Y	Yellow	85	5	17	1,700
77560-C	Clear	85	5	17	1,700
77560-05	Rainbow*	85	5	17	1,700
2. Laser Cryo-Babies 0.94" x 0.50" (24mm x 13mm) Ideal use: 0.5ml tubes					
77561-W	White	7	17	119	2,380
77561-B	Blue	7	17	119	2,380
77561-G	Green	7	17	119	2,380
77561-O	Orange	7	17	119	2,380
77561-R	Red	7	17	119	2,380
77561-Y	Yellow	7	17	119	2,380
77561-C	Clear	7	17	119	2,380
77561-05	Rainbow*	7	17	119	2,380

Cat. #	Color	Labels per Sheet	Layout Across	Layout Down	Labels per Pack
3. Laser Cryo-Tags 1.50" x 0.75" (38mm x 19mm) Ideal use: General Purpose					
77564-W	White	60	5	12	1,200
77564-B	Blue	60	5	12	1,200
77564-G	Green	60	5	12	1,200
77564-O	Orange	60	5	12	1,200
77564-R	Red	60	5	12	1,200
77564-Y	Yellow	60	5	12	1,200
77564-05	Rainbow*	60	5	12	1,200
4. Laser Cryo-Tags 1.69" x 0.75" (43mm x 19mm) Ideal use: Cryo-Vials					
77565-W	White	52	4	13	1,040
77565-B	Blue	52	4	13	1,040
77565-G	Green	52	4	13	1,040
77565-O	Orange	52	4	13	1,040
77565-R	Red	52	4	13	1,040
77565-Y	Yellow	52	4	13	1,040
77565-05	Rainbow*	52	4	13	1,040

III Cryo-Babies® & Cryo-Tags® On a Roll

Convenient – Dispensing box assists in labeling individual tubes used in small experiments.

Easy to Write on – PVC labels accept writing from most lab markers including our Solvent Resistant Pens and Teeny Writers.

1. 1.28" x 0.50"
for 1.5–2.0ml tubes

2. 0.94" x 0.50"
for 0.5ml tubes

3. 1.50" x 0.75"
General Purpose

1. Cryo-Babies on a Roll 1.28" x 0.50" (33mm x 13mm) Ideal use: 1.5ml tubes		
Cat. #	Color	Labels per Roll
77550-W	White	1,000
77550-B	Blue	1,000
77550-G	Green	1,000
77550-O	Orange	1,000
77550-R	Red	1,000
77550-Y	Yellow	1,000
2. Cryo-Babies on a Roll 0.94" x 0.50" (24mm x 13mm) Ideal use: 0.5ml tubes		
Cat. #	Color	Labels per Roll
77551-W	White	1,000



3. Cryo-Tags on a Roll 1.50" x 0.75" (38mm x 19mm) Ideal use: General Purpose		
Cat. #	Color	Labels per Roll
77554-W	White	1,000
77554-B	Blue	1,000
77554-G	Green	1,000
77554-O	Orange	1,000
77554-R	Red	1,000
77554-Y	Yellow	1,000

CRYO LABELING

5. 1.50" x 0.25" (Microplates)

6. 2.625" x 1.00"
For boxes, tube racks
& other containers
(white and colors)

3/8" 8. 1.28" x 0.50"
for 1.5–2.0ml tubes
(white only)

7. 3.00" x 2.00"
For bottles, tube racks, boxes
and other laboratory containers
(white only)

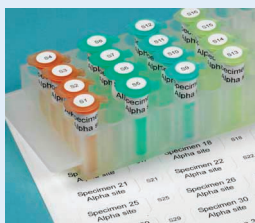
10. 1.00" x 1.00"
For Microscope
Slides
(white only)

11. 1.125" x 1.75"
For racks and boxes
(white only)

9. 2.50" x 0.50"
For 0.5ml – 2.0ml tubes
(white only)

Cat. #	Color	Labels per Sheet	Layout Across	Layout Down	Labels per Pack
5. Laser Cryo-Tags 1.50" x 0.25" (38mm x 6mm) Ideal use: Microplates					
77567-W	White	156	4	39	3,120
77567-B	Blue	156	4	39	3,120
77567-G	Green	156	4	39	3,120
77567-O	Orange	156	4	39	3,120
77567-R	Red	156	4	39	3,120
77567-Y	Yellow	156	4	39	3,120
77567-05	Rainbow*	156	4	39	3,120
6. Laser Cryo-Tags 2.625" x 1.00" (67mm x 25mm) Ideal use: Racks and Boxes					
77566-W	White	30	3	10	600
77566-B	Blue	30	3	10	600
77566-G	Green	30	3	10	600
77566-O	Orange	30	3	10	600
77566-R	Red	30	3	10	600
77566-Y	Yellow	30	3	10	600
77566-05	Rainbow*	30	3	10	600

Cat. #	Color	Labels per Sheet	Layout Across	Layout Down	Labels per Pack
7. Laser Cryo-Tags 3.0" x 2.0" (76mm x 51mm) Ideal use: Bottles & Beakers					
77568-W	White	12	4	4	240
8. Laser Cryo-Tags Tough Spot Set					
1.28" x 0.50" with 0.375" spot, (33mm x 13mm with 9.5mm spot) Ideal use: 1.5ml tubes					
77574-W	White	68	4	17	1,360



Cat. #	Color	Labels per Sheet	Layout Across	Layout Down	Labels per Pack
9. Laser Cryo-Tags 2.50" x 0.75" (64mm x 13mm) Ideal use: 0.5 to 2.0 ml tubes					
77572-W	White	60	3	20	1,200
10. Laser Cryo-Tags 1.0" x 1.0" (25mm x 25mm) Ideal use: Microscope Slides					
77571-W	White	80	8	10	1,600
11. Laser Cryo-Tags 1.125" x 1.75" (29mm x 44mm) Ideal use: General Purpose					
77569-W	White	42	7	6	840
Laser Cryo-Tags 8.5" x 11" (216mm x 279mm)					
77570-W	White	1		Blank Sheet	20

* 100% Virgin Polypropylene tubes are recommended. Avoid the use of siliconized surfaces.
† Patented

III Cryo-Clear™ Laser Labels

Clear Cryogenic Storage Labels for Use with Laser Printers

"The Choice is CLEAR" – Contents of vials beneath labels remain visible.

Temperature-resistant – From -196°C to 70°C. Cryo-Clear labels remain fully adhered down to -196°C (liquid and vapor phase nitrogen).

Durable – Chemically inert labels resist most organic solvents and caustic agents. Labels adhere to plastics*, glass and metals without cracking, peeling or degrading.

Laser Printable – Label sheets are specially top-coated to accept laser printing and other markings. Heat-resistant, stay-flat sheets will not jam in laser printers.

Innovative – Made with a flexible, vinyl label

material and permanent acrylic adhesive. This unique combination expands and contracts together as temperatures fluctuate resulting in a strong and sustained adhesive bond.



Cat. No.	Tag Size (In./mm)	Sheet layout	Labels/Sheet	Ideal Use	Qty.
77575-C	1.28" x 0.50"	5 Across, 33mm x 13mm 17 Down	85	1.5ml tubes	1,700
77576-C	0.94" x 0.50"	7 Across, 24mm x 13mm 17 Down	119	0.5ml tubes	2,380
77577-C	1.50" x 0.75"	5 Across 38mm x 19mm 12 Down	60	Cryogenic vials	1,200
77578-C	2.625" x 1.00"	3 Across 66.68mm x 25.4mm 10 Down	30	Large tubes, racks, boxes	600

* NOTE: Siliconized surfaces should be avoided. Apply to clean, dry tubes at room temperature. Tubes made of 100% virgin polypropylene are recommended.
† Patented

CRYO LABELING

Direct Thermal CryoTags®



Temperature-Resistant – From -196°C to 70°C and also freezable in liquid nitrogen.

Tough – They adhere to most plastics, glass and metals without cracking, peeling or degrading. Also resistant to scuffing and smearing.

Compatible – Tubes labeled with Direct Thermal CryoTags easily slide in and out of centrifuge rotors without binding.

Specially Designed – Labels accept printing from direct thermal printers such as Dymo LabelWriters.

Barcoding – Print popular barcode formats for fast and easy sample identification.

Effortless – Printer setup and use is easy and user friendly

Economical – Limit label waste by printing only the quantity required

New Format – Labels are now oriented vertically and are compatible with the new LabelWriter 450

Same Great Product – Users of Direct Thermal Tough-Tags will be happy to know we've expanded the temperature range of Tough-Tags and made them Cryo-Tags

Online Support –

Email us at info@emsdiasum.com to request new definition files for the LabelWriter 450

* NOTE: Prolonged exposure to alcohol may cause material discoloration.

NEW SIZES

Our Direct Thermal labels are designed to work with U.S. Model Dymo printers.

Available colors:

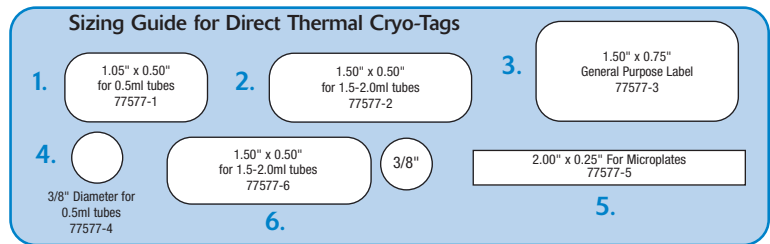
White (W), Blue (B), Green (G), Orange (O), Red (R), Yellow (Y).



77577-40 and 77577-41



77577-42 and 77577-43



EMS#	Color	Dimensions	Ideal Use	Labels per pack
1. 77577-1 77593-1	White	1.05" x 0.50" / 27x13mm	0.5ml tubes	1,000
77577-7 77593-7	Blue	1.05" x 0.50" / 27x13mm	0.5ml tubes	1,000
77577-8 77593-8	Green	1.05" x 0.50" / 27x13mm	0.5ml tubes	1,000
77577-9 77593-9	Yellow	1.05" x 0.50" / 27x13mm	0.5ml tubes	1,000
77577-24 77593-24	Orange	1.05" x 0.50" / 27x13mm	0.5ml tubes	1,000
77577-25 77593-25	Red	1.05" x 0.50" / 27x13mm	0.5ml tubes	1,000
2. 77577-2 77593-2	White	1.50" x 0.50" / 38x13mm	1.5ml tubes	750
77577-10 77593-10	Blue	1.50" x 0.50" / 38x13mm	1.5ml tubes	750
77577-11 77593-11	Green	1.50" x 0.50" / 38x13mm	1.5ml tubes	750
77577-12 77593-12	Yellow	1.50" x 0.50" / 38x13mm	1.5ml tubes	750
77577-26 77593-26	Orange	1.50" x 0.50" / 38x13mm	1.5ml tubes	750
77577-27 77593-27	Red	1.50" x 0.50" / 38x13mm	1.5ml tubes	750
3. 77577-3 77593-3	White	1.50" x 0.75" / 38x19mm	2.0ml tubes	750
77577-13 77593-13	Blue	1.50" x 0.75" / 38x19mm	2.0ml tubes	750
77577-14 77593-14	Green	1.50" x 0.75" / 38x19mm	2.0ml tubes	750
77577-15 77593-15	Yellow	1.50" x 0.75" / 38x19mm	2.0ml tubes	750
77577-28 77593-28	Orange	1.50" x 0.75" / 38x19mm	2.0ml tubes	750
77577-29 77593-29	Red	1.50" x 0.75" / 38x19mm	2.0ml tubes	750
4. 77577-4 77593-4	White	3/8" diameter / 9.5mm dia	0.5ml tubes	4,000
77577-16 77593-16	Blue	3/8" diameter / 9.5mm dia	0.5ml tubes	4,000
77577-17 —	Green	3/8" diameter / 9.5mm dia	0.5ml tubes	4,000
77577-18 77593-18	Yellow	3/8" diameter / 9.5mm dia	0.5ml tubes	4,000
77577-31 77593-31	Orange	3/8" diameter / 9.5mm dia	0.5ml tubes	4,000
77577-32 77593-32	Red	3/8" diameter / 9.5mm dia	0.5ml tubes	4,000
5. 77577-5 77593-5	White	2.00" x 0.25" / 51x6mm	Microplates	1,000
6. 77577-6 77593-6	White	1.50" x 0.50" - 3/8" dia spot	1.5ml tubes	1,000
77577-19 77593-19	Blue	1.50" x 0.50" - 3/8" dia spot	1.5ml tubes	1,000
77577-20 77593-20	Green	1.50" x 0.50" - 3/8" dia spot	1.5ml tubes	1,000
77577-21 77593-21	Yellow	1.50" x 0.50" - 3/8" dia spot	1.5ml tubes	1,000
77577-38 77593-38	Orange	1.50" x 0.50" - 3/8" dia spot	1.5ml tubes	1,000
77577-39 77593-39	Red	1.50" x 0.50" - 3/8" dia spot	1.5ml tubes	1,000

