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Newly Introduced Products

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Newly Introduced Products

Conductive Adhesives and Mounting Mediums

► EPO-TEK – Epoxy Conductive Adhesive

► EPO-TEK® EE129-4

Epo-Tek® EE129-4 is a room temperature cure, silver-filled epoxy, designed for making electrical connection in SEM mounting sample, circuit assembly, semiconductor, LCD applications.



Epo-Tek® EE129-4 comes with two parts: A & B and mixing ratio is 1:1. Shelf life is one year at room temperature

Maximum Bond Line Cure Schedules:

100°C	15 minutes
80°C	1 hour
70°C	2 hours
23°C	24 hours
Pot Life	3 hours

Works well with surface like Au, Ag-Pd, Cu, brass, Kovar, stainless steel, as well as ceramic, PCB, solder masks, most plastic and glasses

12670-EE Epo-Tek® EE129-4 Adhesive 1 oz **\$158.00**

- Low temperature cures capable from 23°C to 80°C.
- Suggested for cryogenic cooling applications
- Works well in SEM, microscopy applications
- Works well in aerospace hybrid circuits and ITO electrodes in LCD packaging and assembly
- Reasonable pot life of 3 hours, allows for preparation.
- Smooth thixotropic paste allows for many way of application

Typical properties: (to be used as a guide only, not a specification)

Physical Properties:

Color: Part A –silver; Part B – silver
Consistency: Smooth, thixotropic – 4000 cPs
Viscosity (@ 100 RPM / 23°C): 2,000 – 4000 cPs
Thixotropic Index: 4.6
Glass Transition Temp (Tg):
 ≥ 45°C (Dynamic cure
 20 – 200°C / ISO 25 Min;
 Ramp -10 – 200°C @20°C/Min)
Coefficient of Thermal Expansion (CTE):
 Below Tg: 30 x 10⁻⁶ in/in/°C
 Above Tg: 227 x 10⁻⁶ in/in/°C
Shore D hardness: 63
Lap Shear Strength @ 23°C: 1,110 psi
Die Shear Strength @ 23°C:
 ≥ 5 kg / 1,700 psi
Weight Loss:
 @200°C: 0.18%
 @250°C: 0.54%
 @300°C: 2.06%

Degradation Temp (TGA): 303°C

Operating Temp:

Continuous: -55°C to 150°C
 Intermittent: -55°C to 250°C

Storage Modulus @ 23°C: 156, 318 psi

Ion: Cl⁻ 223 ppm
 Na⁺ 26 ppm
 NH₄⁺ 22 ppm
 K⁺ 12 ppm

Particle Size: ≤ 45 microns

Electrical Properties:

Volume Resistivity @ 23°C:
 ≤ 0.0003 Ohm-cm

Volume Resistivity @ 23°C (23°C/24 hour cure): 0.01 Ohm-cm

Thermal Properties

Thermal Conductivity: 1.60 W/mK

► EPO-TEK® H20E

Epo-Tek® H20E is a two component, 100% solid silver-filled epoxy system, silver-resin paste and liquid hardener, mixing ration is 1:1.

Maximum Bond Line Cure Schedules:

175°C	45 seconds
150°C	5 minutes
120°C	15 minutes
80°C	3 hours

12671-20E Epo-Tek® H20E Adhesive 1 oz **\$180.00**

- Epo-Tek H22E features high thermal conductivity, and is very well suited for extensive high temperature applications (300 – 400°C)
- Epo-Tek H20E is also a conductive adhesive of choice for old or new applications.
- Its applications include: chip bonding and electronic bonding
- as well as SEM mounting.
- H20E contains no solvents and will not outgas.
- When cured, H20E is resistant to solvents, resin and moisture
- Long Pot life (2½ days)
- Shelf life is one year when store at 23°C



Typical properties: (to be used as a guide only, not a specification)

Physical Properties:

Color: Part A –silver; Part B – silver
Consistency: Smooth, thixotropic
Viscosity (@ 100 RPM / 23°C):
 2,200 – 3,200 cPs
Thixotropic Index: 3.69
Glass Transition Temp (Tg):
 ≥ 80°C (Dynamic cure 20 – 200°C / ISO
 25 Min; Ramp -10 – 200°C @20°C/Min)
Coefficient of Thermal Expansion (CTE):
 Below Tg: 31 x 10⁻⁶ in/in/°C
 Above Tg: 158 x 10⁻⁶ in/in/°C
Shore D hardness: 75
Lap Shear Strength @ 23°C: 1,475 psi
Die Shear Strength @ 23°C:
 > 5 kg / 1,700 psi

Degradation Temp (TGA): 425°C

Weight Loss:

@200°C: 0.59%
 @250°C: 1.09%
 @300°C: 1.67%

Operating Temp:

Continuous: -55°C to 200°C
 Intermittent: -55°C to 300°C

Storage Modulus @ 23°C: 808,700 psi

Ion: Cl⁻ 73 ppm
 Na⁺ 2 ppm
 NH₄⁺ 98 ppm
 K⁺ 3 ppm

Particle Size: ≤ 45 microns

Electrical Properties:

Volume Resistivity @ 23°C:
 ≤ 0.0004 Ohm-cm

Thermal Properties

Thermal Conductivity: 2.50 W/mK

Thermal Conductivity: 29 W/mK

Based on Thermal Resistance Data:
 R=L x K-1 x A-1

Thermal Resistance: (Junction to Case):
 TO-18 package with nickel-gold metalized
 20 x 20 mil chips and bonded with
 Epo-Tek H20E (2 mil thick)

Epo-Tek®H20E: 6.7 to 7.0°C/W

Solder: 4.0 to 5.0°C/W

For our complete line of Adhesives, see our main catalog, pages 9–17.

Newly Introduced Products

Conductive Adhesives and Mounting Mediums

► EPO-TEK – Epoxy Conductive Adhesive (continued)

► EPO-TEK® H20S

Epo-Tek® H20S is a modified version of Epo-Tek®H20E. Epo-Tek® H20S is a highly reliable, two component, silver-filled epoxy with a smooth, thixotropic consistency (mixing ratio 1:1). This modified version offers high electrical conductivity, short curing cycles, proven reliability, and the convenient mix ratio, Epo-Tek® H20S is extremely simple to use. Epo-Tek® H20S pot life is 2.5 days and shelf life is one year when store at room temperature.

12672-20S Epo-Tek® H20S Adhesive 1 oz \$180.00

Maximum Bond Line Cure Schedules:

175°C45 seconds
 150°C5 minutes
 120°C15 minutes
 100°C45 minutes
 80°C90 minutes

Typical properties: (to be used as a guide only, not a specification)

Physical Properties:

Color: Part A –silver; Part B – silver
Consistency: Smooth, thixotropic paste
Viscosity (@ 100 RPM/23°C): 1,800 – 2,800 cPs
Thixotropic Index: 5
Glass Transition Temp (Tg): ≥ 80°C
 (Dynamic cure 20 – 200°C / ISO 25 Min;
 Ramp -10 – 200°C @20°C/Min)
Coefficient of Thermal Expansion (CTE):
 Below Tg: 31 x 10⁻⁶ in/in/°C
 Above Tg: 120 x 10⁻⁶ in/in/°C
Shore D Hardness: 57
Lap Shear Strength @ 23°C: 1,240 psi
Die Shear Strength @ 23°C: ≥ 5 kg / 1,700 psi
Degradation Temp (TGA): 414°C
Operating Temp: Continuous: -55°C to 200°C

Weight Loss:

@200°C: 0.40%
 @250°C: 0.60%
 @300°C: 1.37%
Intermittent: -55°C to 300°C
 Below Tg: 31 x 10⁻⁶ in/in/°C
Storage Modulus @ 23°C: 339,720 psi
Ion: Cl⁻ 162 ppm
 Na⁺ 0 ppm
 NH₄⁺ 282 ppm
Particle Size: ≤ 20 microns

Electrical Properties:

Volume Resistivity @ 23°C: ≤ 0.0005 Ohm-cm

Thermal Properties

Thermal Conductivity: 3.25 W/mK

► EPO-TEK® H22

Epo-Tek® H22 is a two component, silver-filled epoxy system. Mixing ratio of silver resin paste and liquid hardener is 100:4.5. Pot life 16 hours, and shelf life is 6 months at room temperature.

Maximum Bond Line Cure Schedules:

150°C5 minutes
 120°C10 minutes
 100°C20 minutes
 80°C45 minutes

- Smooth, free-flowing, slightly thixotropic paste
- High Tg allows it to be used for high temperature applications ≤300°C
- Contains no solvents – It is a NASA approved low outgassing epoxy.
- Excellent resistance to solvents, chemicals and moisture
- Extended pot life and fast curing at low temperature <100°C
- Designed for die bonding and sealing hybrid circuit. Recommended for SEM small angle cleavage and wafer bonding.

12673-22 Epo-Tek® H22 Adhesive 1 oz \$150.00

Typical properties: (to be used as a guide only, not a specification)

Physical Properties:

Color: Part A –silver; Part B – amber
Consistency: Smooth, flowing paste
Viscosity (@ 100 RPM / 23°C):
 12,000 – 20,000 cPs
Thixotropic Index: 2.36
Glass Transition Temp (Tg):
 ≥ 100°C (Dynamic cure 20 – 200°C / ISO
 25 Min; Ramp -10 – 200°C @20°C/Min)
Coefficient of Thermal Expansion (CTE):
 Below Tg: 39 x 10⁻⁶ in/in/°C
 Above Tg: 224 x 10⁻⁶ in/in/°C
 Shore D hardness: 80
Lap Shear Strength @ 23°C: 1,980 psi
Die Shear Strength @ 23°C:
 ≥ 5 kg / 1,700 psi
Degradation Temp (TGA): 454°C

Weight Loss:

@200°C: 0.09%
 @250°C: 0.23%
 @300°C: 1.42%
Operating Temp:
 Continuous: -55°C to 250°C
 Intermittent: -55°C to 350°C
Storage Modulus @ 23°C: 540,120 psi
Ion: Cl⁻ 175 ppm
 Na⁺ 60 ppm
 NH₄⁺ 148 ppm
 K⁺ 6 ppm
Particle Size: ≤ 45 microns

Electrical Properties:

Volume Resistivity @ 23°C: ≤ 0.005 Ohm-cm

Thermal Properties

Thermal Conductivity: 0.94 W/mK

► Fluoro-Gel with Anti-Fading Mounting Medium



Fluoro-Gel Mounting Medium with a strong anti-fading agent 1,4-phenylenediamine is an aqueous mounting medium for preserving fluorescence of tissue and cell smears. This unique formula preserves rapid photobleaching of FITC, Texas Red, AMCA, Cy2, Cy3, Cy5, Alexa Fluoro 388, Alexa Fluoro 594 tetramethyl rhodamine, and Redox. The fluorescence is retained during prolong storage at 4°C in the dark. This medium contains Phnylenediamine and is *not suitable for immunofluorescence of Cy dyes, Phycoerythrin (R-PR) phycoocyanin (PC), and allophycocyanin (APC).*

Application: Immuno-fluorescence, confocal microscopy.

Reagent: Prepared from TRIS buffer. Ready-to-use mounting medium with dark coffee color, this is normal, and does not interfere with immuno-fluorescence

Storage: 2 – 8°C is recommended. Protect from light. DO NOT FREEZE.

A17983-20 Fluoro-Gel with Anti-Fading Agent 20 ml \$38.00

17983-100 Fluoro-Gel with Anti-Fading Agent 100 ml \$170.00

► Limonene-Mount (A Direct Substitute for BioMeda™ Clarion Mount)

This mounting medium is made with limonene, a natural product from orange peels. It preserves tissues and cell smears that can be dehydrated with organic solvents in immunohistochemistry, e.g. DAB and DAB with nickel or cobalt. Our Limonene-Mount also works well with alkaline phosphatase chromogens, and organic solvent resistant Supper Fast Red. It is also a good choice for mounting H & E stained slides.

Application: Mounting tissues and cell smears.

17987-01 Limonene-Mount 100 ml \$178.00

17987-06 Limonene-Mount 6x100 ml/bx \$960.00

17987-25 Limonene-Mount 250 ml \$210.00

For our complete line of Adhesives, see our main catalog, pages 9–17.

Newly Introduced Products

General Lab Supplies

► Cryogenic Grid Storage Box

This specimen grid box is a tool for storing or transferring cryogenic TEM specimen grids.

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

Cat. #	Description	Qty	Price
71166-10	Cryo Grid Box, Round, w/Lid	each	\$9.25
71166-20	Cryo Grid Box, Square, w/Lid	each	\$9.75
71166-30	Cryo Grid Box, Round, wo/lid	each	\$6.90



► 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. #	Description	Qty	Price
71165-50	Cryogenic Grid Box Handling Tool	each	\$19.50



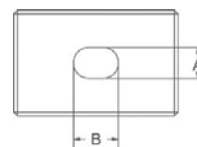
► Stainless Steel Brain & Heart Matrices

with 0.5mm Thick Slices

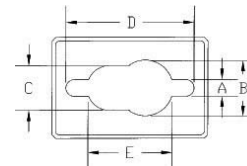
When your rodent brain, heart, and other similar organs need to be sliced as thin as possible, these new stainless steel matrices with 0.5mm channel, you can manually achieve these slices - coronal or sagittal- with ease.

- Made of high-quality stainless steel.
- They can repeatedly use, cleaning, autoclave and frozen.
- Produce fine slices
- Accurate sectioning
- Easy cleaning and easy handling.

Heart Matrices



Brain Matrices



Cat. #	Product	Dimensions (mm)					Cavity Depth	Price
		A	B	C	D	E		
69090-C	Mouse Coronal (40-75g)	3.18	11.1	8.73	19.1	12.2	7.4	\$475.00
69090-S	Mouse Sagittal (40 - 75g)	3.18	11.1	8.73	19.1	12.2	7.4	\$475.00
69091-C	Small Rat Coronal (175 - 300g)	4.76	15.9	12.7	36.6	23.8	7.61	\$475.00
69091-S	Small Rat Sagittal (175 - 300g)	4.76	15.9	12.7	36.6	23.8	7.61	\$475.00
69092-C	Large Rat Coronal (300 - 600g)	4.76	19.8	14.7	36.6	24.7	10.91	\$475.00
69092-S	Large Rat Sagittal (300 - 600g)	4.76	19.8	14.7	36.6	24.7	10.91	\$475.00
69095-H	Mouse Heart	8.3	12.1	-	-	-	4.8	\$475.00
69096-H	Rat Heart	12.7	19.8	-	-	-	9.6	\$475.00
70933-70	Brain Matrix Single Razor Blade 118mm L x 19mm W x 0.2286mm Thick, 25/bx							\$50.00

► Additional Brain & Heart Matrices

Cat. #	Description	Price
69046-C	Monkey, Adult Rhesus, Coronal (40 Slots @ 2mm)	\$3,000.00
69047-C	Adult Dog, Coronal (40 Slots @ 2mm)	\$3,000.00
69048-C	Adult Cat, Coronal (35 Slots @ 2mm)	\$3,000.00
69045-C	Brain Matrix, Adult Monkey Cynomogus, Coronal 2mm slots - cerebrum	\$3,000.00
69049	Cat Heart Matrix, Adult, 2mm Slices	\$1,100.00
69050-C	Adult Rat Heart Matrix, 1mm Slices	\$650.00
69051-C	Adult Rabbit Heart Matrix, 2mm Slices	\$750.00

For our complete line of **Matrices**, see our main catalog, pages 244-245.



► Reagent Reservoir Cooler

Benchtop Cooling of Reagents

- **'Keep Your Cool'** — Reagents are kept at ~5°C for approximately 3 hours
- **No Mess** — No need for a cumbersome ice bath, the frozen gel is contained in a sealed molded cavity.
- **Extra Time** — Extends safe working time for temperature sensitive re-agents
- **Fitted** — Each 100ml* Reservoir fits perfectly and snugly onto the Cooler ensuring uniform cooling

70497-50	100ml Reservoir Cooler	each	\$30.00
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Compatible with RESE-1000, -1050 and -1100 only

Newly Introduced Products

General Lab Supplies

► Cover Glass Bottom Sterile Culture Dish

EMS introduces the High Quality Thin Glass Bottom Sterile Culture Dishes, meeting your research requirements.

