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U.S. Department
of Transportation

East Building, PHH-30
1200 New Jersey Avenue S.E.
Washington, D.C. 20590

**Pipeline and Hazardous
Materials Safety Administration**

DOT-SP 21018
(SECOND REVISION)

EXPIRATION DATE: 2022-05-31

(FOR RENEWAL, SEE 49 CFR 107.109)

1. GRANTEE: Packaging and Crating Technologies, LLC
Waterbury, CT
2. PURPOSE AND LIMITATIONS:
 - a. This special permit authorizes the manufacture, mark, sale, and use of UN 4G packaging with a specially-designed, fire-suppressing liner for the transportation of damaged, defective, or recalled lithium ion cells and batteries, including those contained in or packed with equipment. This special permit provides no relief from the Hazardous Materials Regulations (HMR) or the International Maritime Dangerous Goods (IMDG) Code other than as specifically stated herein. The most recent revision supersedes all previous revisions.
 - b. The safety analyses performed in development of this special permit only considered the hazards and risks associated with transportation in commerce. The safety analyses did not consider the hazards and risks associated with consumer use, use as a component of a transport vehicle or other device, or other uses not associated with transportation in commerce.
 - c. In accordance with 49 CFR 107.107(a), party status may not be granted to a manufacturing permit. These packagings may be used in accordance with 49 CFR 173.22a.

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- d. This special permit serves as an "exemption" under Chapter 7.9, Section 7.9.1 of the IMDG Code (see IMO MSC/Circ. 1075-Granting Exemptions from the Provisions of the IMDG Code) and as a "Competent Authority Approval" as defined under 49 CFR § 107.1.
3. REGULATORY SYSTEM AFFECTED: 49 CFR Parts 106, 107 and 171-180 and the IMDG Code.
 4. REGULATIONS FROM WHICH EXEMPTED: 49 CFR Subparts C through H of Part 172 and Chapters 1.3, 5.2, 5.3, and 5.4 of the IMDG Code in that shipping papers, marking, labeling, emergency response information, and training are required for batteries and cells, which meet the size limits in § 173.185(c) or Special Provision 188 of the IMDG Code, as applicable, except as specified herein; and § 173.185(f) in that more than one lithium cell or battery per package and alternative packaging are authorized and Packing Instruction P908 of the IMDG Code in that more than one lithium cell or battery per package is authorized, as specified herein.
 5. BASIS: This special permit is based on the application of Packaging and Crating Technologies, LLC dated December 16, 2020, submitted in accordance with § 107.105 and the public proceeding thereon.
 6. HAZARDOUS MATERIALS (49 CFR 172.101):

Hazardous Material Description			
Proper Shipping Name	Hazard Class/ Division	Identification Number	Packing Group
Lithium ion batteries*	9	UN3480	N/A
Lithium ion batteries contained in equipment*	9	UN3481	N/A
Lithium ion batteries packed with equipment*	9	UN3481	N/A

*Only damaged, defective or recalled lithium ion cells or batteries and those contained in or packed with equipment may be transported under the terms of this special permit.

7. SAFETY CONTROL MEASURES:

a. PACKAGING:

(1) INNER PACKAGING: Each cell or battery, each piece of equipment containing these cells or batteries, or each cell or battery packed with equipment must be individually placed in a non-metallic, non-flammable packaging that completely encloses the cell or battery or the piece of equipment containing the cells or batteries.

(2) OUTER PACKAGING:

(i) For lithium ion cells or batteries complying with the Watt-hour limitations in paragraphs 7.b.(2) or (3), the completed inner packages must be surrounded by a specially-designed, fire-suppressing material as described in Packaging and Crating Technologies, LLC's application dated March 12, 2020 that is non-combustible, heat-absorbing and non-conductive and on file with the Office of Hazardous Materials Safety Approvals and Permits Division (OHMSAPD) and then placed in a UN 4G fiberboard box lined with specially-designed, fire-suppressing material that meets PG I performance criteria.

