



U.S. Department
of Transportation

**Pipeline and Hazardous
Materials Safety
Administration**

1200 New Jersey Avenue, SE
Washington, DC 20590

DOT-SP 21307
(FIRST REVISION)

EXPIRATION DATE: 2028-11-30

(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 a specially designed, fire-suppressing wrap to be used within a combination package consisting of a UN 4 D or UN 4G Standard packagings for the transportation of end of life waste lithium batteries which are not damaged or defective, including those contained in or packed with equipment for recycling, reuse, refurbishment, repurposing or evaluation. This special permit provides no relief from the Hazardous Materials Regulations (HMR) 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.
3. REGULATORY SYSTEM AFFECTED: 49 CFR Parts 106, 107 and 171- 180.
4. REGULATIONS FROM WHICH EXEMPTED: 49 CFR Subparts C through H of Part 172 in that shipping papers, marking, labeling, emergency response information, and training are not required for batteries and cells, which meet the size limits specified herein, § 172.102(c)(1), Special Provision 130 and § 172.102(c)(1), Special Provision 130(d) in that batteries utilizing different chemistries (i.e., those battery chemistries specifically covered by another entry in the § 172.101 Hazardous Materials Table) as

well as dry batteries may be combined with end of life lithium batteries in the same outer package; and § 173.185(d) in that packagings may exceed 30 kg (66 lbs) as specified herein.

5. BASIS: This special permit is based on the application of Packaging and Crating Technologies, LLC dated June 22, 2023, submitted in accordance with § 107.109.
6. HAZARDOUS MATERIALS (49 CFR 172.101):

Hazardous Material Description			
Proper Shipping Name	Hazard Class/ Division	Identification Number	Packing Group
Lithium ion batteries <i>including lithium ion polymer batteries</i>	9	UN3480	N/A
Lithium ion batteries contained in equipment <i>including lithium ion polymer batteries</i>	9	UN3481	N/A
Lithium ion batteries packed with equipment <i>including lithium ion polymer batteries</i>	9	UN3481	N/A
Lithium metal batteries <i>including lithium ion polymer batteries</i>	9	UN3490	N/A
Lithium metal batteries contained in equipment <i>including lithium ion polymer batteries</i>	9	UN3491	N/A
Lithium metal batteries packed with equipment <i>including lithium ion polymer batteries</i>	9	UN3491	N/A
Batteries, dry, sealed, n.o.s.	See Special Provision 130		

7. SAFETY CONTROL MEASURES:

a. PACKAGING:

- (1) Prescribed packaging is a “Thermo Shield fire suppressant wrap” as described in the test reports (dated August 16, 2019, and December 10, 2019) contained within a UN 4D or UN 4G Standard Packaging capable of containing thermal runaway events as described in the test report submitted with the

Packaging and Crating Technologies, LLC's November 19, 2021 application which is on file with the Office of Hazardous Materials Safety (OHMS).

(2) When subject to a thermal event, the complete packaging system prepared according to 7.a.(1) above and as presented for transport must have demonstrated the following:

- (i) no flames exit the package;
- (ii) a projectile or projectiles must not exit the package;
- (iii) the external surface temperature of the package must not exceed 200 °C; and
- (iv) the flammable gas or smoke exiting the package does not produce a flame or fire when sparked at the minimal interval of every second outside of the package surface where gas or smoke is exiting.

b. OPERATIONAL CONTROLS:

- (1) This packaging may only be used for transportation of batteries for recycling, reuse, refurbishment, repurposing or evaluation purposes.
- (2) The grantee must provide each person who packages materials in packagings subject to this special permit detailed instructions on the requirements of the special permit and packaging batteries for transport. The instructions must be displayed where the packages are closed for transportation.
- (3) The energy rating of each lithium ion cell and battery based on the original Wh rating in a packaging is limited to 300 Wh (24 g Lithium Content for lithium metal) and 1,200 Wh (96 g Lithium Content for lithium metal), respectively.
- (4) Each completed package may not contain more than an aggregate of 1,200 Wh equivalent lithium content.
- (5) Lithium ion, lithium metal, and dry cell batteries (dry cell batteries with a marked rating over 9 volts and alkaline batteries with a marked rating over 12 V) must be protected against short circuits. Some suitable methods of protection the batteries against short circuits include, but are not limited to, placing the batteries in individual plastic bags; or taping and covering the exposed terminals. The means of protection used to prevent short circuits must remain in place while the packages are in transportation.
- (6) Electrical devices must be protected against short circuits and unintentional activation.

- (7) Packages must be stored away from heat.
- (8) Each package must be securely closed prior to being offered for transportation.
- (9) When utilized as specified in these instructions, the completed package is excepted from the requirements of Subparts C through H of Part 172.
- (10) The testing requirements for lithium batteries under § 173.185(a)(1) are waived.
- (11) Guidance and instructions on the content of the special permit conditions and the filling and packing of the package must be provided to shippers and employees involved in the package transport program.

c. **MARKING:** Each packaging manufactured under terms of this special permit must be durably and legibly marked and displayed on a background of contrasting color with the following:

- (1) “DOT-SP 21307”.
- (2) “Used Batteries for Recycling: May Contain Lithium Batteries. FOR GROUND TRANSPORT ONLY – FORBIDDEN FOR TRANSPORTATION BY AIRCRAFT AND VESSEL” at least 6 mm (0.25 inch) in height.
- (3) Each packaging must be marked with the lithium battery mark specified in § 173.185(c)(3)(i) with a packaging manufacture date no less than three months after the date of issuance of this Special Permit.
- (4) Instructions for complying with the requirements of this special permit.
- (5) An emergency response telephone number accessible 24 hours per day in case of damage to the packaging or contents.

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 packaging covered by this special permit, may offer or reoffer it for transportation provided no modification or change is made to the packaging and it is offered for transportation in conformance with this special permit and the HMR.

- c. A current copy of this special permit must be maintained at each facility where the package is offered or reoffered for transportation unless each package is marked with a QR code which when scanned provides a direct link to a specific URL where the most recent revision of the special permit can be viewed or downloaded. If the QR code is marked on the packaging, the URL must also be marked on the package.
- 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 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.
- f. Transportation by ferry or cargo vessel is not authorized under the terms of this special permit.
9. MODES OF TRANSPORTATION AUTHORIZED: Motor vehicle and rail freight.
10. MODAL REQUIREMENTS: A current copy of this special permit must be carried aboard each 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 must receive training on the requirements and conditions of this special permit in addition to the training required by §§ 172.700 through 172.704.

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-13, 1200 New Jersey Avenue, Southeast, Washington, D.C. 20590.

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/Casey Chambers