



U.S. Department  
of Transportation

**Pipeline and Hazardous  
Materials Safety  
Administration**

**February 27, 2024**

1200 New Jersey Avenue, SE  
Washington, DC 20590

DOT-SP 21650  
(FIRST REVISION)

**EXPIRATION DATE: 2025-12-31**

(FOR RENEWAL, SEE 49 CFR 107.109)

1. GRANTEE: Bolloré Logistics Germany GmbH  
Frankfurt Am Main, Germany

U.S. AGENT: ShipMate, Inc.  
Sisters, OR

2. PURPOSE AND LIMITATION:

a. This special permit authorizes the transportation in commerce of the hazardous materials identified in paragraph 6 (installed in spacecraft or components of spacecraft). This special permit provides no relief from the Hazardous Materials Regulations (HMR) or the International Civil Aviation Organization's Technical Instructions for the Safe Transport of Dangerous Goods by Air (ICAO TI) other than as specifically stated herein. The most recent revision supersedes all previous revisions.

b. The safety analyses performed in the development of this special permit only considered the hazards and risks associated with the transportation in commerce.

c. No party status will be granted to this special permit.

d. This special permit serves as an approval under Special Provision A88 and State Variation US 3 of the ICAO TI, and 49 CFR 172.102(c)(1), Special Provisions 131 and 391, and as a "Competent Authority Approval" as defined under 49 CFR § 107.1.

e. This special permit serves as "exemption" as defined in 1;3.1.1 of the ICAO TI for the transportation of UN3539 aboard cargo-only aircraft (as required by Special Provision A333 of the Supplement to the ICAO TI) and in that the pressure vessel contained within the spacecraft need not be marked and labeled in accordance with 5;2

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and 5;3, respectively, of the ICAO TI. For international flights, the ICAO TI may require exemption authorization by the States of origin, transit, overflight, and destination of the consignment, as well as the State of the air operator.

3. REGULATORY SYSTEM AFFECTED: 49 CFR Parts 106, 107 and 171-180.
4. REGULATIONS FROM WHICH EXEMPTED: 49 CFR § 172.101 Hazardous Materials Table, Column (9B) in that lithium batteries may have a mass exceeding 35 kg per package; § 172.101 Hazardous Materials Table Column (9B) and Columns 12 and 13 of the ICAO TI in that articles containing toxic gas, n.o.s. may be transported aboard cargo-only aircraft; § 173.185(a)(1) in that lithium ion batteries need not have passed the criteria in Part III, subsection 38.3 of the UN Manual of Tests and Criteria; Subparts D and E of Part 172 and 5;2 and 5;3 of the ICAO TI in that marking and labeling of the package (pressure vessel) contained within the spacecraft is not required; § 173.301(f) in that the pressure vessel within the equipment need not be fitted with a pressure relief device; and § 173.302a(a)(1) in that non-DOT specification packaging is authorized.
5. BASIS: This special permit is based on the application of Bolloré Logistics Germany GmbH dated October 1, 2023, submitted in accordance with § 107.105, the public proceeding thereon, and additional information submitted February 1, 2024.
6. HAZARDOUS MATERIALS (49 CFR 172.101):

Hazardous Materials Description			
Proper Shipping Name	Hazard Class/ Division	Identification Number	Packing Group
Articles containing toxic gas, n.o.s.	2.3	UN3539	N/A
Lithium ion batteries contained in equipment <i>including lithium ion polymer batteries</i>	9	UN3481	N/A
Articles containing non-flammable, non-toxic gas, n.o.s.	2.2	UN3538	N/A
Nitrogen, compressed	2.2	UN1066	N/A
Refrigerating machines, <i>containing non-flammable, non-toxic gases, or ammonia solutions (UN2672)</i>	2.2	UN2857	N/A

Hazardous Materials Description			
Proper Shipping Name	Hazard Class/ Division	Identification Number	Packing Group
Engine, internal combustion, flammable liquid powered <i>or</i> Engine, fuel cell, flammable liquid powered <i>or</i> Machinery, internal combustion, flammable liquid powered <i>or</i> Machinery, fuel cell, flammable liquid powered	3	UN3528	N/A
Lithium ion batteries <i>including lithium ion polymer batteries</i>	9	UN3480	N/A
Diesel fuel	3	UN1202	III

7. SAFETY CONTROL MEASURES:

a. PACKAGING: Prescribed packagings are non-DOT specification packagings (including aluminum heat pipes containing anhydrous ammonia and nitrogen stored in a pressure vessel with a pressure of less than 29 psi), which are installed in a spacecraft or components of spacecraft and are overpacked in a specifically designed transport container. Details of the packagings, components, and transport container are as described in the information on file with the Office of Hazardous Materials Safety (OHMS).

(1) Lithium ion batteries must comply with the requirements in Packing Instruction 910 of the supplement to the ICAO TI.

