

Pipeline and Hazardous Materials Safety Administration

May 1, 2024

Dave Curl Andelyn Biosciences 1180 Arthur E. Adams Dr. Columbus, OH 43221

Reference No. 23-0067

Dear Mr. Curl:

This letter is in response to your July 6, 2023, email requesting clarification of the Hazardous Materials Regulations (HMR; 49 CFR Parts 171-180) applicable to infectious substances. In your email, you state that your company transports "UN3373, Biological substance, Category B, 6.2" with dry ice in a non-specification packaging in conformance with § 173.199. You note that this includes conformance with the § 178.609(d) drop tests, as required in § 173.199(a)(4). You state that your company would like to add additional mylar bags to the inner packaging that were not present when the drop tests were completed. You ask whether this modification to the inner packaging would require the entire package configuration to be retested.

The answer is no. Section 173.199 prescribes the packaging requirements for a Division 6.2 Category B infectious substance. This section requires that a Category B infectious substance be packaged in a triple packaging that is designed, constructed, and maintained so that under conditions normally encountered in transportation, there will be no release of the hazardous material into the environment. The package must also be capable of passing the drop tests in § 178.609(d), in accordance with § 173.199(a)(4); however, it does not require retesting and is not subject to the design qualification testing, periodic retesting, or record retention (i.e., test report requirements) in § 178.601. It is the opinion of this Office that the minor revisions to the inner packaging configuration as described in your email would not require the entire package configuration to be retested.

I hope this information helpful. Please contact us if we can be of further assistance.

Sincerely,

L. C.

Steven Andrews Acting Chief, Regulatory Review and Reinvention Branch Standards and Rulemaking Division

23-0067

From:	Dodd, Alice (PHMSA)		
То:	Jones, Jessie Jane CTR (PHMSA)		
Subject:	FW: Packaging change review / Interpretation request		
Date:	Tuesday, July 18, 2023 5:09:31 PM		
Attachments: image001.png			
	image002.png		
	image004.png		
	image005.png		
	image006.png		
	image007.png		
	image008.png		
	image009.png		
	image010.png		
	image011.png		
	image012.png		
	22172U ThermoSafe.pdf		
	22173U ThermoSafe.pdf		
	22174U ThermoSafe.pdf		

From: INFOCNTR (PHMSA) <INFOCNTR.INFOCNTR@dot.gov>
Sent: Friday, July 14, 2023 1:53 PM
To: Dodd, Alice (PHMSA) <Alice.Dodd@dot.gov>
Cc: Hazmat Interps <hazmatinterps@dot.gov>
Subject: FW: Packaging change review / Interpretation request

Hi Alice,

Please see the below interpretation request.

Let us know if you need anything.

Regards,

-Breanna

From: Curl, Dave <<u>dave.curl@andelynbiosciences.com</u>>
Sent: Friday, July 14, 2023 1:42 PM
To: INFOCNTR (PHMSA) <<u>INFOCNTR.INFOCNTR@dot.gov</u>>
Subject: Packaging change review / Interpretation request

CAUTION: This email originated from outside of the Department of Transportation (DOT). Do not click on links or open attachments unless you recognize the sender and know the content is safe.

Thanks!

Dave

From: Curl, Dave
Sent: Thursday, July 6, 2023 11:42 AM
To: infocntr@DOT.gov
Subject: Packaging change review request

To whom it may concern,

My name is Dave Curl and I am the Logistics Manager for Andelyn Biosciences in Columbus, Ohio. We have been working closely with Sunoco Thermosafe to design a package to effectively handle our Gene Therapy products for ground and air shipments. I have attached the final testing reports for the 3 packages we are looking to move forward with. Our products will typically be UN3373 (Category B) on dry ice (UN1845). As you can see by the report, the packages will comply with all regulations spelled out in 49 CFR 173.199. The dilemma I have is that a large client of ours would like to add some additional layers of protection (mylar bags) in order to mitigate the risk of the Carbon Dioxide from the dry ice permeating their product. Below is a description of the changes we are proposing to the package and would appreciate your input as to whether or not there is a need for additional testing:

What will be added are two mylar bags around a cryo box containing the product



The first would be ziplocked and sealed with a tamper evident seal



The product inside the first mylar back would then go inside of a 2nd mylar bag and heat sealed.



Once heat sealed the product would then be placed into the 95kPa pressure bag with absorbent pads



The 95kPa bag would then be sealed and placed into the payload box



Finally the payload box gets placed into the Styrofoam cooler insert with dry ice and sealed up.







The purpose of the request is to hopefully have your team review the additions to the package and provide some feedback on the proposed changes. We feel that the addition of the mylar bags just adds more layers of protection and really does not alter the effectiveness of the package. I would appreciate that you review the change and provide some guidance in order for us to proceed with meeting our customers expectations.

Please feel free to reach out via email or phone if you have any additional questions or concerns.

Thank you very much for your time!!

Dave Curl Logistics Manager **Andelyn Biosciences** 1180 Arthur E. Adams Dr. Columbus, OH 43221 Phone: 614-332-0554



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TEST REPORT

THERMOSAFE BRANDS ARLINGTON HEIGHTS, ILLINOIS

TESTING OF FIBERBOARD BOX CONTAINING

EIGHTY-ONE (81) 2-ml. PLASTIC TUBES

PACKAGE MODEL: E3F4

FOR TRANSPORTATION OF LIQUID CATEGORY B BIOLOGICAL SUBSTANCES

Tests Conducted By: Jury Reyderman

Job No.: <u>22172U</u> Date: <u>07 / 20 / 22</u>

Order No.: <u>CP182471</u>

GAYNES LABS, INCORPORATED

9708 Industrial Drive • Bridgeview, Illinois 60455

Member of "American Council of Independent Laboratories"

Phone: 708-233-6655 Fax: 708-233-6985

Email: gayneslabs@aol.com Website: www.gaynestesting.com

GAYNES LABS, INCORPORATED IS THE CURRENT DOT UN THIRD-PARTY CERTIFICATION AGENCY UNDER 107.403

TEST OBJECTIVE:

To subject packages, designed to transport Liquid Category B Biological Substances, to the applicable tests described in the Technical Instructions for the Safe Transport of Dangerous Goods by Air, ICAO, and Code of Federal Regulations, Title 49, Transportation, as requested by ThermoSafe Brands.

ITEMS TESTED:

Corrugated Fiberboard Boxes, Containing Eighty-One (81) 2-ml. Plastic Test Tubes, Package Model E3F4. Refer to Photos No. 1 through 11 for details of the package assembly.

TESTS PERFORMED AND RESULTS:

The tests were conducted in accordance with Technical Instructions for the Safe Transport of Dangerous Goods by Air, ICAO, Packing Instruction 650, and Code of Federal Regulations, Title 49, Transportation (49 CFR). The test methods are shown in parenthesis following the test name.

DROP TEST: (49 CFR 178.609(d), (f)) (ICAO 6;6.5.3, PI 650 6))

(d) Samples must be subjected to free-fall drops onto a rigid, non-resilient, flat, horizontal surface from a height of 1.2 meters. The drops must be performed as follows:

Where the samples are in the shape of the box, five must be dropped in sequence:

- (1) Flat on the bottom;
- (2) Flat on the top;
- (3) Flat on the long side;
- (4) Flat on the short side;
- (5) On a corner

(f) The samples must be conditioned in an atmosphere of -18° C (0° F) or less for a period of at least 24 hours and within 15 minutes of removal from that atmosphere be subjected to the drop test, described in paragraph (d).

See Photos No. 12 and 13 for overview of drop orientations.

<u>CRITERIA FOR PASSING THE TEST:</u> (49 CFR 178.609(d)(4)) (ICAO 6;6.5.3, PI 650 6))

Following the appropriate drop sequence, there must be no leakage from the primary receptacle(s), which should remain protected by absorbent material in the secondary packaging.

DROP TEST RESULTS:

Five (5) packagings were tested. Each test tube was filled to 98% of its maximum capacity with antifreeze. The packages were assembled as for shipment. Five (5) packages were dropped after being conditioned to -18° C (0° F) for 24 hours.

Drop After -18°C (0°F) Conditioning

<u>Sample</u>	Package Orientation	<u>Results</u>
1	Flat Bottom	No Damage/No Leakage - Pass
2	Flat Top	No Damage/No Leakage - Pass
3	Flat Long Side (Adjacent to Mfg. Joint)	No Damage/No Leakage - Pass
4	Flat Short Side (Adjacent to Mfg. Joint)	No Damage/No Leakage - Pass
5	Bottom Corner (Mfg. Joint)	Slight Distortion to Box at Corner/No
		Leakage - Pass

VIBRATION TEST: (49 CFR. 178.608) (ICAO 4;4-(i) Note 4)

Three (3) packages were tested. Each test tube was filled to 98% of its maximum capacity with water. The packages were assembled as for shipment.

Land Vehicle Vibration: Three (3) complete packages were placed in their normal shipping orientation on the table of a vertical linear motion vibration machine, which has a displacement of one inch (peak to peak). Vertical fences were placed around packages in order to limit horizontal movement but not limit vertical movement (see Photo 14). The vibration frequency was adjusted to the minimum speed sufficient to cause the samples to leave the table momentarily so that a 1/16" shim could pass between the bottom of the packages and the machine table. The packages were subjected to a vibration frequency of 260 cycles per minute for a duration of one hour. Each package was inspected at the completion of the test.

Aircraft Vibration: Three (3) packages as above were subjected to additional vertical linear motion vibration test. The packages were placed in their normal shipping orientation on the table of the vibration machine (see Photo No. 15) and subjected to the vibration at the frequencies and levels as described below. Each package was inspected at the completion of the test.

A sweep of the frequencies/g levels shown	7 – 25 Hz @ 1g
was conducted over a duration of one hour.	25 – 50 Hz @ 2g
	50 – 100 Hz @ 4g
	100 – 150 Hz @ 6g
	150 – 200 Hz @ 8g

VIBRATION TEST REQUIREMENTS:

The package must be capable of withstanding the effects of any acceleration, vibration or vibration resonance which may arise under conditions likely to be encountered in routine transport without any deterioration in the effectiveness of the closing devices on the various receptacles or in the integrity of the package as a whole. A packaging passes the vibration test if there is no rupture or leakage from any of the packages. No test sample should show any deterioration that could adversely affect transportation safety or any distortion liable to reduce packaging strength.