IDEAL FOR:

- Fluorescence microscopy
- Confocal (laser) microscopy
- High resolution image analysis
- Cell culture
- Electrophysiology

A new series of sterile, optical quality, glass bottom dishes which provide exceptional imaging quality for many applications requiring the use of inverted microscopes. Conventional plastic or glass petri dishes and chambers limit the use of the inverted microscope for many applications because the thick plastic or glass bottom requires a long working distance objective available only in lower magnifications. Moreover, plastic dishes cannot be used for DIC or any polarization microscopes due to their inherent birefringence. EMS New Glass Bottom Dishes eliminates these problems, making them ideal for applications such as: patch clamp recordings where fluorescent-tagged (GFP) receptors can be identified for selective study; and many other fluorescent microscopy applications, which require low background scattering of light and reduce intrinsic "auto" fluorescence that occurs when using standard plastic dishes. Furthermore, the glass bottom is designed flush with the whole base of the dish, therefore allowing direct contact between the entire glass surface and the warming stage. This eliminates any air gaps that may otherwise exist between the glass dish and the warming stage and hence optimize heat-transfer, allowing homogeneous heating and cooling of the glass bottom.

FEATURES:

- Non-cytotoxic, non-pyrogenic and sterile until opened.
- Dish diameters: 35 and 50 mm, with internal glass well diameter of 12, 22, 30 and 40 mm.
- Available sterile either individually packed in a medical-style blister or in sleeves of 20 dishes.
- Each dish has a flat (0.17mm thick) optical quality glass bottom.
- Production is carried on in a Class 10,000 clean room, certified under EN46001, EN 46002, ISO9001 and ISO 9002.
- All dishes are gamma irradiated (EN 552) and sterile.

OPTICAL PROPERTIES

- Wide optical range of transmission – UV, IV and IR (300 nm to 2500 nm) **Figure 2.**
- Flat (0.17 mm thick) optical quality glass bottom provides the following advantages:
 - a. use of a much shorter working distance immersion objective.
 - b. larger numerical aperture (NA) objectives.
 - c. higher magnification (up to 100x).

MICROSCOPY, IMAGING AND SPECTROSCOPY

- Confocal (laser) microscopy.
- Two-/multi Photon Confocal Microscopy.
- DIC and Polarization Microscopy.
- High-resolution Imaging System.
- Infrared imaging (e.g., brain slide recordings).

SOME APPLICATIONS

- Cell Biology: STEM Cell Research, Cell growth cycle monitoring, cell culture.
- Protein Chemistry: Green fluorescent protein identification of Histotags, etc.
- Molecular Biology: Phenotyping and other complex Genetic Research.

Ordering:

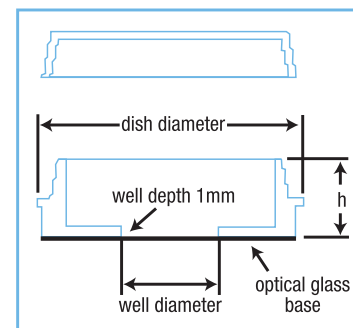


Figure 1

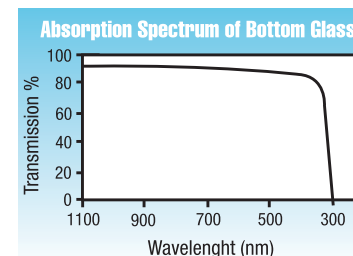


Figure 2

Dish Size Dia x H	Glass Well Dia.	STERILE GLASS BOTTOM DISHES							
		Individual Blister Pack				Bulk pack in Sleeve			
		20/pk	Price	120/cs	Price	20/Sleeve	Price	200/cs	Price
1. Clear Dishes									
35x10 mm	12 mm	70670-02	\$106.00	70670-12	\$620.00	70670-52	\$106.00	70670-62	\$785.00
35x10 mm	22 mm	70671-02	\$117.00	70671-12	\$620.00	70671-52	\$106.00	70671-62	\$785.00
50x7 mm	30 mm	70673-02	\$106.00	70673-12	\$620.00	70673-52	\$106.00	70673-62	\$785.00
50x7 mm	40 mm	70674-02	\$117.00	70674-12	\$620.00	70674-52	\$106.00	70674-62	\$785.00
2. Black Dishes – to black out light for fluorescence microscopy									
35x10 mm	12 mm	70666-02	\$106.00	70666-12	\$620.00	70666-52	\$106.00	70666-62	\$785.00
35x10 mm	22 mm	70667-02	\$117.00	70667-12	\$620.00	70667-52	\$106.00	70667-62	\$785.00
50x7 mm	30 mm	70668-02	\$106.00	70668-12	\$620.00	70668-52	\$106.00	70668-62	\$785.00
50x7 mm	40 mm	70669-02	\$117.00	70669-12	\$620.00	70669-52	\$106.00	70669-62	\$785.00

Newly Introduced Products

Omniprobe

► Omniprobe Accessories and Consumables

This section is dedicated to the accessories and consumables from the Omniprobe family of Nanomanipulation Systems, including AutoProbe™ 200, AutoProbe™ AutoProbe™ 250, 300, Short-Cut™, OmniGIS™ and SST™ 400-1

► Probe Tips

► Tungsten /Nickel Probe Tips

Custom tip designed with a nickel tube shank and tungsten tip. Tip radius is 0.5µm with 13° taper angle for maximum lifetime service.

75960-01 Tungsten/Nickel Probe Tip 10/bx \$245.00

► Tungsten Probe Tips

Custom tip designed from tungsten. Tip radius is 0.5µm with 13° taper angle for maximum lifetime service.

75960-02 All Tungsten Probe Tip 10/bx \$93.60

► In-Situ Probe Tips

Custom tungsten tip with a stainless steel shank, for use with AutoProbe™ 300, in-situ probe tip exchange systems and Short-Cut™. Tip radius is 0.5µm with 8–10° taper angle.

[This tip is also Short-Cut™ compatible]

75960-03 In-Situ Probe Tip 20/bx \$300.00

► Xtreme Access ½" Tungsten Probe Tips

Custom tip designed from tungsten. Tip radius is < 0.5µm with 13° taper angle for maximum lifetime service.

75960-04 XA ½" Tungsten Probe Tip 10/bx \$102.00

► Autoprobe 250 Tungsten Probe Tips

Custom tip designed from tungsten. Tip radius is < 0.5µm with 6° taper angle for maximum lifetime service. [Compatible with Short-Cut™ system for direct conversion to TEM grid]

75960-05 AP250 Tungsten Probe Tip 10/bx \$150.00

► Xtreme Access Short-Cut™ Probe Tips

Custom tip designed from tungsten. Tip radius is < 0.5µm with 6° taper angle for maximum lifetime service. [Compatible with Short-Cut™ system for direct conversion to TEM grid]

75960-06 XA Short Cut Tungsten Probe Tip 10/bx \$150.00

► Omni Grids

► Copper Lift-Out Grids

Custom copper lift-out grids specifically designed for in-situ lift-out. These grids include multiple indexed mounting locations with both vertical bars and "V" shaped attachment surfaces. 3 mm diameter

75964-01 Copper Lift-Out Grids 100/vial \$102.00



► Molybdenum Lift-Out Grids

Custom molybdenum lift-out grids specifically designed for in-situ lift-out. These grids include multiple indexed mounting locations with both vertical bars and "V" shaped attachment surfaces. 3 mm diameter.

75964-02 Molybdenum Lift-Out Grids 25/vial \$138.00



► Beryllium Haft-Ring Grids

Custom beryllium haft ring grids, 3mm diameter.

75964-03 Beryllium Haft Ring Grids POR



► Copper 5-Post Lift-Out Grids

Custom copper 5-post lift-out grids specially designed for in-situ lift-out. These grids include multiple indexed mounting locations, all with vertical bars attachment surfaces. Now with lower profile sides for easier access to outermost posts 3mm diameter

75964-04 Copper 5-Post Lift-Out Grids 100/vial \$102.00



► Copper 4-Post Lift-Out Grids

Custom copper 4-post lift-out grids specially designed for in-situ lift-out. These grids include multiple indexed mounting locations, two with vertical bars attachment surfaces and two with "V" shaped alignment surfaces. Sides have lower profile for easier access to outermost posts. 3mm diameter

75964-05 Copper 4-Post Lift-Out Grids 100/vial \$102.00



► Molybdenum 4-Post Lift-Out Grids

Custom Molybdenum 4-post lift-out grids specially designed for in-situ lift-out. These grids include multiple indexed mounting locations, two with vertical bars attachment surfaces and two with "V" shaped alignment surfaces. Sides have lower profile for easier access to outermost posts. 3mm diameter.

75964-06 Mo 4-Post Lift-Out Grids 25/vial \$138.00



► Omniprobe Accessories and Consumables (continued)



► Omni Grid Storage Box

Storage box for 100 standard or haft grids—3 mm diameter –TEM grids. Box comes complete with base, lid and clips.

75965-01	Grid Storage Box	each	\$10.00
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► Grid & Sample Holders

► TEM Grid Dual Holders

Post Base TEM Grid Holder. Available with two versions: stainless steel (SS—very slightly magnetic), can affect imaging in UHS mode; and aluminum (Al-non-magnetic).

Short post – standard is 1/8" (3.2mm) diameter x 0.15" (4mm) length.



75968-SS	EM, Grid Dual Holder, SS	each	\$900.00
75968-AI	TEM, Grid Dual Holder, Al	each	\$900.00

► TEM Grid & Sample Holders

TEM grid holder with stations for 2 TEM grids and 2 sample stubs. Available with two versions: stainless steel (SS – very slightly magnetic), and aluminum (Al-non-magnetic). Long post – standard is 1/8" (3.2mm) diameter x 0.32" (8.1mm) length. Comes with 2 sample stubs



75969-SS	TEM Grid & Sample Holder, SS	each	\$1140.00
75969-AI	TEM Grid & Sample Holder, Al	each	\$1140.00

► Single Stub & Two TEM Grids Holders

This station is meant for 2 TEM grids and 1 sample Pin Stub. Available in two versions: Stainless Steel (SS – very slightly magnetic), and Aluminum (Al – non-magnetic). Long post – standard is 1/8" (3.2mm) diameter x 0.32" (8.1mm) length. Comes with an aluminum sample stub.



75971-SS	TEM Grid & Sample Holder, SS	each	\$1140.00
75971-AI	TEM Grid & Sample Holder, Al	each	\$1140.00

► Single TEM Grid Holders & Holder Base

Single TEM Grid Holder is made from aluminum with steel spring, holds one 3 mm TEM grid by the spring loaded vise, and has a raised edge which protects the sample from accidental damage. The holder has a 1/8" (3.2 mm) diameter x 0.32" pin (8.1 mm) length pin. It fits most standard pin stub holders. The Sample Holder Base securely holds the Single TEM Grid Holder above, under a stereomicroscope and permits viewing from two angles without changing focus.



75970-01	Single TEM Grid Holder	each	\$440.00
75970-50	Single TEM Grid Holder Base	each	\$216.00

► Short-Cut™ Coupons

► Frontside Thinning, 45°

Frontside Thinning, 45°, TEM sample grid coupon designed specially for use in the Short-Cut™ tool. The center portion is a standard 3 mm grid into which the sample loaded needle is swaged and cut 45°. Available in two versions: One made from pure copper and the other is molybdenum coated copper.



75974-Cu	Frontside Thinning Copper, 45°	20/pk	\$24.00
75974-Mo	Frontside Thinning Mo/Cu, 45°	20/pk	\$190.00

► Backside Thinning, 45°

Backside Thinning, 45°, TEM sample grid coupon designed specially for use in the Short-Cut™ tool. The center portion is a standard 3 mm grid into which the sample loaded needle is swaged and cut 45°. Available in two versions: One made from pure copper and the Other is molybdenum coated copper.



75975-Cu	Backside Thinning Copper, 45°	20/pk	\$24.00
75975-Mo	Backside Thinning Mo/Cu, 45°	20/pk	\$190.00

► Frontside Thinning, 26.5°

Frontside Thinning, 26.5°, TEM sample grid coupon designed specially for use in the Short-Cut™ tool. The center portion is a standard 3 mm grid into which the sample loaded needle is swaged and cut 26.5°. Available in two versions: One made from pure copper and the other is molybdenum coated copper.



75976-Cu	Frontside Thinning Copper, 26.5°	20/pk	\$24.00
75976-Mo	Frontside Thinning Mo/Cu, 26.5°	20/pk	\$190.00

► Backside Thinning, 26.5°

Backside Thinning, 26.5°, TEM sample grid coupon designed specially for use in the Short-Cut™ tool. The center portion is a standard 3 mm grid into which the sample loaded needle is swaged and cut 26.5°. Available in two versions: One made from pure copper and the other is molybdenum coated copper.



75977-Cu	Backside Thinning Copper, 26.5°	20/pk	\$24.00
75977-Mo	Backside Thinning Mo/Cu, 26.5°	20/pk	\$190.00

Newly Introduced Products

Omniprobe, Specimen Mounts

► Omniprobe Accessories and Consumables (continued)

► Xtreme Access Compatible

► XA Probe Point Holder

Xtreme Access Probe Tip Holder for use with 1/2" tungsten probe tip, #75960-04 and #75960-06. Comes with a storage vessel.



75961-10 XA Probe Point Holder each **\$200.00**

► AP250 Probe Tip Holder

AutoProbe™ 250 probe tip holder uses the tungsten probe tip 75960-05. Compatible with the Short-Cut™ for direct conversion to TEM Grid. Comes with a storage vial and handle



75961-05 AP250 Probe Tip Holder each **\$325.00**

► XA 1/2" Tungsten Probe Tips

Custom tip designed from tungsten. Tip radius is < 0.5µm with 13° taper angle for maximum lifetime service.



75960-04 XA 1/2" Tungsten Probe Tip 10/bx **\$102.00**

► XA Short-Cut™ Probe Tips

Custom tip designed from tungsten. Tip radius is < 0.5µm with 6° taper angle for maximum lifetime service. [Compatible with Short-Cut™ system for direct conversion to a TEM grid]

75960-06 AP250 Tungsten Probe Tip 10/bx **\$150.00**

► End Effector Type 2 (Curved)

Curved End Effector is designed for low attack angle manipulation and lift-out. The shank is curved to permit low angle approach and solid attachment beneath the sample plane without collision with the surrounding matrix. Available in two versions: Copper (Cu) Curved End Effector and Molybdenum (Mo) Curved End Effector



75980-Cu Cu Curved End Effector Type 2 12/bx **\$245.00**
75980-Mo Mo Curved End Effector Type 2 12/bx **\$245.00**

► End Effector Type 3 (Straight)

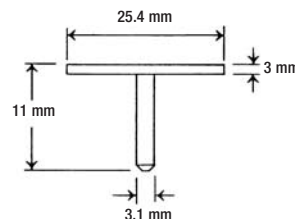
Straight End Effector for Xtreme Access probe shaft. Available in two versions: Copper (Cu) and Molybdenum (Mo)



75981-Cu Cu Straight End Effector Type 3 2/bx **\$245.00**
75981-Mo Mo Straight End Effector Type 2 12/bx **\$245.00**

► Specimen Mount for Cambridge, Leo, Phillips 500, Cameca etc.

Aluminum, non-slotted head. Surface: 1" (25.4 mm, Pin 3.1 mm x 11 mm long total (or 8mm pin only)



75186 100/pk **\$230.00**

For our complete line of Specimen Mounts, see our main catalog, pages 443-445.

Electron Microscopy Sciences Announces their State of the Art Scientific Equipment Repair Center



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- Shakers
- Ultramicrotomes
- Tissue Processors
- Tissue Slicers
- Lynx
- Vibratomes
- Freeze Fracture Instruments
- Ovens
- And Much More...

For more information on any of our services, or a comprehensive quote, please call, write, or e-mail us today.

Newly Introduced Products

Tweezers and Tools

► EMS Tweezers Set in Wooden Case

Set 1:

For fine and precision work, this set includes one each of:

Style 3 (#78318-3), style 4 (#78319-4), style 5 (#78320-5), Style 5A (#78320-5A), and style 7 (#78322-7)



78323-01 Fine EMS Tweezers Set 1 5/set **\$128.00**

Set 2:

For general fine and miniature work, this set includes one each of:

Style 0 (78310-0), style 00B (78313-00B), style 2 (#78317-2), style 2A (#72919-2A) and style 2AX (78317-2AX)



78323-02 EMS Tweezers Set 1 5/set **\$115.00**

► Dumont Tweezers Set in Wooden Case

Dumont tweezers in a fine wood display case.