EMS#	Color	Dimensions	Qty.
77577-40	White	2.00" x 0.75"	500/roll
77577-40-B	Blue	2.00" x 0.75"	500/roll
77577-40-G	Green	2.00" x 0.75"	500/roll
77577-40-O	Orange	2.00" x 0.75"	500/roll
77577-40-R	Red	2.00" x 0.75"	500/roll
77577-40-Y	Yellow	2.00" x 0.75"	500/roll
77577-41	White	1.69" x 0.75"	500/roll
77577-41-B	Blue	1.69" x 0.75"	500/roll
77577-41-G	Green	1.69" x 0.75"	500/roll
77577-41-O	Orange	1.69" x 0.75"	500/roll
77577-41-R	Red	1.69" x 0.75"	500/roll
77577-41-Y	Yellow	1.69" x 0.75"	500/roll
77577-42	White	0.94" x 0.50" with 3/8" spot	roll
77577-42-B	Blue	0.94" x 0.50" with 3/8" spot	roll
77577-42-G	Green	0.94" x 0.50" with 3/8" spot	roll
77577-42-O	Orange	0.94" x 0.50" with 3/8" spot	roll
77577-42-R	Red	0.94" x 0.50" with 3/8" spot	roll
77577-42-Y	Yellow	0.94" x 0.50" with 3/8" spot	roll
77577-43	White	1.28" x 0.50" with 3/8" spot	roll
77577-43-B	Blue	1.28" x 0.50" with 3/8" spot	roll
77577-43-G	Green	1.28" x 0.50" with 3/8" spot	roll
77577-43-O	Orange	1.28" x 0.50" with 3/8" spot	roll
77577-43-R	Red	1.28" x 0.50" with 3/8" spot	roll
77577-43-Y	Yellow	1.28" x 0.50" with 3/8" spot	roll

CRYO LABELING

Thermal Transfer Cryo-Tags®

Pre-cut, Peel-Off Labels Designed for Use in Thermal Transfer Printers

Thermal Transfer Tough-Tags and Cryo-Tags are a reliable and convenient way to identify samples with text or a barcode on microtubes, microplates, bottles and other laboratory containers.

- Unique solvent-resistant, acrylic-based adhesive provides excellent cold temperature performance
- Print crisp, clear, professional quality labels
- Resists degradation from scuffing, chemicals, moisture and wide temperature fluctuations
- Specially coated for use with a resin ribbon that provides the best performance under extreme conditions
- Print as little as one label at a time, eliminating label waste and saving time and money



SIZING GUIDE: Thermal Transfer Labels for Storage in Temperatures From -196°C to 80°C

0.81" x 0.28"
for 0.2ml PCR tubes

1.

0.94" x 0.50"
For 0.5ml tubes

2.

1.28" x 0.50"
for 1.5–2.0ml tubes

3.

1.05 x 0.50"
for .5ml tubes

4.

1.375" x 0.625"
for 1.5–2.0ml tubes

5.

1.50" x 0.5"
for 1.5–2.0ml tubes

6.

1.50" x 0.75"
General Purpose Label

7.

2.00" x 0.25" for Microplates

8.

Cryo-Tags on a 1" I.D. Core with 2,000 labels per roll

Cat. #	Tag Size	Ideal Use	Labels/Roll
1. 77592-65	0.81 x 0.28" (20.6 x 7mm)	0.2ml PCR tubes	2000
2. 77592-70	0.94 x 0.50" (24 x 13mm)	0.5 ml tubes	2000
3. 77592-75	1.28 x 0.50" (32 x 13mm)	1.5 ml-2.0 ml tubes	2000
4. 77592-2	1.05 x 0.50" (27 x 13mm)	0.5 ml tubes	2000
5. 77592-80	1.375 x 0.625" (35 x 16mm)	1.5 ml-2.0 ml tubes	2000
6. 77592-3	1.50 x 0.50" (38 x 13mm)	1.5 ml-2.0 ml tubes	2000
7. 77592-4	1.50 x 0.75" (38 x 19mm)	General Purpose	2000
8. 77592-5	2.00 x 0.25" (51 x 6mm)	Microplates	2000

Cryo-Tags on a 3" I.D. Core with 4,000 labels per roll

Cat. #	Tag Size	Ideal Use	Labels/Roll
1. 77592-81	0.81 x 0.28" (20.6 x 7mm)	0.2ml PCR tubes	4000
2. 77592-82	0.94 x 0.50" (24 x 13mm)	0.5 ml tubes	4000
3. 77592-83	1.28 x 0.50" (32 x 13mm)	1.5 ml-2.0 ml tubes	4000
4. 77592-84	1.05 x 0.50" (27 x 13mm)	0.5 ml tubes	4000
5. 77592-85	1.375 x 0.625" (35 x 16mm)	1.5 ml-2.0 ml tubes	4000
6. 77592-86	1.50 x 0.50" (38 x 13mm)	1.5 ml-2.0 ml tubes	4000
7. 77592-87	1.50 x 0.75" (38 x 19mm)	General Purpose	4000
8. 77592-88	2.00 x 0.25" (51 x 6mm)	Microplates	4000

Thermal Transfer Accessories

Cat. #	Description	Qty.
77592-55	Resin Ribbon 2.50" x 244' for TLP 2844	each

Thermal Transfer Cryo-Tags® for Automation

Cryo Barcode Labels for Metal Racks

Specially Formatted – Created in collaboration with automation professionals and are designed to integrate seamlessly into most automated setups

Temperature-Resistant – From -196°C to 80°C; liquid and vapor phase nitrogen

Non-Binding – Unique dimensions prevent label overlap on small-radius tubes, which can cause tubes to bind and jam

Field Tested – Utilizes Thermal Transfer Cryo-Tag® material which has been proven effective for long term storage in laboratories all over the world

Essential – Bringing the reliable durability of Cryo-Tags® to the high-throughput sample processing environment

All rolls are white on a 3" I.D. Core

Cat #	Tag Size in	Tag Size mm	Ideal Use	Labels/Roll
77579-3	0.35 x 0.94"	9 x 24mm	Matrix/0.5ml tubes	5,500
77579-4	0.50 x 0.94"	13 x 24mm	Matrix/0.5ml tubes	5,500
77579-5	0.59 x 0.94"	15 x 24mm	Matrix/0.5ml tubes	5,500
77579-6	0.50 x 1.00"	13 x 25.4mm	0.5 ml tubes	4,000
77579-7*	2.36 x 0.236"	60 x 6mm	Microplates	4,000

* 77579-7 Labels come on a clear poly liner

Thermal Transfer Printer

Cat #	Description	Qty.
77592-55	Resin Ribbon 2.50" x 244' for TLP 2844	each
77592-54	Zebra GK420T Thermal Transfer Printer	each



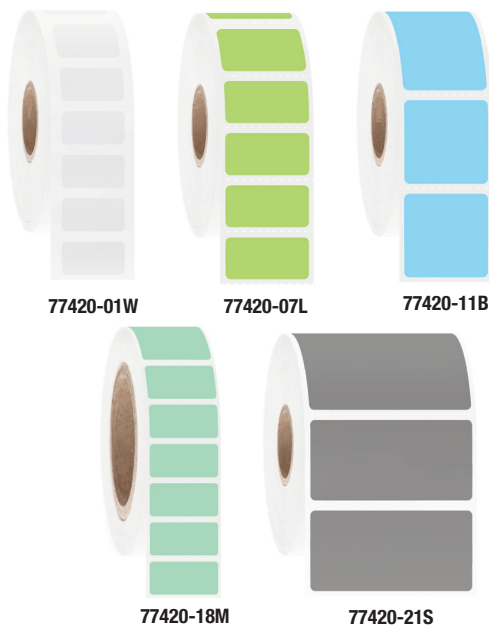
CRYO LABELING



These cryogenic-compatible labels feature an extra-permanent adhesive for secure biopreservation of samples. They were designed for long-term biopreservation under cryogenic laboratory conditions, including helium, liquid and vapor phase liquid nitrogen, freezers, and dry ice transportation. They are ideal for identifying cryo boxes, vials, tubes, plastic bags, plates, etc.

FEATURES

- Waterproof plastic
- Resistant to alcohol
- Resistant to multiple freeze-thaw cycles
- Extra-permanent adhesive
- Temperature range from -196°C to +110°C
- Rounded Corners
- Will stick to wet surfaces
- Compatible with most thermal-transfer printers
- No cure time
- Can be submerged in liquid nitrogen immediately



TEMPERATURE RANGE

Dry Ice	-79°C
Freezers	-20°C, -40°C, -80°C, -120°C
Liquid Helium	-269°C
Liquid Phase	-196°C
Liquid Nitrogen	
Vapor Phase	-140°C to -180°C
Liquid Nitrogen	