VIBRATION TEST RESULTS:

Land Vehicle Vibration:

Sample No.	Results
1	Slight Scuffing to Bottom of Box/No Leakage - Pass
2	Slight Scuffing to Bottom of Box/No Leakage – Pass
3	Slight Scuffing to Bottom of Box/No Leakage - Pass

Aircraft Vibration:

<u>Sample No.</u>	<u>Results</u>
1	No Damage/No Leakage - Pass
2	No Damage/No Leakage - Pass
3	No Damage/No Leakage - Pass

INTERNAL PRESSURE TEST: (ICAO 4;4-(i) Note 3 and 4;4.8.6)

Internal Pressure Variations Tests

Three (3) test tubes were placed inside the vacuum chamber, lying on their sides (see Photo No. 16). The pressure inside the vacuum chamber was gradually reduced to 5 kPa, creating and internal pressure inside the test tubes of 95 kPa. The pressure was maintained for a period of 30 minutes, while visually monitoring the samples for the appearance of leakage of contents.

INTERNAL PRESSURE TEST REQUIREMENTS:

The primary receptacle or the secondary packaging must be capable of withstanding, without leakage, an internal pressure, producing a pressure differential of not less than 95 kPa.

INTERNAL PRESSURE TEST RESULTS:

Internal Pressure:

<u>Tube No.</u>	<u>Results</u>
1	No rupture or leakage – Meets Test Requirements
2	No rupture or leakage – Meets Test Requirements
3	No rupture or leakage – Meets Test Requirements

CONCLUSION

On the basis of the tests conducted, the submitted package type, described as a Corrugated Fiberboard Box Containing Eighty-One (81) 2-ml. Plastic Test Tubes, Package Model E3F4, meets the requirements for transport of Liquid Category B Biological Substances, described in the Technical Instructions for the Safe Transport of Dangerous Goods by Air, and Code of Federal Regulations, Title 49, Transportation

Notes: The packagings used in testing are to represent the containers as prepared for actual transport. The use of any other packaging methods or components may render the package invalid and may be subject to fine by DOT.

It is the shipper's responsibility to comply with all pertinent requirements for specific material being shipped, including requirements for quantities of materials, various transportation modes and any additional requirements, which may be imposed by various carriers.

INSTRUMENTATION SHEET

		MODEL	SERIAL	CALIBRATION
INSTRUMENT/EQUIPMENT	MANUFACTURER	<u>NUMBER</u>	<u>NUMBER</u>	DATE
Free Fall Drop Tester	Gaynes	150DT	G69676	Operational
Digital Gram Scale	Setra	5000c	161452	09-30-21
Electronic Scale	Cardinal	708	9610-149	10-13-21
Vibration Machine	Gaynes	6000 VL	4631	Operational
Strobotac	Gen. Radio	1531-A	514488	08-11-21
Temperature Chamber	CSZ	ZH32-2-2-H/AC	Z0023378/1	08-24-21
Chart Recorder	Honeywell	DR45AT	A472	04-12-22
Vacuum Chamber	Tenney Engr.	8 S	3080	Operational
Vacuum Gauge	Trimount	20-30	15544	In Hg
Shaker	UD	208	238	Operational
Controller	VRC	VibView	359074210	10-13-21
Accelerometer	РСВ	J353B33	103490	11-01-21
Controlled Environment	Gaynes			Operational

Room 23° C (73° F), 50% R. H.

DATA SHEET FOR PACKING MATERIAL

PACKAGE DESCRIPTION: Corrugated Fiberboard Box Containing One Hundred Sixty-Two (162) 2-ml. Plastic Test Tubes

BOX INFORMATION

Manufacturer: Sonoco Products Company, Arlington Heights, IL

Part Number: 15258986 [910-10KD6]

Style: Regular Slotted Container (RSC)

Outside Dimensions cm (in): 40.01 x 42.55 x 40.96 high (15.75 x 16.75 x 16.125)

Inside Dimensions cm (in): 39.37 x 41.91 x 40.01 high (15.5 x 16.5 x 15.75)

Flap Gaps: Top Inner -1.91 cm (0.75"), Top Outer - Meet, Bottom Inner -1.91 cm (0.75"), Bottom Outer - Meet

Material: Single Wall Corrugated Fiberboard, C Flute, White Exterior and Natural Brown Interior

Board Caliper: 3.96 mm (0.156")

Empty box weight: 648.8 gr.

Mfg. Joint: 3.18 cm (1.25") Inside Tab Glued

Closures: Top - Taped with single strips of 3" wide clear plastic tape extending at least 2" on the sides.

Data Per Box Cert.:	Edge Crush Test 32 Lbs Per Inch		
	Basis Weight 33 – 23 – 33 lbs./1000 sq. ft.		
Data as Tested:	Basis Weight 35.0-22.8-33.1 lbs./1000 sq. ft.		
	(outer - C flute - inner)		
	Combined Board Weight 100.8 lbs./1000 sq. ft.		

Markings: Short and Long Sides – Product and Mfg. Info., Both Short Sides - <u>↑↑</u> Bottom – Box Cert., 910-10KD, 16.37 x 15.37 x 15.62, 15044990

DATA SHEET FOR PACKING MATERIALS

INNER PACKAGING INFORMATION

Description: 2 ml. Cylindrical Plastic Tube

Supplier: Sarstedt, Inc., Nümbrecht, Germany

Order Number: 72.694.006

Overall Dimensions: 1.00 cm (0.392") dia. body, 4.50 cm (1.770") long without the closure, 4.67 cm (1.837") long with closure installed

Material: Transparent Polypropylene (per drawing, chemical analysis was not conducted)

Wall Thickness: 0.843 mm (0.0332") min., 0.958 mm (0.0377") max.

Empty weight: 1.3 gr.

Overflow Capacity: 2 ml. (With closure installed)

Markings: Printed on the side – Graduated Markings

Closure Information: Natural color polypropylene crew-on cap, 1.28 cm (0.504") dia., 0.61 cm (0.240") high, 0.3 gr. with a 0.81 mm (0.032") thick, 1.00 cm (0.395") dia. EPDM O-ring. Embossed on Bottom – Mfg. logo, 10.10

ABSORBENT PAD INFORMATION

Supplier: Brady Corporation, Milwaukee, WI

Part No.: SRPH144

Overall Dimensions: 10.16 cm x 11.43 cm (4" x 4.5")

Weight: 3.5 gr.

PLASTIC PRESSURE BAG

Supplier: Vonco Products Co., Villa Park, IL

Part No.: KPA95B-002

Overall Dimensions: 29.53 cm x 37.15 cm x 0.198 mm thick (11.625" x 14.625" x 0.0078")

Weight: 52.2 gr.

EPS COOLER INFORMATION:

Supplier: Sonoco Products Company, Arlington Heights, IL

Part Number: 15061796 (Body), 15061829 (Lid)

Material: Expanded polystyrene (EPS)

Outside Dimensions cm (in): 38.26 x 40.80 x 39.37 high (15.0625 x 16.0625 x 15.5)

Inside Dimensions cm (in): 25.56 x 28.10 x 26.67 high (10.0625 x 11.0625 x 10.5)

Weight: 1207.7 gr.

Measured Density: 1.95 lbs./ft³

INNER FIBERBOARD BOX INFORMATION:

Supplier: Westrock, Chattanooga, TN

Project #: 22CG0162

Style: Regular Slotted Container (RSC)

Outside Dimensions cm (in): 21.27 x 23.18 x 7.62 high (8.375 x 9.125 x 3)

Inside Dimensions cm (in): 20.64 x 22.70 x 6.03 high (8.125 x 8.9375 x 2.375)

Flap Gaps: Top Inner -3.18 cm (1.25"), Top Outer - Meet, Bottom Inner -3.18 cm (1.25"), Bottom Outer - Meet

Material: Single Wall Corrugated Fiberboard, C Flute, Natural Brown Interior and Exterior

Board Caliper: 3.91 mm (0.154")

Empty box weight: 110.9 gr.

Mfg. Joint: 3.18 cm (1.25") Inside Tab Glued

Data as Tested:Basis Weight 32.7-23.8-32.3 lbs./1000 sq. ft.
(outer - C flute - inner)Combined Board Weight 99.0 lbs./1000 sq. ft.

Markings: None

CRYO BOX INFORMATION:

Supplier: Thermo Scientific, Waltham, MA

Part Number: 820002

Outside Dimensions cm (in): 13.18 x 13.18 x 5.08 high (5.1875 x 5.1875 x 2)

Inside Dimensions cm (in): 12.70 x 12.70 x 4.76 high (5 x 5 x 1.875)

Board Caliper: 1.14 mm (0.045")

Empty box weight: 56.4 gr.

Markings: None

CRYO BOX DIVIDER INFORMATION:

Supplier: Thermo Scientific, Waltham, MA

Part Number: 820002

Dimensions cm (in): 12.38 x 12.38 x 3.18 high (4.875 x 4.875 x 1.25)

Thickness: 1.14 mm (0.020")

Weight: 23.7 gr.

Package Assembly: One cryo box divider is assembled and placed in the cryo box. One (1) 2-ml. test tube is placed inside each of the cells of the 81-cell divider. The cryo box is then placed in a pressure bag. Four absorbent pads are then packed with the cryo box inside the pressure bag. The pressure bag is then placed in the corrugated fiberboard inner box. The EPS cooler is placed at the bottom of the corrugated fiberboard outer box. The inner box is sealed, then placed at the bottom of the EPS cooler. 20 lbs. of dry ice pellets are added into the EPS cooler, then the EPS lid is applied and the box is sealed.



Photo No. 1 – Overview of the Cryo Box



Photo No. 2 - Placement of the Divider in the Cryo Box



Photo No. 3 - Placement of the Vials in the Cryo Box



Photo No. 4 - Placement of the Cryo Box and Absorbent Pads in the Pressure Bag



Photo No. 5 - Overview of the Corrugated Fiberboard Inner Box



Photo No. 6 – Placement of the Pressure Bag in the Inner Box



Photo No. 7 – Overview of the Outer Box



Photo No. 8 – Placement of the EPS Cooler in the Outer Box



Photo No. 9 - Placement of the Inner Box in the EPS Cooler



Photo No. 10 - Placement of the Dry Ice in the EPS Cooler



Photo No. 11 - Placement of the Lid on the EPS Cooler



Photo No. 12 - Corner Drop Test Setup



Photo No. 13 – Flat Drop Test Setup



Photo No. 14 - Land Vehicle Vibration Test Setup



Photo No. 15 - Aircraft Vibration Test Setup



Photo No. 16- Internal Pressure Test Setup

GENERAL STATEMENT COVERING THIS REPORT

This report is submitted for the exclusive use of ThermoSafe Brands. Its significance is subject to the representative nature of the samples submitted and the tests and examinations made. No quotations from this report or use of the Gaynes Labs, Inc., name is permitted except as expressly authorized by Gaynes Labs, Inc. in writing.