Dumont Tweezers Set

1: This set includes all of the fine tip Dumont tweezers made from Dumoxel steel (biological grade): specifically used in the field of microscopy for all delicate and precise work. The kit includes one each of a Dumont style 3C (72680-D), style 3 (72690-D), style 5 (72700-D), style 5/15 (72708-D) and style 7 (#72800-D)



72890-01 Dumont Fine Tips Tweezers Set 1 5/set **\$146.00**

Dumont Tweezers Set

2: This set includes one each of: style #3C epoxy coated (72682-D), Style 5A (#72720-D), style 5/45 (72703-D), style 5AC (72730-D) and style N5AC (#72856-D)



72890-02 Dumont Fine Tips Tweezers Set 2 5/set **\$168.00**

► Smart Tweezers



Smart tweezers is a LCR meter in a set of tweezers. The Smart Tweezers feature a unique, patented mechanical and electronic design that integrates a highly accurate digital multimeter with built-in high precision SMD probes and a display.

FEATURES:

- Light weight – 10 times lighter than conventional tools
- Flexible user interface that allows the user to configure default settings
- Continuity/Open testing-beeper sounds when a resistance reading is below a threshold or to indicate an open circuit
- Measures DC voltage up to 8 volts
- Measures AC voltage via an oscilloscope-like picture
- Measures inductance, and resistance.
- Ergo design convenient control
- Tips are made from gold-plated, non-magnetic stainless steel.

Smart Tweezers are available in two versions: straight curved tips

72907-01	Smart Tweezers, Straight Tips	each	\$399.00
72907-02	Smart Tweezers, Curved Tips	each	\$399.00

► Wooden Tweezers Holder Case



Made from solid wood, with brass double hinges and an elegant latch. Comes with a foam padded top and bottom to protect stored tweezers. The inside measures 5 3/4" x 4 7/8" (145 x 124 mm), and it holds 5 tweezers with a maximum length of 140mm.

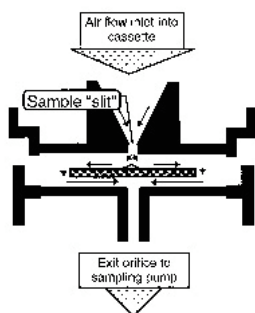
72898-01 Wooden Tweezers Holder Case each **\$45.00**

For our complete line of Tweezers, see our main catalog, pages 549–608.

Newly Introduced Products

Air and Environmental Sampling Tools

EMS introduces this new disposable sampling equipment which is used to monitor indoor environmental, occupational health and safety conditions.



► Air-O-Cell® Sampling Cassette

This is a unique air sampling cassette specially designed for quick collection of a wide range of airborne aerosols including mold spores, pollen, insect parts, skin cell fragments, fibers (e.g. asbestos, fiberglass, cellulose, clothing fibers, etc.) and organic particulate e.g. ceramic, fly ash, copy toner, etc. The Air-O-Cell® collects both viable and non-viable sample specimens, providing a much broader overview of potential allergens and contaminants than conventional sampling techniques.

After sampling is completed, the cassettes are sent to a laboratory, where the slides are removed and direct microscopic analysis can be immediately performed. The collection media is compatible with a wide range of biological stains and refractive index oils, allowing direct quantitative analysis of organic and inorganic particulate.

The Air-O-Cell® can be used with any standard off-the-shelf area sampling pump capable of drawing 15 LPM open flow. The small compact size makes Air-O-Cell® suitable for use in confined or restrictive area.

EMS #	Description	Qty.	Price
65210-10	Air-O-Cell® Cassette	10	\$45.00
65210-50	Air-O-Cell® Cassette	50	\$209.00

► Via-Cell Bioaerosol Sampling Cassette

The first disposable cassette impactor that brings simplicity and reliability to viable sampling combined with multiple analysis options

The Via-Cell® bioaerosol sampling cassette is designed to collect both viable and non-viable bioaerosols, maintain viability of the viable mold spores and prevent growth during transport to the laboratory. Sampling with the Via-Cell® is very similar to its sister product Air-O-Cell®. Simply connect it to any pump calibrated to 15 LPM and run your sample. The key to the Via-Cell® is that the media used for collection maintains viability of spores and allows several analysis options.

FEATURES:

- Provided ready-to-use
- No refrigeration – only room temperature required
- No electricity or heavy equipment required
- 1 year shelf life is 4 times as long as traditional methods
- Multiple analysis options – compatible with culture plates, PCR and direct microscopy screening
- Independently validated and compared to current industry standard methods by both universities and laboratories.

Culturable Sampling: The Via-Cell® sampler is the perfect tool for collecting viable organism and culturing them on agar plates. Simply dilute the media in sterile water and transfer to a culture plate

PCR Analysis: The Via-Cell® utilizes a water soluble collection media which is ideal for PCR and other chemical types of analysis. Once the sample is diluted in water, it can be transferred most anywhere.

Direct Microscopy: Sample collected using the Via-Cell® sampler may be “pre-screened” using direct microscopy methods, which allow the analyst to decide if additional analysis techniques are needed, which may include culturing or standard direct microscopy analysis

EMS #	Description	Qty.	Price
65212-10	Via-Cell® Cassette	10	\$125.00

► 25 mm Asbestos PCM Cassette

These PCM 25mm air sampling cassettes are designed and manufactured to conform to all NIOSH, OSHA, and EPA standards. The cassette housings are injection molded in-house and are individually assembled and preloaded under stringent quality control standards. Once assembled, each cassette is individually tested prior to packaging for shipment. Random lot sample testing is performed daily by an independent laboratory to ensure low background fiber counts. Laboratory results are available upon request

EMS #	Description	Qty.	Price
65213-50	25mm Asbestos PCM Cassette	50	\$28.95

FEATURES:

- Quality 0.8µm MCE filter material
- 2" Static conductive extension cowl
- Meets NIOSH 7400 specifications
- Preloaded – ready-to-use



Newly Introduced Products

Air and Environmental Sampling Tools

► 25 mm Asbestos PCM Cassette with Gridded Filter

This PCM 25mm air sampling cassettes are designed and manufactured to conform to all NIOSH, OSHA, and EPA standards. The cassette housings are injection molded in-house and are individually assembled and preloaded under stringent quality control standards. Once assembled, each cassette is individually tested prior to packaging for shipment. Random lot sample testing is performed daily by an independent laboratory to ensure low background fiber counts. Laboratory results are available upon request

Cat No.	Description	Qty.	Price
65214-50	25mm Asbestos PCM Cassette with Gridded Filter	50	\$39.95

FEATURES:

- Quality 0.8µm MCE filter material
- 2" Static conductive extension cowl
- Meets NIOSH 7400 specifications
- Preloaded – ready-to-use
- Grid lines printed on filter



► 25 mm Asbestos PCM Cassette with Green Gridded Filter

This PCM 25mm air sampling cassettes are designed and manufactured to conform to all NIOSH, OSHA, and EPA standards. The cassette housings are injection molded in-house and are individually assembled and preloaded under stringent quality control standards. Once assembled, each cassette is individually tested prior to packaging for shipment. Random lot sample testing is performed daily by an independent laboratory to ensure low background fiber counts. Laboratory results are available upon request

Cat No.	Description	Qty.	Price
65215-50	25mm Asbestos PCM Cassette with Green Gridded Filter	50	\$39.95

FEATURES:

- Quality 0.8µm MCE filter material
- 2" Static conductive extension cowl
- Meets NIOSH 7400 specifications
- Preloaded – ready-to-use
- Green Grid lines printed on filter



► 25 mm Asbestos TEM Cassette

This PCM 25mm air sampling cassettes are designed and manufactured to conform to all NIOSH, OSHA, and EPA standards. The cassette housings are injection molded in-house and are individually assembled and preloaded under stringent quality control standards. Once assembled, each cassette is individually tested prior to packaging for shipment. Random lot sample testing is performed daily by an independent laboratory to ensure low background fiber counts. Laboratory results are available upon request

Cat No.	Description	Qty.	Price
65216-50	25mm Asbestos TEM Cassette	50	\$39.95

FEATURES:

- Quality 0.45µm MCE filter material
- 5.0µm Filter is placed under the 0.45µm filter as a diffuser
- 2" Static conductive extension cowl
- Meets NIOSH 7402 specifications
- Meets AEHRA requirements
- Preloaded – ready-to-use



► 37mm Cassette with MCE Filters

The 37mm Air Sampling Cassette w/MCE Filters are designed to meet all NIOSH, OSHA, and EPA requirements for air sampling standards. All 37mm cassette housings are manufactured in house and are available in both two and three piece configurations. All 37mm cassettes are individually assembled and preloaded under stringent quality assurance standards with only the finest quality membrane and support pads.

Cat No.	Description	Pore Size	Housing Style	Qty	Price
65218-28	37mm Cassette, MCE Filters	0.8µm	2 –Piece	50	\$48.00
65218-29	37mm Cassette, MCE Filters	0.8µm	2 –Piece Banded	50	\$54.00
65218-38	37mm Cassette, MCE Filters	0.8µm	3 –Piece	50	\$50.00
65218-39	37mm Cassette, MCE Filters	0.8µm	3 –Piece Banded	50	\$53.00
65218-45	37mm Cassette, MCE Filters	0.45µm	3 –Piece	50	\$52.00

FEATURES:

- Polystyrene housing, 2 or 3 piece
- 3 piece model suitable for lead sampling
- Preloaded, ready-to-use
- Leak-free design.



► 37mm Cassette with PVC Filters

The 37mm Air Sampling Cassette w/PVC Filters are designed to meet all NIOSH, OSHA, and EPA requirement for air sampling standards. All 37mm cassette housings are manufactured in house and are available in both two and three piece configurations. All 37mm cassettes are individually assembled and preloaded under stringent quality assurance standards with only the finest quality membrane and support pads.

Cat No.	Description	Pore Size	Housing Style	Qty	Price
65219-25	37mm Cassette, PVC Filters	5.0µm	2 –Piece	50	\$52.00
65219-35	37mm Cassette, PVC Filters	5.0µm	3 –Piece	50	\$52.00

FEATURES:

- Polystyrene housing, 2 or 3 piece
- Preloaded, ready-to-use
- Leak-free design.



Newly Introduced Products

Air and Environmental Sampling Tools

▶ 37mm Cassette with Polycarbonate Filters



The 37mm Air Sampling Cassette w/polycarbonate Filters are designed to meet all NIOSH, OSHA, and EPA requirement for air sampling standards. All 37mm cassette housings are manufactured in house and are available in both two and three piece configurations. All 37mm cassettes are individually assembled and preloaded under stringent quality assurance standards with only the finest quality membrane and support pads.

Cat No.	Description	Pore Size	Housing Style	Qty	Price
65220-24	37mm Cassette, PC Filters	0.4µm	2 -Piece	50	\$99.00
65220-34	37mm Cassette, PC Filters	0.4µm	3 -Piece	50	\$99.00
65220-28	37mm Cassette, PC Filters	0.8µm	2 -Piece	50	\$99.00
65220-38	37mm Cassette, PC Filters	0.8µm	3 -Piece	50	\$99.00

FEATURES:

- Polystyrene housing, 2 or 3 piece
- Preloaded, ready-to-use
- Leak-free design.

▶ 37mm Cassette with Glass Fiber Filters



The 37mm Air Sampling Cassette w/Glass Fiber Filters are designed to meet all NIOSH, OSHA, and EPA requirement for air sampling standards. All 37mm cassette housings are manufactured in house and are available in both two and three piece configurations. All 37mm cassettes are individually assembled and preloaded under stringent quality assurance standards with only the finest quality membrane and support pads.

Cat No.	Description	Pore Size	Housing Style	Qty	Price
65221-21	37mm Cassette, GF Filters	1.0µm	2 -Piece	50	\$66.00
65221-31	37mm Cassette, GF Filters	1.0µm	3 -Piece	50	\$66.00

FEATURES:

- Polystyrene housing, 2 or 3 piece
- Preloaded, ready-to-use
- Leak-free design.

▶ 37mm Cassette with PTFE Filters



The 37mm Air Sampling Cassette w/PTFE Filters are designed to meet all NIOSH, OSHA, and EPA requirement for air sampling standards. All 37mm cassette housings are manufactured in house and are available in both two and three piece configurations. All 37mm cassettes are individually assembled and preloaded under stringent quality assurance standards with only the finest quality membrane and support pads.

Cat No.	Description	Pore Size	Housing Style	Qty	Price
65222-21	37mm Cassette, PTFE Filters w/pp support (Type TF)	1.0µm	2-Piece	50	\$206.00
65222-32	37mm Cassette, PTFE Filters w/pp support (Type TF)	1.0µm	3-Piece	50	\$206.00
65222-45	37mm Cassette, PTFE Filters w/pp support (Type TF)	0.45µm	3-Piece	50	\$206.00
65222-22	37mm Cassette, PTFE Filters w/PTFE support (Zefluor)	2.0µm	2-Piece	50	\$206.00
65222-23*	37mm Cassette, PTFE Filters w/PTFE support (Zefluor)	2.0µm	2-Piece	50	\$212.00
65222-35	37mm Cassette, PTFE Filters Unsupport, (Zylon)	5.0µm	3-Piece	50	\$206.00

FEATURES:

- Polystyrene housing, 2 or 3 piece
- Preloaded, ready-to-use
- Leak-free design.

This product 65222-23 comes in opaque colored styrene housing and also uses a cellulose support ring as specified in the NIOSH 5506/5515 standard.

▶ 37mm Cassette with Glass Fiber Filters



The 37mm Air Sampling Cassette w/0.45µm Quartz Filters are designed to be used for diesel particulate matter sampling. All 37mm cassette housings are manufactured in house and are available in three piece configuration. All 37mm cassettes are individually assembled and preloaded under stringent quality assurance standards with only the finest quality membrane and support pads.

Cat No.	Description	Pore Size	Housing Style	Qty	Price
65223-34	37mm Cassette, Quartz Filters	0.45µm	3 -Piece	50	\$153.00

FEATURES:

- Polystyrene housing, 3 piece
- Meets NIOSH method 5040 specifications
- Preloaded, ready-to-use
- Leak-free design.

Newly Introduced Products

Air and Environmental Sampling Tools

► BioCulture™ Microbial Air Sampler

The BioCulture™ air sampler is the smallest, most cost effective and easiest to use sampler available on the market. This BioCulture™ features a selectable, continuous, constant sample flowrate and is simple to operate, quiet operation, sampling in a variety of applications. No tools are needed.

FEATURES

- Flow rate: 30 – 120 LPM
- Uses standard 90 mm petri dishes
- Sampling head design of 380 1mm diameter holes
- Battery powered—runs for 6.8 hours (depending on flow rate, battery maintenance and back-pressure)
- Tripod mounting threads on bottom of unit – allows 90 degree sampling
- Sampling head may be sterilized by autoclave or gas torch
- Built-in timers of 1, 2, 5, 10 minutes
- Optional calibration head allows field calibration of flow rate with a NIST traceable calibrator

(Note: a calibration head is required to calibrate the Bio-Pump, however it can be used to calibrate multiple pumps)

APPLICATIONS:

- IAQ Surveys
- Mold sampling
- Building diagnostics
- Clean room sampling
- Hospital operating rooms
- Pharmaceutical compounding labs
- USP <797> active air sampling compliance
- Any location that you may need to verify and quantify microorganism presence

SPECIFICATIONS

Flow rate:30 – 120 LPM
 Accuracy of Flow Rate:±5%
 Battery Run Time:8 hours @100 LPM
 Battery Type:NiCAD
 Charging Time:12 – 16 hours
with standard charger.