NitroTAG™ Thermal Transfer Labels

Cryo Barcode Labels for Liquid Nitrogen Storage

Rectangular Labels

Cat. #	Color	Core	Label Size	Labels Across	Perf. Labels/Roll
77420-01W	White	1"	0.75 x 0.4" (19.1 x 10.2 mm)	1 rectangle	No 2,000
77420-02W	White	3"	0.75 x 0.4" (19.1 x 10.2 mm)	1 rectangle	No 6,000
77420-03W	White	1"	0.875 x 0.438" (22.2 x 11.1 mm)	1 rectangle	Yes 2,000
77420-04W	White	3"	0.875 x 0.438" (22.2 x 11.1 mm)	1 rectangle	Yes 6,000
77420-05W	White	1"	1 x 0.375" (25.4 x 9.5 mm)	1 rectangle	Yes 3,000
77420-06W	White	3"	1 x 0.375" (25.4 x 9.5 mm)	1 rectangle	Yes 6,000
77420-07W	White	1"	1 x 0.5" (25.4 x 12.7 mm)	1 rectangle	Yes 1,000
77420-07L	Lime	1"	1 x 0.5" (25.4 x 12.7 mm)	1 rectangle	Yes 1,000
77420-07P	Pink	1"	1 x 0.5" (25.4 x 12.7 mm)	1 rectangle	Yes 1,000
77420-08W	White	3"	1 x 0.5" (25.4 x 12.7 mm)	1 rectangle	Yes 5,000
77420-08L	Lime	3"	1 x 0.5" (25.4 x 12.7 mm)	1 rectangle	Yes 5,000
77420-08P	Pink	3"	1 x 0.5" (25.4 x 12.7 mm)	1 rectangle	Yes 5,000
77420-09W	White	1"	1 x 0.75" (25.4 x 19.1mm)	1 rectangle	Yes 1,000
77420-10W	White	3"	1 x 0.75" (25.4 x 19.1mm)	1 rectangle	Yes 1,000
77420-11W	White	1"	1 x 1" (25.4 x 25.4 mm)	1 rectangle	Yes 1,000
77420-11BL	Blue	1"	1 x 1" (25.4 x 25.4 mm)	1 rectangle	Yes 1,000
77420-11G	Green	1"	1 x 1" (25.4 x 25.4 mm)	1 rectangle	Yes 1,000
77420-11P	Pink	1"	1 x 1" (25.4 x 25.4 mm)	1 rectangle	Yes 1,000
77420-11R	Red	1"	1 x 1" (25.4 x 25.4 mm)	1 rectangle	Yes 1,000
77420-11Y	Yellow	1"	1 x 1" (25.4 x 25.4 mm)	1 rectangle	Yes 1,000
77420-12W	White	3"	1 x 1" (25.4 x 25.4 mm)	1 rectangle	Yes 3,000
77420-12BL	Blue	3"	1 x 1" (25.4 x 25.4 mm)	1 rectangle	Yes 3,000
77420-12G	Green	3"	1 x 1" (25.4 x 25.4 mm)	1 rectangle	Yes 3,000
77420-12P	Pink	3"	1 x 1" (25.4 x 25.4 mm)	1 rectangle	Yes 3,000
77420-12R	Red	3"	1 x 1" (25.4 x 25.4 mm)	1 rectangle	Yes 3,000
77420-12Y	Yellow	3"	1 x 1" (25.4 x 25.4 mm)	1 rectangle	Yes 3,000
77420-13W	White	1"	1.25 x 0.25" (31.8 x 6.4mm)	1 rectangle	Yes 4,000
77420-14W	White	3"	1.25 x 0.25" (31.8 x 6.4mm)	1 rectangle	Yes 8,000
77420-15W	White	1"	1.25 x 0.5" (31.8 x 12.7mm)	1 rectangle	Yes 2,000
77420-16W	White	3"	1.25 x 0.5" (31.8 x 12.7mm)	1 rectangle	Yes 2,000
77420-17W	White	1"	1.25 x 0.875" (31.8 x 22.2mm)	1 rectangle	Yes 1,000
77420-17G	Green	1"	1.25 x 0.875" (31.8 x 22.2mm)	1 rectangle	Yes 1,000
77420-17M	Mint	1"	1.25 x 0.875" (31.8 x 22.2mm)	1 rectangle	Yes 1,000
77420-17O	Orange	1"	1.25 x 0.875" (31.8 x 22.2mm)	1 rectangle	Yes 1,000
77420-17R	Red	1"	1.25 x 0.875" (31.8 x 22.2mm)	1 rectangle	Yes 1,000
77420-17Y	Yellow	1"	1.25 x 0.875" (31.8 x 22.2mm)	1 rectangle	Yes 1,000
77420-18W	White	3"	1.25 x 0.875" (31.8 x 22.2mm)	1 rectangle	Yes 1,000
77420-18G	Green	3"	1.25 x 0.875" (31.8 x 22.2mm)	1 rectangle	Yes 1,000
77420-18M	Mint	3"	1.25 x 0.875" (31.8 x 22.2mm)	1 rectangle	Yes 1,000
77420-18O	Orange	3"	1.25 x 0.875" (31.8 x 22.2mm)	1 rectangle	Yes 1,000
77420-18R	Red	3"	1.25 x 0.875" (31.8 x 22.2mm)	1 rectangle	Yes 1,000
77420-18Y	Yellow	3"	1.25 x 0.875" (31.8 x 22.2mm)	1 rectangle	Yes 1,000
77420-19W	White	1"	1.75 x 1" (44.5 x 25.4mm)	1 rectangle	Yes 2,000
77420-20W	White	3"	1.75 x 1" (44.5 x 25.4mm)	1 rectangle	Yes 2,000
77420-21W	White	1"	2 x 1" (50.8 x 25.4mm)	1 rectangle	Yes 2,000
77420-21BK	Black	1"	2 x 1" (50.8 x 25.4mm)	1 rectangle	Yes 2,000
77420-21BL	Blue	1"	2 x 1" (50.8 x 25.4mm)	1 rectangle	Yes 2,000
77420-21BR	Brown	1"	2 x 1" (50.8 x 25.4mm)	1 rectangle	Yes 2,000
77420-21G	Green	1"	2 x 1" (50.8 x 25.4mm)	1 rectangle	Yes 2,000
77420-21LA	Lavender	1"	2 x 1" (50.8 x 25.4mm)	1 rectangle	Yes 2,000
77420-21O	Orange	1"	2 x 1" (50.8 x 25.4mm)	1 rectangle	Yes 2,000
77420-21P	Pink	1"	2 x 1" (50.8 x 25.4mm)	1 rectangle	Yes 2,000
77420-21R	Red	1"	2 x 1" (50.8 x 25.4mm)	1 rectangle	Yes 2,000
77420-21S	Silver	1"	2 x 1" (50.8 x 25.4mm)	1 rectangle	Yes 2,000
77420-21Y	Yellow	1"	2 x 1" (50.8 x 25.4mm)	1 rectangle	Yes 2,000
77420-22W	White	3"	2 x 1" (50.8 x 25.4mm)	1 rectangle	Yes 2,000
77420-22BK	Black	3"	2 x 1" (50.8 x 25.4mm)	1 rectangle	Yes 2,000
77420-22BL	Blue	3"	2 x 1" (50.8 x 25.4mm)	1 rectangle	Yes 2,000
77420-22BR	Brown	3"	2 x 1" (50.8 x 25.4mm)	1 rectangle	Yes 2,000
77420-22G	Green	3"	2 x 1" (50.8 x 25.4mm)	1 rectangle	Yes 2,000
77420-22LA	Lavender	3"	2 x 1" (50.8 x 25.4mm)	1 rectangle	Yes 2,000
77420-22O	Orange	3"	2 x 1" (50.8 x 25.4mm)	1 rectangle	Yes 2,000
77420-22P	Pink	3"	2 x 1" (50.8 x 25.4mm)	1 rectangle	Yes 2,000
77420-22R	Red	3"	2 x 1" (50.8 x 25.4mm)	1 rectangle	Yes 2,000
77420-22S	Silver	3"	2 x 1" (50.8 x 25.4mm)	1 rectangle	Yes 2,000
77420-22Y	Yellow	3"	2 x 1" (50.8 x 25.4mm)	1 rectangle	Yes 2,000

NitroTAG™ Thermal Transfer Labels (continued)



Rectangle + Circle Labels

Cat. #	Color	Core	Label Size	Labels Across	Perf.	Labels/Roll
77420-23W	White	1"	0.94 x 0.5" + 0.437" (23.9 x 12.7mm + 11.1mm)	1 rectangle + 1 circle	Yes + Notch	2,000
77420-23BL	Blue	1"	0.94 x 0.5" + 0.437" (23.9 x 12.7mm + 11.1mm)	1 rectangle + 1 circle	Yes + Notch	2,000
77420-23G	Green	1"	0.94 x 0.5" + 0.437" (23.9 x 12.7mm + 11.1mm)	1 rectangle + 1 circle	Yes + Notch	2,000
77420-23LA	Lavender	1"	0.94 x 0.5" + 0.437" (23.9 x 12.7mm + 11.1mm)	1 rectangle + 1 circle	Yes + Notch	2,000
77420-23O	Orange	1"	0.94 x 0.5" + 0.437" (23.9 x 12.7mm + 11.1mm)	1 rectangle + 1 circle	Yes + Notch	2,000
77420-23Y	Yellow	1"	0.94 x 0.5" + 0.437" (23.9 x 12.7mm + 11.1mm)	1 rectangle + 1 circle	Yes + Notch	2,000
77420-24W	White	3"	0.94 x 0.5" + 0.437" (23.9 x 12.7mm + 11.1mm)	1 rectangle + 1 circle	Yes + Notch	6,000
77420-24BL	Blue	3"	0.94 x 0.5" + 0.437" (23.9 x 12.7mm + 11.1mm)	1 rectangle + 1 circle	Yes + Notch	6,000
77420-24G	Green	3"	0.94 x 0.5" + 0.437" (23.9 x 12.7mm + 11.1mm)	1 rectangle + 1 circle	Yes + Notch	6,000
77420-24LA	Lavender	3"	0.94 x 0.5" + 0.437" (23.9 x 12.7mm + 11.1mm)	1 rectangle + 1 circle	Yes + Notch	6,000
77420-24O	Orange	3"	0.94 x 0.5" + 0.437" (23.9 x 12.7mm + 11.1mm)	1 rectangle + 1 circle	Yes + Notch	6,000
77420-24Y	Yellow	3"	0.94 x 0.5" + 0.437" (23.9 x 12.7mm + 11.1mm)	1 rectangle + 1 circle	Yes + Notch	6,000
77420-25W	White	1"	1 x 0.375" + 0.375" (25.4 x 9.5mm + 9.5mm)	1 rectangle + 1 circle	Yes	2,000
77420-26W	White	3"	1 x 0.375" + 0.375" (25.4 x 9.5mm + .5mm)	1 rectangle + 1 circle	Yes	4,000
77420-27W	White	1"	1 x 0.5 + 0.375" (25.4 x 12.7 + .5mm)	1 rectangle + 1 circle	Yes	2,000
77420-27LA	Lavender	1"	1 x 0.5 + 0.375" (25.4 x 12.7 + .5mm)	1 rectangle + 1 circle	Yes	2,000
77420-27O	Orange	1"	1 x 0.5 + 0.375" (25.4 x 12.7 + .5mm)	1 rectangle + 1 circle	Yes	2,000
77420-28W	White	3"	1 x 0.5" + 0.375" (25.4 x 12.7mm + 9.5mm)	1 rectangle + 1 circle	Yes	4,000
77420-2LA	Lavender	3"	1 x 0.5" + 0.375" (25.4 x 12.7mm + 9.5mm)	1 rectangle + 1 circle	Yes	4,000
77420-28O	Orange	3"	1 x 0.5" + 0.375" (25.4 x 12.7mm + 9.5mm)	1 rectangle + 1 circle	Yes	4,000
77420-29W	White	1"	1.125 x 0.75" + 0.437" (28.6 x 19.1mm + 11.1mm)	1 rectangle + 1 circle	Yes	2,000
77420-30W	White	3"	1.125 x 0.75" + 0.437" (28.6 x 19.1mm + 11.1mm)	1 rectangle + 1 circle	Yes	4,000
77420-31W	White	1"	1.25 x 0.5" + 0.437" (31.8 x 12.7mm + 11.1mm)	1 rectangle + 1 circle	Yes	2,000
77420-32W	White	3"	1.25 x 0.5" + 0.437" (31.8 x 12.7mm + 11.1mm)	1 rectangle + 1 circle	Yes	4,000
77420-33W	White	1"	1.25 x 0.625" + 0.375" (31.8 x 16mm + 9.5mm)	1 rectangle + 1 circle	Yes	2,000
77420-34W	White	3"	1.25 x 0.625" + 0.375" (31.8 x 16mm + 9.5mm)	1 rectangle + 1 circle	Yes	4,000

