



U.S. Department  
of Transportation

**Pipeline and Hazardous  
Materials Safety Administration**

**July 23, 2021**

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

DOT-SP 20549  
(SIXTH REVISION)

**EXPIRATION DATE: 2024-09-30**

(FOR RENEWAL, SEE 49 CFR 107.109)

1. GRANTEE: Cellblock FCS, LLC  
Standish, ME
2. PURPOSE AND LIMITATIONS:
  - a. This special permit authorizes the manufacture, mark, sale, and use of UN specification packagings for the transportation in commerce of batteries including damaged, defective, or recalled lithium ion cells and batteries and lithium metal cells and batteries and those contained in or packed with equipment. 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.

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4. REGULATIONS FROM WHICH EXEMPTED: 49 CFR Subparts C through H of Part 172 in that shipping papers, marking, labeling, placarding, emergency response information, and training are not required for batteries and cells already excepted by § 173.185(c) and § 172.102(c)(1) Special Provision 130; § 172.102(c)(1) Special Provisions 130(d) in that batteries utilizing different chemistries (i.e., those battery and cell chemistries specifically covered by another entry in the § 172.101 Hazardous Materials Table) as well as dry batteries may be combined with used or spent batteries and cells in the same package; § 173.159a(c)(2) in that marking the non-spillable battery and outer packaging is waived; § 173.185(c)(1)(iii), (c)(1)(iv), (c)(1)(v), and (c)(3) in that alternative marking and documentation are authorized and alternative means of identifying any special procedures to be followed in the event a package is damaged is authorized; and § 173.185(f) in that more than one lithium cell or battery per package, alternative packaging, and alternative marking are authorized, as specified herein.
5. BASIS: This special permit is based on the application of Cellblock FCS, LLC dated June 3, 2020 submitted in accordance with § 107.105 and the public proceeding thereon.
6. HAZARDOUS MATERIALS (49 CFR 172.101):

<b>Hazardous Material Description</b>			
<b>Proper Shipping Name</b>	<b>Hazard Class/ Division</b>	<b>Identification Number</b>	<b>Packing Group</b>
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
Lithium metal batteries	9	UN3090	N/A
Lithium metal batteries contained in equipment	9	UN3091	N/A

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Hazardous Material Description			
Proper Shipping Name	Hazard Class/ Division	Identification Number	Packing Group
Lithium metal batteries packed with equipment	9	UN3091	N/A
Batteries, wet, nonspillable	8	UN2800	N/A
Batteries, dry, sealed, n.o.s.	See Special Provision 130		

7. SAFETY CONTROL MEASURES:a. OPERATIONAL CONTROLS:

(1) Damaged, defective, recalled lithium cells and batteries, and lithium cells or batteries, contained in or, packed with equipment must have originally met the requirements for testing in accordance with the edition of the UN Manual of Tests and Criteria authorized at the time of testing, prior to becoming damaged, defective, or recalled.

(2) Transportation by cargo vessel is only permitted when motor vehicle shipments are not possible.

(3) For transportation by cargo vessel, only lithium cells or batteries (including those contained in or packed with equipment) with a lithium content not exceeding 1 g for a lithium metal cell or 2 g for a lithium metal battery and 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, except as specified herein.

(4) For transportation by highway or rail, only lithium cells or batteries (including those contained in or packed with equipment with a lithium content not exceeding 5 g for a lithium metal cell or 25 g for a lithium metal battery and with Watt-hour rating not exceeding 60 Wh for a lithium ion cell or 300 Wh for a

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lithium ion battery are not subject to 49 CFR Subparts C through H of Part 172, except as specified herein.

(5) For transportation by highway or rail, lithium batteries (including damaged or defective batteries contained in or packed with equipment) with a watt-hour rating not exceeding 1000 Wh are authorized provided the Alternative 1 for the outer packaging is used.

(6) Cells or batteries, including those packed with or contained in equipment, that do not conform to the requirements in paragraphs 7.a.(3) or 7.a.(4) or conform to paragraph 7.a.(5) are subject to 49 CFR Subparts C through H of Part 172.

(7) Lithium ion and metal cells and batteries, non-spillable batteries and dry cell batteries (non-spillable and dry cell batteries with a marked rating over nine (9) volts) must be protected against short circuits. Some suitable methods of protecting 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.