Optional 1 hour charger available
 Size:4.5" x 6" x 5.25"
 Weight:2.6 lbs
 Media Compatibility:90 mm petri dishes

Cat No.	Description	Qty	Price
65224-12	BioCulture Pump, 120V Includes pump, standard 120V charger, pencil torch, carrying case & manual	1	\$1350.00
65224-20	BioCulture Pump & Calibration Kit Includes pump, calibration head, standard 120V charger, pencil torch, carrying case & manual)	1	\$2,100.00
65224-55	Spare Sampling Head for BioCulture Sampler	1	\$600.00
65224-60	Fast One Hour Charger	1	\$140.00

► BioCulture™ Calibration Head

The BioCulture Calibration Head is a NIST traceable venture calibrator with 1% accuracy that allow users to calibrate the flow of the BioCulture pump themselves without having to send the pump out for service of calibration

- Allows flow calibration at flow rates between 30 – 120 LPM
- Designed for use with impeller fan type pumps like the BioCulture™, which require calibration devices with very little backpressure resistance
- Provided with a certificate of calibration traceable to NIST standards,



EMS #	Description	Qty	Price
65224-50	BioCulture Calibration Head	1	\$749.00

► Zefon Bio-Pump® Plus

The Zefon Bio-Pump Plus® is the smallest and lightest portable battery powered IAD sampling pump available. It provides the simplest and most convenient way to sample with Air-O-Cell® and Via-Cell® cassettes at a flow rate of 15 LBM

FEATURES:

- New "quick Sample" feature makes sampling a breeze
- Extra long battery life – take over 100 samples on a single charge.
- Very small in size and weight – Over 40% less than the standard Zefon Bio-Pump
- Very quiet operation
- Programmable timer allows unattended operation
- Quick-charge battery charger included (approx. 3 hours)
- Uses Air-O-Cell® cassettes – the only industry proven and standardized sampling cassettes
- Uses Via-Cell® cassettes – the only cassette style sampler offering both viable and non-vialbe analysis options
- Nothing to prepare or clean. Just place the cassette on the pump, set the time and go
- Each pump come complete with both an Air-O-Cell® and Via-Cell® flow indicator, quick charger, 10 free Air-O-Cell® cassettes and a handy carrying case.



SPECIFICATIONS:

Flow Rate:15 LPM
 Housing:ABS – Color Black
 Battery:Nickel Metal Hydride
 Sampler size:4.375" W x 8" Deep
x 2.75" Height
 Weight:1.6 lbs

EMS #	Description	Qty	Price
65211-12	Zefon Bio-Pump® Plus	1	\$729.00

Newly Introduced Products

Air and Environmental Sampling Tools

► Replacement Air-O-Cell® Flow Indicator

A convenient, easy to use flow indicator used for calibration of the Zefon Bio-Pump® and Bio-Pump® Plus



EMS #	Description	Qty	Price
65211-20	Replacement Air-O-Cell Flow® Indicator	1	\$44.00

► Via-Cell® Flow Indicator

A convenient, easy to use flow indicator used for calibration of the Zefon Bio-Pump® and Bio-Pump® Plus



EMS #	Description	Qty	Price
65211-25	Via-Cell Flow Indicator	1	\$44.00

► Bio-Pump Tripod Stand

A heavy duty stand, offering quick and easy attachment of the Bio-Pump



EMS #	Description	Qty	Price
65211-30	Bio-Pump Tripod Stand	1	\$44.00

► Zefon Bio-Pump Bubble Tube

This Bubble Tube is used as a primary standard in calibrating the Bio-Pump®. Attach the bubble tube to the pump as shown (tubing provided with the bubble tube). Then run the pump in calibration mode while inserting the end of the tube in soapy water so that bubbles travel up the tube. Timing the bubbles between the indicator lines will indicate your flow rate.



EMS #	Description	Qty	Price
65211-35	Bio-Pump Bubble Tube	1	\$89.00

► Universal Cassette and Cyclone Holder

This Universal Cassette & Cyclone Holder allows cassettes and cyclones to be attached onto a workers collar. Compatible with 37mm and 25mm cassettes, and aluminum cyclone manufactured by Zefon and SKC. Weighs only 73 g or 2.5 oz. Comes with 3' of tubing attached



EMS #	Description	Qty	Price
65230-01	25mm Asbestos TEM Cassette	1	\$28.00

► Cassette Opener

Heavy duty stainless steel cassette opener. Works with 25mm, 37mm and Air-O-Cell cassettes. No need to remove labels, this opener cuts right through and effortlessly pries cassettes open.



EMS #	Description	Qty	Price
65231-01	Cassette Opener	1	\$43.00

► Cassette Sampling Stand

Sampling stand used to support sampling cassettes at elevated levels. Two models are available to choose from:

■ ZA0042 Economy Sampling Stand: very nice stand, made from black anodized aluminum

■ ABS-1 Deluxe Sampling Stand: very similar to the economy stand but made in the USA from aluminum. Better durability and stability than the economy one.



EMS #	Description	Qty	Price
65232-42	Cassette Sampling Stand, Economy	1	\$32.00
65232-ABS	Cassette Sampling Stand, ABS-1	1	\$39.00

► 37mm Cassette Tubing Adapter

This Adapter is for connecting the 37mm cassettes to 1/4" ID tubing



EMS #	Description	Qty	Price
65233-10	37mm Cassette Tubing Adapters	10	\$6.00

► Via-Cell Blue Stain Solution

Via-Cell blue stain solution is a sterile liquid used during laboratory preparation when direct microscope will be performed. 15 ml bottle



EMS #	Description	Qty	Price
65234-15	Via-Cell Blue Stain solution	15ml	\$10.00

► Via-Cell Linking Solution

Via-Cell linking solution is a sterile liquid used during laboratory preparation when direct microscope will be performed and further culturing may be desirable. 15 ml bottle



EMS #	Description	Qty	Price
65235-15	Via-Cell Linking Solution	15ml	\$10.00

Newly Introduced Products

Air and Environmental Sampling Tools

► LIBRA™ Personal Sampling Pump

The Buck LIBRA™ is a low cost, high performance, constant flow personal sampling pump. Suitable for use in asbestos abatement, lead sampling and industrial hygiene sampling. Designed for use with asbestos and lead abatement, the LIBRA™ provides full constant flow compensation using 25mm and 37 mm cassettes



- Flow rate – 0.8 – 4 LPM
- Rechargeable NiCAD battery pack system
- Built-in washable stainless steel filter
- Compact, lightweight and quiet
- Intrinsic Safe Approval Pending
- Full one year warranty

LIBRA Pump comes with standard NiCAD battery, AC charger, luer adapter, 36" tubing, shirt's hose clip and manual.

EMS #	Description	Qty	Price
65240-12	LIBRA Pump, 120volt Charger	1	\$320.00
65240-24	LIBRA Pump, 240volt Charger	1	\$320.00
65240-50	Buck FastOne Single Station Charger, 120/240 VAC	1	\$150.00
65240-51	Buck Standard Single Station Charger, 120 VAC	1	\$60.00

► Sensidyne Gilian BDX II Sampling Pump

The Gilian BDX II Abatement Air Sampler from Sensidyne is a dependable, low cost personal sampling pump. It is a "no-frills" model designed for use with asbestos and lead sampling. Meets NIOSH 7400, 7082, 7105 and 7300 specifications



- Flow rates – 500 – 3000 cc/min (0.50-3 LPM)
- Rechargeable battery pack system
- Built-in rotameter & flow adjust
- Compact, lightweight, quiet
- Full one year warranty

The Gilian BDX II includes a Pump with battery pack, battery charger, tool kit, 36" tubing, clip assembly and manual.

EMS #	Description	Qty	Price
65241-12	Sensidyne Gilian BDXII Pump	1	\$251.00
65241-40	Gilian BDXII Pump Battery Pack	1	\$72.00
65241-50	Gilian BDXII Pump Charger	1	\$86.00

► mini Buck Primary Flow Calibrator

The mini-BUCK™ Primary Flow Calibrator is the industry standard for day-to-day flow verification and calibration of your personal and environmental sampling pumps. It is also suitable for verifying rotameters, setting instrument panels, and calibrating laboratory instruments. No more lugging oversized calibration panels. The mini-BUCK™ is accurate at any altitude and can be used for flow measurements with sampling media.



FEATURES:

- True Primary Standard
- Compact, lightweight and easy to use
- Work at any altitude without correction
- Instant readout of volumetric flow
- NIST traceable with ±0.5% accuracy
- Microprocessor controlled to provide fast, accurate, repeatable measurements
- Available with variety of flow ranges

ORDERING:

EMS #	Description	Price
65240-60	mini-Buck™ Low Flow 0.1 - 300cc/min, 120 V	\$950.00
65240-61	mini-Buck™ Medium Flow 1 - 6000cc/min, 120 V	\$950.00
65240-63	mini-Buck™ High Flow 100cc/min – 30LPM, 120 V	\$970.00
65240-64	mini-Buck™ High Flow 100cc/min – 30LPM, with ½" port, 120 V	\$970.00

► Acetone Vaporizer Kit

A small wonder Acetone Vaporizer Kit includes everything needed to clear slides for PCM analysis.



FEATURES:

- Heat control and thermometer built into vaporizer unit
- Padded carrying case protects equipment and supplies
- Enough supplies for the analysis of ½ gross of slides
- Lightweight but sturdy built
- Designed in strict compliance with the NIOSH 7400, 7402 or ORM requirement for preparation of microscope slides for PCM analysis

SPECIFICATION:

- Small wonder Acetone vaporizer with built-in heat control, temperature gauge, and cool cover; 2 oz acetone; ½ oz triacetin; ½ gross microscope slides; cover slips; tweezers; micro-dropper; syringe; #10 scalpel blade; pre-cut foam padding; durable plastic carrying case with handle; instruction manual.
- Dimensions: 34⅞" L x 4½" W x 2¾" H (Vaporizer)
13" L x 11" W x 4" H (Kit Box)
- Material: Plastic case, ABS plastic cover on vaporizer, clear plastic bottles, metal and plastic tools.
- Weight: 2½ lbs. (Vaporizer), 8lbs (complete kit)
- Finish: Black Vaporizer cover with gray cord. Case color may vary
- Replacement items available separately.

EMS #	Description	Qty	Price
65245-10	Small Wonder Acetone Vaporizer Kit	1	\$390.00
10015	Acetone, Glass Distilled	100ml	\$13.00
22060	Triacetin Reagent	½ oz	\$10.00

Newly Introduced Products

Laboratory Mixers and Shakers

► Vortex Genie 2 Digital

Digital Control and Display

Shaking or Vortexing Action. Variable speed control allows slow speed shaking action up to high-speed vortexing. In addition, each attachment is designed to produce different mixing actions, allowing users to choose the correct action for each application.

Multi-Task Versatility. A broad range of attachments of various shapes, sizes, and materials allows for mixing of almost all common tubes or containers for Hands-Free or Touch operation.

Digital speed control and display. Provides accuracy, reproducibility and repeat-ability.

Timer Function. Touch on for 1-99 seconds. Hands-Free for 1-99 minutes or continuous.

Does not walk. Tough metal housing combined with "just enough weight", provides a stable platform for all types of mixing.

Unmatched Reliability. Many years of proven performance in laboratories all over the world.

SPECIFICATIONS:

Speed	750 - 3200 RPM (750 - 2700 RPM for 50Hz models)
Time	1 - 60 minutes or continuous
Vortexing Orbit	1.0mm diameter
Maximum Capacity	1 microplate, any type with standard SBS footprint
Dimensions	150 x 180 x 165mm (D x W x H) (5.75 x 7.0 x 6.5in)
Weight	2.75kg (6.1lb)



Ordering:

71838-12	Digital Vortex-Genie 2, 120V, 60Hz	each	\$419.00
71838-20	Digital Vortex-Genie 2, 230V, 50Hz, No Plug	each	\$419.00
71838-EU	Digital Vortex-Genie 2, 230V, 50Hz, European Plug	each	\$419.00
71838-BR	Digital Vortex-Genie 2, 230V, 50Hz, British Plug	each	\$419.00
71838-SW	Digital Vortex-Genie 2, 230V, 50Hz, Swiss Plug	each	\$419.00
71838-AU	Digital Vortex-Genie 2, 230V, 50Hz, Australian Plug	each	\$419.00
71838-10	Digital Vortex-Genie 2, 1000V, 50/60Hz	each	\$419.00

► Microplate Genie Microplate Mixer

High Speed Action for Increased Mixing Efficiency in Every Well!

Heat will not be transferred to your microplates. The fan (located in the bottom of the unit) directs air downward and out of the unit. As a result, room air is constantly drawn into the unit underneath the tray that holds the microplates, insuring that samples will not be heated.

- Aggressive mixing speed from 750-3200 RPM for complete and uniform mixing in any microplate format.
- May be used to shake any single microplate.
- Multi capacity microplate mixer is also available (Multi-MicroPlate Genie).
- Small vortexing orbit of 1.0mm for thorough mixing regardless of sample viscosity.
- Speed and orbit combine to offer true vortexing action in each well of a microplate.
- Accepts most microplate types within the recommendations of the Society for Biomolecular Screening (SBS), even in 384-well formats.
- Built-in timer operates from 1 - 60 minutes or continuous for hands-free use.
- May be used in cold rooms and incubators for temperature sensitive applications.

SPECIFICATIONS:

Speed	750 - 3200 RPM (750 - 2700 RPM for 50Hz models)
Time	1 - 60 minutes or continuous
Vortexing Orbit	1.0mm diameter
Maximum Capacity	1 microplate, any type with standard SBS footprint
Dimensions	150 x 180 x 165mm (D x W x H) (5.75 x 7.0 x 6.5in)
Weight	2.75kg (6.1lb)

Ordering:

61040-12	MicroPlate Genie, 120V, 60Hz	each	\$450.00
61040-20	MicroPlate Genie, 230V, 50Hz, No Plug	each	\$450.00
61040-EU	MicroPlate Genie, 230V, 50Hz, European Plug	each	\$450.00
61040-BR	MicroPlate Genie, 230V, 50Hz, British Plug	each	\$450.00
61040-SW	MicroPlate Genie, 230V, 50Hz, Swiss Plug	each	\$450.00
61040-AU	MicroPlate Genie, 230V, 50Hz, Australian Plug	each	\$450.00
61040-10	MicroPlate Genie, 100V, 50/60Hz	each	\$450.00



For our complete line of Mixers and Stirrers, see our main catalog, pages 675-742.

Newly Introduced Products Laboratory Mixers and Shakers

► Multi-Microplate Genie *Microplate Mixer*

High Speed Action For Increased Mixing In Up To 8 Microplates!

Heat will not be transferred to your microplates. The fan (located in the bottom of the unit) directs air downward and out of the unit. As a result, room air is constantly drawn into the unit underneath the tray that holds the microplates, insuring that samples will not be heated.

- Aggressive mixing speed from 750-3200 RPM for complete and uniform mixing in any microplate format.
- May be used to shake up to 4 microplates, an optional accessory tray is available to double capacity and shake up to 8 microplates at one time.
- Single capacity microplate mixer is also available (MicroPlate Genie).
- Small vortexing orbit of 1.0mm for thorough mixing regardless of sample viscosity.
- Speed and orbit combine to offer true vortexing action in each well of a microplate.
- Accepts most microplate types within the recommendations of the Society for Biomolecular Screening (SBS), even in 384-well formats.
- Built-in timer operates from 1 - 60 minutes or continuous for hands-free use.

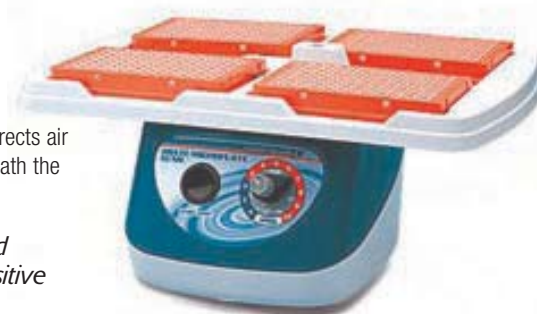
May be used in cold rooms and incubators for temperature sensitive applications.

