



U.S. Department
of Transportation

**Pipeline and Hazardous
Materials Safety
Administration**

May 27, 2025

1200 New Jersey Avenue, SE
Washington, DC 20590

**DOT-SP 15999
(TENTH REVISION)**

(FOR RENEWAL, SEE 49 CFR § 107.109)

1. **GRANTEE:** (See individual authorization letter)
2. **PURPOSE AND LIMITATION:**
 - a. This special permit authorizes the transportation of certain hazardous materials in non-DOT specification packagings and batteries contained in equipment (the Orion space capsule assembly). 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 the development of this special permit only considered the hazards and risks associated with the transportation in commerce.
 - c. Unless otherwise stated herein, this special permit consists of the special permit authorization letter issued to the grantee together with this document.
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 packages 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 Lockheed Martin Corporation dated June 20, 2023, submitted in accordance with § 107.105 and the public proceeding thereon and additional information dated May 5, 2025.

6. HAZARDOUS MATERIALS (49 CFR 172.101):

a. The following hazardous materials are authorized to be carried as cargo on board the Orion capsule:

| Hazardous Materials Description | | | |
|-------------------------------------|------------------------|-----------------------|----------------|
| Proper Shipping Name | Hazard Class/ Division | Identification Number | Packing Group |
| Hazardous materials in Class 2 | 2.1, 2.2, and 2.3 | Various | N/A |
| Hazardous materials in Class 3 | 3 | Various | I, II, and III |
| Hazardous materials in Class 4 | 4.1, 4.2, and 4.3 | Various | I, II, and III |
| Hazardous materials in Class 5 | 5.1 and 5.2 | Various | I, II, and III |
| Hazardous materials in Division 6.1 | 6.1 | Various | I, II, and III |
| Hazardous materials in Division 6.2 | 6.2 | Various | N/A |
| Hazardous materials in Class 8 | 8 | Various | I, II, and III |
| Hazardous materials in Class 9 | 9 | Various | II and III |

b. The following hazardous materials are authorized to be carried as integral components of the Orion capsule:

| Hazardous Materials Description | | | |
|---|------------------------|-----------------------|---------------|
| Proper Shipping Name | Hazard Class/ Division | Identification Number | Packing Group |
| Ammonia, anhydrous | 2.3 | UN1005 | N/A |
| Batteries, wet, filled with alkali, <i>electric storage</i> | 8 | UN2795 | III |
| Cartridges, power device | 1.4C | UN0276 | N/A |
| Fuzes, detonating | 1.4S | UN0367 | N/A |

| Hazardous Materials Description | | | |
|--|---------------------------|-----------------------|---------------|
| Proper Shipping Name | Hazard Class/ Division | Identification Number | Packing Group |
| Helium, compressed | 2.2 | UN1046 | N/A |
| Lithium metal batteries contained in equipment | 9 | UN3091 | N/A |
| Lithium ion batteries contained in equipment | 9 | UN3481 | N/A |
| Hydrazine, anhydrous | 8 | UN2029 | I |
| Nitrogen, compressed | 2.2 | UN1066 | N/A |

7. SAFETY CONTROL MEASURES:

a. PACKAGING: Prescribed packagings are non-DOT specification packagings and batteries contained in equipment, which are part of the Orion space capsule assembly. The design of the Orion space capsule and packaging for hazardous materials must be as described in the application on file with the Office of Hazardous Materials Safety (OHMS).

b. OPERATIONAL CONTROLS:

(1) Transportation is authorized:

(i) For the return of the Orion space capsule to post-mission processing facilities after splashdown and recovery from the Pacific Ocean.

(ii) Between the Kennedy Space Center in Florida and the NASA Glenn Research Center Armstrong Test Facility in Sandusky, Ohio for further post-mission processing as described in the June 20, 2023, application on file with OHMS, provided the following additional requirements are met:

(A) All explosive transfer lines must have been expended and no explosives may be present when transported.

(B) The propellant system must have been de-serviced to vapor levels less than 30 ppm.

(C) The ammonia system must have been de-serviced to vapor levels less than 25 ppm.

(D) Batteries must have been discharged to transportation levels per the Lockheed Martin Battery Handling Plan submitted on July 11, 2023, and on file with OHMS.

(E) Batteries must be protected against short-circuiting.

(F) Testing:

(1) The two new low production batteries contained in equipment replaced at the Kennedy Space Center in Florida must be comprised of cells (Model ICR18650MJ1) that are of a type proven to have passed all required tests as specified in the “UN Manual of Tests and Criteria” 5th Revised Edition. “Low production” is defined as a production run of no more than 100 batteries annually of a particular type.

(2) The two new low production batteries contained in equipment replaced at the Kennedy Space Center need not be of a type that has passed the UN tests. “Low production” is defined as a production run of no more than 100 batteries annually of a particular type.

(2) 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.

(3) The Orion space capsule assembly must be shipped secured in the transport fixture as described in the “EFT-1 Ground Transportation Plan” on file with OHMS.

(4) Two qualified and trained drivers must transport the Orion 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.

(5) The maximum quantity of hazardous materials transported as cargo on the Orion space capsule must not exceed 500 pounds.

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 and it is reoffered for transportation in conformance with this special permit and the HMR.

- b. The space capsule transport fixture must be marked “DOT-SP 15999” 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.
 - 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 motor vehicle or cargo vessel 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 "W. Schoonover", is written over a light blue circular 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: SMITH/Steve H