



U.S. Department
of Transportation

**Pipeline and Hazardous
Materials Safety
Administration**

September 25, 2024

1200 New Jersey Avenue, SE
Washington, DC 20590

DOT-SP 21850

EXPIRATION DATE: 2025-02-28

(FOR RENEWAL, SEE 49 CFR 107.109)

1. GRANTEE: Reflex Aerospace GmbH
Berlin, Germany

U.S. AGENT: PackAir Airfreight, Inc.
Gardena, CA

2. PURPOSE AND LIMITATION:

a. This special permit authorizes the transportation in commerce of prototype lithium batteries contained in equipment (spacecraft) by cargo-only aircraft. 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 Provisions A88 of the ICAO TI 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.

4. REGULATIONS FROM WHICH EXEMPTED: 49 CFR § 173.185(a) in that the battery is of a type not proven to have passed the criteria of the UN Manual of Tests and Criteria, as specified herein.

Tracking Number: 2024085301

5. BASIS: This special permit is based on the application of Reflex Aerospace GmbH dated August 27, 2024, submitted in accordance with § 107.117 and the determination that it is necessary to prevent significant economic loss.
6. HAZARDOUS MATERIALS (49 CFR 172.101):

Hazardous Materials Description			
Proper Shipping Name	Hazard Class/ Division	Identification Number	Packing Group
Lithium ion batteries contained in equipment	9	UN3481	N/A

7. SAFETY CONTROL MEASURES:

a. PACKAGING:

- (1) The battery contained in equipment must be packed in a strong outer packaging as described in Reflex Aerospace GmbH application dated August 27, 2024, and on file with the Office of Hazardous Materials Safety.
- (2) The batteries must be secured to prevent inadvertent shifting.
- (3) Packages offered for transportation must be in accordance with the requirements in Packing Instruction 910 of the Supplement to the ICAO TI. Additionally, waste lithium battery assemblies and lithium battery assemblies being shipped for recycling or disposal are forbidden from air transport, and lithium battery assemblies must not be packed in the same outer packaging with substances and articles of Class 1 (explosives) other than Division 1.4S, Division 2.1 (flammable gases), Class 3 (flammable liquids), Division 4.1 (flammable solids), or Division 5.1 (oxidizers).
- (4) No more than one battery is allowed per package.
- (5) The net weight of the battery may not exceed 3.52 kg and is further contained in equipment (satellite).

b. TESTING:

- (1) Each cell within the battery must be of a type tested in accordance with the UN Manual of Tests and Criteria, 5th Revised Edition.

(2) Each battery need not be of a type tested in accordance with the UN Manual of Tests and Criteria.

c. OPERATIONAL CONTROLS:

(1) Only batteries identified as Reflex SIGI Battery (8s6p) comprised of INR18650 MJ1 cells, as described in the application dated August 27, 2024, and on file with the OHMS, may be offered for transportation under the terms of this special permit.

(2) Each battery has an effective usable capacity of 476 Wh.

(3) All lithium ion batteries must be offered for transportation at a state of charge not exceeding 30 percent.

(4) The batteries must be equipped with an effective means of preventing dangerous reverse current flow for cells that are connected in parallel.

(5) Cells and batteries must be protected against short circuiting.

(6) The batteries must be equipped with a battery management system (BMS) verified to prevent overcharge, short-circuiting, and over-discharge.

(7) Lithium batteries must be packed to prevent accidental activation of the battery.

(8) 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.

(9) Any changes to the battery or cell from the types listed above invalidate this special permit.

d. MARKING: Each package, and overpack if used, must be marked with the Special Permit number "DOT-SP 21850" in accordance with § 172.301(c).

8. SPECIAL PROVISIONS:

a. 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 or its contents and it is reoffered for transportation in conformance with this special permit and the HMR.

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

9. MODES OF TRANSPORTATION AUTHORIZED: Cargo-only aircraft.10. MODAL REQUIREMENTS: A current copy of this special permit must be carried aboard each aircraft 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 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: ae