SPECIFICATIONS:

Speed	750 - 3200 RPM (750 - 2700 RPM for 50Hz models)	Maximum Capacity	1 microplate, any type with standard SBS footprint
Time	1 - 60 minutes or continuous	Dimensions	150 x 180 x 165mm (D x W x H) (5.75 x 7.0 x 6.5in)
Vortexing Orbit.....	1.0mm diameter	Weight	2.75kg (6.1lb)

Ordering:

61042-12	Multi-MicroPlate Genie, 120V, 60Hz	each	\$600.00
61042-20	Multi-MicroPlate Genie, 230V, 50Hz, No Plug	each	\$600.00
61042-EU	Multi-MicroPlate Genie, 230V, 50Hz, European Plug	each	\$600.00
61042-BR	Multi-MicroPlate Genie, 230V, 50Hz, British Plug	each	\$600.00
61042-SW	Multi-MicroPlate Genie, 230V, 50Hz, Swiss Plug	each	\$600.00
61042-AU	Multi-MicroPlate Genie, 230V, 50Hz, Australian Plug	each	\$600.00
61042-10	Multi-MicroPlate Genie, 100V, 50/60Hz	each	\$600.00
61043	Multi-MicroPlate Accessory Tray	each	\$94.00



► Multi Vortex-Genie *Large Capacity Multi Vessel Vortex Mixer*

Vortex Anything and Everything that only a Vortex-Genie can - Only More!

- Same true vortexing as with the original Vortex-Genie® 2.
- Holds multiple test tubes, vials, or cylinders of various sizes (racks in-cluded) or up to six 250mL vessels, (more for smaller vessels) or a com-bination of tubes and vessels such as Erlenmeyer flasks.
- Designed and built "Genie™" strong, rugged and reliable.
- Digital control and display of speed and time for reproducibility and accuracy, with true speed display.
- Gentle ramp up to speed, so open containers will not spill.
- Use for gentle, orbital-style shaking or more vigorous vortexing.
- Durable and heavy zinc die casting with specially designed feet prevents "walking".
- No additional holders or accessories necessary. Racks are included.
- May be used in cold rooms or incubators.
- Non-skid feet.

SPECIFICATIONS:

Supplied with Two 12-Pack Multi-Tube Racks holding up to 24 tubes of any material up to 29mm dia., or up to six 250mL vessels.

Speed	250 - 1000RPM (up to 950RPM for 50Hz models)
Vortex Orbiting	4mm dia. (same as Vortex-Genie 2)
Timer	1-99 minutes or continuous
Dimensions	310 x 270 x 195mm (D x W x H) (12.2 x 10.6 x 7.7in)
Weight	11.3 kgs (25 lbs)
Warranty	2-year manufacturer warranty

Ordering:

71846-12	Multi Vortex-Genie, 120V, 60 Hz	each	\$1,795.00
71846-20	Multi Vortex-Genie, 230V, 50 Hz, No Plug	each	\$1,795.00
71846-EU	Multi Vortex-Genie, 230V, 50 Hz, European Plug	each	\$1,795.00
71846-BR	Multi Vortex-Genie, 230V, 50 Hz, British Plug	each	\$1,795.00
71846-SW	Multi Vortex-Genie, 230V, 50 Hz, Swiss Plug	each	\$1,795.00
71846-AU	Multi Vortex-Genie, 230V, 50 Hz, Australian Plug	each	\$1,795.00
71846-10	Multi Vortex-Genie, 100V, 50/60Hz	each	\$1,795.00



For our complete line of Mixers and Stirrers, see our main catalog, pages 675-742.

Newly Introduced Products

Laboratory Mixers and Shakers

► MegaMag Genie and Digital MegaMag Genie

Large volume magnetic stirrers designed for large capacity applications

The powerful single-position MegaMag Genie and Digital MegaMag Genie provide the optimal stirring for large volume containers. Both analog and digital feedback (true speed) versions are available.

- Powerful magnet and motor offer exceptional magnetic force capable of stirring up to 38L.
- True Speed digital feedback version is available. Analog version features speed dial.
- Feedback control on digital version of the MegaMag Genie is adjustable in 10 RPM increments.
- LED display is offered on digital version for easier speed and time readings.
- Rugged ABS/Polycarbonate housing and the famous Vortex-Genie® heavy-duty motor provide years of reliable service.
- Spill-resistant housing channels fluids away from the internal components.
- Ramping feature slowly increases speed to avoid splashing and improve spin bar control.
- Can be used in cold rooms and incubators.

SPECIFICATIONS:

Stirring Speed	200-1300 RPM
Timer	1-99 min or continuous (digital only)
Maximum Stirring Positions	1
Maximum Stirring Capacity	38 L
Stir Bar Maximum Length	7.6 cm (3in)
Material	ABS/Polycarbonate
Top Surface Dimensions	305 x 305mm (D x W x H)
Overall Dimensions	310 x 305 x 130mm (D x W x H)
Weight	3 Kg (6.6 lb)



Ordering:

72400-12	MegaMag-Genie, 120V, 60Hz	each	\$630.00
72400-20	MegaMag-Genie, 230V, 50Hz, No Plug	each	\$630.00
72400-EU	MegaMag-Genie, 230V, 50Hz, European Plug	each	\$630.00
72400-BR	MegaMag-Genie, 230V, 50Hz, British Plug	each	\$630.00
72400-SW	MegaMag-Genie, 230V, 50Hz, Swiss Plug	each	\$630.00
72400-AU	MegaMag-Genie, 230V, 50Hz, Australian Plug	each	\$630.00
72400-10	MegaMag-Genie, 100V, 50/60Hz	each	\$630.00
72401-12	Digital MegaMag-Genie, 120V, 60Hz	each	\$742.00
72401-20	Digital MegaMag-Genie, 230V, 50Hz, No Plug	each	\$742.00
72401-EU	Digital MegaMag-Genie, 230V, 50Hz, European Plug	each	\$742.00
72401-BR	Digital MegaMag-Genie, 230V, 50Hz, British Plug	each	\$742.00
72401-SW	Digital MegaMag-Genie, 230V, 50Hz, Swiss Plug	each	\$742.00
72401-AU	Digital MegaMag-Genie, 230V, 50Hz, Australian Plug	each	\$742.00
72401-10	Digital MegaMag-Genie, 100V, 50/60Hz	each	\$742.00

► QuadMagGenie Magnetic Stirrer

General purpose magnetic stirrer designed for general laboratory applications

The powerful multi-position QuadMag Genie provides vigorous stirring for up to 4 vessels simultaneously.

- Powerful magnet and motor offer exceptional magnetic force capable of stirring up to 2L for each position.
- Powerful "rare earth" magnets automatically pull stir bars into position and stay coupled even under the most demanding stirring conditions.
- Rugged ABS/Polycarbonate housing and the famous Vortex-Genie® heavy-duty motor provide years of reliable service
- Easy-to-use controls allow users to easily change the desired speed.
- Spill-resistant housing channels fluids away from the internal components.
- Can be used in cold rooms and incubators.
- Non-skid feet.

SPECIFICATIONS:

Stirring Speed	150-1500 RPM
Maximum Stirring Capacity	2 Leach position ..
Material	ABS/Polycarbonate
	Nonskid Top Pads (4)
Top Surface Dimensions	305 x 305mm (DxWxH) 12 x 12in
Maximum Stirring Positions	4
Stir Bar Maximum Length	5.6 cm (2in)
Weight	3 kg (6.6 lb)
Overall Dimensions	310 x 305 x 130mm (DxWxH) 12.25x2x5.1"



Ordering:

72402-12	QuadMag-Genie, 120V, 60Hz	each	\$790.00
72402-20	QuadMag -Genie, 230V, 50Hz, No Plug	each	\$790.00
72402-EU	QuadMag -Genie, 230V, 50Hz, European Plug	each	\$790.00
72402-BR	QuadMag -Genie, 230V, 50Hz, British Plug	each	\$790.00
72402-SW	QuadMag -Genie, 230V, 50Hz, Swiss Plug	each	\$790.00
72402-AU	QuadMag -Genie, 230V, 50Hz, Australian Plug	each	\$790.00
72402-10	QuadMag -Genie, 100V, 50/60Hz	each	\$790.00

For our complete line of Mixers and Stirrers, see our main catalog, pages 675-742.

Newly Introduced Products

Laboratory Mixers and Shakers

► MagStir Genie

Magnetic Stirrer

*Programmable High/Low Speed Stirring
With Memory Profiles*

The revolutionary single-position MagStir Genie provides low to high speed stirring and editable memory profiles. Micro-processor controls offer precision and reproducibility without internal heat build-up.

- Customize your application with the single-position Mag-Stir Genie.
- MagStir Genie may be used with any regular flask/beaker or spinner flask and a maximum sample weight of 5.0 kg.
- Speed range of 10-1800 RPM including reverse and interval stirring for applications ranging from gentle stir-ring for cell culture to aggressive mixing for viscous polymers.
- Three power levels are available for various sample viscosities.
- Low-profile magnetic stirrer uses microprocessor control for precise and reproducible operation without heat build-up from internal friction.
- Manual mode provides stir, stir reverse, and time functions.
- Profiles mode allows users to quickly program speed, ramp rate, stir direction, time (including pause), and power level in up to 9 distinct steps. Up to 4 stirring profiles can be saved.
- Automatic mode recalls and executes one of up to 4 user-defined profiles.



SPECIFICATIONS:

Speed10-1800 RPM including stir reverse
Power LevelsLow, Medium, High
MemoryUp to 4 user-defined profiles
Dimensions (DxWxH)200 x 160 x 55mm
7.9 x 6.3 x 2.2in

Time1 second - 99 hours
Selectable Ramp Rates5 - 300 rpm/sec
Maximum Capacity5.0 kg (11 lb)
Weight1.0 kg (2.2 lb)

Ordering:

72404-12	MagStir Genie, 120V/100V, 60Hz	each	\$520.00
72404-20	MagStir Genie, 230V, 50Hz, No Plug	each	\$520.00
72404-EU	MagStir Genie, 230V, 50Hz, European/Swiss Plug	each	\$520.00
72404-BR	MagStir Genie, 230V, 50Hz, British Plug	each	\$520.00
72404-AU	MagStir Genie, 230V, 50Hz, Australian Plug	each	\$520.00

► MultiMagstir Genie

The revolutionary 4-position multimagstir genie provides low to high speed stirring and editable memory profiles. Microprocessor controls offer precision and reproducibility without internal heat build-up.

- Customize your application with the four-position MultiMagStir Genie!
- MultiMagStir Genie may be used with up to 4 1L flasks/beakers or 3 1L spinner flasks and a maximum sample weight of 10.0 kg.
- Speed range of 10-1200- RPM including reverse and interval stirring for applications ranging from gentle stirring for cell culture to aggressive mixing for viscous polymers.
- Three power levels are available for various sample viscosities.
- Low-profile magnetic stirrer uses microprocessor control for precise and reproducible operation without heat build-up from internal friction.
- Manual mode provides stir, stir reverse, and time functions.
- Profiles mode allows users to quickly program speed, ramp rate, stir direction, time (including pause), and power level in up to 9 distinct steps. Up to 4 stirring programs can be saved.
- Automatic mode recalls and executes one of up to 4 user-defined protocols.

Ordering:

72405-12	MultiMagStir Genie, 120V/100V	each	\$910.00
72405-20	MultiMagStir Genie, 230V, No Plug	each	\$910.00
72405-EU	MultiMagStir Genie, 230V, Euro/Swiss Plug	each	\$910.00
72405-BR	MultiMagStir Genie, 230V, British Plug	each	\$910.00
72405-AU	MultiMagStir Genie, 230V, Australian Plug	each	\$910.00



SPECIFICATIONS:

Stirring Speed10-1200 RPM
Power LevelsLow, Medium, High ..
MemoryUp to 4 user-defined profiles ..
Weight3.2 kg (7.0 lb) ..
Time1 second - 99 hours
Selectable Ramp Rates5 - 300 rpm/sec
Maximum Capacity10.0 kg (22 lb)
Dimensions (DxWxH)375 x 325 x 48mm
14.8 x 12.8 x 1.9in

For our complete line of Mixers and Stirrers, see our main catalog, pages 675-742.

Newly Introduced Products

Single Tilt Heating Holder

► Single Tilt Heating Holder System for STEM, TEM *Aduro™ HT System*

In situ microscopy is a critical need in many areas of materials science, including catalysis, coatings, and novel materials. Until now, no commercially viable solutions have existed that enable real-time, dynamic thermal studies in a fast, versatile, high-resolution and easy-to-use package.

Conventional heating stages for electron microscopy use relatively large furnaces as a heat source. Their slow response times and substantial drift often limits their use for high resolution, in situ heating studies. The Aduro™ heating system for high resolution in situ electron microscopy replaces standard furnaces with microfabricated, semiconductor-based heating devices as specimen supports. These devices use an ultra-thin, conductive ceramic membrane to simultaneously support and heat the sample. This approach provides extremely accurate and well-controlled sample heating with virtually no drift. The low thermal mass of the ceramic membrane also allows for extremely fast response times, up to 1,000,000°C per second to temperatures up to 1200°C. With excellent stability and true reaction-rate heating, the software controlled Aduro™ heating system enables novel, in situ experiments on any electron microscope including sintering, rapid thermal cycling and lifetime testing, grain growth, phase changes, surface reactions and quenching - all at the high resolution possible.

APPLICATION AREAS

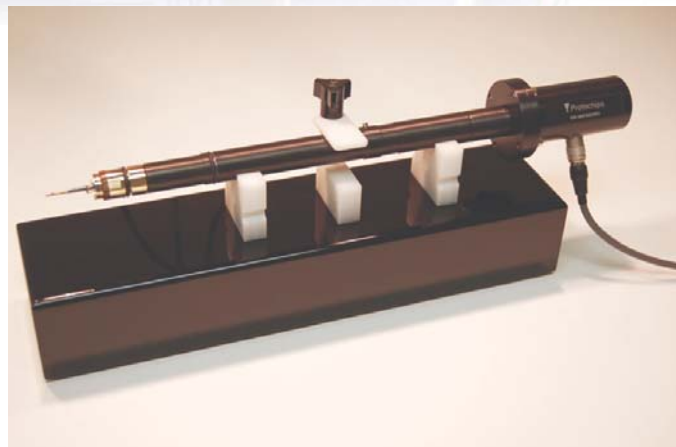
- Rapid thermal cycling and lifetime testing
- Quality Assurance
- Ultra-high and high temperature studies
- Grain Growth
- Thin films and Coatings
- Quenching
- Nanoparticle catalysts
- Sintering

IMPORTANT POINTS

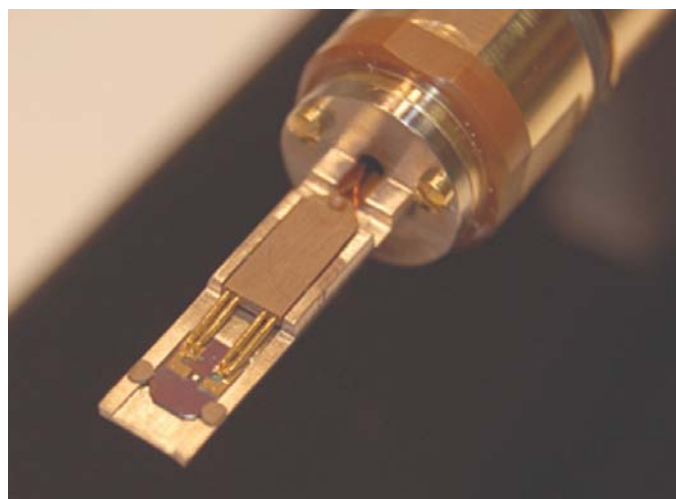
The semiconductor devices replace both the normal TEM grid and the furnace of traditional heating holders. The semi-conductor devices simultaneously support and heat the sample.

The semiconductor devices enable customers to have a disposable furnace which eliminates contamination and makes the holder forward-compatible with future consumables.

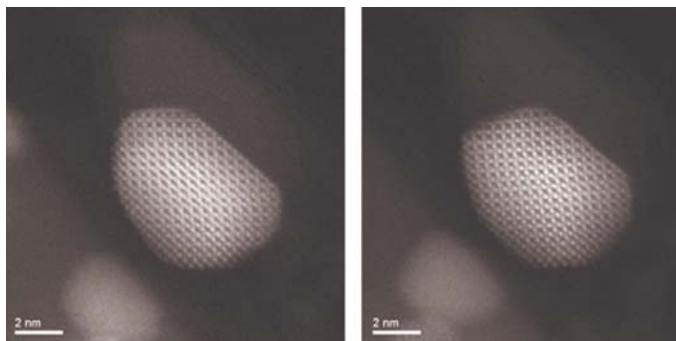
For the first time ever, atomic resolution at temperatures up to 1200°C is possible.