Circle Labels

Cat. #	Color	Core	Label Size	Labels Across	Perf.	Labels/Roll	Cat. #	Color	Core	Label Size	Labels Across	Perf.	Labels/Roll
77420-35W	White	1"	0.25" (6.4mm)	2 circles	Yes + Notch	2,000	77420-39W	White	1"	0.438" (11mm)	2 circles	Yes + Notch	2,000
77420-35BL	Blue	1"	0.25" (6.4mm)	2 circles	Yes + Notch	2,000	77420-40W	White	3"	0.438" (11mm)	2 circles	Yes + Notch	4,000
77420-35G	Green	1"	0.25" (6.4mm)	2 circles	Yes + Notch	2,000	77420-41W	White	1"	0.5" (12.7mm)	2 circles	Yes + Notch	2,000
77420-35L	Lime	1"	0.25" (6.4mm)	2 circles	Yes + Notch	2,000	77420-41BL	Blue	1"	0.5" (12.7mm)	2 circles	Yes + Notch	2,000
77420-35P	Pink	1"	0.25" (6.4mm)	2 circles	Yes + Notch	2,000	77420-41G	Green	1"	0.5" (12.7mm)	2 circles	Yes + Notch	2,000
77420-35Y	Yellow	1"	0.25" (6.4mm)	2 circles	Yes + Notch	2,000	77420-41LA	Lavender	1"	0.5" (12.7mm)	2 circles	Yes + Notch	2,000
77420-36W	White	3"	0.25" (6.4mm)	2 circles	Yes + Notch	2,000	77420-41O	Orange	1"	0.5" (12.7mm)	2 circles	Yes + Notch	2,000
77420-36BL	Blue	3"	0.25" (6.4mm)	2 circles	Yes + Notch	2,000	77420-41P	Pink	1"	0.5" (12.7mm)	2 circles	Yes + Notch	2,000
77420-36G	Green	3"	0.25" (6.4mm)	2 circles	Yes + Notch	2,000	77420-41R	Red	1"	0.5" (12.7mm)	2 circles	Yes + Notch	2,000
77420-36L	Lime	3"	0.25" (6.4mm)	2 circles	Yes + Notch	2,000	77420-41Y	Yellow	1"	0.5" (12.7mm)	2 circles	Yes + Notch	2,000
77420-36P	Pink	3"	0.25" (6.4mm)	2 circles	Yes + Notch	2,000	77420-42W	White	3"	0.5" (12.7mm)	2 circles	Yes + Notch	2,000
77420-36Y	Yellow	3"	0.25" (6.4mm)	2 circles	Yes + Notch	2,000	77420-42B	Blue	3"	0.5" (12.7mm)	2 circles	Yes + Notch	2,000
77420-37W	White	1"	0.354" (9mm)	2 circles	Yes + Notch	4,000	77420-42G	Green	3"	0.5" (12.7mm)	2 circles	Yes + Notch	2,000
77420-37LA	Lavender	1"	0.354" (9mm)	2 circles	Yes + Notch	4,000	77420-42LA	Lavender	3"	0.5" (12.7mm)	2 circles	Yes + Notch	2,000
77420-37O	Orange	1"	0.354" (9mm)	2 circles	Yes + Notch	4,000	77420-42O	Orange	3"	0.5" (12.7mm)	2 circles	Yes + Notch	2,000
77420-37Y	Yellow	1"	0.354" (9mm)	2 circles	Yes + Notch	4,000	77420-42P	Pink	3"	0.5" (12.7mm)	2 circles	Yes + Notch	2,000
77420-38W	White	3"	0.354" (9mm)	2 circles	Yes + Notch	4,000	77420-42R	Red	3"	0.5" (12.7mm)	2 circles	Yes + Notch	2,000
77420-38LA	Lavender	3"	0.354" (9mm)	2 circles	Yes + Notch	4,000	77420-42Y	Yellow	3"	0.5" (12.7mm)	2 circles	Yes + Notch	2,000
77420-38O	Orange	3"	0.354" (9mm)	2 circles	Yes + Notch	4,000							
77420-38Y	Yellow	3"	0.354" (9mm)	2 circles	Yes + Notch	4,000							

CRYO LABELING



These cryogenic labels have a clear overlap area and can be applied directly to frozen tubes and cryovials, even those difficult to label in deep-freeze conditions.

Frozen vials can be labeled seconds after removal from cryogenic storage and can be placed back into liquid nitrogen or a freezer for further conservation.

Designed for long-term preservation in liquid nitrogen freezers and dry ice, they can withstand temperatures up to +100°C (212°F).

Labels are compatible with most brands of thermal transfer printers. For proper adherence to the frozen surface, we recommend applying the CryoSTUCK labels with an overlap of the transparent part of at least 0.25".

Color options: W=White, CL=Clear

FEATURES

- Extra-permanent adhesive for frozen containers
- Application temperature as low as -80°C
- Temperature range from -196°C to +100°C



These labels are ideal for relabeling frozen vials when removing the existing label is not possible.

They will completely obscure the existing label and "black-out" the information underneath. The relabeled frozen vials can be stored back inside liquid nitrogen or a freezer for long-term preservation.

Labels are compatible with most brands of thermal transfer printers. For proper adherence to the frozen surface, we recommend applying the Cryo-CoverTAG labels with an overlap of the transparent part of at least 0.25".

FEATURES

- Permanent adhesive for frozen surfaces
- Temperature range from -196°C to +100°C
- Color options: W=White, BW=Black with White print area

III CryoSTUCK™ Thermal Transfer Labels

Cryogenic labels for frozen vials



Cat. #	Color	Core	Label Size	Labels Across	Perf. Labels/Roll
77422-01W	White	1"	0.875 x 2" (22.2 x 50.8mm)	1	Yes 1,000
77422-02W	White	3"	0.875 x 2" (22.2 x 50.8mm)	1	Yes 1,000
77422-03W	White	1"	1 x 0.5" (25.4 x 12.7mm)	1	Yes 1,000
77422-04W	White	3"	1 x 0.5" (25.4 x 12.7mm)	1	Yes 5,000
77422-05W	White	1"	1 x 1" (25.4 x 25.4mm)	1	Yes 2,000
77422-06W	White	3"	1 x 1" (25.4 x 25.4mm)	1	Yes 4,000
77422-07W	White	1"	1.25 x 0.875" (31.75 x 22.2mm)	1	Yes 2,000
77422-08W	White	3"	1.25 x 0.875" (31.75 x 22.2mm)	1	Yes 2,000
77422-09W	White	1"	3 x 0.55" (76.2 x 13.9mm)	1	Yes 1,000
77422-10W	White	1.5"	3 x 0.55" (76.2 x 13.9mm)	1	Yes 1,000
77422-11W	White	3"	3 x 0.55" (76.2 x 13.9mm)	1	Yes 1,000
77422-12W	White	1"	1 x 0.625" + .375" wrap (25.4 x 15.9mm + 35mm wrap)	1	Yes + Notch 1,000
77422-13W	White	3"	1 x 0.625" + 1.375" wrap (25.4 x 15.9mm + 35mm wrap)	1	Yes + Notch 3,000
77422-14W	White	1"	1.5 x 1" + 1.5" wrap (38.1 x 25.4mm + 38.1mm wrap)	1	Yes + Notch 1,000
77422-15W	White	3"	1.5 x 1" + 1.5" wrap (38.1 x 25.4mm + 38.1mm wrap)	1	Yes + Notch 2,000
77422-16W	White	1"	2.75 x 1" + 1.25" wrap (69.8 x 25.4mm + 31.7mm wrap)	1	Yes 1,000
77422-17W	White	3"	2.75 x 1" + 1.25" wrap (69.8 x 25.4mm + 31.7mm wrap)	1	Yes 1,000
77422-18W	White	1"	2.75 x 1.1875" + 1.25" wrap (69.8 x 30.1mm + 31.7mm wrap)	1	Yes 1,000
77422-19W	White	3"	2.75 x 1.1875" + 1.25" wrap (69.8 x 30.1mm + 31.7mm wrap)	1	Yes 1,000
77422-20CL	Clear	1"	1.75 x 1" (69.8 x 25.4mm)	1	Yes 2,000
77422-21CL	Clear	3"	1.75 x 1" (69.8 x 25.4mm)	1	Yes 2,000

III Cryo-CoverTAG™ Thermal Transfer Labels

Cover-up labels for frozen vials

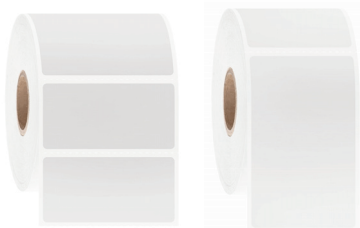


Cat. #	Color	Core	Label Size	Labels Across	Perf. Labels/Roll
77423-01W	White	1"	0.875 x 1.125 + 0.75" wrap (22.1 x 28.57 + 19mm wrap)	1	Yes 1,000
77423-02W	White	3"	0.875 x 1.125 + 0.75" wrap (22.1 x 28.57 + 19mm wrap)	1	Yes 1,000
77423-03W	White	1"	0.875 x 1.375 + 0.75" wrap (22.1 x 35 + 19mm wrap)	1	Yes + Notch 1,000
77423-04W	White	3"	0.875 x 1.375 + 0.75" wrap (22.1 x 35 + 19mm wrap)	1	Yes + Notch 1,000
77423-07W	White	1"	2 x 1 + 0.5" wrap (50.8 x 25.4 + 12.7mm wrap)	1	Yes 1,000
77423-08W	White	3"	2 x 1 + 0.5" wrap (50.8 x 25.4 + 12.7mm wrap)	1	Yes 1,000
77423-09W	White	1"	0.875 x 2" (22.2 x 50.8mm)	1	Yes 1,000
77423-10W	White	3"	0.875 x 2" (22.2 x 50.8mm)	1	Yes 1,000

Cat. #	Color	Core	Label Size	Labels Across	Perf. Labels/Roll
77423-05BW	Black with White print area	1"	1.57 x 0.75 + 0.93" wrap (39.9 x 19 + 23.6mm wrap)	1	Yes 1,000
77423-06BW	Black with White print area	3"	1.57 x 0.75 + 0.93" wrap (39.9 x 19 + 23.6mm wrap)	1	Yes 2,000

MetalTAG™ Thermal Transfer Labels

Cryo Barcode Labels for Metal Racks



Cat. #	Color	Core	Label Size	Labels Across	Perf. Labels/Roll
77424-01W	White	1"	1 x 1" (25.4 x 25.4mm)	1 rectangle	No 2,000
77424-02W	White	3"	1 x 1" (25.4 x 25.4mm)	1 rectangle	No 2,000
77424-03W	White	1"	1.5 x 2.5" (38.1 x 63.5 mm)	1 rectangle	Yes 1,000
77424-04W	White	3"	1.5 x 2.5" (38.1 x 63.5 mm)	1 rectangle	Yes 1,000
77424-05W	White	1"	1.75 x 0.5" (44.5 x 12.7 mm)	1 rectangle	Yes 2,000
77424-06W	White	3"	1.75 x 0.5" (44.5 x 12.7 mm)	1 rectangle	Yes 6,000
77424-07W	White	1"	1.75 x 1" (44.5 x 25.4 mm)	1 rectangle	Yes 2,000
77424-08W	White	3"	1.75 x 1" (44.5 x 25.4 mm)	1 rectangle	Yes 2,000
77424-09W	White	1"	2 x 1" (50.8 x 25.4 mm)	1 rectangle	Yes 1,000
77424-09BL	Blue	1"	2 x 1" (50.8 x 25.4 mm)	1 rectangle	Yes 1,000
77424-09G	Green	1"	2 x 1" (50.8 x 25.4 mm)	1 rectangle	Yes 1,000
77424-09LA	Lavender	1"	2 x 1" (50.8 x 25.4 mm)	1 rectangle	Yes 1,000
77424-09M	Mint	1"	2 x 1" (50.8 x 25.4 mm)	1 rectangle	Yes 1,000
77424-09O	Orange	1"	2 x 1" (50.8 x 25.4 mm)	1 rectangle	Yes 1,000
77424-09P	Pink	1"	2 x 1" (50.8 x 25.4 mm)	1 rectangle	Yes 1,000
77424-09R	Red	1"	2 x 1" (50.8 x 25.4 mm)	1 rectangle	Yes 1,000
77424-09T	Tan	1"	2 x 1" (50.8 x 25.4 mm)	1 rectangle	Yes 1,000
77424-09Y	Yellow	1"	2 x 1" (50.8 x 25.4 mm)	1 rectangle	Yes 1,000
77424-10W	White	3"	2 x 1" (50.8 x 25.4 mm)	1 rectangle	Yes 1,000
77424-10BL	Blue	3"	2 x 1" (50.8 x 25.4 mm)	1 rectangle	Yes 1,000
77424-10G	Green	3"	2 x 1" (50.8 x 25.4 mm)	1 rectangle	Yes 1,000
77424-109LA	Lavender	3"	2 x 1" (50.8 x 25.4 mm)	1 rectangle	Yes 1,000
77424-109M	Mint	3"	2 x 1" (50.8 x 25.4 mm)	1 rectangle	Yes 1,000
77424-10O	Orange	3"	2 x 1" (50.8 x 25.4 mm)	1 rectangle	Yes 1,000
77424-10P	Pink	3"	2 x 1" (50.8 x 25.4 mm)	1 rectangle	Yes 1,000
77424-10R	Red	3"	2 x 1" (50.8 x 25.4 mm)	1 rectangle	Yes 1,000
77424-10T	Tan	3"	2 x 1" (50.8 x 25.4 mm)	1 rectangle	Yes 1,000
77424-10Y	Yellow	3"	2 x 1" (50.8 x 25.4 mm)	1 rectangle	Yes 1,000
77424-11W	White	1"	3 x 1" (76 x 25.4 mm)	1 rectangle	Yes 1,000
77424-12W	White	3"	3 x 1" (76 x 25.4 mm)	1 rectangle	Yes 1,000
77424-13W	White	1"	3 x 2" (76 x 50.8 mm)	1 rectangle	Yes 1,000
77424-14W	White	3"	3 x 2" (76 x 50.8 mm)	1 rectangle	Yes 1,000

FEATURES

- Temperature range from -196°C to +100°C
- Color options: W=White, BL=Blue, BR=Brown, LA=Lavender, M=Mint, O=Orange, P=Pink, R=Red, T=Tan, Y=Yellow

Cryogenic thermal transfer labels for the identification of metal racks, stainless steel cryogenic racks, aluminium cassettes, X-ray film cassettes, etc.