(8) Cells or batteries contained in or packed with equipment must be protected against short circuits (unless the equipment affords that protection) and unintentional activation.

(9) Non-spillable batteries are limited to 11 kg (25 pounds) or less gross weight each.

b. PACKAGING:

(1) INNER PACKAGING:

(i) Damaged, defective, or recalled cells or batteries, including those contained in or packed with equipment, must be individually packed in a non-metallic packaging that completely encloses each cell, battery or piece of equipment and must

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be surrounded by cushioning material that is non-combustible, non-conductive, and absorbent;

(ii) For damaged, defective, and recalled cells or batteries, including those contained in or packed with equipment, inner packaging is not required provided the outer packaging is in accordance with Alternative 1 (paragraph 7.b.(2)(i)(B)) or Alternative 2 (paragraph 7.b.(2)(i)(C)); or

(iii) Alternatively (Alternative 3), if the outer packaging is prepared as provided in the Packing Description (PD) (Alternative 1) noted in the application dated June 2, 2020 on file with the Office of Hazardous Materials Safety (OHMS) or is prepared as provided in the packing instructions (PIs) (Alternative 2) dated April 24, 2019 for granular and May 24, 2019 for pillowed granular thermally insulating fire suppressant (term used hereafter in lieu of the registered trade mark) provided by CellBlock FCS, LLC, inner packaging specified in paragraph 7.b.(1)(i) is not required, and protection against short circuiting specified in paragraphs 7.a.(7), 7.a.(8), and 7.b.(1)(ii) is not required. The Alternative 1 PD and the Alternative 2 PIs are summarized in paragraphs 7.b.(2)(i)(B) and 7.b.(2)(i)(C), respectively, below and are on file with the OHMS.

(2) OUTER PACKAGING:

(i) If the packages are prepared in accordance with paragraphs 7.b.(1)(i) or 7.b.(1)(ii), the outer packaging must meet the following:

(A) The completed inner package must be surrounded by cushioning material that is non-combustible, non-conductive, and absorbent and placed in a UN specification steel, aluminum, or other metal box or drum that is capable of meeting a 1.2 meter drop test.

(B) Alternative 1:

(1) The outer packaging is a metal box or drum fitted with a venting device meeting the PG I performance level. The venting device serves as a fire arrester and filter for flames and gases preventing the release of flammable constituents in a thermal event involving the batteries transported as described in the application dated June 2, 2020.

(2) The outer packaging containing the lithium cells or batteries must be filled with the thermally insulating fire suppressant in a sufficient quantity and manner as provided in the PIs dated April 24, 2019.

(C) Alternative 2:

(1) Each outer packaging must be completely clad with thermally insulating fire suppressants, as described in CellBlock FCS, LLC's application dated September 20, 2017 and on file with the OHMS, in a sufficient quantity and manner that will suppress lithium battery fires, heat, smoke and absorbs the smoke, gases and flammable vapors and electrolytes during a thermal runaway incident.

(2) The outer packaging must be filled with thermally insulating fire suppressants, wherever possible, as dunnage to protect the cells and batteries and retard rapid heat transfer.

(3) Not more than 5 kg of damaged lithium cells and batteries may be contained in a single package.

(D) Alternative 3: If the packages are prepared in accordance with paragraph 7.b.(1)(iii), the outer packaging must meet the following:

(1) The outer packaging must be a UN specification metal, plastic, or fiberboard box or drum that meets the Packaging Group I performance level.

(2) Additionally, the outer packaging must be filled with the thermally insulating fire suppressant where the suppressant completely surrounds each cell or battery or those contained in equipment by at least 2 inches of suppressant. Alternatively, the cells or batteries or equipment may be placed within a thermally insulating fire suppression pillow affording a sufficient quantity of fire suppressant material. The thermally insulating fire suppressant, when utilized without an inner package, must be in a sufficient quantity to:

(i) Absorb all of the potential release of electrolyte.

(ii) Suppress lithium cell/battery fires, heat, and smoke.

(iii) Absorb the smoke, gases, flammable vapors, and electrolytes during a thermal runaway incident.

(iv) Protect from the effects of shock and vibration and prevent movement of the cells, batteries, and/or the equipment.

