



U.S. Department  
of Transportation

**Pipeline and Hazardous  
Materials Safety  
Administration**

**February 22, 2023**

1200 New Jersey Avenue, SE  
Washington, DC 20590

DOT-SP 11360  
(TWELFTH REVISION)

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

(FOR RENEWAL, SEE 49 CFR 107.109)

1. GRANTEE: National Aeronautics and Space Administration  
Washington, DC
2. PURPOSE AND LIMITATION:
  - a. This special permit authorizes the transportation in commerce of certain non-DOT specification pressure vessels containing compressed hydrogen, which are component parts of a nickel-hydrogen battery. 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.
  - c. Party status will not 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 173.301(f) and § 173.302a(a) in that a non-DOT specification pressure vessel is not authorized except as specified herein.
5. BASIS: This special permit is based on the application of The National Aeronautics and Space Administration dated January 20, 2023, submitted in accordance with § 107.109.

Tracking Number: 2023015408

6. HAZARDOUS MATERIALS (49 CFR 172.101):

Hazardous Material Description			
Proper Shipping Name	Hazard Class/ Division	Identification Number	Packing Group
Hydrogen, compressed	2.1	UN1049	N/A

7. SAFETY CONTROL MEASURES:

a. PACKAGING: Prescribed packagings are non-DOT specification pressure vessels, which are shipped as component parts of a nickel-hydrogen battery. Pressure relief devices are not required.

(1) The pressure vessels are constructed of Inconel 718 alloy per AMS 5596, and have a maximum service pressure of 1,000 psig. Pressure vessels must be designed and constructed in accordance with MIL-STD-1522 and must have a minimum burst pressure to service pressure ratio of 2.7. Pressure vessels must be tested in accordance with all requirements of Space Systems/Loral Specification 582061, Revision J.

(2) The nickel-hydrogen battery must meet the requirements of § 173.159(d) for a nonspillable, wet, electric storage battery. There must be no release of gas during the vibration or pressure differential tests.

b. MARKING: The outside of each shipping container must be marked "Inside Packaging Conforms to DOT-SP 11360".

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

c. Each battery must be transported in a strong outside shipping container.

- d. Transportation of Division 2.1 (flammable gases) are not authorized aboard cargo vessel or aircraft unless specifically authorized in the Hazardous Materials Table (§ 172.101).
9. MODES OF TRANSPORTATION AUTHORIZED: Motor vehicle, cargo vessel, and cargo-only aircraft.
10. MODAL REQUIREMENTS: A current copy of this special permit must be carried aboard each cargo vessel or aircraft used to transport packages covered by this special permit. The shipper must furnish a current 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 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 the 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 faint 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: TG