Ideal for long-term storage and bio-preservation in liquid or vapor phase liquid nitrogen and extra-low temperature freezers.

Labels can be printed with most brands of thermal transfer printers.

Tamper-Proof Cryogenic Labels

These cryogenic labels were designed for use on plastic bags, plates, vials, CD cases and other containers where a tamper-evident seal is required. Once applied, the labels cannot be removed without being destroyed.

They are ideal for identifying and sealing cryo vials, microtubes and other containers stored in laboratory freezers, in liquid nitrogen Dewars or on dry ice.

They can be printed with thermal-transfer printers or inscribed with permanent markers.



Cat. #	Color	Core	Label Size	Labels Across	Perf. Labels/Roll
77428-01W	White	1"	1 x 0.5" (25.4 x 12.7mm)	1 rectangle	Yes 1,000
77428-02W	White	3"	1 x 0.5" (25.4 x 12.7mm)	1 rectangle	Yes 1,000
77428-03W	White	1"	1.625 x 0.625" (41.3 x 15.9mm)	1 rectangle	Yes 1,000
77428-04W	White	3"	1.625 x 0.625" (41.3 x 15.9mm)	1 rectangle	Yes 1,000
77428-05W	White	1"	2 x 1" (50.8 x 25.4mm)	1 rectangle	Yes 1,000t
77428-06W	White	3"	2 x 1" (50.8 x 25.4mm)	1 rectangle	Yes 1,000
77428-07W	White	1"	2.5 x 1" (63.5 x 25.4mm)	1 rectangle	Yes 1,000
77428-08W	White	3"	2.5 x 1" (63.5 x 25.4mm)	1 rectangle	Yes 1000

FEATURES

- Temperature range from -196°C to +110°C
- Color options: W=White



CRYO LABELING



StrawTAG™ Cryogenic Labels

Cryo labels for IVF straws

Self-laminating cryo-compatible labels for cryogenic straws used in IVF laboratories.

Designed for long-term biopreservation under cryogenic laboratory conditions, including liquid and vapor phase liquid nitrogen (-196°C / -320.8°F), -80°C (-112°F) freezers and dry ice transportation.

- Temperature range from -196°C to +80°C
- Color options: W=White, BL=Blue, G=Green, P=Pink, R=Red, Y=Yellow
- Labels for both 0.25ml and 0.5ml straws



Cryo Labels for 0.25ml IVF Straws

Cat. #	Color	Core	Label Size	Printable Area Size	Labels Across	Perf.	Labels/Roll
77427-01W	White	1"	1 x 1" (25.4 x 25.4mm)	1 x 0.25"	1 rectangle	Notch	1,000
77427-01BL	Blue	1"	1 x 1" (25.4 x 25.4mm)	1 x 0.25"	1 rectangle	Notch	1,000
77427-01G	Green	1"	1 x 1" (25.4 x 25.4mm)	1 x 0.25"	1 rectangle	Notch	1,000
77427-01P	Pink	1"	1 x 1" (25.4 x 25.4mm)	1 x 0.25"	1 rectangle	Notch	1,000
77427-01R	Red	1"	1 x 1" (25.4 x 25.4mm)	1 x 0.25"	1 rectangle	Notch	1,000
77427-01Y	Yellow	1"	1 x 1" (25.4 x 25.4mm)	1 x 0.25"	1 rectangle	Notch	1,000
77427-02W	White	3"	1 x 1" (25.4 x 25.4mm)	1 x 0.25"	1 rectangle	Notch	1,000
77427-02BL	Blue	3"	1 x 1" (25.4 x 25.4mm)	1 x 0.25"	1 rectangle	Notch	1,000
77427-02G	Green	3"	1 x 1" (25.4 x 25.4mm)	1 x 0.25"	1 rectangle	Notch	1,000
77427-02P	Pink	3"	1 x 1" (25.4 x 25.4mm)	1 x 0.25"	1 rectangle	Notch	1,000
77427-02R	Red	3"	1 x 1" (25.4 x 25.4mm)	1 x 0.25"	1 rectangle	Notch	1,000
77427-02Y	Yellow	3"	1 x 1" (25.4 x 25.4mm)	1 x 0.25"	1 rectangle	Notch	1,000
77427-03W	White	1"	1.375 x 0.875" (35 x 22mm)	1.375 x 0.25"	1 rectangle	Notch	1,000
77427-04W	White	3"	1.375 x 0.875" (35 x 22mm)	1.375 x 0.25"	1 rectangle	Notch	1,000
77427-05W	White	1"	2 x 1" (50.8 x 25.4mm)	2 x 0.25"	1 rectangle	Notch	1,000
77427-06W	White	3"	2 x 1" (50.8 x 25.4mm)	2 x 0.25"	1 rectangle	Notch	1,000

Cryo Labels for 0.5ml IVF Straws

Cat. #	Color	Core	Label Size	Printable Area Size	Labels Across	Perf.	Labels/Roll
77427-07W	White	1"	1 x 1" (25.4 x 25.4mm)	1 x 0.375"	1 rectangle	Notch	1,000
77427-08W	White	3"	1 x 1" (25.4 x 25.4mm)	1 x 0.375"	1 rectangle	Notch	1,000
77427-09W	White	1"	1 x 1" (25.4 x 25.4mm)	1.375 x 0.375"	1 rectangle	Notch	1,000
77427-10W	White	3"	1 x 1" (25.4 x 25.4mm)	1.375 x 0.375"	1 rectangle	Notch	1,000
77427-11W	White	1"	1 x 1" (25.4 x 25.4mm)	2 x 0.375"	1 rectangle	Notch	1,000
77427-12W	White	3"	1 x 1" (25.4 x 25.4mm)	2 x 0.375"	1 rectangle	Notch	1,000



Deep-Freeze Labels for High-Profile PCR Tube Strips

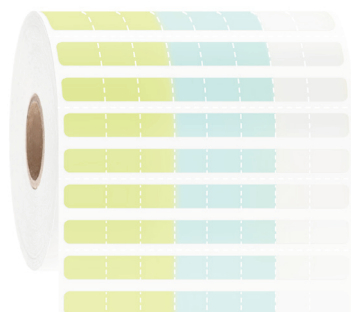
Temperature range -80°C to +110°C (-112°F to +230°F)

- Safe for use in PCR thermocyclers
- Secure identification of high-profile 8-well PCR tube strips
- Resist a wide temperature range (-80°C/-112°F to +100°C/+212°F)

PCR-TAG™ deep-freeze permanent labels are designed for specific use with high-profile 8-well PCR tube strips. The vertical perforations along the tag allow for easy and secure individual identification of the tubes.

These labels withstand a wide temperature range, from -80°C to +100°C, safe for use in thermocyclers, and for short and long-term storage in low-temperature freezers.

Provided in roll format, the labels can be printed with all common brands of thermal-transfer barcode printers.



Cat. #	Color	Core	Label Size	Labels Across	Perf.	Labels/Roll
77421-01W	White	1"	3 x 0.25" (76.2 x 6.4mm)	8 PCR labels	Yes	2,000
77421-01M	Mint	1"	3 x 0.25" (76.2 x 6.4mm)	8 PCR labels	Yes	2,000
77421-01Y	Yellow	1"	3 x 0.25" (76.2 x 6.4mm)	8 PCR labels	Yes	2,000
77421-01C	Combo	1"	3 x 0.25" (76.2 x 6.4mm)	8 PCR labels	Yes	2,000
77421-02W	White	3"	3 x 0.25" (76.2 x 6.4mm)	8 PCR labels	Yes	2,000
77421-02M	Mint	3"	3 x 0.25" (76.2 x 6.4mm)	8 PCR labels	Yes	2,000
77421-02Y	Yellow	3"	3 x 0.25" (76.2 x 6.4mm)	8 PCR labels	Yes	2,000
77421-02C	Combo	3"	3 x 0.25" (76.2 x 6.4mm)	8 PCR labels	Yes	2,000

PinTAG™ Cryo Labels for 2D-Barcoded Tubes

Simultaneously identify both the side and bottom of automated storage tubes.

PinTAG cryogenic labels have a unique, patent-pending design that allows them to be affixed onto the side and bottom of slim profile, 1.0 ml, 1.4 ml, and 2.0 ml sample storage tubes such as Simport® T100-20, Matrix™, LVL technologies LI, and LX 1000, and others.

These labels are fully compatible with automated sample-readers/scanners, inventory management software, and automatic/robotic liquid handling systems generating high-throughput. They can be printed with 1D/2D barcodes, graphics, variable data, and human-readable text. They provide maximum user control when sampling or aliquoting specimen libraries, or encoding custom information onto the receiving vials.

- Suitable for cryogenic and laboratory freezer storage, as well as transportation on dry ice.
- Maximum labeling flexibility in applications such as clinical trials, diagnostics, biobanking, epidemiological studies, and kit manufacturing.
- Temperature range from -196°C to 110°C.
- No need for pre-barcoded vials; print your own information.
- Allows slim profile tubes to be re-labeled easily.
- Compatible with most thermal transfer printers.
- Resistant to alcohol.
- Patent Pending.

Specifications

Perforation	No; with back slit (for easy peel off)					
Adhesive	Max strength extra-permanent					
Temperature Range	From -196°C to +110°C					
Recommended Ribbons	RR-Class Smudge and Alcohol Proof Resin Ribbons					

Cat. #	Color	Core	Label Size	Labels Across	Perf.	Labels/Roll
77420-50W	White	1"	1.26 x 0.3" (32 x 7.6mm)	1	No	4,000
77420-51W	White	3"	1.26 x 0.3" (32 x 7.6mm)	1	No	8,000

PikaTAG® – Cryogenic Vial Cap Labeling Kit

An innovative, labelling system for indented-cap style cryogenic storage vials.

The new PikaTAG® applicator tool allows you to easily pick-up small labels from their liners and insert them into vial caps. Simply remove the protective cap, press to pick up a label, and deposit the label into the indented cap. A bend at the end of the tool allows for just the right amount of pressure. Save precious lab time with this easy-to-use process.

For use with most common cryo vials (1.2 to 5ml) including: Nunc® #375418, Corning™ #430488, Simport® #T301, T308, T309, T310, and T311, Nalgene® #5000-0020, Greiner Cryo.s™, and similar vials commonly used for storage in vapor and liquid phase liquid nitrogen (-196°C / -321°F).

Each sheet of 48 refill tips can be used to apply upwards of 100 labels per tip. A replaceable cap is supplied to protect the refill tips after use.

Kit Includes: 1 PikaTAG® Applicator, 1 Refill Sheet (48 tip replacements), 1 roll of 4,000 cryogenic dot labels (0.35" diameter) for vial caps (1" or 3" core)

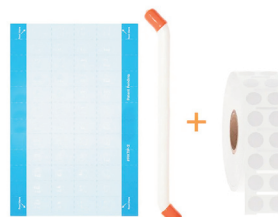
- Provide an economical alternative to cap inserts.
- Each kit can label up to 4,000 vial caps.
- Ergonomic design makes label application easy.
- Eliminates risk of cap insert popping out and possible loss of information.
- Can be used with flat cap tubes and vials as well.
- Cryo labels in the kit can be used with common thermal transfer printers.
- Patent Pending.