(ii) The gross weight of damaged, defective or recalled cells or batteries in a 55-gallon, 30-

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gallon, or 5-gallon metal or plastic packaging may not exceed 60 kg (132 pounds), 30 kg (60

pounds), or 5 kg (11 pounds), respectively, and 2 kg (4.4 pounds) for thermally insulated pillowed 4G boxes.

(iii) The outer packaging must be leak-proof to prevent the potential release of electrolyte and a venting device must be used for leaking cells or batteries.

(3) Each package must meet the requirements in §§ 173.24 and 173.24a.

c. MARKING:

(1) Each package covered under the terms of this special permit must be durably and legibly marked and displayed on a background of contrasting color with the following:

(i) "DOT-SP 20549".

(ii) For packages conforming to the requirements in paragraph 7.a.(3), the words: "Batteries for Recycling: May Contain Damaged Lithium Batteries - FOR GROUND OR CARGO VESSEL TRANSPORT ONLY - FORBIDDEN FOR TRANSPORTATION BY AIRCRAFT" in letters at least 12 mm (0.5 inch) in height except that packages with a maximum gross mass of 30 kg (66 pounds) or less may be marked with characters at least 6 mm (0.25 inches) high, and packages with a maximum net mass of 5 kg (11 pounds) or less may be marked in a size appropriate for the size of the package.

(iii) For packages conforming to the requirements in paragraph 7.a.(4), the words: "Batteries for Recycling: May Contain Damaged Lithium Batteries - FOR GROUND TRANSPORT ONLY - FORBIDDEN FOR TRANSPORTATION BY AIRCRAFT AND CARGO VESSEL" in letters at least 12 mm (0.5 inch) in height except that packages with a maximum gross mass of 30 kg (66 pounds) or less may be marked with



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characters at least 6 mm (0.25 inches) high, and packages with a maximum net mass of 5 kg (11 pounds) or less may be marked in a size appropriate for the size of the package.

(iv) The handling marking in § 173.185(c)(3)(i) when the package conforms to the requirements in paragraphs 7.a.(3) or 7.a.(4).

(v) Marked and labeled in accordance with the requirements in Subparts D and E of Part 172 when the package does not conform to the requirements in paragraphs 7.a.(3) or 7.a.(4) above or to § 173.185(c)(1)(vi). Packages that conform to the requirements of paragraph 7.a.(5) must be marked and labeled in accordance with the requirements in Subparts D and E of Part 172.

(vi) An emergency response telephone number in case of damage to the packaging or contents.

(2) Additionally, each package may be 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 packaging.

(3) If the packaging is used to transport non-spillable batteries, the batteries and package are excepted from the marking requirements for non-spillable batteries in § 173.159a(c)(2). All other applicable requirements in § 173.159a apply.

d. 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, packing, and shipping instructions accompanying the packaging.

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

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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 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.

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.

f. When utilized as specified in this special permit, the completed package is not subject to 49 CFR Subparts C through H of Part 172 (i.e., shipping papers, marking labeling, placarding, emergency response information, and training), except as specified herein.

g. Packages are subject to 49 CFR Subparts C through H of Part 172 (i.e., shipping papers, marking, labeling, placarding, emergency response information, and training), as applicable:

(i) When not conforming to the lithium content or watt-hour rating limitations in paragraphs 7.a.(3) or 7.a.(4) above;

(ii) When not conforming to § 173.185(c)(1)(vi);

(iii) When not conforming to § 173.159a(d); or

(iv) When conforming to paragraph 7.a.(5).

9. MODES OF TRANSPORTATION AUTHORIZED: Motor vehicle, cargo vessel and rail freight.
10. MODAL REQUIREMENTS:
  - a. A current copy of this special permit must be carried aboard each cargo vessel.
  - b. For motor vehicle shipments, a current copy of this special permit must be carried aboard each motor vehicle unless the package is marked in accordance with paragraph 7.c.(2).
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 a package under paragraph 8.g. must receive training on the requirements and conditions of this special permit in addition to the training required by §§ 172.700 through 172.704.

Each "Hazmat employee", as defined in § 171.8, who performs a function subject to this special permit related to packages that conform to the requirements in paragraph 8.f. 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

[http://hazmat.dot.gov/sp\\_app/special\\_permits/spec\\_perm\\_index.htm](http://hazmat.dot.gov/sp_app/special_permits/spec_perm_index.htm)

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PO: SH/TG