The Third Party approval mark furnished indicates only that Gaynes Labs, Inc., as a third party certification agency, is certifying that the design type they tested is capable of withstanding the prescribed performance tests. The third party mark does not mean that Gaynes Labs, Inc. is responsible for ensuring that each packaging manufactured after they have certified the design type is capable of withstanding the prescribed tests. The actual manufacturing of the packaging can be identified through the test number marked on the packaging in association with the third party designator. By continuing to place the U.N. Markings on Packagings, the packaging manufacturer or shipper is certifying that each packaging is constructed in the same manner as the originally tested and certified packaging, and that each packaging is capable of withstanding the prescribed performance tests.

Gaynes Labs, Inc., assumes no responsibility for the result of the observance or non-observance by ThermoSafe Brands of the package standard contained in this report or upon the relations between ThermoSafe Brands and any party or parties arising out of the sale or use of the package or otherwise.

ThermoSafe Brands shall indemnify and hold harmless the Gaynes Labs, Inc., its employees and agents from any and all claims, demands, actions, and costs that may arise out of the following conditions:

- Any dangerous defect or content in the package being tested, whether apparent or not, which a) dangerous defect or content was not disclosed in writing to Gaynes by ThermoSafe Brands at the time the package was submitted for testing.
- b) Differences between the package actually tested and a package previously or subsequently produced which is purported to be identical to the package tested.
- c) Any use of the tested package, whether by ThermoSafe Brands or a third party following its return to ThermoSafe Brands from Gaynes Labs, Inc.

Gaynes Labs, Inc.

Yury Beyderman



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95 KPA PRESSURE BAGS, MEDIUM (9" X 12" I.D.) Item No. KPA9502

Qty. List Price Each

- 1-2 \$1,038.45 *\$3.46*
- 3-4 \$916.29 \$3.05
- 5+ \$877.57 *\$2.93*

Your Price \$1,038.45 price per Case 300 excl. tax



OVERVIEW

Item Description

You can avoid leakage of critical liquids and substances with these Medium 95 kPa Pressure Bags. Designed to withstand an internal pressure that produces a pressure differential of no less than 95 kPa without leakage, these VonSeal® liquid-tight bags have a permanent adhesive closure that can handle temperatures from -40°F to 130°F (-40°C to 55°C). The extra durable film structure plastic features a strong, continuous seal, which makes them perfect for transporting critical liquids and substances. Each bag has a back pocket pouch for storing vital containment documents. These medium 4GV packaging accessories measure 10 2/5 x 14 1/2 in. with inner dimensions of 9"dia. x 12", and are sold in cases of 300.

SPECIFICATIONS

 Format
 Case

 Format Unit Of Measure
 300

 E
 Let's Chat

Inner Dimensions	9" x 12"
Assembly	Unassembled
Pressure Tested	Yes
Suggested Usage	May be used for General Packaging and Shipping Applications
Manufacturer Number	KPA95B-002
Manufacturer Name	Vonco

REGULATORY

Regulatory Agency	DOT
Regulatory Standard	173.27
Regulatory Agency	ICAO
Regulatory Standard	Part 4-1

TECHNICAL

Material	Polymer
SHIDDING	
onninnu	
Weight	45 lbs
Country Of Origin	US
Harmonized Tariff Code	3923290000
UNSPSC Code	78121500



	Product Specification Screw cap micro tube, 2 ml, sterile	Page 1
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Product description

Order number	72.694.006	
Product description	Screw cap micro tube, working volume: 2 ml, skirted conical	
	base, with knurling, transparent, cap: natural, cap	
	assembled, with printed writing space, with graduations,	
	sterile, 100 piece(s)/bag	

Product characteristics

Label/ Print	with print	
Colour of print/label	white	
Graduation	yes	
Knurls	yes	
Base shape	skirted conical base	
Volume of work	2 ml	
Centrifugation max (RCF)	20000 x g	

This is the current specification for this product. Sarstedt reserves the right to make changes, in full or in part, at any time without prior notification.

This specification is <u>confidential</u> and the property of Sarstedt. It is neither to be duplicated nor made available to third parties without our prior written consent.

Date of issue: 2022-02-23

This document was prepared by EDP support and is valid without signature.





Product Specification Screw cap micro tube, 2 ml, sterile

Page 2

Size

Diameter		
Length of product		

10,8 mm 44 mm

Material & colours

Product material Colour of product Cap material Colour of cap O-ring material Polypropylene (PP) transparent Polypropylene (PP) natural Ethylene propylene diene rubber (EPDM)

Purity & certification

Satisfies the requirement Product category CE certified Purity standard Sterilisation Batched

Packaging

Minimum order qty. Type of inner packaging Piece(s) / inner box Piece(s) / case Piece(s) / pallet Depth of case Width of case Height of case Case volume Weight of product Weight of case EAN of inner box EAN case IATA In-vitro diagnostic, CE CE sterile Electron irradiation yes

1000 bag 100 96000 348 mm 278 mm 140 mm 0,0135 cbm 0,0016 kg 1,87 kg 4038917117180 4038917015486

This is the current specification for this product. Sarstedt reserves the right to make changes, in full or in part, at any time without prior notification.

This specification is <u>confidential</u> and the property of Sarstedt. It is neither to be duplicated nor made available to third parties without our prior written consent.

Date of issue: 2022-02-23

This document was prepared by EDP support and is valid without signature.



3/30/22, 10:45 AM

Thermo Scientific Storage Boxes 2 in. (50mm) Fiberboard box with dividers | Fisher Scientific



Thermo Scientific[™] Storage Boxes Store a variety of vials and tubes with these fiberboard storage boxes, for use in ultra-low temperature freezers.

Manufacturer: Thermo Scientific™ 820002

13-994-070				
Check				
Availability				



< > Customers who viewed this item also viewed. ①

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Viewing 1-3 of 11



Catalog No. 03-395-464

Fisherbrand [™] Cryo/Freezer Boxes

\$14.99 - \$1148.00



Catalog No. 13-989-218

Thermo Scientific ™ Fiberboard Box Dividers fo



Catalog No. 03-3

Fisherbrand ™ Dividers for C

\$17.76 - \$17

\$93.80 /Pack of 12

https://www.fishersci.com/shop/products/freezer-fiberboard-storage-boxes/13994070#7keyword=820002

3/30/22, 10:45 AM

Description

Thermo Scientific Storage Boxes 2 in. (50mm) Fiberboard box with dividers | Fisher Scientific

Store a variety of vials and tubes with Thermo Scientific™ Storage Boxes, for use in ultra-low temperature freezers.

- Sturdy, water-repellent fiberboard boxes with covers for sample storage
- Available in 2 and 3" high (5.1 and 7.6 cm) with 5.25 × 5.25" (13.3 × 13.3 cm) square bases
- Box dividers included

This product(s) resides on a Fisher Scientific GSA or VA contract. If you are viewing this page as a nonregistered user, the price(s) displayed is List Price. To view your GSA or VA contract pricing, log in using your account number, or become a registered user by contacting one of our Customer Service teams. You can also view your contract price by searching for this item(s) on GSA Advantage. To place an order, contact Fisher Scientific Customer Service.

Specifications

Shape	Square	For Use With (Equipment) Material	Thermo Scientific Ultra-Low Temperature Freezers Fiberboard
Туре	Cryo Box, Fiberboard Box		
Color	White	Description	2 in (50mm)
Height (Metric)	5 cm	Description	Fiberboard box with dividers (81-cell)
Width (Metric)	12.7 cm	Height (English)	2 in.
Length (Metric)	12.7 cm	Width (English)	5 in.
Dimensions (L x W x H)	5 x 5 x 2 in. (12.7 x 12.7 x 5 cm)	Length (English)	5 in.
Weight (Metric)	0.99 kg	Includes	Dividers
3/30/22, 10:48 AM

Brady SPC Absorbents Spill Response Plus Chemical Absorbent Pads - Heavy | Fisher Scientific



Brady[™] SPC[™] Absorbents Spill

Response Plus Chemical

Absorbent Pads - Heavy Weight

The universal, multi-purpose absorbent is made to handle virtually any liquid. Perfectly sized for transportation of biological specimens.

Manufacturer: Brady[™] SRPH144

Catalog No.	19-129-499
\$190.55 / Case	of 1000
Qty	Check
Availability	



S Customers who viewed this item also viewed. ①

Viewing 1-3 of 19



Catalog No. 19-140-911

Fisherbrand [™] Universal All Purpose Absorbent

\$160.58 / Pack of 100



Catalog No. 14-206-62

Fisherbrand [™] Absorbent Underpads

\$90.10 - \$350.00



Fisherbrand [™] 6.5 gal. Ct

\$158.4! / Each

https://www.fishersci.com/shop/products/spc-absorbents-spill-response-plus-chemical-absorbent-pads-heavy-weight/19129499?searchHijack=true&searchTerm=SRP... 1/2

3/30/22, 10:48 AM

Brady SPC Absorbents Spill Response Plus Chemical Absorbent Pads - Heavy | Fisher Scientific

Description

- Surfactant-treated, brightly colored absorbent picks up nearly any leak or spill.
- · Heavy weight specifically designed for continuous leaks and larger spills.
- The small, convenient size makes it ideal for employees to fold and carry in their pockets for quick spill response.
- Non-perforated roll may be with no disruption in the material, which improves absorbency and offers better tear resistance in high traffic areas.
- Supports compliance with UN, IATA, ICAO, and parcel carrier requirements for shipping diagnostic specimens and infectious substances.