Cat. #	Description	Included Labels	Qty.
77420-60	PikaTAG® – Cryogenic Vial Cap Labeling Kit	4000 Cryo Dot Labels (0.35" dia., 1" Core)	kit
77420-61	PikaTAG® – Cryogenic Vial Cap Labeling Kit	4000 Cryo Dot Labels (0.35" dia., 3" Core)	kit
77420-62	PikaTAG® – Label Applicator Kit	—	kit
77420-63	PikaTAG® – Label Applicator Tool	—	each
77420-64	PikaTAG® – Label Applicator Tool	—	6/pk
77420-65	PikaTAG® – Applicator Sheet Refills, 1 Sheet of 48	—	each

Cryogenic Labels for Indented-Cap Cryo Vials

Compatible with the PikaTAG® Labeling System.

Cat. #	Color	Core	Label Size	Labels Across	Perf.	Labels/Roll
77420-70W	White	1"	0.354" Dia. Circle	2	Notched	4,000
77420-71W	White	3"	0.354" Dia. Circle	2	Notched	4,000



CRYO LABELING

III Cryogenic Labels

These labels are made from top quality materials, a wide range of sizes, designed specially for cryogenic use.

1. DuraStick Labels (KDS-series)

For Temperature of -40°C and Below.

These labels feature a smudge resistant surface. They are available in rolls for thermal transfer printing or in 8½" x 11" sheets for laser printing. All accept handwritten notations with cryo markers.



2. CryoStick Labels (FCS-series)

For Temperatures of -80°C. Ideal for use with cryotubes, these labels are best used with thermal transfer printers or cryo marker pens. Available in a wide range of sizes on sheets or rolls, they are not recommended for laser printing.

3. LiquiStick Labels (LSC-series)

For temperatures of -195°C. Labels feature a synthetic surface that accepts crisp bar codes from thermal transfer printers or handwritten notations cryo markers. Supplied in sheets or rolls, these labels are not recommended for use with laser printers.

4. Satin Cloth Labels (SC-series)

For temperature of -60°C. These textured labels withstand dry ice, deep freezers and liquid gases. Supplied in sheets or rolls. They are easily marked with cryo markers, not for use with automated printers.

5. Wrap-Around Labels (WA-1)

For Freezers and Cryogenic Use. These unique labels are for sub-zero use, measures 1⅝" x 2⅞". They feature a 1⅝" x 1⅝" area, frosted for thermal printing or marking with cryo markers. The remainder of the label is clear. It wraps around the cryo-tube to provide a protective cover for printed information while leaving a clear space for viewing the tube contents.

Cat #	Description	Label Size	Qty.
77025-01	DuraStick- series	7/16" Dia	1,000/pk
77025-10	DuraStick- series	½" x 9/10"	1,000/pk
77025-11	DuraStick- series	½" x 1¾"	1,000/pk
77025-2A	DuraStick- series	½" x 1¼"	5000/pk
77026-01	CryoStick- Series	7/16" Dia	1,000/pk
77026-10	CryoStick- Series	½" x 9/10"	1,000/pk
77026-11	CryoStick- Series	½" x 1¾"	1,000/pk
77026-12	CryoStick- Series	½" x 1½"	1,000/pk
77026-15	CryoStick- Series	¾" x 9/10"	1,000/pk
77026-16	CryoStick- Series	¾" x 1¼"	1,000/pk
77026-17	CryoStick- Series	¾" x 1½"	1,000/pk
77027-01	LiquiStick- series	7/16" Dia	1,000/roll
77027-10	LiquiStick- series	½" x 9/10"	1,000/roll
77027-11	LiquiStick- series	½" x 1¾"	1,000/roll
77027-12	LiquiStick- series	½" x 1½"	1,000/roll
77027-15	LiquiStick- series	¾" x 9/10"	1,000/roll
77027-16	LiquiStick- series	¾" x 1¼"	1,000/roll
77027-17	LiquiStick- series	¾" x 1½"	1,000/roll
77030-01	Satin-Cloth	5/8" x 1"	1,000/pk
77030-02	Satin-Cloth	5/8" x 2"	1,000/pk
77030-03	Satin-Cloth	1" x 2"	1,000/pk
77030-04	Satin-Cloth	1" x 2¼"	1,000/pk
77030-05	Satin-Cloth	1" x 2½"	1,000/pk
77028-18	Wrap-Around (frosted)	15/16" x 2-3/8"	1,000/pk

III WetGrip

Labels for Moist, Frosty or Frozen Tubes

- "GRIPS" to wet, frost-covered and frozen surfaces
- Temperature resistant to -80°C
- Compatible with centrifuge rotors
- Resistant to chemicals and solvents
- Adheres to plastics, glass, metals and even paperboard boxes
- Choose your format: laser sheets for printing many labels at once, direct thermal labels for printing a few labels at a time or labels on a roll for handwriting labels

Now available – WetGrip On Rolls! Ideal for handwriting individual labels. WetGrip On Rolls are compatible with most laboratory markers.



ALL LABELS ARE CLEAR, ON 1" I.D. CORES WITH 1,000 LABELS/ROLL. Dymo and LabelWriter are registered trademarks of the Dymo Corp., an Esselte Office Products Co.

Direct Thermal (Temp. Range: -80°C to 70°C)

Cat. #	Label SIZE (Inches/Millimeters)	Ideal Use	Qty.
77594-10	1.05" x 0.50" / 27mm x 13mm	0.5ml tubes	each
77594-20	1.50" x 0.50" / 38mm x 13mm	1.5ml tubes	each
77594-30	1.50" x 0.75" / 38mm x 19mm	2.0ml tubes	each
77594-40	¾" diameter / 9.5mm diameter	0.5ml tubes	each
77594-50	2.00" x 0.25" / 51mm x 6mm	Microplates	each
77594-60	1.50" x 0.50" - ¾" diameter spot	1.5ml tubes	each

Cat. #	Description	Qty.
77577-50	Dymo® LabelWriter® 450	each

On A Roll (Temp. Range: -80°C To 100°C)

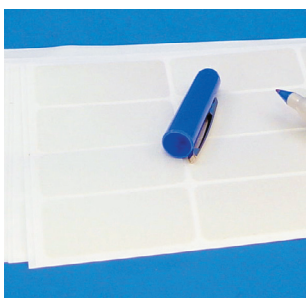
Cat. No.	Label Size	Use	Unit
77595-60	1.28" x 0.50"/33mm x 13mm	1.5ml tubes	1,000/roll
77595-65	1.50" x 0.75"/38mm x 19mm	1.5ml - 2.0ml tubes	1,000/roll

Laser Sheets (Temp. Range: -80°C to 100°C)

Cat. #	Tag Size Inches (mm)	Sheet Layout	Labels/Sheet	Ideal Use	Qty.
77595-10	1.28" x 0.50"	5 Across	85	1.5ml tubes	1,700/pk.
		17 Down			
77595-20	0.94" x 0.50"	7 Across	119	0.5ml tubes	2,380/pk.
		17 Down			
77595-30	1.50" x 0.75"	5 Across	60	1.5ml - 2.0ml tubes	1,500/pk.
		12 Down			
77595-40	0.875" x 0.875"	8 Across	96	Microscope Slides	2,400/pk.
		12 Down			

III Cryo Labels

A specially formulated material for use at ultra-low temperatures and in cryo storage conditions, such as liquid nitrogen and liquid oxygen. They are durable and adhere well to plastic as well as cardboard cryogenic storage boxes. They will not peel or shrink. Ten sheets of labels: five pre-printed, five plain. Twenty labels/sheet. Label measures: 2.5cmx5cm.



Cat #	Description	Qty.
62046	Cryo Labels	200 labels/pk
62047	Cryo Labels	10pk/lot

III Micro Tube Labels; Tough-Tags™



Pre-cut, peel-off, pressure sensitive labels. They are sized to fit microcentrifuge tubes, cryo tubes and many other containers.

- They can be boiled, froze, and autoclaved.
- They are chemically resistant.
- They are thin and will not jam in the centrifuge rotor.
- They will not dry out, fall-off, or tear.

**Tough-Tag® 1.28" x 0.50" (33mm x 13mm),
Ideal Use: 1.5 ml Tubes**

Cat. #	Color	Labels/Roll
62045-20	White	1000
62045-B	Blue	1000
62045-G	Green	1000
62045-O	Orange	1000
62045-R	Red	1000
62045-Y	Yellow	1000
62045-10	Clear	1000

**Tough-Tag® 0.94" x 0.50" (24mm x 13mm),
Ideal Use: 0.5 ml Tubes**

Cat. #	Color	Labels/Roll
62044-20	White	1000
62044-B	Blue	1000
62044-G	Green	1000
62044-O	Orange	1000
62044-R	Red	1000
62044-Y	Yellow	1000
62044-10	Clear	1000

III Cryogenic Safety and Warning Labels

Plastic labels for deep-freeze applications

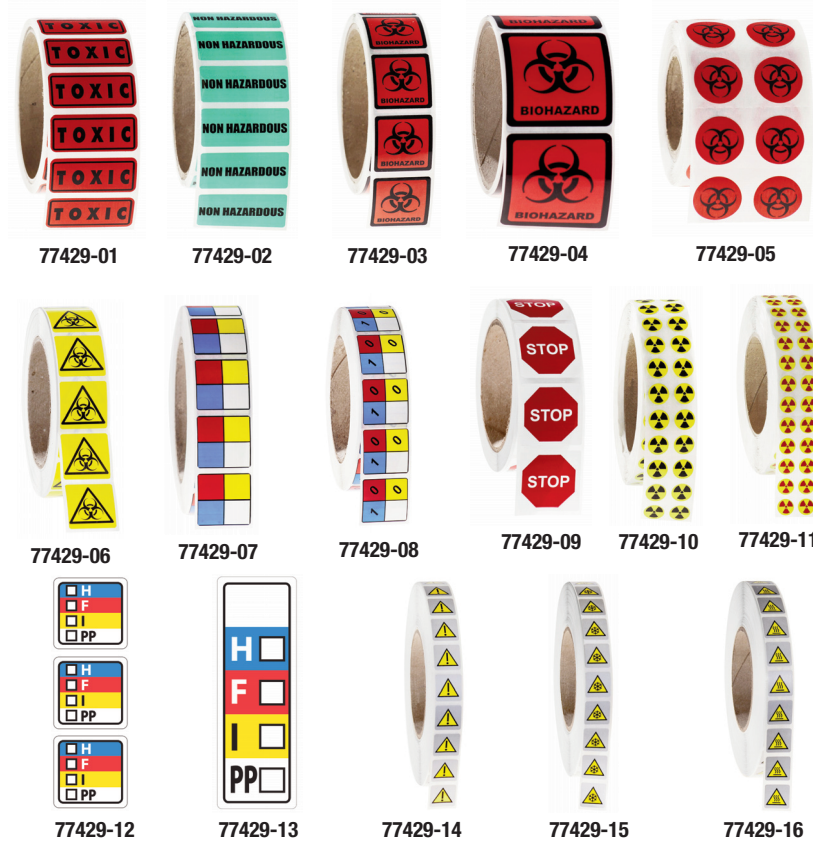
These labels will withstand multiple freeze-thaw cycles, boiling water and autoclaving, dry ice, UV rays, Gamma irradiation, most chemicals and solvents, and other harsh laboratory environments.

They are ideal for prolonged storage inside liquid nitrogen tanks, freezers and dry ice as well as for transportation of hazardous biological samples and other hazardous materials in dry ice containers, portable freezers and portable liquid nitrogen tanks.

The pictograms on the laminated labels are protected against water, alcohols, chemicals, and solvents.