Aduro™ HT single-tilt heating holder.



Tip region of Aduro™ HT single-tilt heating holder showing the semiconductor specimen support device loaded into the TEM holder and the electrical leads making contact with the support device.



Pt nanoparticle catalyst on Al₂O₃ support at 1000°C, 20 second scans imaged approximately 1 minute apart at 10,000,000X. Images collected using a JEOL 2200FS-AC Aberration Corrected TEM. Courtesy of Dr. Larry Allard, Oak Ridge National Laboratories.

Newly Introduced Products

Single Tilt Heating Holder, Labels, Tapes, and Dispensers

► Single Tilt Heating Holder System for STEM, TEM (continued)

FEATURES AND BENEFITS

Extremely low thermal mass.....High stability and low drift, less than 1ms response time
 Direct heating of support filmVery accurate temperature control of sample
 Robust ceramic material.....Inert, capable of reaching temperatures from RT to 1200°C
 MEMS-based design.....Consumable design eliminates contamination, compatible with virtually any TEM and STEM instrument

HEATING SYSTEM COMPONENTS

- Custom TEM holder with 4 electrical leads
- Power supply and cables
- Computer
- Software with perpetual license
- Starter pack of 25 semiconductor-based specimen support devices

PRODUCT SPECIFICATIONS

Temperature RangeAmbient to >1200°C
 Tilt (Alpha)Exact tilt dependent on pole-piece; specimen tip approx. 0.9mm thick
 Support device size4.0mm X 5.8mm
 Observable Area500 microns X 500 microns
 Power Requirements100/220 VAC

PUBLICATIONS FROM M&M 2008, ALBUQUERQUE

"A New Paradigm for Ultra-High-Resolution Imaging at Elevated Temperatures"; L. F. Allard, W. C. Bigelow, D. P. Nackashi, J. Damiano and S. E. Mick.

"Study of Pd/ZnO Nanocatalysts for Hydrogen Production"; J. Liu, J. Wang and L. F. Allard.

"In-situ Z-STEM Imaging of Chemical Ordering in FePt Magnetic Nanoparticles"; J.E. Wittig, J. Bentley, L.F. Allard, M.S. Wellons and C.M. Lukehar.

"In-situ TEM Observations on the Sintering Process of Colloidal Gold Using an Ultra-fast Heating Stage"; M. Briceno, K. Hattar, John Damiano, David Nackashi, I.M. Robertson.

"A MEMS-based Technology Platform for in-situ TEM Heating Studies"; John Damiano, David P. Nackashi, and Stephen E. Mick.

Ordering:

100010	Single tilt heating holder system for STEM, TEM, (S)TEM	each	POR
100011	Semiconductor heating / support device for Aduro™ heating holder	each	\$49.00

► Rocker Tape

Double-Sided Adhesive Film for Laboratory Container



Mounting Convenient - No more fumbling with clamps

Versatile - Use with rockers, shakers, incubators or nutators

Strong - Easily rock and roll up to 300rpm and beyond*

Long Lasting - Re-usable based on load capacity and vessel number

Resistant - Keeps on rockin' even in the presence of most solvents and caustic agents

* RPM limits may vary based on load and vessel contact area. Test load recommended

Ordering:

77512-12	1.50" x 20' (38mm x 6m)	roll	\$30.00
77512-20	Rocker Tape Sheets, 12" x 12"	3/pk	\$36.00

► Thermal Transfer Handheld Printer

Tough-Tag and Cryo-Tag
 Reliability with Portable Convenience

Portable – Each printer is equipped with a hand strap for ease of carrying.

Large Display – The What You See Is What You Get* display gives an exact preview of what each printed label will look like.

Convenience – Label samples in the field or the lab.

Barcodes – Print the most popular barcodes including Code 39, Code 128 and EAN.

Serialize – Use the series function to instantly print an alphanumeric series of labels.



Ordering:

77596-50	Spirit HT2100 Handheld Printer	each	\$695.00
77596-2	Thermal Transfer Cryo-Tags 1.50" x 0.50"	500/roll	\$70.00
77596-51	Thermal Transfer Resin Ribbon	roll	\$90.00

For our complete line of Tapes, Labels, and Dispensers, see our main catalog, pages 760–768.

Newly Introduced Products

Polaroid Replacements

► Fujifilm Instant Films and Film Holders

Replacement film for Polaroid SEM films.

► FP-100C Color Instant Film

Fujifilm FP-100C is a "peel-apart-type" instant color daylight film that performs extremely well under varied lighting conditions. FP-100C works in any Instant Film camera with an image size of 3.25" x 4.25". FP-100C45 works in any Instant Film camera with an image size of 4" x 5". Its fine grain and rich tonal gradation make it ideal for passport photos, commercial test shots, presentations, ID photos, and direct printing.



- Exceptional image quality and color reproduction.
- Superb tonal gradation from highlights through shadows.
- Wide applicable temperature range.
- Enhanced resistance to light-induced discoloration.
- Photos can be laminated.
- Available in 3.25 x 4.25 and 4 x 5 formats 10 sheet packs

74681	Fujifilm Professional Instant FP Series FP-100C, 3.25x4.25	10/pk	\$18.75
74682	Fujifilm Professional Instant FP Series FP-100c, 4x5	10/pk	\$46.00
74683	Fujifilm Professional Instant Film 4x5 Pack Holder	each	\$260.00

► FP-100B Black & White Instant Film

Fujifilm FP-100B is an instant black & white panchromatic film. This "peel-apart" film is ideal for ID photos, commercial photo proofs, medical & scientific applications, and image preview.



- Convenient 30-second development time.
- Rich gradation, fine grain, and exceptional resolution.
- Outstanding film handling characteristics.
- Performs well in various lighting conditions, including tungsten lights.
- Available in 3.5 x 4.25 format, 10 sheet packs.

74684	Fujifilm Professional Instant FP Services FP-100B 3.25x4.25	10/pk	\$16.00
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► FP-3000B Black & White Instant Film

Fujifilm FP-3000B is an instant black & white panchromatic film. This "peel-apart" film is ideal for ID photos, commercial photo proofs, medical & scientific applications, and image preview.



- Rapid 15-second development time.
- Rich gradation, fine grain, and exceptional resolution.
- Outstanding film handling characteristics.
- Performs well in various lighting conditions, including tungsten lights
- Available in 3.5 x 4.25 and 4 x 5 formats 10 sheet packs.

74685	Fujifilm Professional Instant FP Services FP-3000B 3.25x4.25	10/pk	\$14.00
74683	Fujifilm Professional Instant Film 4x5 Pack Holder	each	\$260.00

► SEM Digi-CAM

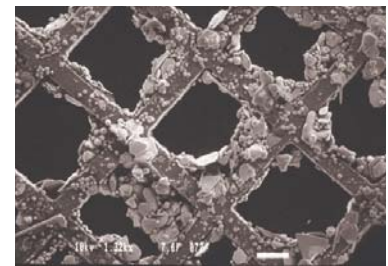
An easy, inexpensive way to digitize your analog SEM images!



Most packages \$3495!

Supply us with your system parameters for a quote today!

If you haven't heard, Polaroid is no longer producing film for it's cameras. This presents a particular problem for many owners of older SEM's. With the existing supply of Polaroid film decreasing every day, the price has been skyrocketing. How will you document the samples you are imaging in the future? Sure, you could digitize your entire SEM but these conversions are time consuming and can cost in the range of \$15,000 or more!



Originally designed to solve our own in-house digitization needs, the SEM Digi-CAM is easy to set up and is inexpensive in comparison. Most packages will sell for as little as \$3495! But what about quality? You be the judge:

SEM DIGI-CAM FEATURES:

- 6.1 MP SLR Digital Camera
 - Remote Controlled Shutter Operation - accomodates even the longest CRT scan times
 - Wireless transmission of captured photos to your computer (requires local WiFi network)
 - AC Adapter for Digital Camera
 - Mounting hardware for your particular instrument
- Selected SEM models available now.

SUPPLY US WITH YOUR SYSTEM PARAMETERS FOR A QUOTE TODAY!

95200	SEM Digi-CAM	each	\$3,495.00
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Newly Introduced Products

Polaroid Replacements

► Lumenera Cameras

► INFINITY4-11 Large Format

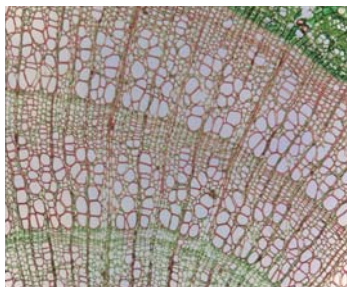
The INFINITY4 camera series offers large format megapixel Kodak sensors for a wide field of view. The perfect choice for demanding high resolution imaging requiring excellent color rendition. Features include a 12-bit digital output, binning, progressive scan electronic shutter, full exposure control, auto white balance, programmable gain, sub-windowing and region of interest — ideal for high end ophthalmic, medi-cal, clinical and life science applications.

HIGHLIGHTS

- 11 megapixel resolution
- Large format sensor
- Low noise electronics
- Superior light sensitivity with high fidelity color reproduction
- F-mount lens adapter

APPLICATIONS

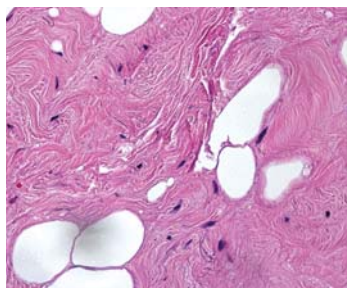
Brightfield, Darkfield, DIC, Live Cell Imaging, Histology, Pathology, Cytology, Defect Analysis, Semiconductor Inspection, Metrology, Gel Documentation, Moderate Light Fluorescence



95114	INFINITY4-11 10.7 Megapixel CCD Color Camera	each	\$8,900.00
95115	INFINITY4-11 10.7 Megapixel CCD Monochrome Camera	each	\$8,900.00

► INFINITYX-32 High Resolution Camera

The INFINITYX-32 offers incredible flexibility in capturing images at 2, 8, 16 and 32 megapixel resolution. Using the patented DeltaVu™ technology, each CCD pixel captures full chromatic information, resulting in increased color resolution with no degradation. The INFINITYX-32 is the first pixel shifting camera to utilize the highly sensitive SONY ICX274 sensor. The relatively low cost of the INFINITYX-32 makes it an affordable tool for clinical, life and material sciences where megapixel resolution, color accuracy, and light sensitivity are essential.



95116	INFINITYX-32C 32 Megapixel CMOS Color Camera	each	\$5,500.00
95117	INFINITYX-32C 32 Megapixel CMOS Color Camera	each	\$5,500.00

For our complete line of Lumenera Cameras, see our main catalog, pages 546–548.

Newly Introduced Products

Digital Cameras and Slide Scanners

▶ PathScan Enabler IV

Low Cost Digital Histology Slide Scanner

Obtain ultra high resolution images from a glass tissue slide in about a minute without a microscope.

Overview

The PathScan Enabler IV, is designed to allow scanning of an entire whole mounted histology sample attached to standard 1 x 3 inch cover slipped glass slide. The PathScan Enabler IV solves low power, large field of view, high resolution imaging problems. This fourth generation histology scanner scans an area of 1.42 x 0.85 inches (36.14 x 21.59 mm), resulting in useable images up to 10,080 x 6480 pixels, uninterpolated. File size can be as large as 188 megabytes. Produces image files which can be saved in a variety of formats including TIFF, PICT, BMP, GIF, etc. Compatible with PC Windows based computers.

Key Features

- Low cost histology slide scanner
- One button control, scans, saves and (if available) opens image in Adobe Photoshop
- Typical scan times is under a minute
- Holder accepts two 1 x 3" slides
- 7200 dpi resolution, 3.5 microns per pixel
- Single pass scan mode
- 16/8 bits per color sampling rate
- Dynamic range up to 4.2 O.D
- Real time sharpening, automatic color correction Rapid accurate fixed focus
- SilverFast Ai Studio Software
- USB2 interface
- Fourth generation, 1000's sold!



Images from the PathScan Enabler IV System



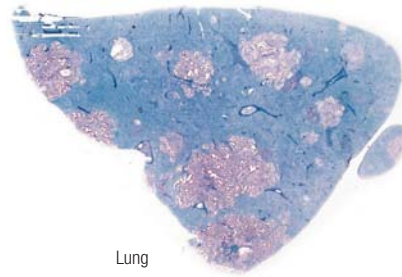
Appendix



Kidney



Brain



Lung

To view additional images at high resolution, please visit our web site at www.emsdiasum.com.

Ordering:

89010 Pathscan Enabler IV Slide Scanner each \$1995.00

Newly Introduced Products

Mailers and Shippers

► Mailers/Shippers-Thermo Safe®

© Tegrant Corporation, ThermoSafe Brands

► Diagnostic Specimen Mailing Systems

These ready-to-use combination/triple packaging kit, have been tested and certified for transport of diagnostic shipments as defined by the applicable regulations, in compliance with IATA Packaging Instruction 650, US, Postal Service and DOT regulations.

Each kit includes: approved 10 ml specimen tubes; leak-resistant foam shippers that secure and protect 95 kPa-certified specimen tubes;

absorbent material—sufficient to absorb complete contents of approved primary receptacles filed with blood; waterproof tape; leak-proof pressure-lock poly bag; corrugated shipping carton; UN3373 Biological Substance label and step-by-step instruction sheet.

Model 473 outer dimensions: 5½" x 4" x 2";

Model 472 outer dimensions: 10½" x 5½" x 3"

Cat. #	Model	Holds	Includes	Qty	Price
61510-73	473	3 x 10 ml tubes	Tubes, EPS mailer & lid, absorbent material, water proof tape, Corrugated shipping carton, press-lock poly bag, UN3373 label & instruction sheet	3 set	\$16.00
61510-72	472	8 x10 ml tubes		5 set	\$58.00

► Replacement Parts for Model 473 & 472:



Cat. #	Description	Qty	Price
61510-76	For Model 473: Model 476 EPS mailer – 3 tube specimen mailer foam	3	\$4.50
61510-70	For Model 472: Model 470 EPS mailer – 8 tube specimen mailer foam	10	\$36.00

► Accessories for Model 473 & 472:

Pack includes: tubes, absorbent material, waterproof tape, press-lock poly bag, 200-lb corrugated shipping carton, and instructions



Cat. #	Description	Qty	Price
61510-74T	For model 473: Model 474T accessory pack	3 sets	\$12.50
61510-71T	For model 472: Model 471T accessory pack	5 sets	\$30.00

► 90 ml Diagnostic Mailing Kit

This mailing system is fully complied with UN/DOT, postal and courier service regulations. Includes 1 of each if the following:

- 90 ml Specimen Bottle, Screw Top Cap and Temperature Indication Label 1¼" dia. x 3"
- Pad of Absorbent Material: 4" x 2¼"
- UN3373 "Biological Substance" label
- Pres-Lock Plastic Bag with Biohazard symbol: 5½" x 9½"
- Model 601, I.D. 6" x 3" x 2½", O.D. 7" x 4" x 3½", ½" wall
- Model 602, I.D. 6" x 3" x 2½", O.D. 7" x 4" x 3½", ½" wall
- Waterproof Tape: 24" long x 1" wide
- Security Seal: 7" long x 1" wide
- User Instruction Sheet.

Cat. #	Model #	Description	Outside Dimensions	Qty	Price
61512-78	578	90ml Diagnostic Specimen Mailing kit	6"x3" 2½"	10	\$75.50



Newly Introduced Products

Mailers and Shippers

► Mailers/Shippers-Thermo Safe® (continued)

© Tegrant Corporation, ThermoSafe Brands

► Flexible Mailers (Without Tubes)

Complies fully with US Postal Service, DOT and IATA regulations for transport of clinical and diagnostic specimens (UN3373) by air or ground; Domestic Mail Manual Part 8.6; Title 49 CFR, Part 173, 199; and IATA Packing Instruction 650. Includes all required secondary and outer packaging components. Users provide only leak-proof specimen containers (primary receptacles), such as tubes, vials, cups, etc. Accommodates any size and quantity of specimen containers that fit inside the flexible secondary envelope with required absorbent material. Maximum capacity is 300 ml or less.



