



U.S. Department  
of Transportation

**Pipeline and Hazardous  
Materials Safety  
Administration**

**February 23, 2023**

1200 New Jersey Avenue, SE  
Washington, DC 20590

DOT-SP 20474  
(THIRD REVISION)

**EXPIRATION DATE: 2027-01-31**

(FOR RENEWAL, SEE 49 CFR 107.109)

1. GRANTEE: Space Exploration Technologies Corp.  
Washington, DC
2. PURPOSE AND LIMITATIONS:
  - a. This special permit authorizes the transportation in commerce of the Dragon 2 space capsule and associated support equipment containing non-DOT specification packagings of hazardous materials. 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. No party status will be granted to this special permit.
3. REGULATORY SYSTEM AFFECTED: 49 CFR Parts 106, 107 and 171- 180.
4. REGULATIONS FROM WHICH EXEMPTED: 49 CFR §§ 172.300 and 172.400 in that marking and labeling of the packagings contained within the capsule is not required, and Part 173 in that non-specification packagings are authorized as described herein.
5. BASIS: This special permit is based on the application of Space Exploration Technologies Corp. dated January 31, 2023, submitted in accordance with § 107.109.

Tracking Number: 2023024342

6. HAZARDOUS MATERIALS (49 CFR 172.101):

Hazardous Material Description			
Proper Shipping Name	Hazard Class/ Division	Identification Number	Packing Group
Dinitrogen tetroxide	2.3	UN1067	N/A
Helium, compressed	2.2	UN1046	N/A
Lithium metal batteries contained in equipment including lithium alloy batteries	9	UN3091	II
Methylhydrazine	6.1	UN1244	I
Oxygen, compressed	2.2	UN1072	N/A
Compressed gas, oxidizing, n.o.s.	2.2, 5.1	UN3156	N/A
Lithium hydroxide, solution	8	UN2679	II

7. SAFETY CONTROL MEASURES:

a. PACKAGING: Prescribed packaging are non-DOT specification packagings which are part of a Space Exploration Technologies Corporation "Dragon 2" space capsule assembly. Design of the Dragon 2 space capsule and internal packagings must be as described in the application on file with the Office of Hazardous Materials Safety (OHMS). Packagings for UN3156 are non-DOT specification cylinders that are part of the International Space Station Human Research Facility Gas Delivery System as provided in DOT-SP 14814. Packaging for the ground support equipment is a non-DOT specification assembly with seals on all fluid connections further contained within a polyethylene secondary packaging and a crate as the outer packaging.

b. MARKING: The transport vehicle must be marked in accordance with subpart D of Part 172 and placarded in accordance with subpart F of Part 172

c. OPERATIONAL CONTROLS:

(1) Transportation is authorized between any Space X operation facilities.

- (2) The limitation in paragraph 7.c.(1) does not apply when the space capsule contains only the residue of Dinitrogen tetroxide, 2.3, UN1067 in the amount of 0.01 lbs, or less.
- (3) Leak checks must be performed on the pressure vessels prior to highway transport in accordance with the procedures described in the application for special permit.
- (4) The space capsule assembly must be shipped secured in one of the transport fixtures as described and in accordance with the procedures on file with the OHMS.
- (5) Two qualified and trained drivers must transport the Dragon capsule. The transport vehicle must be attended at all times by a driver. Drivers must be trained in the dangers of the hazardous materials and measures to be taken in the event of an accident or emergency.

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 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. The space capsule transport fixture must be marked "DOT-SP 20474" on two opposite sides in letters at least 2 inches in height on the contrasting background. The pressure vessels, corrosive liquid package and batteries contained within the capsule are not required to be marked or labeled. The crates containing the ground support equipment must be marked with proper hazardous material labels in addition to being marked "DOT-SP 20474" on two opposite sides in letters at least 2 inches in height on the contrasting background.
- c. An emergency response plan including contact information must be prepared for each specific route.

9. MODES OF TRANSPORTATION AUTHORIZED: Motor vehicle, and cargo vessel.

10. MODAL REQUIREMENTS: A current copy of this special permit must be carried aboard each cargo vessel, or 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.:

A handwritten signature in blue ink, appearing to read "Dan B.", is written over a faint, circular official stamp.

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: TG