(ii) For lithium ion cells or batteries complying with the Watt-hour limitation in paragraph 7.b.(4), the completed inner packages must be surrounded by a specially-designed, fire-suppressing material as described in Packaging and Crating Technologies, LLC's application dated August 6, 2020 that is non-combustible, heat-absorbing and non-conductive and on file with the OHMSAPD and then placed in a UN 4G fiberboard box lined with specially-designed, fire-suppressing material that meets PG I performance criteria. Cells and batteries, including those packed with or contained in equipment, may not have an aggregate Watt-hour (Wh) rating of more than 1,200 Wh (or 96 grams total equivalent lithium content) per package;

(3) No more than the weight of lithium cells or batteries as shown for the following package sizes of

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the outer packagings may be contained in a single package:

- (i) 16" x 16" x 16": 30 kg (66 pounds).
- (ii) 14" x 14" x 16": 20 kg (44 pounds).
- (iii) 12" x 12" x 12": 13 kg (29 pounds).
- (iv) 10" x 10" x 10": 7 kg (15 pounds).
- (v) 8" x 8" x 8": 4 kg (9 pounds).
- (vi) 8.375" x 5.5" x 1.625": 0.55 kg (1.2 pound)
- (vii) 13.5" x 10.5" x 1.625": 1.7 kg (4 pounds)
- (viii) 16" x 1" x 2": 2.6 kg (6 pounds)
- (ix) 19" x 14" x 2.5": 5 kg (11 pounds)

(4) A cell or battery with a net mass of more than 30 kg (66 pounds) shall be limited to one cell or battery per outer packaging.

b. OPERATIONAL CONTROLS:

(1) Damaged, defective, or recalled lithium cells and batteries including those contained in or packed with equipment must have been demonstrated by testing to have passed all required tests as specified in the UN Manual of Tests and Criteria incorporated by reference (see § 171.7) at the date of the type testing prior to becoming damaged, defective or recalled.

(2) For transportation by cargo vessel, only lithium cells or batteries, including those contained in or packed with equipment, with a Watt-hour rating not exceeding 20 Wh for a lithium ion cell or 100 Wh for a lithium ion battery are not subject to 49 CFR Subparts C through H of Part 172 or Chapters 1.3, 5.2, 5.3, and 5.4 of the IMDG Code, except as specified herein. Except when lithium ion cells or batteries are packed with, or contained in equipment, each package must not exceed 30 kg (66 pounds) gross weight.

(3) For transportation by highway or rail, only lithium cells or batteries, including those contained

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in or packed with equipment, with a Watt-hour rating not exceeding 60 Wh for a lithium ion cell or 300 Wh for a lithium ion battery are not subject to 49 CFR Subparts C through H of Part 172, except as specified herein. Except when lithium ion cells or batteries are packed with, or contained in equipment, each package must not exceed 30 kg (66 pounds) gross weight.

(4) Lithium ion cells or batteries, including those contained in or packed with equipment, with a Watt-hour rating or a gross package weight that does not conform to paragraphs 7.b.(2) or (3) are subject to 49 CFR Subparts C through H of Part 172 and Chapters 1.3, 5.2, 5.3, and 5.4 of the IMDG Code (i.e., shipping papers, marking, labeling, placarding, emergency response information, and training), as applicable.

(5) Detailed closure, packing, and shipping instructions must be provided to individuals preparing shipments under the terms of the special permit. Persons offering packages for transportation must comply with the closure instructions accompanying the packaging.

c. MARKING AND LABELING: Each package must be:

(1) Marked "DOT-SP 21018" in accordance with § 172.301(c).

(2) Marked with the words "Damaged/defective lithium ion battery" in accordance with § 172.304; and

(3) As applicable:

(i) Marked with the words "FORBIDDEN FOR TRANSPORT BY AIRCRAFT - GROUND AND CARGO VESSEL SHIPMENT ONLY" and the lithium battery handling marking conforming to § 173.185(c)(3)(i) or 5.2.1.10 of the IMDG Code when the package contains lithium ion cells with a Watt-hour rating not exceeding 20 Wh or lithium ion batteries with a Watt-hour rating not exceeding 100 Wh. This marking must be at least 6 mm in height on packages having a gross weight of 30 kg or less and at least 12 mm in height on packages having a gross weight exceeding 30 kg.

(ii) Marked with the words "FORBIDDEN FOR TRANSPORT BY AIRCRAFT AND VESSEL - GROUND SHIPMENT

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ONLY" and the lithium battery handling marking conforming to § 173.185(c)(3)(i) when the package contains lithium ion cells with a Watt-hour rating not exceeding 60 Wh or lithium ion batteries with a Watt-hour rating not exceeding 300 Wh. This marking must be at least 6 mm in height on packages having a gross weight of 30 kg or less and at least 12 mm in height on packages having a gross weight exceeding 30 kg.