Specifications

Material	Polypropylene	Capacity (English)	8.5 gal.
Certifications/Complianc e	EPA 40 CFR 112.7(c)(1) (vii), OSHA 29 CFR	Color	Green
	1910.120(j)(1)(vii), OSHA 29 CFR 1910.22(a)(2)		4 x 4 in.
Туре	Absorbent Pad	For Use With (Application)	Chemical spills
Packaging Quantity	1000/Pk.		

https://www.fishersci.com/shop/products/spc-absorbents-spill-response-plus-chemical-absorbent-pads-heavy-weight/19129499?searchHijack=true&searchTerm=SRP... 2/2 the search of the sea

TEST REPORT

THERMOSAFE BRANDS **ARLINGTON HEIGHTS, ILLINOIS**

TESTING OF FIBERBOARD BOX CONTAINING

ONE HUNDRED SIXTY-TWO (162) 2-ml. PLASTIC TUBES

PACKAGE MODEL: E6F4

FOR TRANSPORTATION OF LIQUID CATEGORY B BIOLOGICAL SUBSTANCES

Tests Conducted By: Juny Reyderman

Job No.: 22173U Date: 07 / 20 / 22

Order No.: CP182471

GAYNES LABS, INCORPORATED

9708 Industrial Drive • Bridgeview, Illinois 60455

Member of "American Council of Independent Laboratories"

Email: gayneslabs@aol.com

Phone: 708-233-6655 Fax: 708-233-6985

Website: www.gaynestesting.com

GAYNES LABS, INCORPORATED IS THE CURRENT DOT UN THIRD-PARTY CERTIFICATION AGENCY UNDER 107.403



TEST OBJECTIVE:

To subject packages, designed to transport Liquid Category B Biological Substances, to the applicable tests described in the Technical Instructions for the Safe Transport of Dangerous Goods by Air, ICAO, and Code of Federal Regulations, Title 49, Transportation, as requested by ThermoSafe Brands.

ITEMS TESTED:

Corrugated Fiberboard Boxes, Containing One Hundred Sixty-Two (162) 2-ml. Plastic Test Tubes, Package Model E6F4. Refer to Photos No. 1 through 11 for details of the package assembly.

TESTS PERFORMED AND RESULTS:

The tests were conducted in accordance with Technical Instructions for the Safe Transport of Dangerous Goods by Air, ICAO, Packing Instruction 650, and Code of Federal Regulations, Title 49, Transportation (49 CFR). The test methods are shown in parenthesis following the test name.

DROP TEST: (49 CFR 178.609(d), (f)) (ICAO 6;6.5.3, PI 650 6))

(d) Samples must be subjected to free-fall drops onto a rigid, non-resilient, flat, horizontal surface from a height of 1.2 meters. The drops must be performed as follows:

Where the samples are in the shape of the box, five must be dropped in sequence:

- (1) Flat on the bottom;
- (2) Flat on the top;
- (3) Flat on the long side;
- (4) Flat on the short side;
- (5) On a corner

(f) The samples must be conditioned in an atmosphere of -18° C (0° F) or less for a period of at least 24 hours and within 15 minutes of removal from that atmosphere be subjected to the drop test, described in paragraph (d).

See Photos No. 12 and 13 for overview of drop orientations.

<u>CRITERIA FOR PASSING THE TEST:</u> (49 CFR 178.609(d)(4)) (ICAO 6;6.5.3, PI 650 6))

Following the appropriate drop sequence, there must be no leakage from the primary receptacle(s), which should remain protected by absorbent material in the secondary packaging.

DROP TEST RESULTS:

Five (5) packagings were tested. Each test tube was filled to 98% of its maximum capacity with antifreeze. The packages were assembled as for shipment. Five (5) packages were dropped after being conditioned to -18° C (0° F) for 24 hours.

Drop After -18°C (0°F) Conditioning

<u>Sample</u>	Package Orientation	<u>Results</u>
1	Flat Bottom	No Damage/No Leakage - Pass
2	Flat Top	No Damage/No Leakage - Pass
3	Flat Long Side (Adjacent to Mfg. Joint)	No Damage/No Leakage - Pass
4	Flat Short Side (Adjacent to Mfg. Joint)	No Damage/No Leakage - Pass
5	Bottom Corner (Mfg. Joint)	Slight Distortion to Box at Corner/No
		Leakage - Pass

VIBRATION TEST: (49 CFR. 178.608) (ICAO 4;4-(i) Note 4)

Three (3) packages were tested. Each test tube was filled to 98% of its maximum capacity with water. The packages were assembled as for shipment.

Land Vehicle Vibration: Three (3) complete packages were placed in their normal shipping orientation on the table of a vertical linear motion vibration machine, which has a displacement of one inch (peak to peak). Vertical fences were placed around packages in order to limit horizontal movement but not limit vertical movement (see Photo 14). The vibration frequency was adjusted to the minimum speed sufficient to cause the samples to leave the table momentarily so that a 1/16" shim could pass between the bottom of the packages and the machine table. The packages were subjected to a vibration frequency of 260 cycles per minute for a duration of one hour. Each package was inspected at the completion of the test.

Aircraft Vibration: Three (3) packages as above were subjected to additional vertical linear motion vibration test. The packages were placed in their normal shipping orientation on the table of the vibration machine (see Photo No. 15) and subjected to the vibration at the frequencies and levels as described below. Each package was inspected at the completion of the test.

A sweep of the frequencies/g levels shown	7 – 25 Hz @ 1g
was conducted over a duration of one hour.	25 – 50 Hz @ 2g
	50 – 100 Hz @ 4g
	100 – 150 Hz @ 6g
	150 – 200 Hz @ 8g

VIBRATION TEST REQUIREMENTS:

The package must be capable of withstanding the effects of any acceleration, vibration or vibration resonance which may arise under conditions likely to be encountered in routine transport without any deterioration in the effectiveness of the closing devices on the various receptacles or in the integrity of the package as a whole. A packaging passes the vibration test if there is no rupture or leakage from any of the packages. No test sample should show any deterioration that could adversely affect transportation safety or any distortion liable to reduce packaging strength.

VIBRATION TEST RESULTS:

Land Vehicle Vibration:

Sample No.	<u>Results</u>
1	Slight Scuffing to Bottom of Box/No Leakage - Pass
2	Slight Scuffing to Bottom of Box/No Leakage – Pass
3	Slight Scuffing to Bottom of Box/No Leakage - Pass

Aircraft Vibration:

<u>Sample No.</u>	<u>Results</u>
1	No Damage/No Leakage - Pass
2	No Damage/No Leakage - Pass
3	No Damage/No Leakage - Pass

INTERNAL PRESSURE TEST: (ICAO 4;4-(i) Note 3 and 4;4.8.6)

Internal Pressure Variations Tests

Three (3) test tubes were placed inside the vacuum chamber, lying on their sides (see Photo No. 16). The pressure inside the vacuum chamber was gradually reduced to 5 kPa, creating and internal pressure inside the test tubes of 95 kPa. The pressure was maintained for a period of 30 minutes, while visually monitoring the samples for the appearance of leakage of contents.

INTERNAL PRESSURE TEST REQUIREMENTS:

The primary receptacle or the secondary packaging must be capable of withstanding, without leakage, an internal pressure, producing a pressure differential of not less than 95 kPa.

INTERNAL PRESSURE TEST RESULTS:

Internal Pressure:

<u>Tube No.</u>	<u>Results</u>
1	No rupture or leakage – Meets Test Requirements
2	No rupture or leakage – Meets Test Requirements
3	No rupture or leakage – Meets Test Requirements

CONCLUSION

On the basis of the tests conducted, the submitted package type, described as a Corrugated Fiberboard Box Containing One Hundred Sixty-Two (162) 2-ml. Plastic Test Tubes, Package Model E6F4, meets the requirements for transport of Liquid Category B Biological Substances, described in the Technical Instructions for the Safe Transport of Dangerous Goods by Air, and Code of Federal Regulations, Title 49, Transportation

Notes: The packagings used in testing are to represent the containers as prepared for actual transport. The use of any other packaging methods or components may render the package invalid and may be subject to fine by DOT.

It is the shipper's responsibility to comply with all pertinent requirements for specific material being shipped, including requirements for quantities of materials, various transportation modes and any additional requirements, which may be imposed by various carriers.

INSTRUMENTATION SHEET

		MODEL	SERIAL	CALIBRATION
INSTRUMENT/EQUIPMENT	MANUFACTURER	<u>NUMBER</u>	<u>NUMBER</u>	DATE
Free Fall Drop Tester	Gaynes	150DT	G69676	Operational
Digital Gram Scale	Setra	5000c	161452	09-30-21
Electronic Scale	Cardinal	708	9610-149	10-13-21
Vibration Machine	Gaynes	6000 VL	4631	Operational
Strobotac	Gen. Radio	1531-A	514488	08-11-21
Temperature Chamber	CSZ	ZH32-2-2-H/AC	Z0023378/1	08-24-21
Chart Recorder	Honeywell	DR45AT	A472	04-12-22
Vacuum Chamber	Tenney Engr.	8 S	3080	Operational
Vacuum Gauge	Trimount	20-30	15544	In Hg
Shaker	UD	208	238	Operational
Controller	VRC	VibView	359074210	10-13-21
Accelerometer	РСВ	J353B33	103490	11-01-21
Controlled Environment	Gaynes			Operational

Room 23° C (73° F), 50% R. H.

DATA SHEET FOR PACKING MATERIAL

PACKAGE DESCRIPTION: Corrugated Fiberboard Box Containing One Hundred Sixty-Two (162) 2-ml. Plastic Test Tubes

BOX INFORMATION

Manufacturer: Sonoco Products Company, Arlington Heights, IL

Part Number: 15258985 [910-15KD4]

Style: Regular Slotted Container (RSC)

Outside Dimensions cm (in): 40.01 x 42.23 x 53.98 high (15.75 x 16.625 x 21.25)

Inside Dimensions cm (in): 39.37 x 41.75 x 52.07 high (15.5 x 16.4375 x 20.5)

Flap Gaps: Top Inner -2.22 cm (0.875"), Top Outer - Meet, Bottom Inner -2.22 cm (0.875"), Bottom Outer - Meet

Material: Single Wall Corrugated Fiberboard, C Flute, White Exterior and Natural Brown Interior

Board Caliper: 3.91 mm (0.154")

Empty box weight: 753.6 gr.

Mfg. Joint: 3.49 cm (1.375") Inside Tab Glued

Closures: Top - Taped with single strips of 3" wide clear plastic tape extending at least 2" on the sides.

Data Per Box Cert.:	Edge Crush Test 32 Lbs Per Inch
	Basis Weight 33 – 23 – 33 lbs./1000 sq. ft.
Data as Tested:	Basis Weight 34.7-22.6-34.5 lbs./1000 sq. ft.
	(outer - C flute - inner)
	Combined Board Weight 101.5 lbs./1000 sq. ft.