(2) Lithium ion batteries must not be packed in the same outer packaging with Division 2.2 and 2.3 (flammable gases) or Class 3 (flammable liquids) hazardous materials.

b. OPERATIONAL CONTROLS:

(1) Only prototype and low production lithium ion batteries comprised of cells as written in the application dated October 1, 2023, and on file with the OHMS, may be offered for transportation under the terms of this special permit. "Low production" is defined as a production run of no more than 100 batteries annually of a particular type.

- (i) Each Sony US18650H2 cell has a nominal voltage, current capacity, and energy capacity of 3.6 V, 1412 mAh, and 5.1 Wh.
  - (ii) Each datalogger is comprised of a single lithium ion battery with a nominal voltage, current capacity, and energy capacity of 3.7 V, 1000 mAh, and 3.7 Wh.
  - (iii) Each battery module is comprised of 576 Sony cells weighing 32 kg with a maximum voltage, stored capacity, and stored energy of 33.6 V, 108 Ah, and 3110.4 Wh.
  - (iv) Each Earth Care battery is comprised of 3 battery modules weighing a maximum 96 kg with a total nominal energy capacity of 9,334.2 Wh.
- (2) Batteries must be offered for transport at a state of charge not exceeding 30 percent of their rated capacity.
- (3) Batteries must be equipped with an effective means of preventing dangerous reverse current flow for cells connected in parallel.
- (4) Cells and batteries must be protected against short circuiting.
- (5) Batteries and cells must be packaged in a manner to minimize the effects of vibration and shocks and prevent movement of the equipment within the package that may lead to damage and accidental activation of the dangerous goods in transport.
- (6) Lithium ion cells or batteries that are leaking or liable to rapidly disassemble, dangerously react produce a flame or a dangerous evolution of heat or a dangerous emission of toxic, corrosive, or flammable gases, or vapors under normal conditions of transport may not be transported under this special permit.
- (7) Quantities of flammable or combustible liquid up to 46 L of flammable liquid (diesel fuel) may remain in the fuel tank generator of flammable liquid powered internal combustion engines (UN3528) only under the following conditions:
- (i) Each engine is secured in an upright position and sufficient ullage space has been left inside the tank to allow fuel expansion without leakage.
  - (ii) Each fuel tank is filled in a manner and only to a degree that will preclude spillage of fuel during loading, unloading, and transportation.

(iii) Each area or compartment in which an engine is being transported is suitably ventilated to prevent the accumulation of fuel vapors.

(iv) The fuel tanks must be securely closed, and the tank caps must be tightly closed.

(v) For transportation aboard cargo-only aircraft, authorization for this type of operation has been given by the appropriate authority in the government of the country in which the aircraft is registered.

(8) Transportation of the spacecraft contained in the transport container is authorized for the one-way movement via Antonov Airlines cargo-only aircraft from Munich Germany (MUC) to Reykjavik, Iceland (KEF), and then to Portsmouth International Airport at Pease, NH (PSM), and then to the destination site: Space X, Vandenberg Air Force Base, Lompoc, CA (VBG).

(9) Emergency response information provided with the shipment and available via an emergency response telephone number must indicate that certain packagings within the satellite transport container (STC) are not fitted with pressure relief devices and provide appropriate guidance in case of fire exposure.

c. TESTING:

(1) Each lithium ion cell, as identified in the application, must be of a type tested in accordance with the UN Manual of Tests and Criteria, 7<sup>th</sup> Revised Edition.

(2) Each heat pipe must successfully pass a temperature test at 125 °C, a pressure test at 150 bar, an X-ray inspection, a helium leak inspection, and a Hot Proof ammonia leak inspection.

(3) The pressurant and propulsion tanks, and associated piping, regulators, relief devices and other equipment have been successfully tested in accordance with the test protocol on file.

d. MARKING: The outer transport container must be plainly and durably marked on two opposite sides in letters at least 2 inches in height on a contrasting background, "DOT-SP 21650" and "DO NOT STACK" as specified in § 172.301(c).

8. SPECIAL PROVISIONS:

a. Under the terms of this special permit, the grantee may only offer hazardous materials (i.e., the grantee is not authorized as a carrier).

- b. A person who is not a holder of this special permit who 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 reoffered for transportation in conformance with this special permit, the HMR, and the ICAO TI.
  - c. A current copy of this special permit must be maintained at each facility where the package is offered or reoffered for transportation.
  - d. 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, over flight, and destination of the consignment, as well as the State of the air operator.
9. MODES OF TRANSPORTATION AUTHORIZED: Motor vehicle and cargo-only aircraft.
10. MODAL REQUIREMENTS: A current copy of this special permit must be carried aboard each aircraft or motor vehicle used to transport packages covered by this special permit. The shipper must furnish a copy of this special permit to the air carrier before or at the time the shipment is tendered.
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 Material 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: Tony Gale