FEATURES

- Water resistant
- Wear and Tear proof.
- Temperature range from -196°C to +100°C



Cat. #	Label Text/Symbol	Label Size	Perf.	Labels/Roll
77429-01	Toxic	1.75 x 0.75" (45 x 19mm)	No	250
77429-02	Non Hazardous	1.75 x 0.75" (45 x 19mm)	No	250
77429-03	BioHazard w/Symbol, Red	1.125 x 1.125" (29 x 29mm)	No	1,000
77429-04	BioHazard w/Symbol, Red	2 x 2" (50.8 x 50.8mm)	No	100
77429-05	BioHazard Symbol, Red	0.5 x 0.5" (13 x 13mm)	Yes	1,000
77429-06	BioHazard Symbol, Yellow	1.125 x 1.125" (29 x 29mm)	Yes	1,000
77429-07	NFPA, Blank	1.125 x 1.125" (29 x 29mm)	Yes	1,000
77429-08	NFPA, Printed	1.125 x 1.125" (29 x 29mm)	Yes	1,000
77429-09	Stop w/Symbol	1.5 x 1.5" (38.1 x 38.1mm)	Yes	1,000
77429-10	Radioactive, Black	0.5 x 0.5" (13 x 13mm)	Yes	1,000
77429-11	Radioactive, Red	0.5 x 0.5" (13 x 13mm)	Yes	1,000
77429-12	HMIS Warning	0.875 x 0.875" (22.2 x 22.2mm)	Yes	500
77429-13	HMIS Warning	1 x 3" (25.4 x 76.2)	Yes	500
77429-14	Warning Symbol*	0.75 x 0.75" (19 x 19mm)	Yes	1,000
77429-15	Low Temp Symbol*	0.75 x 0.75" (19 x 19mm)	Yes	1,000
77429-16	Hot Surface Symbol*	0.75 x 0.75" (19 x 19mm)	Yes	1,000

*Removable

CRYO TAPE

III C-Kur™ – Cryogenic Tamper-Evident Tape

Tears up with any attempt at removal from most surfaces.

Tamper-evident cryogenic tape is ideal for sealing ultra-low temperature freezer and cryogenic containers such as cryo vials, cryo/freezer boxes, cryo cassettes, and tubes. This tape is suitable for long-term storage in liquid nitrogen (-196°C), laboratory freezers (-80°C) and transportation on dry ice. Available in White, Yellow, Orange, Green Apple, Blue, Silver, and Red.

- Durable, waterproof, and writable using permanent cryogenic markers.
- Continuous tape allows you to use as much or as little as you like
- A range of colors is available for easy identification.



Specifications

Temperature Range	-196°C to +110°C
1" Core Size	0.875" x 50' (22.2mm x 15m)
3" Core Size	0.875" x 100' (22.2mm x 30m)

Cat No.	Color	Core	Dimensions	Qty.
77432-01	White	1"	0.875" x 50' (22.2mm x 15m)	each
77432-02	Yellow	1"	0.875" x 50' (22.2mm x 15m)	each
77432-03	Orange	1"	0.875" x 50' (22.2mm x 15m)	each
77432-04	Green Apple	1"	0.875" x 50' (22.2mm x 15m)	each
77432-05	Blue	1"	0.875" x 50' (22.2mm x 15m)	each
77432-06	Silver	1"	0.875" x 50' (22.2mm x 15m)	each
77432-07	Red	1"	0.875" x 50' (22.2mm x 15m)	each
77432-08	White	3"	0.875" x 100' (22.2mm x 30m)	each
77432-09	Yellow	3"	0.875" x 100' (22.2mm x 30m)	each
77432-10	Orange	3"	0.875" x 100' (22.2mm x 30m)	each
77432-11	Green Apple	3"	0.875" x 100' (22.2mm x 30m)	each
77432-12	Blue	3"	0.875" x 100' (22.2mm x 30m)	each
77432-13	Silver	3"	0.875" x 100' (22.2mm x 30m)	each
77432-14	Red	3"	0.875" x 100' (22.2mm x 30m)	each

III C-Kur™ – Cryogenic Destructible Tape

Tears and crumbles with any attempt at removal from most surfaces.

Tamper-evident cryogenic tape is ideal for sealing cryogenic containers such as cryo vials, cryo/freezer boxes, cryo cassettes, and tubes. This tape is suitable for long-term storage in liquid nitrogen (-196°C), laboratory freezers (-80°C) and transportation on dry ice. Transparent.

- Durable, waterproof, and writable using permanent cryogenic markers.
- Continuous tape allows you to use as much or as little as you like.



Specifications

Temperature Range	-196°C to +110°C
1" Core Size	0.5" x 50' (13mm x 50m)
3" Core Size	0.75" x 50' (19mm x 50m)

Cat No.	Color	Core	Dimensions	Qty.
77432-15	White	1"	0.5" x 50' (13mm x 50m)	each
77432-16	White	3"	0.75" x 50' (19mm x 50m)	each

III Cryo-Laminate™ – Cryogenic Lamination Tape

Protects against extreme cryogenic conditions including liquid and vapor phase liquid nitrogen.

This ultra-thin transparent cryogenic laminating tape can be applied to cryovials and tubes. It provides excellent protection against most chemicals, such as acetone, toluene, xylene, ethanol, and other reagents and solvents. The clear laminate will also protect labels and writing from abrasion, multiple freeze-thaw cycles, and boiling water.



- Resists harsh laboratory environments including multiple freeze-thaw cycles and gamma irradiation (tested to up to 50kGy).
- Protects against chemicals and solvents
- Withstands long-term storage in liquid and vapor phase liquid nitrogen, ultra-low temperature freezers, and transportation on dry ice.

Specifications

Temperature Range	-196°C to +93°C
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Cat No.	Color	Core	Dimensions	Qty.
77432-66	Transparent	3"	0.75" x 200' (19mm x 60m)	each
77432-67	Transparent	3"	1.00" x 200' (25mm x 60m)	each
77432-68	Transparent	3"	2.00" x 200' (50.8mm x 60m)	each

III NitroTAPE™ – Cryogenic Tape for Laboratory Use

For use in harsh cryogenic conditions.

NitroTAPE™ is water-proof, and resistant to liquid nitrogen, dry ice, multiple freeze-thaw cycles, gamma irradiation, and other harsh laboratory environments. It is ideal for microtubes, glass and plastic vials, and freezer boxes. Available in White, Yellow, Orange, Green Apple, Blue, and Red.

- Durable, waterproof, and writable using permanent cryogenic markers.
- Utilizes extra-strong CryoMax™ adhesive.
- Continuous tape allows you to use as much or as little as you like.
- A range of colors is available for easy identification.



Specifications

Temperature Range	-196°C to +110°C
Adhesive	Cryogenic permanent

Cat No.	Color	Core	Dimensions	Qty.
77432-20	White	1"	0.5" x 50' (13mm x 15m)	each
77432-21	Yellow	1"	0.5" x 50' (13mm x 15m)	each
77432-22	Orange	1"	0.5" x 50' (13mm x 15m)	each
77432-23	Blue	1"	0.5" x 50' (13mm x 15m)	each
77432-24	Red	1"	0.5" x 50' (13mm x 15m)	each
77432-25	White	3"	0.5" x 100' (13mm x 30m)	each
77432-26	Yellow	3"	0.5" x 100' (13mm x 30m)	each
77432-27	Orange	3"	0.5" x 100' (13mm x 30m)	each
77432-28	Blue	3"	0.5" x 100' (13mm x 30m)	each
77432-29	Red	3"	0.5" x 100' (13mm x 30m)	each
77432-30	White	1"	0.75" x 50' (19mm x 15m)	each
77432-31	Yellow	1"	0.75" x 50' (19mm x 15m)	each
77432-32	Orange	1"	0.75" x 50' (19mm x 15m)	each
77432-33	Blue	1"	0.75" x 50' (19mm x 15m)	each
77432-34	Red	1"	0.75" x 50' (19mm x 15m)	each
77432-35	White	3"	0.75" x 100' (19mm x 30m)	each
77432-36	Yellow	3"	0.75" x 100' (19mm x 30m)	each
77432-37	Orange	3"	0.75" x 100' (19mm x 30m)	each
77432-38	Blue	3"	0.75" x 100' (19mm x 30m)	each
77432-39	Red	3"	0.75" x 100' (19mm x 30m)	each
77432-40	White	1"	1.00" x 50' (25.4mm x 15m)	each
77432-41	Yellow	1"	1.00" x 50' (25.4mm x 15m)	each
77432-42	Orange	1"	1.00" x 50' (25.4mm x 15m)	each
77432-43	Blue	1"	1.00" x 50' (25.4mm x 15m)	each
77432-44	Red	1"	1.00" x 50' (25.4mm x 15m)	each
77432-45	White	3"	1.00" x 100' (25.4mm x 30m)	each
77432-46	Yellow	3"	1.00" x 100' (25.4mm x 30m)	each
77432-47	Orange	3"	1.00" x 100' (25.4mm x 30m)	each
77432-48	Blue	3"	1.00" x 100' (25.4mm x 30m)	each
77432-49	Red	3"	1.00" x 100' (25.4mm x 30m)	each

III CryoSTUCK® – Frozen Container Tape

For the identification of already frozen containers.

This cryogenic tape is designed for long-term cryo-preservation in ultra-low temperature freezers, vapor phase liquid nitrogen, and dry ice transport (-80°C). It is suitable for immersion in water baths and will resist multiple freeze-thaw cycles. It is also tamper-evident, tearing upon any attempt to open the container. Compatible with all major thermal-transfer printer brands or marked on with our permanent cryo markers.



- Durable, waterproof, and writable using permanent cryo markers.
- Compatible with all major brands of thermal transfer printer.
- Transparent.

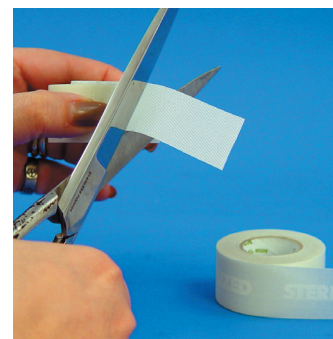
Specifications

Temperature Range	-196°C to +150°C
Adhesive	Permanent
Minimum Application Temp.	-80°C / -112°F

Cat No.	Color	Core	Dimensions	Qty.
77432-60	Transparent	1"	0.5" x 50' (13mm x 15m)	each
77432-61	Transparent	3"	0.5" x 100' (13mm x 30m)	each
77432-62	Transparent	1"	0.75" x 50' (19mm x 15m)	each
77432-63	Transparent	3"	0.75" x 100' (19mm x 30m)	each
77432-64	Transparent	1"	0.875" x 50' (22.2mm x 15m)	each
77432-65	Transparent	3"	0.875" x 100' (22.2mm x 30m)	each

III Cloth-Textured Hi/Lo Temperature Tape

These tapes mold tightly to any container, withstands acids, alkalis, oils and greases. It's will not crack peel or fall off in 550°F dry oven temperatures. Hi/Lo Temperature tape also sticks tightly in the dry ice, liquid gases and deep freeze of cryogenic temperatures. Tape is available in widths of 1/2", 3/4" and 1" on 250" roll. (This tape must be cut with scissors)



Cat No.	Description	Qty.
77012-05	Hi/Lo Cloth Tape, 1/2" wide	each
77012-07	Hi/Lo Cloth Tape, 3/4" wide	each
77012-10	Hi/Lo Cloth Tape, 1" wide	each

CRYO MARKERS

CRYO Markers

For permanently marking cloth, cardboard, and plastic. It will not fade at ultra-low temperatures. Smudge-proof. Package consists of three extra fine point pens in red, blue, and black, and one standard point pen in green.



Cat No.	Description	Qty.
62050	Cryo Markers	4/pack
62051	Cryo Markers	6 pack/case

Dual-Tip Cryo-Markers™

High quality cryogenic permanent ink markers

These 2-in-1 markers have dual tips: fine (0.7 mm) and extra-fine (0.3 mm) and are easy to handle for applications in bio-medical laboratories.



- Durable, heavy duty, long-lasting nibs
- Low odor
- Permanent and water-resistant (all colors are equally permanent and lasting)
- Excellent performance on plastic, glass, metal, cloth and other surfaces

Available colors: Black, Blue, Brown, Green, Orange, Purple, Red, Yellow



Cat No.	Description	Qty.
62055-01BK	Dual-Tip Cryo-Marker, Black	each
62055-01BL	Dual-Tip Cryo-Marker, Blue	each
62055-01BR	Dual-Tip Cryo-Marker, Brown	each
62055-01G	Dual-Tip Cryo Marker, Green	each
62055-01O	Dual-Tip Cryo Marker, Orange	each
62055-01PU	Dual-Tip Cryo Marker, Purple	each
62055-01R	Dual-Tip Cryo Marker, Red	each
62055-01Y	Dual-Tip Cryo Marker, Yellow	each

EMS Science Marker™

Fine Tip Alcohol And Water Resistant Cryogenic Marker

These markers are alcohol-resistant on most surfaces. Preliminary testing is required. Not suitable for exposure to Acid/Ethanol mixes.