Markings: Short and Long Sides – Product and Mfg. Info., Both Short Sides - <u>↑↑</u> Bottom – Box Cert., 910-15KD, 16.37 x 15.37 x 20.62, 15044991

DATA SHEET FOR PACKING MATERIALS

INNER PACKAGING INFORMATION

Description: 2 ml. Cylindrical Plastic Tube

Supplier: Sarstedt, Inc., Nümbrecht, Germany

Order Number: 72.694.006

Overall Dimensions: 1.00 cm (0.392") dia. body, 4.50 cm (1.770") long without the closure, 4.67 cm (1.837") long with closure installed

Material: Transparent Polypropylene (per drawing, chemical analysis was not conducted)

Wall Thickness: 0.843 mm (0.0332") min., 0.958 mm (0.0377") max.

Empty weight: 1.3 gr.

Overflow Capacity: 2 ml. (With closure installed)

Markings: Printed on the side – Graduated Markings

Closure Information: Natural color polypropylene crew-on cap, 1.28 cm (0.504") dia., 0.61 cm (0.240") high, 0.3 gr. with a 0.81 mm (0.032") thick, 1.00 cm (0.395") dia. EPDM O-ring. Embossed on Bottom – Mfg. logo, 10.10

ABSORBENT PAD INFORMATION

Supplier: Brady Corporation, Milwaukee, WI

Part No.: SRPH144

Overall Dimensions: 10.16 cm x 11.43 cm (4" x 4.5")

Weight: 3.5 gr.

PLASTIC PRESSURE BAG

Supplier: Vonco Products Co., Villa Park, IL

Part No.: KPA95B-004

Overall Dimensions: 29.21 cm x 42.23 cm x 0.208 mm thick (11.5" x 16.625" x 0.0082")

Weight: 66.1 gr.

EPS COOLER INFORMATION:

Supplier: Sonoco Products Company, Arlington Heights, IL

Part Number: 15061795 (Body), 15061829 (Lid)

Material: Expanded polystyrene (EPS)

Outside Dimensions cm (in): 38.26 x 40.80 x 52.07 high (15.0625 x 16.0625 x 20.5)

Inside Dimensions cm (in): 25.56 x 28.10 x 39.37 high (10.0625 x 11.0625 x 15.5)

Weight: 1661.7 gr.

Measured Density: 1.95 lbs./ft³

INNER FIBERBOARD BOX INFORMATION:

Supplier: Westrock, Chattanooga, TN

Project #: 22CG0163

Style: Regular Slotted Container (RSC)

Outside Dimensions cm (in): 20.96 x 23.81 x 13.97 high (8.25 x 9.375 x 5.5)

Inside Dimensions cm (in): 20.32 x 23.18 x 12.38 high (8 x 9.125 x 4.875)

Flap Gaps: Top Inner -2.54 cm (1"), Top Outer - Meet, Bottom Inner -2.54 cm (1"), Bottom Outer - Meet

Material: Single Wall Corrugated Fiberboard, C Flute, Natural Brown Interior and Exterior

Board Caliper: 3.84 mm (0.151")

Empty box weight: 138.8 gr.

Mfg. Joint: 3.18 cm (1.25") Inside Tab Glued

Data as Tested:Basis Weight 32.8-22.8-32.9 lbs./1000 sq. ft.
(outer - C flute - inner)Combined Board Weight 98.3 lbs./1000 sq. ft.

Markings: None

CRYO BOX INFORMATION:

Supplier: Thermo Scientific, Waltham, MA

Part Number: 820002

Outside Dimensions cm (in): 13.18 x 13.18 x 5.08 high (5.1875 x 5.1875 x 2)

Inside Dimensions cm (in): 12.70 x 12.70 x 4.76 high (5 x 5 x 1.875)

Board Caliper: 1.14 mm (0.045")

Empty box weight: 56.4 gr.

Markings: None

CRYO BOX DIVIDER INFORMATION:

Supplier: Thermo Scientific, Waltham, MA

Part Number: 820002

Dimensions cm (in): 12.38 x 12.38 x 3.18 high (4.875 x 4.875 x 1.25)

Thickness: 1.14 mm (0.020")

Weight: 23.7 gr.

Package Assembly: One cryo box divider is assembled and placed in the cryo box. One (1) 2-ml. test tube is placed inside each of the cells of the 81-cell divider. Two assembled cryo boxes, stacked on top of each other, are then placed in a pressure bag. Eight absorbent pads are then packed with the cryo boxes inside the pressure bag. The pressure bag is then placed in the corrugated fiberboard inner box. The EPS cooler is placed at the bottom of the corrugated fiberboard outer box. The inner box is sealed, then placed at the bottom of the EPS cooler. 26 lbs. of dry ice pellets are added into the EPS cooler, then the EPS lid is applied and the box is sealed.



Photo No. 1 – Overview of the Cryo Box



Photo No. 2 - Placement of the Divider in the Cryo Box



Photo No. 3 - Placement of the Vials in the Cryo Box



Photo No. 4 - Placement of the Cryo Boxes and Absorbent Pads in the Pressure Bag



Photo No. 5 - Overview of the Corrugated Fiberboard Inner Box



Photo No. 6 – Placement of the Pressure Bag in the Inner Box



Photo No. 7 – Overview of the Outer Box



Photo No. 8 - Placement of the EPS Cooler in the Outer Box



Photo No. 9 - Placement of the Inner Box in the EPS Cooler



Photo No. 10 - Placement of the Dry Ice in the EPS Cooler



Photo No. 11 - Placement of the Lid on the EPS Cooler



Photo No. 12 - Corner Drop Test Setup



Photo No. 13 – Flat Drop Test Setup



Photo No. 14 - Land Vehicle Vibration Test Setup



Photo No. 15 – Aircraft Vibration Test Setup



Photo No. 16- Internal Pressure Test Setup

GENERAL STATEMENT COVERING THIS REPORT

This report is submitted for the exclusive use of ThermoSafe Brands. Its significance is subject to the representative nature of the samples submitted and the tests and examinations made. No quotations from this report or use of the Gaynes Labs, Inc., name is permitted except as expressly authorized by Gaynes Labs, Inc. in writing.

The Third Party approval mark furnished indicates only that Gaynes Labs, Inc., as a third party certification agency, is certifying that the design type they tested is capable of withstanding the prescribed performance tests. The third party mark does not mean that Gaynes Labs, Inc. is responsible for ensuring that each packaging manufactured after they have certified the design type is capable of withstanding the prescribed tests. The actual manufacturing of the packaging can be identified through the test number marked on the packaging in association with the third party designator. By continuing to place the U.N. Markings on Packagings, the packaging manufacturer or shipper is certifying that each packaging is constructed in the same manner as the originally tested and certified packaging, and that each packaging is capable of withstanding the prescribed performance tests.

Gaynes Labs, Inc., assumes no responsibility for the result of the observance or non-observance by ThermoSafe Brands of the package standard contained in this report or upon the relations between ThermoSafe Brands and any party or parties arising out of the sale or use of the package or otherwise.

ThermoSafe Brands shall indemnify and hold harmless the Gaynes Labs, Inc., its employees and agents from any and all claims, demands, actions, and costs that may arise out of the following conditions:

- Any dangerous defect or content in the package being tested, whether apparent or not, which a) dangerous defect or content was not disclosed in writing to Gaynes by ThermoSafe Brands at the time the package was submitted for testing.
- b) Differences between the package actually tested and a package previously or subsequently produced which is purported to be identical to the package tested.
- c) Any use of the tested package, whether by ThermoSafe Brands or a third party following its return to ThermoSafe Brands from Gaynes Labs, Inc.

Gaynes Labs, Inc.

Yury Beyderman



Page20of 31







Page23of 31





95 KPA PRESSURE BAGS, LARGE (10 1/4" X 14" I.D.) Item No. KPA9504

Qty. List Price Each

1-2	\$982.10	\$3.93
3-4	\$866.57	\$3.47
5+	\$829.94	\$3.32

Your Price \$982.10 price per Case 250 excl. tax



OVERVIEW

Item Description

You can avoid leakage of critical liquids and substances with these Large 95 kPa Pressure Bags. Designed to withstand an internal pressure that produces a pressure differential of no less than 95 kPa without leakage, these VonSeal® liquid-tight bags have a permanent adhesive closure that can handle temperatures from -40°F to 130°F (-40°C to 55°C). The extra durable film structure plastic features a strong, continuous seal, which makes them perfect for transporting critical liquids and substances. Each bag has a back pocket pouch for storing vital containment documents. These large 4GV packaging accessories measure have an inner dimension of 10 1/4"in x 14"in and are sold in cases of 250.

SPECIFICATIONS

Format	Case	
Format Unit Of Measure	250	🗲 Let's Chat

Inner Dimensions	10 1/4" x 14"
Assembly	Unassembled
Pressure Tested	Yes
Suggested Usage	May be used for General Packaging and Shipping Applications
Manufacturer Number	KPA95B-004
Manufacturer Name	Vonco

REGULATORY

Regulatory Agency	DOT
Regulatory Standard	173.27
Regulatory Agency	ICAO
Regulatory Standard	Part 4-1

TECHNICAL

Material	Polymer
сшолис	
SUIPPING	
Weight	35 lbs
Country Of Origin	US
Harmonized Tariff Code	3923290000
UNSPSC Code	78121500



	Product Specification Screw cap micro tube, 2 ml, sterile	Page 1
--	--	--------



Product description

Order number	72.694.006
Product description	Screw cap micro tube, working volume: 2 ml, skirted conical
	base, with knurling, transparent, cap: natural, cap
	assembled, with printed writing space, with graduations,
	sterile, 100 piece(s)/bag

Product characteristics

Label/ Print	with print
Colour of print/label	white
Graduation	yes
Knurls	yes
Base shape	skirted conical base
Volume of work	2 ml
Centrifugation max (RCF)	20000 x g

This is the current specification for this product. Sarstedt reserves the right to make changes, in full or in part, at any time without prior notification.

This specification is <u>confidential</u> and the property of Sarstedt. It is neither to be duplicated nor made available to third parties without our prior written consent.

Date of issue: 2022-02-23

This document was prepared by EDP support and is valid without signature.