Cat. #	Model	Corrugated Carton I.D.	Plastic Envelope	Absorbent Sheets	Bottle Wrap 6" x 24"	Qty	Price/set
61512-70	570	4" x 4" x 9½"	1 – printed with international biohazard 5¼" x 8¾" I.D., 6" x 9½" O.D./95 pKa (14psi)	2 – 7½" x 4½" 240ml capacity	1	5	\$39.50
61512-71	571	11" x 8" x 4¼"	2 – printed with international biohazard 5¼" x 8¾" I.D., 7" x 12 O.D. / 95 pKa (14psi)	4 – 7½" x 4½" 600ml capacity	2	5	\$48.00
61512-75	575*	N/A	95 kPa Plastic Bag, 25/case	4 Bay 6¾" x 4⅞", 50/cs	25/case	Case	\$125.00

*Accessories kit for Model 570 & 571

► LabMailer – ThermoSafe®

Maximum breakage protection for known non-hazardous blood, serum, tissue, and other specimens. Accommodates VacuTainer® Microtainer® and other collection/transport tubes. Available in multi-tube, slide, and tube/slide combinations Lightweight polystyrene foam construction saves postage. Reusable and recyclable. (® is trademark of Becton Dickinson).

► Histopathology Mailer



This versatile combination mailer carries 10 vials, 2 slides packets, or 5 vials and 1 slide packet. Suitable use with Model 365 mailing sleeve

Cat. #	Description	Qty	Price
61513-94	Model 394 Histopathology Mailer	10	\$7.00

► Drug Test Kit Mailer



All in one, easy to use drug test mailing system that meets postal and courier service regulations for non-hazardous clinical specimens. Kit consists of:

- 90 ml Specimen Bottle, Screw Top Cap and Temperature Indication Label 1¼" dis. X3"
- Pad of Absorbent Material 4" x 2¼"
- Press-Lock Plastic Bag; 5½" x 9½"
- Model 601, I.D. 6" x 3" x 2½"; O.D. 7" x 4" x 3½", ½" Wall
- Model 602, I.D. 6" x 3" x 2½"; O.D. 7" x 4" x 3½", ½" Wall
- Security Seal: 7" long x 1" wide

Cat. #	Description	Qty	Price
61514-00	Model 600 Drug Test Kit Mailer	10	\$56.00

Newly Introduced Products

Mailers and Shippers

► Mailers/Shippers-Thermo Safe® (continued)

© Tegrant Corporation, ThermoSafe Brands

► Other Mailers and Accessories



Cat. #	Model	Holds Tube/Slide Specifications				Tube Capacity Dimensions	Mailing Sleeves	Qty/ Pk	Price/ Pk
		Tubes	Slides	Tube Volume	Tube Dimensions, mm				
61515-56	356	1	N/A	3, 5, 7, 10 ml	Dia:10.25 – 16 Length:75-103	110 x 16 mm	357	10	\$5.50
61515-62	362	2	2	5, 7, 10 ml	Dia:10.25 – 16 Length:75-103	107 x 16 mm	363	10	\$7.50
61515-64	364	3	N/A	3, 5, 7, 10 ml	Dia:10.25 – 16 Length:75-103	105 x 17 mm	365	10	\$15.00
61515-07	407	4	8	7, 10 ml	Dia:16 Length:75-100	110 x 19 mm	408	10	\$11.50
61515-39	339	5	N/A	3, 5 ml	Dia:10.25 – 13 Length:75-103	105 x 13 mm	365 & 340	10	\$7.00
61515-09	409	5	N/A	7, 10, 15, 25 ml	Dia:16 Length:75-150	170 x 16 mm	410	10	\$12.00
61515-41	341	8	8	5, 7, 10 ml	Dia:10.25 – 16 Length:75-103	113 x 18 mm	342	10	\$12.00
61515-69	369	N/A	10	N/A	N/A	N/A	370	10	\$6.00

Vial Shippers

This unique array of shipping system protects frozen and refrigerated shipping vials. These ready-to-use kits include everything to keep temperature sensitive goods in top condition. Just load your product, add U-tec phase change material pack, and close the shipper.

- Shippers (Models 480-413 and 480-490) also include U-tek® and reusable polyethylene platform
- Shippers (Models 413-C24 & 490-C24) also include flexible polyurethane foam cushion



Cat. #	Model	Holds	Includes	Dimensions		Qty / Pk	Price
				Inner L x W x H	Outer L x W x H		
61519-13	480-413	12 of 28 mm Vials	EPS container & lid, 24oz, U-tek phase change material, reusable polyethylene platform & corrugated shipping carton	8" x 6" x 7"	11" x 9" x 10"	2	\$46.00
61519-90	480-490	48 of 28 mm vials		12"x10¼" x 5½"	14¾" x 13¼" x 8¼"	2	\$60.50
61519-24	413-C24	24 of 16 – 20mm vials	EPS container and lid, corrugated shipping carton and 24-hole flexible foam insert	8" x 6" x 7"	11" x 9" x 10"	2	\$38.50
61519-48	490-C24	48 of 16 – 20mm vials		12" x 10¼" x 5½"	14¾" x 13¼" x 8¼"	2	\$34.00

Newly Introduced Products

Mailers and Shippers

► Mailers/Shippers-Thermo Safe® (continued)

© Tegrant Corporation, ThermoSafe Brands



61516-42

61516-40

► Mailing Sleeves

Sturdy 18-point white paperboard sleeves increase the cost-effectiveness of foam mailers. Reverse tuck closures enable foam mailers to withstand multiple trips.

Cat. #	Model	Fit Foam Mailer	Qty / Pk	Price
61516-57	357	356	10	\$3.00
61516-63	363	362	10	\$5.00
61516-40	340	364, 339, 394	10	\$2.50
61516-65	365	364, 339, 394	10	\$3.60
61516-08	408	407	10	\$6.00
61516-10	410	409	10	\$6.50
61516-42	342	341	10	\$10.00
61516-70	370	369	10	\$3.50

► Mini Mailer/U-tek® Economy Packs

Cat. #	Model	Kit Includes	Qty / Pk	Price / Pk
61521-43	443	Model 440 Mini Mailer and Model 432 U-tek® refrigerant packs -23°C (-10°F)	6	\$29.00
61521-44	444	Model 440 Mini Mailer and Model 429 U-tek® refrigerant packs -1°C (+30°F)	6	\$34.50

► More Mini Mailers and Accessories

- Maximum breakage protection for non-hazardous laboratory specimens. Ideal for biological, environmental, research and development, public health, industries hygiene, and veterinary use
- Accommodate tubes, vials, bottles, petri dishes and cans

► Aluminum Cans and Can Shippers

Accommodates the most widely used laboratory collection tubes, vials, and bottles. Helps to prevent breakage during handling and shipment. Seamless construction with lined screw-cap to prevent leakage. completely autoclavable. EPS foam mailers and mailing sleeves available.

Can Ordering:

Cat. #	Model	Can Dimensions	Recommended EPS Mailer	Qty/ Pk	Price
61517-35	435	1 1/4" dia. X 4" H	373	12	\$69.00
61517-36	436	2 1/2" dia. X 6" H	353	5	\$55.50

EPS Foam Mailer Ordering:

Cat. #	Model	Cavity Measures	Outer Measures	Qty/ Pk	Price
61518-73	373	2" dia. x 5 1/2"	6 1/4" x 3 3/4" x 3 3/16"	10	\$9.00
61518-53	353	2 3/4" dia. X 7"	4" x 4" x 8 1/2"	10	\$16.50

- Lightweight polystyrene foam construction saves postage
- Reusable and recyclable
- Standard mailing sleeves available



61522-05

61522-35

61522-34

Cat. #	Model	Holds	Cavity Dimensions	Mailing Sleeve	Qty/Pk	Price / Pk
61522-34	334	Cans, screw cap vials, tube, swabs, air filter cartridges	8" x 2 1/4" x 1 1/2"	392	10	\$8.50
61522-35	335	Specimen tubes, vials, swabs	5 5/8" x 1 1/2" x 1 1/2"	336	10	\$12.00
61522-02	402	Tubes, vials, cans, bottles. Can be used with Poly-Pad Foam cushion, to keep containers from shifting	4" x 3 1/2" x 3 1/4"	372	10	\$16.00
61522-00	400	1 or 2 standard petri dishes	4" x 1 1/2" x 4"	N/A	10	\$11.50
61522-04	404	10 standard petri dishes	6 1/4" x 3 3/4" x 4"	403	12	\$19.50
61522-01	601	Bottles, cans, vials, cups. Can be fitted with foam insert to hold small kit components	6" x 3" x 2 1/2"	602	10	\$8.00
61522-05	605	100 ml sample containers, 4oz urine cup	3 3/4" x 2 1/4" x 1 1/2"	606	12	\$12.00
61522-95	395	2 oz Boston round bottle	3 3/4" x 2" dia.	396	10	\$8.00

Newly Introduced Products

Mailers and Shippers

► Mailers/Shippers-Thermo Safe® (continued)

© Tegrant Corporation, ThermoSafe Brands

► Mini Mailers for Temperature Sensitive Shipment

- Compact protection for temperature sensitive shipments, ideal for serums, tissues, and reagents
- Accommodate tubes, vials, ampoules, small bottles, and tissue flasks with space for refrigerants
- Insulating, thick wall polystyrene foam construction
- Walls on model 440 are 1" thick; walls on model 312 are 1½" thick.



Cat. #	Model	Dimensions		Wall Thickness	Qty / Pk	Price /Pk
		Inner	Outer			
61520-40	440	5½" x 4¾" x 3"	8" x 6" x 5¼"	1"	12	\$47.50
61520-12	312*	6½" dia x 4" High	9½" x 9½" x 6¾"	1½"	4	\$53.00

*Model 312 is in corrugated carton.

► 5-bay Specimen Transport Bag

5-bay 95kPa specimen transport bag includes absorbent material each pocket, enough to absorb 15 ml of urine or 10 ml of blood. This multi layer polyethylene 95 kPa bag is IATA certified, marked with biohazard symbol and detailed closing procedures.



Cat. #	Description	Qty	Price
61525-50	Model VIAL650: 9 x 9¾" O.D. tubes; 8¾ x 1½" I.D. each pocket	20	\$27.00

► Mailing Sleeves:

Cat. #	Model	Description	Qty	Price
61523-92	392	Mailing Sleeve for Model 334	10	\$8.50
61523-36	336	Mailing Sleeve for Model 335	10	\$4.00
61523-72	372	Mailing Sleeve for Model 402	10	\$8.00
61523-03	403	Mailing Sleeve for Model 404	12	\$19.50
61523-02	602	Corrugated Carton for Model 601	10	\$2.50
61523-06	606	Mailing Sleeve for Model 605	12	\$10.00
61523-42	442	Mailing Sleeve for Model 440	12	\$14.00
61523-41	441	Poly-Pad for Model 440	12	\$4.50
61523-96	396	Mailing Sleeve for Model 395	10	\$9.00

► Insulated Shipper – ThermoSafe®

© Tegrant Corporation, ThermoSafe Brands

These shippers and containers offer the ideal solution for the safe storage and delivery of most refrigerated or frozen materials, including pharmaceuticals, laboratory specimens, serum and vaccines, human organs, culture packs, and nuclear and isotope materials.

When shipping dry ice or utilizing dry ice as a refrigerant, these shippers provide excellent dry ice sublimation – average dry ice usage in 1½" thick wall units is 5 lbs for the first 24 hours; 3 – 4 lbs thereafter.



Cat. #	Model #	Construction	Dimensions L x W x H		Wall Thickness	Qty/pk	Price/pk
			Inner	Outer			
61536-11	411	Foam Box only	8" x 5¾" x 7"	11" x 9" x 10"	1½"	2	\$31.00
61536-41	413*	Foam & Carton	8" x 5¾" x 7"	11" x 9" x 10"	1½"	2	\$33.00
61536-19	319	Foam Box only	8" x 5¾" x 8¾"	11" x 9" x 11½"	1½"	2	\$24.00
61536-21	321*	Foam & Carton	8" x 5¾" x 8¾"	11" x 9" x 11½"	1½"	2	\$34.50
61536-16	316	Foam Box only	8" x 6" x 4¼"	11" x 9" x 7¼"	1½"	2	\$22.00
61536-18	318*	Foam & Carton	8" x 6" x 4¼"	11" x 9" x 7¼"	1½"	2	\$30.00
61536-46	446	Foam Box only	10" x 10" x 7"	14" x 14" x 10"	1¾"	1	\$13.00
61536-48	448*	Foam & Carton	10" x 10" x 7"	14" x 14" x 10"	1¾"	1	\$22.50
61536-89	489	Foam Box only	11¾" x 10" x 5"	15" x 13¼" x 9 x 16"	1½"	1	\$15.00
61536-90	490*	Foam & Carton	11¾" x 10" x 5"	15" x 13¼" x 9 x 16"	1½"	1	\$21.00
61536-12	612	Foam Box only	12½" x 12½" x 9"	15½" x 15½" x 12"	1½"	1	\$14.00
61536-13	613*	Foam & Carton	12½" x 12½" x 9"	15½" x 15½" x 12"	1½"	1	\$20.00
61536-14	614	Foam Box only	12½" x 12½" x 12"	15½" x 15½" x 15"	1½"	1	\$15.50
61536-15	615*	Foam & Carton	12½" x 12½" x 12"	15½" x 15½" x 15"	1½"	1	\$22.00
61536-31	313*	Foam & Carton	4½" Dia x 7½" H	7¼" x 7¼" x 9"	1½"	2	\$36.50

*These foam box sets suit for shipping by UPS or other carriers.

Newly Introduced Products

Mailers and Shippers

► Mailers/Shippers-Thermo Safe® (continued)

© Tegrant Corporation, ThermoSafe Brands

► Nylon Carrier – ThermoSafe®

© Tegrant Corporation, ThermoSafe Brands

Rugged lightweight totes ideal for transport of diagnostic and clinical specimens, even for field works. Washable, weather resistant nylon shell with thick-walled polystyrene foam insulation. Adjustable nylon carrying

straps; for hand or shoulder carrying. Exterior may be printed with your facility name or company logo (by your own). Five models with capacities from 0.17 to 1.6 cu.ft.

Cat. #	Model	Volume Cu. ft.	Wall Thick	Dimensions L x W x H	Closure	Empty Weight	Interior	Exterior Color	Price/ea	
61528-78	478	0.17	2¼"	6½" x 5¼" x 7¾"	11½" x 10½" x 12½"	Zipper	2.0 lb	Polys-tyrene	Blue	\$72.50
61528-54	454	0.82	1½"	17¼" x 10¼" x 8"	20¼" x 13¾" x 11"	Velcro®	3.0 lb	Nylon	Red	\$103.00
61528-55	455	0.96	2"	12 x 12 x 11½"	16 x 16 x 15½"	Bayonet Style Clip	3.5 lb	Nylon	Red	\$120.00
61528-58	458	1.0	1½"	17½" x 10¾" x 10¾"	20¼" x 13¾" x 13¾"	Velcro®	3.0 lb	Nylon	Red	\$135.00
61528-59	459	1.6	1½"	17 x 9¾" x 16½"	20¾" x 13¼" x 19½"	Bayonet Style Clip	4.5 lb	Nylon	Red	\$144.50

► U-tek® - Ice-Packets

Cushion fragile shipments, won't dilute ice baths or damage samples. They remain frozen longer than regular ice without the melting mess.

- May be refrozen and reuse, withstands pressure of 60 lb per square inch for 5 minutes or longer
- Refrigerant contains neutral pH distilled deionized water and proprietary materials certified by the US Food and Drug Administration as food grade chemicals
- -1°C / +30°F-



Cat. #	Model	Style	Description	Qty	Price
61533-05	405	Mat	1 -16" x 2 ft sheet	1 sheet	\$10.50
61533-06	406J	Single	Individual Packet	100 packets	\$12.00

► U-tek® -Blue-Ice

Superior protection for shipping temperature sensitive materials. Maintains critical temperatures of serums, test samples, live or frozen tissues, organs and pharmaceutical for extended periods. Laminated, metalized film exterior provides radiant heat barrier and resists punctures. U-Tek® -50°C / -58°F ultra low, high-tech phase change formula is ideal for products which require extreme cold but may not tolerance dry ice or CO2. Eliminate dry ice hazmat hassles.