- Fine tip
- Water resistant
- Alcohol resistant
- Cryogenic permanent marker
- 6 markers per pack

Available in black or green.



Cat No.	Description	Qty.
62043-B	EMS Science Marker, Black	6/pk
62043-G	EMS Science Marker, Green	6/pk

Moist Mark Plus Pen™

These pens are resistant to all solvents. They write smooth, dark and fine on all cassettes and slides. They can be used for cytology as a "dotting" reference marker, as well.

Strictest manufacturing standards. Proprietary, formulated ink.



Cat No.	Description	Qty.
72111	Moist Mark Plus Pen™	10/pk

StatMark Pen



Permanent ink in an ultrafine tip is ideal for labeling microscope slides and cassettes. StatMark Pens are made of rigid nylon that allow for precise hand marking on glass slides as well as on most tissue embedding cassettes. This quick drying ink is highly resistant to aqueous based stains, alcohols, xylene and xylene substitutes. StatMark Pens do not dry out easily and last twice as long as many of the leading 'laboratory' pens.

Cat No.	Description	Qty.
72109-01	StatMark Pen	each
72109-12	StatMark Pen	12/box

EMS Sample Marker Pack

Try our new sampler pack, featuring our three most commonly used marker pens. Each one is slightly different and this pack gives you a chance to try them all to see which type is best for you.

Pack includes 1 each of:

- Catalog # 62043-B EMS Science Marker™**
- Catalog # 72111 Moist Mark Plus Pen™**
- Catalog # 72109-01 StatMark Pen**

Cat No.	Description	Qty.
72113	EMS Sample Marker Pack	3/pk

CRYO MARKERS

Big Tip Cryo-Markers™

Easy-to-use high quality cryogenic permanent ink markers

Instructions: Discard protective inner cap. Twist end of barrel to advance. Point will not retract. Recap after use.

Available colors: Fluorescent Orange, Fluorescent Pink, Fluorescent Yellow, Black, Blue, Green, Orange, Purple, Red, Yellow



Cat No.	Description	Qty.
62055-03FO	Big-Tip Cryo-Marker, Fluorescent Orange	each
62055-03FP	Big-Tip Cryo-Marker, Fluorescent Pink	each
62055-03FY	Big-Tip Cryo-Marker, Fluorescent Yellow	each
62055-03BK	Big-Tip Cryo Marker, Black	each
62055-03BL	Big-Tip Cryo Marker, Blue	each
62055-03G	Big-Tip Cryo Marker, Green	each
62055-03O	Big-Tip Cryo Marker, Orange	each
62055-03PU	Big-Tip Cryo Marker, Purple	each
62055-03R	Big-Tip Cryo Marker, Red	each
62055-03Y	Big-Tip Cryo Marker, Yellow	each

Micro-Tip Cryo-Markers™

High quality cryogenic permanent ink markers

- High quality permanent ink micro-tip marker: Ultra-Fine line 0.25mm
- Hard plastic tips are protected by metal sleeves and will not split, so lines are clean and precise every time
- Permanent and water-resistant (all colors are equally permanent and lasting)
- Excellent performance in areas where detailed writing is required, such as marking on small micro-centrifuge and PCR tubes, labels, beakers, glass plates, X-ray and photographic films

Available colors: Black and Red



Cat No.	Description	Qty.
62055-02BK	Micro-Tip Cryo-Marker, Black	each
62055-02R	Micro-Tip Cryo-Marker, Red	each

Wet Surface Pen

Writes on wet surfaces or underwater.

This unusual pen will write clearly on wet surfaces, such as marking slots on wet Southern, Northern, and Western blots. Use it for marking alignment dots on blotting filters placed over agar plates containing bacterial colonies or phage plaques. Mark lanes on wet plots prior to cutting the filter into strips to be incubated separately with different antisera or probes. It can be used to correct or write on wet labels that were kept in a water bath, in liquid nitrogen or in a freezer at 0 degrees. The Wet Surface Pen is extremely useful for marking filters during processing under water-based buffers. The pen can, of course, also be used to write on dry paper as a standard ball pen.



Cat No.	Description	Qty.
72128	Wet Surface Pen, Black	each

Diamond PerfectMark™ Laboratory Marker



The Diamond PerfectMark is a permanent laboratory marker ideal for all laboratory marking applications.

The marker is smear-proof, waterproof, odorless and fade-resistant. The permanent ink is resistant to most laboratory chemicals & solvents.

It also features a fine tip designed for use on tight spaces, such as histology cassettes, microscope slides, and cryogenic vials.



Cat No.	Description	Qty.
72106-01-A	Diamond PerfectMark™ Marker	each
72106-10-A	Diamond PerfectMark™ Marker	10/pk

Manomark™ Pen
All Surface Marker

Writes on all plastic, glass, metal, wool, paper and cloth, including "PTFE", fluoropolymer resins. With its precision seal valve the pens life is preserved and as well it allows for a smooth flow of ink even if it's left uncapped. Once dry, the solvent base ink is temperature resistant from 0°C to 155°C (32°F to 310°F)

Markings are insoluble in water or hydrocarbons, resist many solvents, and are easily removed with alcohol.



Cat No.	Description	Qty.
72127-AS	Manomark Pen Assorted, (4 black, 2 red, 2 green, 2 blue, 2 orange)	12/pk
72127-B1	Manomark, Black only	each
72127-B12	Manomark, Black only	12/pk

LABEL PRINTERS



LinkLabel™ Bluetooth Lab Printer

The new LinkLabel Lab Printer brings a new level of freedom to laboratory labeling. The free, downloadable, Label Pro1M App, allows the user to endlessly customize and specialize their labels. Use the app to easily change text, font, positioning, size, and label length. The memory function allows you to save commonly used labels or templates. The LinkLabel also has the ability to print batches, serial numbers, QR codes, and a variety of barcodes.

With 13 available label cassettes, the customization doesn't end on your Bluetooth device. Choose from multiple colors of tape, including transparent. Three label heights are available. 6mm tapes are great for tissue culture plates, while the extra tall 24mm tapes are ideal for large tubes and flasks. Special ultra-low label tapes are also available for storage in -80°C environments or for liquid nitrogen applications. **(See below)**

- Compatible with Bluetooth devices
- Free app allows for limitless customization
- Labels available in white, clear, colors, and for LN₂
- Built in cutter; no need for scissors
- Hundreds of pre-programmed scientific characters

Cat No.	Description	Qty.
77603	LinkLabel™ Bluetooth Label Printer	each



LABeler™ Lab Printer

Proper identification of samples is often a key objective of the research laboratory. The process of writing on sample tubes/containers can be messy and unreliable. It can also be difficult to find the time to access a computer and design a layout for expensive ink jet labels. The new LABeler™ Lab Printer provides the convenience of a lab pen with the benefits of a large desktop printer. Simply type in the desired copy using the 50+ button key pad and press the print key and within seconds your label can be cut by pressing the cut lever and is then ready for application.

With over 15 available sizes, colors and material combinations, the LABeler™ is ideal for label identification of any laboratory vessel for nearly any laboratory application. Standard label tapes can be autoclaved, boiled or even frozen to temperatures as low as -50°C. Special Ultra-Low label tapes are also available for storage in -80°C environments or for liquid nitrogen applications. **(See below)**

- Lightweight, handheld operation
- Variety of label tapes for many tube sizes
- Built in cutter – no need for scissors
- Prints a variety of barcodes
- "Ultra-Low" tape for liquid nitrogen storage

Cat No.	Description	Qty.
77600-01	LABeler™ Lab Printer, w/115V power supply	each
77600-16	LABeler™ Lab Printer, w/220V power supply	each
77600-02	LABeler™ Lab Printer, no power supply	each
77600-03	Power supply for LABeler™ Lab Printer	each



Lab Tape Cassettes for LABeler™ and LinkLabel™

Cat No.	Description	Qty.
77600-04	26' Cassette of 6 mm lab tape, white w/blk print	each
77600-05	26' Cassette of 6 mm lab tape, clear w/blk print	each
77600-06	26' Cassette of 12 mm lab tape, white w/blk print	each
77600-07	26' Cassette of 12 mm lab tape, clear w/blk print	each
77600-08	26' Cassette of 12 mm lab tape, yellow w/blk print	each
77600-09	26' Cassette of 12 mm lab tape, red w/white print	each
77600-10	26' Cassette of 12 mm lab tape, blue w/white print	each
77600-11	26' Cassette of 12 mm lab tape, grn w/white print	each
77600-12	26' Cassette of 24 mm lab tape, white w/blk print	each
77600-13	26' Cassette of 24 mm lab tape, clear w/blk print	each
77600-14	26' Cassette of 12 mm ULT tape, white w/blk print	each
77600-15	26' Cassette of 24 mm ULT tape, white w/blk print	each



Dymo LabelWriter

Dymo LabelWriters are compatible with direct thermal CryoTags® and Wet Grip labels. The Dymo has a small bench-top footprint, it is easy to setup and is very affordable. Ready-made templates will enable you to print in seconds. Barcoding is also possible. Ask for samples!

*All labels are white, on 1" I.D. cores

Cat No.	Description	Qty.
77577-50	Dymo® LabelWriter® 450	each

Dymo and LabelWriter are registered trademarks of the Dymo Corp., an Esselte Office Products Co.

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histo AFM

Specially tested to ensure that they meet the increased quality requirements of AFM investigation..

histo cryo

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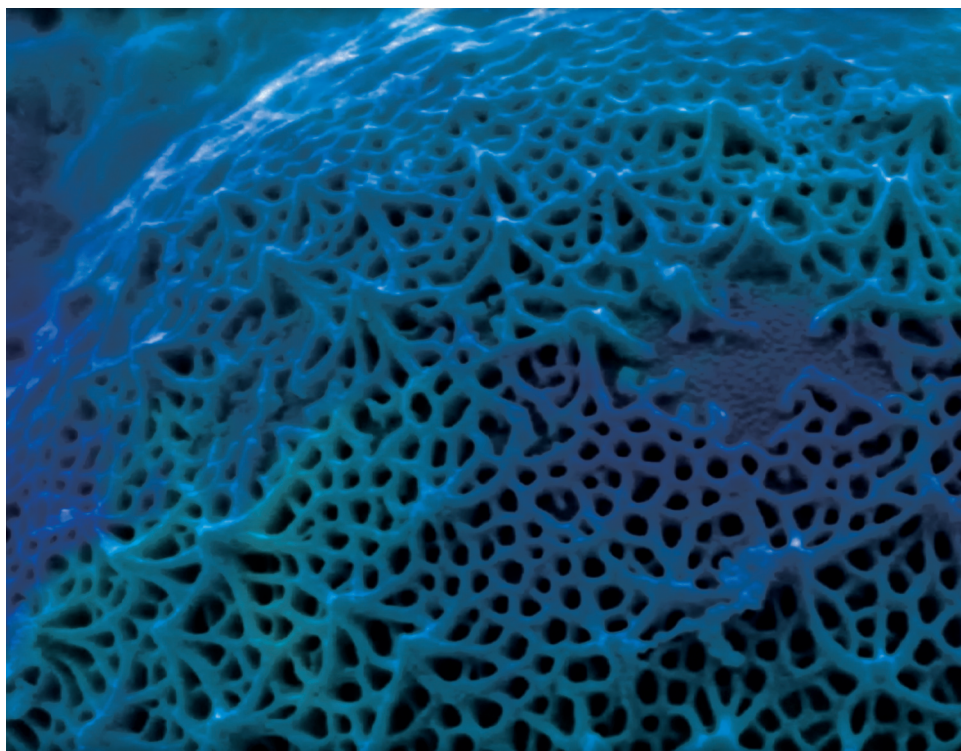
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Fax: (215) 412-8450
email: info@emsdiasum.com
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