



U.S. Department  
of Transportation

**Pipeline and Hazardous  
Materials Safety  
Administration**

**July 22, 2022**

1200 New Jersey Avenue, SE  
Washington, DC 20590

DOT-SP 14814  
(FIFTH REVISION)

**EXPIRATION DATE: 2026-05-31**

(FOR RENEWAL, SEE 49 CFR § 107.109)

1. GRANTEE: National Aeronautics and Space Administration (NASA)  
Washington, DC
2. PURPOSE AND LIMITATION:
  - a. This special permit authorizes the transportation in commerce of certain Division 2.2 compressed gases in non-DOT specification cylinders to support the International Space Station Human Research Facility Gas Delivery System Project. 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. 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 § 173.302a in that non-DOT specification cylinders are not authorized.
5. BASIS: This special permit is based on the application of National Aeronautics and Space Administration (NASA) dated June 27, 2022, submitted in accordance with § 107.109.

6. HAZARDOUS MATERIALS (49 CFR 172.101):

Hazardous Materials Description			
Proper Shipping Name	Hazard Class/ Division	Identification Number	Packing Group
Compressed gas, n.o.s.	2.2	UN1956	N/A
Compressed gas, oxidizing, n.o.s.	2.2	UN3156	N/A

7. SAFETY CONTROL MEASURES:

a. PACKAGING: Packagings prescribed are non-DOT specification cylinders that are part of the International Space Station (ISS) Human Research Facility Gas Delivery System (GDS). The cylinder is manufactured by Arde Inc. from CRES 301 austenitic stainless steel and has a volume of 1.3 liters (80in<sup>3</sup>) and a maximum operating pressure of 3,000 psig. The cylinder must have a design burst pressure of at least 6,000 psig. The cylinder is mated to a regulator that regulates the pressure from 2230 psig to 50 psig. The cylinder/regulator assembly is considered the Gas Delivery System (GDS). The GDS, along with a PEN assembly (which contains no hazardous materials), when shipped inside a strong specially designed transport container is called the Pressurized Inhalation Gases (PIG) in a Blanket Assembly. The PIG (Part number SEG46121600-30x) and all its components must be in accordance with the NASA application for special permit on file with the Office of Hazardous Materials Special Permits and Approvals.

b. OPERATIONAL CONTROLS:

- (1) Each cylinder must be filled to no more than 2230 psig during transportation.
- (2) Each cylinder must be proof pressure tested to 4,500 psig with no signs of leakage.
- (3) The GDS valve must be closed during transport.

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. The outer shipping container must be plainly and durably marked “DOT-SP 14814” as specified in § 172.301(c).
9. MODES OF TRANSPORTATION AUTHORIZED: Motor vehicle, rail freight, cargo vessel, cargo aircraft only, and passenger-carrying aircraft.
10. MODAL REQUIREMENTS: A current copy of this special permit must be carried aboard each cargo vessel, aircraft or motor vehicle 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.:



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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-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 <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: CF/TG