Product Specification Screw cap micro tube, 2 ml, sterile

Page 2

Size

Diameter	
Length of product	

10,8 mm 44 mm

Material & colours

Product material Colour of product Cap material Colour of cap O-ring material Polypropylene (PP) transparent Polypropylene (PP) natural Ethylene propylene diene rubber (EPDM)

Purity & certification

Satisfies the requirement Product category CE certified Purity standard Sterilisation Batched

Packaging

Minimum order qty. Type of inner packaging Piece(s) / inner box Piece(s) / case Piece(s) / pallet Depth of case Width of case Height of case Case volume Weight of product Weight of case EAN of inner box EAN case IATA In-vitro diagnostic, CE CE sterile Electron irradiation yes

1000 bag 100 96000 348 mm 278 mm 140 mm 0,0135 cbm 0,0016 kg 1,87 kg 4038917117180 4038917015486

This is the current specification for this product. Sarstedt reserves the right to make changes, in full or in part, at any time without prior notification.

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Date of issue: 2022-02-23

This document was prepared by EDP support and is valid without signature.



3/30/22, 10:45 AM

Thermo Scientific Storage Boxes 2 in. (50mm) Fiberboard box with dividers | Fisher Scientific



Thermo Scientific[™] Storage Boxes Store a variety of vials and tubes with these fiberboard storage boxes, for use in ultra-low

Manufacturer: Thermo Scientific™ 820002

Catalog No.	13-994-070
\$11.72 / Each	
Qty Availability	Check
edge»»	



< > Customers who viewed this item also viewed. ①

盦

temperature freezers.

Viewing 1-3 of 11



Catalog No. 03-395-464

Fisherbrand [™] Cryo/Freezer Boxes

\$14.99 - \$1148.00



Catalog No. 13-989-218

Thermo Scientific ™ Fiberboard Box Dividers fo



Catalog No. 03-3

Fisherbrand ™ Dividers for C

\$17.76 - \$17

\$93.80 /Pack of 12

https://www.fishersci.com/shop/products/freezer-fiberboard-storage-boxes/13994070#7keyword=820002

3/30/22, 10:45 AM

Description

Thermo Scientific Storage Boxes 2 in. (50mm) Fiberboard box with dividers | Fisher Scientific

Store a variety of vials and tubes with Thermo Scientific™ Storage Boxes, for use in ultra-low temperature freezers.

- Sturdy, water-repellent fiberboard boxes with covers for sample storage
- Available in 2 and 3" high (5.1 and 7.6 cm) with 5.25 × 5.25" (13.3 × 13.3 cm) square bases
- Box dividers included

This product(s) resides on a Fisher Scientific GSA or VA contract. If you are viewing this page as a nonregistered user, the price(s) displayed is List Price. To view your GSA or VA contract pricing, log in using your account number, or become a registered user by contacting one of our Customer Service teams. You can also view your contract price by searching for this item(s) on GSA Advantage. To place an order, contact Fisher Scientific Customer Service.

Specifications

Shape	Square	For Use With (Equipment)	Thermo Scientific Ultra-Low Temperature
Туре	Cryo Box, Fiberboard Box	Material	Fiberboard
Color	White	Description	2 in (50mm)
Height (Metric)	5 cm	Description	Fiberboard box with dividers (81-cell)
Width (Metric)	12.7 cm	Height (English)	2 in.
Length (Metric)	12.7 cm	Width (English)	5 in.
Dimensions (L x W x H)	5 x 5 x 2 in. (12.7 x 12.7 x 5 cm)	Length (English)	5 in.
Weight (Metric)	0.99 kg	Includes	Dividers

3/30/22, 10:48 AM

Brady SPC Absorbents Spill Response Plus Chemical Absorbent Pads - Heavy | Fisher Scientific



Brady[™] SPC[™] Absorbents Spill

Response Plus Chemical

Absorbent Pads - Heavy Weight

The universal, multi-purpose absorbent is made to handle virtually any liquid. Perfectly sized for transportation of biological specimens.

Manufacturer: Brady[™] SRPH144

Catalog No.	19-129-499
\$190.55 / Case	of 1000
Qty	Check
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3/30/22, 10:48 AM

Brady SPC Absorbents Spill Response Plus Chemical Absorbent Pads - Heavy | Fisher Scientific

Description

- Surfactant-treated, brightly colored absorbent picks up nearly any leak or spill.
- · Heavy weight specifically designed for continuous leaks and larger spills.
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- Non-perforated roll may be with no disruption in the material, which improves absorbency and offers better tear resistance in high traffic areas.
- Supports compliance with UN, IATA, ICAO, and parcel carrier requirements for shipping diagnostic specimens and infectious substances.

Specifications

Material	Polypropylene	Capacity (English)	8.5 gal.
Certifications/Complianc e	EPA 40 CFR 112.7(c)(1) (vii), OSHA 29 CFR	Color	Green
	1910.120(j)(1)(vii), OSHA 29 CFR 1910.22(a)(2)	Dimensions (L x W)	4 x 4 in.
Туре	Absorbent Pad	For Use With (Application)	Chemical spills
Packaging Quantity	1000/Pk.		

https://www.fishersci.com/shop/products/spc-absorbents-spill-response-plus-chemical-absorbent-pads-heavy-weight/19129499?searchHijack=true&searchTerm=SRP... 2/2 the search of the sea

TEST REPORT

THERMOSAFE BRANDS ARLINGTON HEIGHTS, ILLINOIS

TESTING OF FIBERBOARD BOX CONTAINING

FOUR HUNDRED EIGHTY-SIX (486) 2-ml. PLASTIC TUBES

PACKAGE MODEL: E12F4

FOR TRANSPORTATION OF LIQUID CATEGORY B BIOLOGICAL SUBSTANCES

Tests Conducted By: urv Bevderman

Job No.: <u>22174U</u> Date: <u>07 / 20 / 22</u>



Order No.: CP182471

GAYNES LABS, INCORPORATED

9708 Industrial Drive • Bridgeview, Illinois 60455

Member of "American Council of Independent Laboratories"

Phone: 708-233-6655 Fax: 708-233-6985

Email: gayneslabs@aol.com Website: www.gaynestesting.com

GAYNES LABS, INCORPORATED IS THE CURRENT DOT UN THIRD-PARTY CERTIFICATION AGENCY UNDER 107.403

TEST OBJECTIVE:

To subject packages, designed to transport Liquid Category B Biological Substances, to the applicable tests described in the Technical Instructions for the Safe Transport of Dangerous Goods by Air, ICAO, and Code of Federal Regulations, Title 49, Transportation, as requested by ThermoSafe Brands.

ITEMS TESTED:

Corrugated Fiberboard Boxes, Containing Four Hundred Eighty-Six (486) 2-ml. Plastic Test Tubes, Package Model E12F4. Refer to Photos No. 1 through 11 for details of the package assembly.

TESTS PERFORMED AND RESULTS:

The tests were conducted in accordance with Technical Instructions for the Safe Transport of Dangerous Goods by Air, ICAO, Packing Instruction 650, and Code of Federal Regulations, Title 49, Transportation (49 CFR). The test methods are shown in parenthesis following the test name.

DROP TEST: (49 CFR 178.609(d), (f)) (ICAO 6;6.5.3, PI 650 6))

(d) Samples must be subjected to free-fall drops onto a rigid, non-resilient, flat, horizontal surface from a height of 1.2 meters. The drops must be performed as follows:

Where the samples are in the shape of the box, five must be dropped in sequence:

- (1) Flat on the bottom;
- (2) Flat on the top;
- (3) Flat on the long side;
- (4) Flat on the short side;
- (5) On a corner

(f) The samples must be conditioned in an atmosphere of -18° C (0° F) or less for a period of at least 24 hours and within 15 minutes of removal from that atmosphere be subjected to the drop test, described in paragraph (d).

See Photos No. 12 and 13 for overview of drop orientations.

<u>CRITERIA FOR PASSING THE TEST:</u> (49 CFR 178.609(d)(4)) (ICAO 6;6.5.3, PI 650 6))

Following the appropriate drop sequence, there must be no leakage from the primary receptacle(s), which should remain protected by absorbent material in the secondary packaging.

DROP TEST RESULTS:

Five (5) packagings were tested. Each test tube was filled to 98% of its maximum capacity with antifreeze. The packages were assembled as for shipment. Five (5) packages were dropped after being conditioned to -18° C (0° F) for 24 hours.

Drop After -18°C (0°F) Conditioning

<u>Sample</u>	Package Orientation	<u>Results</u>
1	Flat Bottom	No Damage/No Leakage - Pass
2	Flat Top	No Damage/No Leakage - Pass
3	Flat Long Side (Adjacent to Mfg. Joint)	No Damage/No Leakage - Pass
4	Flat Short Side (Adjacent to Mfg. Joint)	No Damage/No Leakage - Pass
5	Bottom Corner (Mfg. Joint)	Slight Distortion to Box at Corner/No
		Leakage - Pass

VIBRATION TEST: (49 CFR. 178.608) (ICAO 4;4-(i) Note 4)

Three (3) packages were tested. Each test tube was filled to 98% of its maximum capacity with water. The packages were assembled as for shipment.

Land Vehicle Vibration: Three (3) complete packages were placed in their normal shipping orientation on the table of a vertical linear motion vibration machine, which has a displacement of one inch (peak to peak). Vertical fences were placed around packages in order to limit horizontal movement but not limit vertical movement (see Photo 14). The vibration frequency was adjusted to the minimum speed sufficient to cause the samples to leave the table momentarily so that a 1/16" shim could pass between the bottom of the packages and the machine table. The packages were subjected to a vibration frequency of 260 cycles per minute for a duration of one hour. Each package was inspected at the completion of the test.

Aircraft Vibration: Three (3) packages as above were subjected to additional vertical linear motion vibration test. The packages were placed in their normal shipping orientation on the table of the vibration machine (see Photo No. 15) and subjected to the vibration at the frequencies and levels as described below. Each package was inspected at the completion of the test.

A sweep of the frequencies/g levels shown	7 – 25 Hz @ 1g
was conducted over a duration of one hour.	25 – 50 Hz @ 2g
	50 – 100 Hz @ 4g
	100 – 150 Hz @ 6g
	150 – 200 Hz @ 8g
VIBRATION TEST REQUIREMENTS:

The package must be capable of withstanding the effects of any acceleration, vibration or vibration resonance which may arise under conditions likely to be encountered in routine transport without any deterioration in the effectiveness of the closing devices on the various receptacles or in the integrity of the package as a whole. A packaging passes the vibration test if there is no rupture or leakage from any of the packages. No test sample should show any deterioration that could adversely affect transportation safety or any distortion liable to reduce packaging strength.

