



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 20777

EXPIRATION DATE: February 28, 2019

(FOR RENEWAL, SEE 49 CFR 107.109)

1. GRANTEE: ISRAEL AEROSPACE INDUSTRIES LTD.
Altalef 9 Yehud, Israel

US AGENT: Ilan Hazan
Inwood, NY 11096

2. PURPOSE AND LIMITATION:

a. This emergency special permit authorizes the transportation in commerce of certain non-DOT specification packaging (transport container) containing a spacecraft that incorporates hazardous materials enumerated herein. 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. This special permit serves as an approval under Special Provision A88 of the International Civil Aviation Organizations Technical Instructions (ICAO TI) and as a "Competent Authority Approval" as defined under 49 CFR § 107.1.

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

3. REGULATORY SYSTEM AFFECTED: 49 CFR Parts 106, 107 and 171-180.

Tracking Number: 2018080509

4. REGULATIONS FROM WHICH EXEMPTED: 49 CFR §§ 173.56, 173.302a(a)(1), 173.304a(a)(1), and 173.185(b) and Packing Instruction 910 of the ICAO Supplement in that alternative packaging for lithium ion batteries contained in equipment is authorized; and ICAO Special Provision A2 in that anhydrous ammonia may be transported with the prior approval of the appropriate authority of the State of Origin.
5. BASIS: This emergency special permit is based on the application of Israel Aerospace Industries LTD. dated August 30, 2018 and supplemental information dated November 29, 2018 and December 18, 2018 submitted in accordance with § 107.105 and the public proceeding thereon.
6. HAZARDOUS MATERIALS (49 CFR 172.101):

Hazardous Materials Description			
Proper Shipping Name	Hazard Class/ Division	Identification Number	Packing Group
Ammonia, anhydrous	2.3	UN1005	N/A
Ammonia, anhydrous	2.2	UN1005	N/A
Cartridges, power device	1.4S	UN0323	N/A
Helium, compressed	2.2	UN1046	N/A
Lithium ion batteries contained in equipment <i>including lithium ion polymer batteries</i>	9	UN3481	N/A

7. SAFETY CONTROL MEASURES:

a. OPERATIONAL CONTROLS:

(1) Lithium ion battery assembly:

(i) The battery has a maximum rated energy capacity of not more than 252 Wh and comprised of SAFT VES 16 cells each rated at 16 Wh as identified in the application which is on file with the Office of Hazardous Materials Safety Approvals and Permits Division (OHMSAPD).

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

(iii) There must be no electrical connections from the interior to the exterior of the spacecraft container while in transport.

(2) Heat pipe. An aluminum heat pipe designed to dissipate heat from one place to another in the spacecraft container. It must contain not more than 9.4 grams of anhydrous ammonia, and be completely sealed and proof tested at a pressure of 150 bars.

(3) Pyrotechnic devices: The total NEW of explosives (which have not been approved in accordance with 173.56) installed on the spacecraft must not exceed 1.108 grams. Explosives installed are limited to pyrotechnic valves and pyrotechnic initiators as described in the application on file with the Office of Hazardous Materials Safety Approvals and Permits Division (OHMSAPD).

(4) Helium tanks. The helium tanks consist of one 10 L and two 3.8 L composite overwrapped pressure vessels charged with compressed helium not exceeding 500 grams in total weight. The tanks must meet the following requirements:

(i) During transportation the pressure in any of the tanks is not to exceed a pressure of 250 psia.

(ii) Maximum charge pressure: 9000 psia and 8000 psia for the 10 L and 3.8 L tanks, respectively.

(5) Air conditioning/heating system. The air conditioning/heating system which is a built-in part of the transport container used to transport S/C must contain not more than 3.5 kg (7.7 pounds) of non-flammable, non-toxic refrigerant gas.

b. TESTING:

(1) The battery and its component cells must be of a type that has been successfully subjected to all applicable tests as required by Part III, Section 38.3,

of the UN Manual of Tests and Criteria, Sixth Revised Edition.

(2) The battery must be equipped with a system capable of preventing overcharge, short circuits, and over discharge between the cells.

c. PACKAGING: Packaging prescribed is an air-conditioned transport container of rigid metallic construction with dimensions as described in the application which is on file with the OHMSAPD. It contains a securely mounted spacecraft container incorporating a heat pipe charged with anhydrous ammonia, pyrotechnic cartridge devices, pressure vessels charged with compressed helium gas, and a lithium ion battery meeting the following requirements:

(1) The materials specified in paragraphs 7.a.(1) through 7.a.(4) must be packaged as follows:

(i) The battery, pyrotechnic cartridge devices, and helium-filled pressure vessels must be securely mounted within the spacecraft, and the air conditioning system and the heat pipe securely attached to the spacecraft transport container.

(ii) The battery must be secured within the spacecraft in such a manner as to prevent short circuit, accidental operation, and significant movement relative to the spacecraft under the shocks, loadings and vibrations normally incident to transport.

(iii) The net weight of the battery may not exceed 2.3 kg.

(iv) Within the spacecraft transport container, the heat pipe and associated piping must be securely mounted to the structure of the transport container in such a manner as to prevent significant movement relative to the container under the shocks, loadings and vibrations normally incident to transport, and so as to ensure the valves and associated piping is suitably protected from damage, or isolated from structures or equipment that could damage the valves or piping.

(v) The air conditioning system must be securely mounted in the spacecraft transport container in

such a manner as to prevent significant movement relative to the container under the shocks, loadings and vibrations normally incident to transport.

(2) The spacecraft transport container is designed to fit on a pallet.

d. MARKING: 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 "DOT-SP 20777."

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. on January 8, 2019:



William S. 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-30, 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 http://hazmat.dot.gov/sp_app/special_permits/spec_perm_index.htm. Photo reproductions and legible reductions of this special permit are permitted. Any alteration of this special permit is prohibited.

PO: SH-RS/TG