



U.S. Department
of Transportation

**Pipeline and Hazardous
Materials Safety
Administration**

May 12, 2023

1200 New Jersey Avenue, SE
Washington, DC 20590

DOT-SP 10887
(ELEVENTH 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 dinitrogen tetroxide in specially designed DOT Specification 51 portable tanks. 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 § 173.314 in that DOT Specification 51 portable tanks are not authorized, except as specified herein.
5. BASIS: This special permit is based on NASA's application dated February 1, 2023, submitted in accordance with § 107.105 and the public proceeding thereon.

Tracking Number: 2023024053

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

7. SAFETY CONTROL MEASURES:

a. Prescribed packaging is a Generic Propellant Transfer Unit (GPTU) which consists of a DOT Specification 51 portable tank of double-walled design (jacketed pressure vessel), constructed in accordance with the ASME Code for lethal service, and having a water capacity of 550 gallons. The design, designated Model No. PT-5-GPTU, is described in Lox Equipment Company engineering documents, submitted with and forming a part of the application, as follows:

- (1) Technical Data Sheet for Model PT-5-GPTU,
- (2) Drawing No. A-50703, GPTU Fluid System Schematic,
- (3) Drawing No. D-50077, Rev. 4, General Arrangement,
- (4) Drawing No. D-50078, Rev. 2, Inner Vessel Arrangement, and
- (5) Drawing No. 81K04503, Rev. F, GPTU 500 Gallon Hypergol Propellants Vessel Configuration Drawing.

b. Packaging must meet all criteria specified in the application, including the following safety control measures:

- (1) The protective housing must be arranged so that the cover will not close unless inlet and outlet valves are in the "shut off" position. The manway cover must have a burst disk rated at 15 psig to protect the housing from over pressurization.
- (2) The inner pressure vessel safety relief valve system must consist of an isolation ball valve, a rupture disk and a relief valve mounted in series. The isolation valve must be mechanically locked in the "open" position during transport. The relief valve must be set to begin opening at the MAWP of the vessel.

- (3) Each GPTU must have a water capacity of 550 gallons (maximum). The maximum filling density must be limited to 91 percent of the water volume.

8. SPECIAL PROVISIONS:

- a. Each operation transporting dinitrogen tetroxide outside the confines of the Kennedy Space Center and Cape Canaveral Air Force Station (KSC/CCAFS) must be conducted fully in accordance with the requirements of the NASA "Generic Propellant Transfer Unit (GPTU) Portable Tank Emergency Response Plan for Inhalation Hazards" submitted as part of the application.
- b. Shipments must be made only within 25 miles of the KSC/CCAFS boundaries.
- c. The package must be marked "INHALATION HAZARD" in letters at least 2 inches in height on at least 2 opposite sides, and must be marked on these same sides, in letters at least 2 inches in height on a contrasting background "DOT-SP 10887."

9. MODES OF TRANSPORTATION AUTHORIZED: Motor vehicle.

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

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.:



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: ae