VIBRATION TEST RESULTS:

Land Vehicle Vibration:

Sample No.	<u>Results</u>
1	Slight Scuffing to Bottom of Box/No Leakage - Pass
2	Slight Scuffing to Bottom of Box/No Leakage – Pass
3	Slight Scuffing to Bottom of Box/No Leakage - Pass

Aircraft Vibration:

<u>Sample No.</u>	Results
1	No Damage/No Leakage - Pass
2	No Damage/No Leakage - Pass
3	No Damage/No Leakage - Pass

INTERNAL PRESSURE TEST: (ICAO 4;4-(i) Note 3 and 4;4.8.6)

Internal Pressure Variations Tests

Three (3) test tubes were placed inside the vacuum chamber, lying on their sides (see Photo No. 16). The pressure inside the vacuum chamber was gradually reduced to 5 kPa, creating and internal pressure inside the test tubes of 95 kPa. The pressure was maintained for a period of 30 minutes, while visually monitoring the samples for the appearance of leakage of contents.

INTERNAL PRESSURE TEST REQUIREMENTS:

The primary receptacle or the secondary packaging must be capable of withstanding, without leakage, an internal pressure, producing a pressure differential of not less than 95 kPa.

INTERNAL PRESSURE TEST RESULTS:

Internal Pressure:

<u>Tube No.</u>	<u>Results</u>
1	No rupture or leakage – Meets Test Requirements
2	No rupture or leakage – Meets Test Requirements
3	No rupture or leakage – Meets Test Requirements

CONCLUSION

On the basis of the tests conducted, the submitted package type, described as a Corrugated Fiberboard Box Containing Four Hundred Eighty-Six (486) 2-ml. Plastic Test Tubes, Package Model E12F4, meets the requirements for transport of Liquid Category B Biological Substances, described in the Technical Instructions for the Safe Transport of Dangerous Goods by Air, and Code of Federal Regulations, Title 49, Transportation

Notes: The packagings used in testing are to represent the containers as prepared for actual transport. The use of any other packaging methods or components may render the package invalid and may be subject to fine by DOT.

It is the shipper's responsibility to comply with all pertinent requirements for specific material being shipped, including requirements for quantities of materials, various transportation modes and any additional requirements, which may be imposed by various carriers.

INSTRUMENTATION SHEET

		MODEL	SERIAL	CALIBRATION
INSTRUMENT/EQUIPMENT	MANUFACTURER	<u>NUMBER</u>	<u>NUMBER</u>	DATE
Free Fall Drop Tester	Gaynes	150DT	G69676	Operational
Digital Gram Scale	Setra	5000c	161452	09-30-21
Electronic Scale	Cardinal	708	9610-149	10-13-21
Vibration Machine	Gaynes	6000 VL	4631	Operational
Strobotac	Gen. Radio	1531-A	514488	08-11-21
Temperature Chamber	CSZ	ZH32-2-2-H/AC	Z0023378/1	08-24-21
Chart Recorder	Honeywell	DR45AT	A472	04-12-22
Vacuum Chamber	Tenney Engr.	8 S	3080	Operational
Vacuum Gauge	Trimount	20-30	15544	In Hg
Shaker	UD	208	238	Operational
Controller	VRC	VibView	359074210	10-13-21
Accelerometer	РСВ	J353B33	103490	11-01-21
Controlled Environment	Gaynes			Operational

Room 23° C (73° F), 50% R. H.

DATA SHEET FOR PACKING MATERIAL

PACKAGE DESCRIPTION: Corrugated Fiberboard Box Containing Four Hundred Eighty-Six (486) 2-ml. Plastic Test Tubes

BOX INFORMATION

Manufacturer: Sonoco Products Company, Arlington Heights, IL

Part Number: 15258987 [1412-15KD]

Style: Regular Slotted Container (RSC)

Outside Dimensions cm (in): 47.94 x 51.75 x 53.02 high (18.875 x 20.375 x 20.875)

Inside Dimensions cm (in): 46.99 x 51.12 x 51.12 high (18.5 x 20.125 x 20.125)

Flap Gaps: Top Inner -4.13 cm (1.625"), Top Outer - Meet, Bottom Inner -4.13 cm (1.625"), Bottom Outer - Meet

Material: Single Wall Corrugated Fiberboard, C Flute, White Exterior and Natural Brown Interior

Board Caliper: 3.96 mm (0.156")

Empty box weight: 981.0 gr.

Mfg. Joint: 3.18 cm (1.25") Inside Tab Glued

Closures: Top - Taped with single strips of 3" wide clear plastic tape extending at least 2" on the sides.

Data Per Box Cert.:	Edge Crush Test 32 Lbs Per Inch
	Basis Weight 33 – 23 – 33 lbs./1000 sq. ft.
Data as Tested:	Basis Weight 34.0-23.1-33.2 lbs./1000 sq. ft.
	(outer - C flute - inner)
	Combined Board Weight 100.2 lbs./1000 sq. ft.

Markings: Short and Long Sides – Product and Mfg. Info., Both Short Sides - <u>↑↑</u> Bottom – Box Cert., 1412-15KD, 20.12 x 18.62 x 20.12, 15044095

DATA SHEET FOR PACKING MATERIALS

INNER PACKAGING INFORMATION

Description: 2 ml. Cylindrical Plastic Tube

Supplier: Sarstedt, Inc., Nümbrecht, Germany

Order Number: 72.694.006

Overall Dimensions: 1.00 cm (0.392") dia. body, 4.50 cm (1.770") long without the closure, 4.67 cm (1.837") long with closure installed

Material: Transparent Polypropylene (per drawing, chemical analysis was not conducted)

Wall Thickness: 0.843 mm (0.0332") min., 0.958 mm (0.0377") max.

Empty weight: 1.3 gr.

Overflow Capacity: 2 ml. (With closure installed)

Markings: Printed on the side – Graduated Markings

Closure Information: Natural color polypropylene crew-on cap, 1.28 cm (0.504") dia., 0.61 cm (0.240") high, 0.3 gr. with a 0.81 mm (0.032") thick, 1.00 cm (0.395") dia. EPDM O-ring. Embossed on Bottom – Mfg. logo, 10.10

ABSORBENT PAD INFORMATION

Supplier: Brady Corporation, Milwaukee, WI

Part No.: SRPH144

Overall Dimensions: 10.16 cm x 11.43 cm (4" x 4.5")

Weight: 3.5 gr.

PLASTIC PRESSURE BAG

Supplier: Vonco Products Co., Villa Park, IL

Part No.: KPA95B-004

Overall Dimensions: 17.78 cm x 27.94 cm x 0.119 mm thick (11.5" x 16.625" x 0.0082")

Weight: 66.1 gr.

EPS COOLER INFORMATION:

Supplier: Sonoco Products Company, Arlington Heights, IL

Part Number: 15061781 (Body), 15061919 (Lid)

Material: Expanded polystyrene (EPS)

Outside Dimensions cm (in): 29.85 x 29.85 x 28.42 high (18.3125 x 19.8125 x 20.125)

Inside Dimensions cm (in): 18.89 x 18.89 x 17.46 high (13.3125 x 14.75 x 15)

Weight: 2014.0 gr.

Measured Density: 1.95 lbs./ft³

INNER FIBERBOARD BOX INFORMATION:

Supplier: Westrock, Chattanooga, TN

Project #: 22CG0164

Style: Regular Slotted Container (RSC)

Outside Dimensions cm (in): 25.08 x 28.89 x 19.05 high (9.875 x 11.375 x 7.5)

Inside Dimensions cm (in): 24.45 x 28.26 x 17.46 high (9.625 x 11.125 x 6.875)

Flap Gaps: Top Inner – 4.13 cm (1.625"), Top Outer - Meet, Bottom Inner – 4.13 cm (1.625"), Bottom Outer - Meet

Material: Single Wall Corrugated Fiberboard, C Flute, Natural Brown Interior and Exterior

Board Caliper: 3.86 mm (0.152")

Empty box weight: 218.5 gr.

Mfg. Joint: 3.18 cm (1.25") Inside Tab Glued

Data as Tested: Basis Weight 32.5-23.9-32.8 lbs./1000 sq. ft. (outer - C flute - inner) Combined Board Weight 99.5 lbs./1000 sq. ft.

Markings: None

CRYO BOX INFORMATION:

Supplier: Thermo Scientific, Waltham, MA

Part Number: 820002

Outside Dimensions cm (in): 13.18 x 13.18 x 5.08 high (5.1875 x 5.1875 x 2)

Inside Dimensions cm (in): 12.70 x 12.70 x 4.76 high (5 x 5 x 1.875)

Board Caliper: 1.14 mm (0.045")

Empty box weight: 56.4 gr.

Markings: None

CRYO BOX DIVIDER INFORMATION:

Supplier: Thermo Scientific, Waltham, MA

Part Number: 820002

Dimensions cm (in): 12.38 x 12.38 x 3.18 high (4.875 x 4.875 x 1.25)

Thickness: 1.14 mm (0.020")

Weight: 23.7 gr.

Package Assembly: One cryo box divider is assembled and placed in the cryo box. One (1) 2-ml. test tube is placed inside each of the cells of the 81-cell divider. Two assembled cryo boxes, stacked on top of each other, are then placed in a pressure bag. Eight absorbent pads are then packed with the cryo boxes inside the pressure bag. Three pressure bags in total are assembled, then placed in the corrugated fiberboard inner box. The EPS cooler is placed at the bottom of the corrugated fiberboard outer box. The inner box is sealed, then placed at the bottom of the EPS cooler. 41 lbs. of dry ice pellets are added into the EPS cooler, then the EPS lid is applied and the box is sealed.



Photo No. 1 – Overview of the Cryo Box



Photo No. 2 - Placement of the Divider in the Cryo Box



Photo No. 3 - Placement of the Vials in the Cryo Box



Photo No. 4 - Placement of the Cryo Boxes and Absorbent Pads in the Pressure Bag



Photo No. 5 - Overview of the Corrugated Fiberboard Inner Box



Photo No. 6 - Placement of the Pressure Bags in the Inner Box



Photo No. 7 – Overview of the Outer Box



Photo No. 8 – Placement of the EPS Cooler in the Outer Box



Photo No. 9 - Placement of the Inner Box in the EPS Cooler



Photo No. 10 - Placement of the Dry Ice in the EPS Cooler



Photo No. 11 - Placement of the Lid on the EPS Cooler



Photo No. 12 - Corner Drop Test Setup



Photo No. 13 – Flat Drop Test Setup



Photo No. 14 - Land Vehicle Vibration Test Setup



Photo No. 15 - Aircraft Vibration Test Setup



Photo No. 16- Internal Pressure Test Setup

GENERAL STATEMENT COVERING THIS REPORT

This report is submitted for the exclusive use of ThermoSafe Brands. Its significance is subject to the representative nature of the samples submitted and the tests and examinations made. No quotations from this report or use of the Gaynes Labs, Inc., name is permitted except as expressly authorized by Gaynes Labs, Inc. in writing.