(iii) Marked and labeled in accordance with the requirements in Subparts D and E of Part 172 and Chapter 5.2 of the IMDG Code, as applicable, when the package does not conform to paragraphs 7.b.(2) or (3).

8. SPECIAL PROVISIONS:

a. In accordance with the provisions of Paragraph (b) of § 173.22a, persons may use the packaging authorized by this special permit for the transportation of the hazardous materials specified in paragraph 6, only in conformance with the terms of this special permit.

b. A person who is not a holder of this special permit, but receives a package covered by this special permit, may reoffer it for transportation provided no modification or change is made to the package and it is offered for transportation in conformance with this special permit, the HMR, and the IMDG Code.

c. A current copy of this special permit must be maintained at each facility where the package is offered or reoffered for transportation.

d. Each packaging manufactured under the authority of this special permit must be either (1) marked with the name of the manufacturer and location (city and state) of the facility at which it is manufactured or (2) marked with a registration symbol designated by the Office of Hazardous Materials Safety Approvals and Permits Division for a specific manufacturing facility.

e. A current copy of this special permit must be maintained at each facility where the packaging is manufactured under this special permit. It must be made available to a DOT representative upon request.

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- f. Any package that is damaged is not authorized to be loaded and transported.
- g. This special permit in no way affects the need to obtain any required authorizations from other agencies of the United States Government or from the competent authorities of the States of origin, transit, and destination of the consignment.
9. MODES OF TRANSPORTATION AUTHORIZED: Motor vehicle, rail freight, and cargo vessel.
10. MODAL REQUIREMENTS: A current copy of this special permit must be carried aboard each cargo vessel and motor vehicle used to transport packages covered by this special permit.
11. COMPLIANCE: Failure by a person to comply with any of the following may result in suspension or revocation of this special permit and penalties prescribed by the Federal hazardous materials transportation law, 49 U.S.C. 5101 et seq:
- o All terms and conditions prescribed in this special permit and the Hazardous Materials Regulations, 49 CFR Parts 171-180.
 - o Persons operating under the terms of this special permit must comply with the security plan requirement in Subpart I of Part 172 of the HMR, when applicable.
 - o Registration required by § 107.601 et seq., when applicable.

Each "Hazmat employee", as defined in § 171.8, who performs a function subject to this special permit related to packages containing damaged or defective lithium ion cells or batteries, including those packed with or contained in equipment, that do not conform to the requirements in paragraphs 7.b.(2) or (3) must receive training on the requirements and conditions of this special permit in addition to the training required by §§ 172.700 through 172.704.

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Each "Hazmat employee", as defined in § 171.8, who performs a function subject to this special permit related to packages containing damaged or defective lithium ion cells or batteries, including those packed with or contained in equipment, that conform to the requirements in paragraphs 7.b.(2) or (3) must receive adequate instruction on the requirements and conditions of this special permit.

No person may use or apply this special permit, including display of its number, when this special permit has expired or is otherwise no longer in effect.

Under Title VII of the Safe, Accountable, Flexible, Efficient Transportation Equity Act: A Legacy for Users (SAFETEA-LU)—"The Hazardous Materials Safety and Security Reauthorization Act of 2005" (Pub. L. 109-59), 119 Stat. 1144 (August 10, 2005), amended the Federal hazardous materials transportation law by changing the term "exemption" to "special permit" and authorizes a special permit to be granted up to two years for new special permits and up to four years for renewals.

12. REPORTING REQUIREMENTS: Shipments or operations conducted under this special permit are subject to the Hazardous Materials Incident Reporting requirements specified in 49 CFR §§ 171.15 - Immediate notice of certain hazardous materials incidents, and 171.16 - Detailed hazardous materials incident reports. In addition, the grantee(s) of this special permit must notify the Associate Administrator for Hazardous Materials Safety, in writing, of any incident involving a package, shipment or operation conducted under terms of this special permit.

Issued in Washington, D.C.:



for William Schoonover
Associate Administrator for Hazardous Materials Safety

Address all inquiries to: Associate Administrator for Hazardous Materials Safety, Pipeline and Hazardous Materials Safety Administration, U.S. Department of Transportation, East Building PHH-30, 1200 New Jersey Avenue, Southeast, Washington, D.C. 20590.

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Copies of this special permit may be obtained by accessing the Hazardous Materials Safety Homepage at <https://www.phmsa.dot.gov/approvals-and-permits/hazmat/special-permits-search>. Photo reproductions and legible reductions of this special permit are permitted. Any alteration of this special permit is prohibited.

PO: Steve H