Cat. #	Model	Formula	Weight	Dimension L x W x H	Qty	Price
61530-29	429	-1°C (+30°F)	8 oz	6" x 8" x ¾"	6	\$8.00
61530-12	412	-1°C (+30°F)	12 oz	6¾" x 4" x 1"	6	\$8.50
61530-96	596	-1°C (+30°F)	16 oz	6½" x 6½" x ¾"	4	\$6.50
61530-14	414	-1°C (+30°F)	24 oz	7½" x 6½" x 1"	4	\$8.50
61531-32	432	-23°C (-10°F)	8 oz	6" x 4" x ¾"	6	\$8.00
61531-18	418	-23°C (-10°F)	12 oz	6¾" x 4" x 1"	6	\$9.00
61531-97	597	-23°C (-10°F)	16 oz	6½" x 6½" x ¾"	4	\$7.50
61531-20	420	-23°C (-10°F)	24oz	7½" x 6½" x 1"	4	\$9.50
61532-60	760	-50°C (-58°F)	24 oz	6½" x 6½" x 1"	4	\$16.50
61532-61	761	-50°C (-58°F)	32 oz	9¾" x 7¾" x 1"	4	\$23.50



► 95 kPa Transport Bag

Specimen transport bags are liquid tight and tamper evident. The patented adhesive closure and continuous seal meet or exceed standards of all major air carriers and DOT. Polyethylene construction and adhesive closure provides added security during handling by personnel.

Cat. #	Model	Description	Qty	Price
61525-51	951	Inside dimensions 6 x 9¾"	25	\$34.50
61525-52	952	Inside dimensions 9 x 12"	25	\$94.00
61525-53	953	Inside dimensions 9 x 16"	25	\$91.50
61525-54	954	Inside dimensions 13¾" x 17¾"	10	\$82.50

Newly Introduced Products

Mailers and Shippers

► Mailers/Shippers-Thermo Safe® (continued)

© Tegrant Corporation, ThermoSafe Brands

► Infectious Shipper – ThermoSafe®

- Meet US Dept of Transportation (DOT) and IATA requirement for transporting infectious substances (UN2814 and UN 2900)
- 4 Models – Accommodate shipments from 4 to 6 tubes/vials
- Pre-assembled packaging includes everything needed for shipping infectious agents in accordance with DOT Regulation 49CFR Parts 171 to 178 and IATA Packaging Instructions 602.

Note: Compliance with UN/DOT regulations governing shipments of infectious substances in these approved shippers is contingent on the use of all supplied components. The shipper is ultimately responsible for determining the suitability of packaging for use with contents. Consult appropriate regulations.

"Infecon" is a Trademark of Com-Pac International, Inc.

► Dry Ice Overpack – Model 670

Substance Shippers protect frozen samples for over four days. The EPS foam container and lid accommodates either Model 630 or Model 660B shipper plus 25 pounds of dry ice. Foam insert holds in place while dry ice sublimates. Includes one Class 9 Miscellaneous Dangerous Goods label (for dry ice) and shipping carton (Dry ice NOT included)



61535-70

► Infectious Shipper-Model 630

ThermoSafe shippers include EPS foam container, flexible foam insert, clear plastic press-lock bag, secondary packaging and absorbent material for full capacity of blood, corrugated carton, and packaging instructions.



61535-30

► Infectious Shipper – Model INF3000

Infectious shippers include pressure vessel with stop-lock lid, compartmentalized bubble pouch, 50 ml absorbent sheet, corrugate outer carton with required markings, shipper's declarations and easy-to-follow instructions.



61535-10

Cat. #	Model	Vessel Dimensions	Internal Cushioning	Capacity	Outer Measures L x W x H	Additional Features	Qty	Price
61535-30	630	Aluminum can, 3 x 6"	Foam insert	Four 16 x100 mm tubes	5½" x 5½" x 11¼"	Includes 4 x 10ml blood collection tubes	2	\$84.00
61535-60B	660B	Aluminum can, 3 x 6"	Absorbent material, flexible pressure vessel & bubble wrap	Six 16 x 100 mm tubes max. volume 60ml	5½" x 5½" x 11¼"	Flexible pressure vessel accepts various size tubes	2	\$75.00
61535-70	670	N/A	EPS Insulated Shipper	Overpack for Models 630 & 660B	14"x14"x14½"	Foam insert holds up to 25 lbs of dry ice in place	2	\$55.16
61535-05	INF2000	0.5 L transparent container	Compartmentalized bubble pouch	Six tubes	4" x 4" x 6¾"	Liquid-tight container withstands up to 95kPa pressure	2	\$40.40
61535-10	INF 3000	1.0L transparent container	Compartmentalized bubble pouch	Up to 50 MI	6¼" x 6¼" x 7½"	Liquid tight container withstands up to 95kPa pressure; vessel is autoclavable for re-use	2	\$67.00

Newly Introduced Products

Mailers and Shippers

► Mailers/Shippers-Thermo Safe® (continued)

© Tegrant Corporation, ThermoSafe Brands

► Medical Transporter – ThermoSafe®

© Tegrant Corporation, ThermoSafe Brands

Insulated expanded polypropylene medical transporter is ideal for on-site collection, storage, and transport of temperature sensitive specimens, medications, medical devices and organs.

- Durable nylon clad transporter
- Stain and impact resistant expanded polyethylene container
- Lightweight – ergonomic design
- Extra space for crushed ice and refrigerant gel pack
- Washable, weather-resistant.

MODEL 931, 932

Includes removable, rigid, thermoformed tray—ideal for washing and reusing; prevents leaking inside and out of transport unit, reinforced durability. Adjustable, durable carrying strap for shoulder transport.



61537-31

Model 932: also features a comfortable sturdy hand strap.

Model 931: 0.3 cu. ft volume and 3/8" wall thickness

Model 932: 0.53 cu. ft. volume and 3/8" wall thickness

MODEL 960

For mobile blood collection, cools and stores whole blood units and other temperature sensitive materials



61537-60

■ Qualified by ISC labs for temporary storage and transport of both platelet (20°C – 24°C for up to 8 hours) and non-platelet production (1°C – 10°C for up to 24 hours) whole blood with crushed wet ice.

■ Includes operating instructions and test data for cooling platelet and non-platelet production blood.

■ Volume: 1.60 cu. ft. and 1" wall thickness



61537-30

MODEL 930

For operating rooms storage and blood bank transport, provides temperature control for packed red blood cells and other temperature sensitive specimens

■ Qualified by ISC labs for temporary storage and transport of packed red blood cells with three 32oz Polar Pack Rigid Bottle refrigerant and two 16oz Polar Pack refrigerant.

■ Maintains up to 8 packed red blood cell units at 1°C – 6°C while in storage for 6 hours or more and between 1°C – 10°C while in transit for up to 24 hours.

■ Including operating instruction and test data for storage of packed cells.

■ Volume: 0.95 cu.ft. and 1" wall thickness



MODEL 640, 641

Inner partition divides unit and separates specimens. Features built-in lid compartments for U-tek refrigerant packs. Adjustable nylon carrying strap for hand or shoulder.

Model 641 includes a vial foam insert that holds twenty four 5–15ml vials and one model 418 U-tek®

Volume is 0.30 cu. ft. with 1/4" wall thickness.



61537-40



61537-41

Cat. #	Model #	Blood Unit Capacity	Dimensions L x W x H		Empty Weight	Qty	Price
			Inside	Outside			
61537-31	931	N/A	6" x 9" x 9 1/2"	6 1/2" x 9 1/4" x 10 1/4"	2 lbs	1	\$95.00
61537-40	640	N/A	10 1/4" x 7 1/4" x 8"	10 1/4" x 7 3/4" x 8 1/2"	1 lb	1	\$55.00
61537-41	641	N/A	10 1/4" x 7 1/4" x 8"	10 1/4" x 7 3/4" x 8 1/2"	1 lb	1	\$77.00
61537-32	932	N/A	8 3/4" x 11 x 9 1/2"	9 1/4" x 12 1/4" x 10 1/4"	2 lbs	1	\$109.50
61537-30	930	8	15 1/2" x 10 3/4" x 12 3/4"	17" x 12 3/4" x 13 3/4"	7.1 lbs	1	\$263.45
61537-LN	930LINER	Replacement liner for Model 930			—	1	\$148.50
61537-60	960	16	15 3/4" x 10 3/4" x 22 3/4"	17 3/4" x 12 3/4" x 24 3/4"	12.2 lbs	1	\$260.00
61538	960Dolly	—	—	—	4 lbs	1	\$123.00

Newly Introduced Products

Cleaning Solutions

► Decon 90

The leading surface active cleaning agent/radioactive decontaminant, for laboratory, medical and specialised industrial applications.

Description:

Surface active cleaning agent, and/or radioactive decontaminant, for laboratory, medical and specialised industrial applications. NOT suitable for domestic applications. Supplied as a liquid concentrate, for dilution with water. For 'manual' cleaning, or for use in an ultrasonic cleaning bath.

Properties:

Biodegradable *, phosphate-free, Bactericidal **, non-flammable and totally rinsable.

Appearance:

Milky white, non-viscous liquid, having faint odour.

Ph:

DECON 90 is alkaline. The concentrate having a pH in excess of pH 13.

Packaging:

Supplied in 1 litre, 5 litre and 20 litre high density polyethylene containers, with tamper-evident, screw-on caps.

Applications:

For cleaning and/or decontaminating glassware, ceramics, rubbers, plastics, stainless steel and ferrous metals. Being alkaline, DECON 90 is NOT suitable for use on non-ferrous metals, notably aluminium and zinc, or on polycarbonate.

Formulation:

An emulsion of anionic and non-ionic surface active agents, stabilising agents, non-phosphate detergent builders, alkalis and sequestering agents, in an aqueous base. Decon 90 does NOT contain Phosphates, Enzymes, EDTA/NTA or Chlorine Bleaches.

** Decon 90 satisfies the criteria in BS EN 1040 1997 for bacterial activity.

* Ready Biodegradability by OECD 301E (ISO method 7827 - 1986 (E))



60505-01 Decon 90 1 liter **\$30.00**

► Decon 90: Certificate of Analysis

SPECIFICATIONS:

ProductDecon 90
 Laboratory Reference No. 00188082
 Date of receipt06 March 2001
 Storage conditionsRoom temperature
 Active substance(s)Not known

Experimental conditions

Period of analysis02 May 2001
 - 04 May 2001
 Product test concentrations2 ml/l, 4 ml/l,
 8 ml/l
 Test temperature20°C ± 1°C
 Contact time60 min
 Temperature of incubation36°C ± 1°C

Test method and its validation

MethodDilution-neutralization
 Neutralizer30g/l Polysorbate 80,
 3.0 g/l Lecithin in phosphate buffer
 pH 7.0 ± 0.2, sterilized in the auto clamp

Results

Test organism	Bacterial test suspension count	Bacterial suspension count Nv	Neutralizer Toxicity Control	Dilution Neutralizer Control
Pseudomonas aeruginosa	2.5 x 10 ⁸	1.4 x 10 ³	126	148
Staphylococcus aureus	1.9 x 10 ⁸	1.5 x 10 ³	105	78
Acceptance criteria met	Yes	Yes	Yes	Yes
Acceptance criteria	1.5 x 10 ⁸ to 5.0 x 10 ⁸	6 x 10 ² to 3 x 10 ³	0.05 Nv	0.05 Nv

The neutralization is validated with the neutralizer tested for the concentration of 8ml/l of product as received and for the two strains tested.

Test organism Mean Viable Counts (cfu/ml) for test mixture at concentrations:

Test organism	2.0% v/v	4.0% v/v	8.0% v/v
Pseudomonas aeruginosa	<150	<150	<150
Staphylococcus aureus	1595	<150	<150

Reduction in viability at test concentration:

Test organism	2.0% v/v	4.0% v/v	8.0% v/v
Pseudomonas aeruginosa	5.2	5.2	5.2
Staphylococcus aureus	4.1	5.1	5.1

For our complete line of **Cleaning Accessories & Supplies**, see our main catalog, pages 656–668.

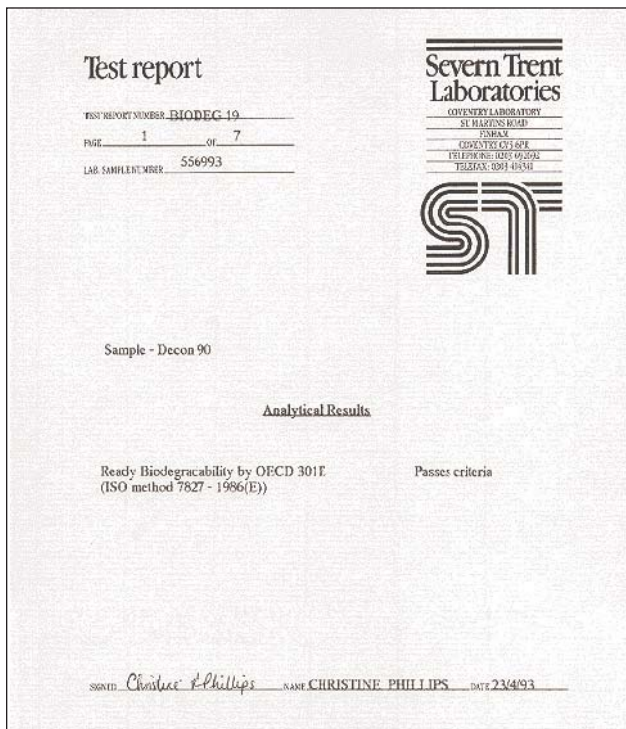
Newly Introduced Products

Cleaning Solutions

► Decon 90 (continued)

Conclusion

According to EN 1040: 1997 product Decon 90 possesses bacterial activity for the referenced strains of *Pseudomonas aeruginosa* ATCC 15442 at 2%, 4% and 8% and *Staphylococcus aureus* ATCC 6538 at 4% and 8%. In order to qualify the product as an antiseptic and/or chemical disinfectant for a defined purpose, it will be evaluated using additional standard tests which are appropriate to its intended use.



Decon 90: Certificate of Biodegradability

► LQ9™ Critical-Cleaning Liquid Detergent

Description:

LQ9™ Critical-Cleaning Liquid Detergent is used to remove soil, grit, grime, slime, grease, oils, blood, tissue, particulates, deposits, chemical and solvents from laboratory, healthcare and industrial applications. It is a corrosion inhibited formulation recommended for cleaning glass, metal, stainless steel, porcelain, ceramic, plastic, cement and fiberglass. It is authorized by USDA for use in federally inspected meat and poultry plants, passes inhibitory residue test for water analysis, is used for phosphate sensitive analysis ware, and is FDA certified.

Intended Use:

Cleaning instruments and equipment.

Chemical Description:

LQ9 consists primarily of a homogeneous blend of sodium linear alkylaryl sulfonate, sodium xylene sulfonate, alkanolamide, and ethoxylated alcohol. LQ9 is anionic in nature.

Storage:

Room Temperature

Procedure:

Make a fresh 1% solution (2 1/2 Tbsp. per gal., 1 1/4 oz. per gal. or 10 ml per liter) in cold, warm or hot water. If available, use warm water. Use cold water for blood stains.

For difficult soils, raise water temperature and use more detergent.

Clean by soak, circulate, wipe or ultrasonic method. Not for spray machines, will foam.

Rinse Thoroughly — preferably with running water. For critical cleaning, do final or all rinsing in distilled, deionized or purified water. For food contact surfaces, rinse with potable water.

Corrosion testing may be advisable.

Cleaning Validation Methods:

Test a parameter of rinse water before and after rinsing the cleaned surface, or test the clean surface. No significant change in the parameter indicates no detectable residue. Parameters measured include: pH, conductivity, UV, TOC, HPLC, sodium concentration, phosphorus concentration, anionic surfactant concentration using inexpensive detergent water testing kits, surface tension, and surface analysis.

60539-01	LQ9™ Critical-Cleaning Liquid Detergent	1 Gallon	\$45.00
60539-04	LQ9™ Critical-Cleaning Liquid Detergent	4 x 1 Gallon	\$180.00

For our complete line of *Cleaning Accessories & Supplies*, see our main catalog, pages 656–668.