The Third Party approval mark furnished indicates only that Gaynes Labs, Inc., as a third party certification agency, is certifying that the design type they tested is capable of withstanding the prescribed performance tests. The third party mark does not mean that Gaynes Labs, Inc. is responsible for ensuring that each packaging manufactured after they have certified the design type is capable of withstanding the prescribed tests. The actual manufacturing of the packaging can be identified through the test number marked on the packaging in association with the third party designator. By continuing to place the U.N. Markings on Packagings, the packaging manufacturer or shipper is certifying that each packaging is constructed in the same manner as the originally tested and certified packaging, and that each packaging is capable of withstanding the prescribed performance tests.

Gaynes Labs, Inc., assumes no responsibility for the result of the observance or non-observance by ThermoSafe Brands of the package standard contained in this report or upon the relations between ThermoSafe Brands and any party or parties arising out of the sale or use of the package or otherwise.

ThermoSafe Brands shall indemnify and hold harmless the Gaynes Labs, Inc., its employees and agents from any and all claims, demands, actions, and costs that may arise out of the following conditions:

- Any dangerous defect or content in the package being tested, whether apparent or not, which a) dangerous defect or content was not disclosed in writing to Gaynes by ThermoSafe Brands at the time the package was submitted for testing.
- b) Differences between the package actually tested and a package previously or subsequently produced which is purported to be identical to the package tested.
- c) Any use of the tested package, whether by ThermoSafe Brands or a third party following its return to ThermoSafe Brands from Gaynes Labs, Inc.

Gaynes Labs, Inc.

Yury Beyderman



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95 KPA PRESSURE BAGS, LARGE (10 1/4" X 14" I.D.) Item No. KPA9504

Qty. List Price Each

1-2	\$982.10	\$3.93
3-4	\$866.57	\$3.47
5+	\$829.94	\$3.32

Your Price \$982.10 price per Case 250 excl. tax



OVERVIEW

Item Description

You can avoid leakage of critical liquids and substances with these Large 95 kPa Pressure Bags. Designed to withstand an internal pressure that produces a pressure differential of no less than 95 kPa without leakage, these VonSeal® liquid-tight bags have a permanent adhesive closure that can handle temperatures from -40°F to 130°F (-40°C to 55°C). The extra durable film structure plastic features a strong, continuous seal, which makes them perfect for transporting critical liquids and substances. Each bag has a back pocket pouch for storing vital containment documents. These large 4GV packaging accessories measure have an inner dimension of 10 1/4"in x 14"in and are sold in cases of 250.

SPECIFICATIONS

Format	Case	
Format Unit Of Measure	250	🗲 Let's Chat

Inner Dimensions	10 1/4" x 14"
Assembly	Unassembled
Pressure Tested	Yes
Suggested Usage	May be used for General Packaging and Shipping Applications
Manufacturer Number	KPA95B-004
Manufacturer Name	Vonco

REGULATORY

Regulatory Agency	DOT
Regulatory Standard	173.27
Regulatory Agency	ICAO
Regulatory Standard	Part 4-1

TECHNICAL

Material	Polymer
SUILLING	
Weight	35 lbs
Country Of Origin	US
Harmonized Tariff Code	3923290000
UNSPSC Code	78121500



	Product Specification Screw cap micro tube, 2 ml, sterile	Page 1
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Product description

Order number	72.694.006
Product description	Screw cap micro tube, working volume: 2 ml, skirted conical
	base, with knurling, transparent, cap: natural, cap
	assembled, with printed writing space, with graduations,
	sterile, 100 piece(s)/bag

Product characteristics

Label/ Print	with print
Colour of print/label	white
Graduation	yes
Knurls	yes
Base shape	skirted conical base
Volume of work	2 ml
Centrifugation max (RCF)	20000 x g

This is the current specification for this product. Sarstedt reserves the right to make changes, in full or in part, at any time without prior notification.

This specification is <u>confidential</u> and the property of Sarstedt. It is neither to be duplicated nor made available to third parties without our prior written consent.

Date of issue: 2022-02-23

This document was prepared by EDP support and is valid without signature.





Thermosafe Brands Job No. 22174U

Product Specification Screw cap micro tube, 2 ml, sterile

Page 2

Size

Diameter	
Length of product	

10,8 mm 44 mm

Material & colours

Product material Colour of product Cap material Colour of cap O-ring material Polypropylene (PP) transparent Polypropylene (PP) natural Ethylene propylene diene rubber (EPDM)

Purity & certification

Satisfies the requirement Product category CE certified Purity standard Sterilisation Batched

Packaging

Minimum order qty. Type of inner packaging Piece(s) / inner box Piece(s) / case Piece(s) / pallet Depth of case Width of case Height of case Case volume Weight of product Weight of case EAN of inner box EAN case IATA In-vitro diagnostic, CE CE sterile Electron irradiation yes

1000 bag 100 96000 348 mm 278 mm 140 mm 0,0135 cbm 0,0016 kg 1,87 kg 4038917117180 4038917015486

This is the current specification for this product. Sarstedt reserves the right to make changes, in full or in part, at any time without prior notification.

This specification is <u>confidential</u> and the property of Sarstedt. It is neither to be duplicated nor made available to third parties without our prior written consent.

Date of issue: 2022-02-23

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3/30/22, 10:45 AM

Thermo Scientific Storage Boxes 2 in. (50mm) Fiberboard box with dividers | Fisher Scientific



Thermo Scientific[™] Storage Boxes Store a variety of vials and tubes with these fiberboard storage boxes, for use in ultra-low temperature freezers.

Manufacturer: Thermo Scientific™ 820002

Catalog No.	13-994-070	
\$11.72 / Each		
Qty	Check	
Availability		
eogem		



< > Customers who viewed this item also viewed. ①

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Viewing 1-3 of 11



Catalog No. 03-395-464

Fisherbrand [™] Cryo/Freezer Boxes

\$14.99 - \$1148.00



Catalog No. 13-989-218

Thermo Scientific ™ Fiberboard Box Dividers fo



Catalog No. 03-3

Fisherbrand ™ Dividers for C

\$17.76 - \$17

\$93.80 /Pack of 12

https://www.fishersci.com/shop/products/freezer-fiberboard-storage-boxes/13994070#7keyword=820002

3/30/22, 10:45 AM

Description

Thermo Scientific Storage Boxes 2 in. (50mm) Fiberboard box with dividers | Fisher Scientific

Store a variety of vials and tubes with Thermo Scientific™ Storage Boxes, for use in ultra-low temperature freezers.

- Sturdy, water-repellent fiberboard boxes with covers for sample storage
- Available in 2 and 3" high (5.1 and 7.6 cm) with 5.25 × 5.25" (13.3 × 13.3 cm) square bases
- Box dividers included

This product(s) resides on a Fisher Scientific GSA or VA contract. If you are viewing this page as a nonregistered user, the price(s) displayed is List Price. To view your GSA or VA contract pricing, log in using your account number, or become a registered user by contacting one of our Customer Service teams. You can also view your contract price by searching for this item(s) on GSA Advantage. To place an order, contact Fisher Scientific Customer Service.

Specifications

Shape	Square	For Use With (Equipment)	Thermo Scientific Ultra-Low Temperature
Туре	Cryo Box, Fiberboard Box	Material	Fiberboard
Color	White	Description	2 in (50mm)
Height (Metric)	5 cm	Description	Fiberboard box with dividers (81-cell)
Width (Metric)	12.7 cm	Height (English)	2 in.
Length (Metric)	12.7 cm	Width (English)	5 in.
Dimensions (L x W x H)	5 x 5 x 2 in. (12.7 x 12.7 x 5 cm)	Length (English)	5 in.
Weight (Metric)	0.99 kg	Includes	Dividers

3/30/22, 10:48 AM

Brady SPC Absorbents Spill Response Plus Chemical Absorbent Pads - Heavy | Fisher Scientific



Brady[™] SPC[™] Absorbents Spill

Response Plus Chemical

Absorbent Pads - Heavy Weight

The universal, multi-purpose absorbent is made to handle virtually any liquid. Perfectly sized for transportation of biological specimens.

Manufacturer: Brady[™] SRPH144

Catalog No.	19-129-499
\$190.55 / Case	of 1000
Qty	Check
Availability	



S Customers who viewed this item also viewed. ①

Viewing 1-3 of 19



Catalog No. 19-140-911

Fisherbrand [™] Universal All Purpose Absorbent

\$160.58 / Pack of 100



Catalog No. 14-206-62

Fisherbrand [™] Absorbent Underpads

\$90.10 - \$350.00



Fisherbrand [™] 6.5 gal. Ct

\$158.4! / Each

https://www.fishersci.com/shop/products/spc-absorbents-spill-response-plus-chemical-absorbent-pads-heavy-weight/19129499?searchHijack=true&searchTerm=SRP... 1/2

3/30/22, 10:48 AM

Brady SPC Absorbents Spill Response Plus Chemical Absorbent Pads - Heavy | Fisher Scientific

Description

- Surfactant-treated, brightly colored absorbent picks up nearly any leak or spill.
- · Heavy weight specifically designed for continuous leaks and larger spills.
- The small, convenient size makes it ideal for employees to fold and carry in their pockets for quick spill response.
- Non-perforated roll may be with no disruption in the material, which improves absorbency and offers better tear resistance in high traffic areas.
- Supports compliance with UN, IATA, ICAO, and parcel carrier requirements for shipping diagnostic specimens and infectious substances.

Specifications

Material	Polypropylene	Capacity (English)	8.5 gal.
Certifications/Complianc e	rtifications/Complianc EPA 40 CFR 112.7(c)(1) (vii), OSHA 29 CFR 1910.120(j)(1)(vii), OSHA 29 CFR 1910.22(a)(2)	Color	Green
		Dimensions (L x W)	4 x 4 in.
Туре	Absorbent Pad	For Use With (Application)	Chemical spills
Packaging Quantity	1000/Pk.		

https://www.fishersci.com/shop/products/spc-absorbents-spill-response-plus-chemical-absorbent-pads-heavy-weight/19129499?searchHijack=true&searchTerm=SRP... 2/2 the search of the sea