



U.S. Department
of Transportation

**Pipeline and Hazardous
Materials Safety
Administration**

March 28, 2022

1200 New Jersey Avenue, SE
Washington, DC 20590

DOT-SP 12297
(EIGHTH REVISION)

EXPIRATION DATE: 2026-02-28

(FOR RENEWAL, SEE 49 CFR § 107.109)

1. GRANTEE: Applied Pressure Vessels, Inc
Santa Clarita, CA
2. PURPOSE AND LIMITATIONS:
 - a. This special permit authorizes the manufacture, mark, sale ,and use of eight (8) non-DOT specification spherical cylinders conforming to all regulations applicable to a DOT Specification 4DS cylinder, except as specified herein, for the transportation in commerce of nitrogen, compressed under the terms and conditions specified herein. 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 use as a component of a transport vehicle or other device, or other uses not associated with transportation in commerce.
 - c. In accordance with 49 CFR 107.107(a), party status may not be granted to a manufacturing special permit. These packagings may be used in accordance with 49 CFR 173.22a.
3. REGULATORY SYSTEM AFFECTED: 49 CFR Parts 106, 107 and 171-180.
4. REGULATIONS FROM WHICH EXEMPTED: 49 CFR § 173.302(a) in that a non-DOT specification spherical cylinder, manufactured with one welded seam is not authorized, except as specified herein.
5. BASIS: This special permit is based on the application of Applied Pressure Vessels, Inc dated March 22, 2022, submitted in accordance with § 107.109.

6. HAZARDOUS MATERIALS (49 CFR 172.101):

Hazardous Material Description			
Proper Shipping Name	Hazard Class/ Division	Identification Number	Packing Group
Nitrogen, compressed	2.2	UN1066	N/A

7. SAFETY CONTROL MEASURES:

a. PACKAGING: Prescribed packaging is a non-DOT specification spherical cylinder constructed in accordance with Applied Companies drawings number 419-28, 11038, and 11039. Each cylinder must be as detailed in the supporting documentation accompanying the application on file with the Office of Hazardous Materials Safety (OHMS). The cylinders must be in conformance with § 178.35 and with DOT Specification 4DS cylinders (§ 178.47), except as follows:

§ 178.35(c) *Duties of inspector.*

(Add) (5) Prior to initial production of any design or design change, verify that the tests and inspections prescribed in this special permit have been performed with acceptable results.

§ 178.35(f) *Markings.* * * *

(1) Each cylinder must be marked with the following information:

(i) In lieu of the specification marking, each cylinder must be marked with “DOT-SP 12297” followed by the service pressure.

* * *

§ 178.47(a) *Type, Size and Service Pressure.* Circumferentially welded hemispherical shells, drawn from Inconel 718 plate, with a water capacity of not over 0.36 pounds (10.5 cubic inches) and maximum service pressure of 5,000 pounds per square inch gauge at 70 °F.

§ 178.47(b) *Steel.* Authorized material is Inconel 718 alloy conforming to SAE Aerospace Material Specification (AMS) 5662.

§ 178.47(f) *Wall Thickness.* The minimum wall thickness must be 0.072 inch. The wall stress at the minimum specified test pressure may not be over 118,464 psi.

§ 178.47(g) *Heat Treatment*. After welding, and inspection, the completed cylinder must be uniformly and properly heat treated prior to testing. Heat treatment of the cylinders of the authorized analysis shall be to AMS 5662J.

b. TESTING: Each cylinder must be retested and reinspected at least once every five years in accordance with the requirements prescribed for DOT-4DS cylinders in § 180.209. Evidence of leakage or bulging through the circumferential weld seam shall be reason for cylinder rejection. Requalification through repair is not authorized.

c. OPERATIONAL CONTROLS:

(1) Individual charged cylinders must be shipped in strong outside packaging in accordance with the requirements contained in § 173.301(a)(9).

(2) Cylinders charged and shipped alone must be equipped with a pressure relief device selected, sized, and tested in accordance with § 173.301(f). Cylinders charged and shipped as part of a system must be protected by a system pressure relief device with no intervening valving.

d. DESIGN QUALIFICATION TESTS:

(1) One cylinder of each new design must pass the flattening test of § 178.47(m).

(2) Two cylinders of each new design must be subjected to 10,000 pressure cycles from 100 to 10,000 psig at a rate not to exceed 7 cycles per minute. The test cylinders must withstand the cycling pressurization test without any evidence of visually observable leakage or damage growth during or after the test.

(3) The minimum burst pressure must be 15,000 psig, 3.0 times the service pressure of the cylinder.

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 package covered by this special permit, may reoffer it for transportation provided no modification or change is made to the package and it is offered for transportation in conformance with this special permit and the HMR.

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

- d. Each packaging manufactured under the authority of this special permit must be either (1) marked with the name of the manufacturer and location (city and state) of the facility at which it is manufactured or (2) marked with a registration symbol designated by the Office of Hazardous Materials Safety for a specific manufacturing facility.
 - e. A current copy of this special permit must be maintained at each facility where the package is manufactured under this special permit. It must be made available to a DOT representative upon request.
 - f. Eight (8) non-DOT specification spherical cylinders are authorized to be manufactured under the terms of this special permit.
9. MODES OF TRANSPORTATION AUTHORIZED: Motor vehicle, rail freight, 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 shall 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 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, 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.

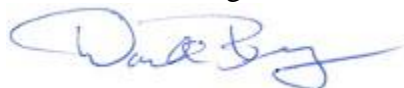
Each “Hazmat employee”, as defined in § 171.8, who performs a function subject to this special permit must receive training on the requirements and conditions of this special permit in addition to the training required by §§ 172.700 through 172.704.

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.:



for William Schoonover
Associate Administrator for Hazardous Materials Safety

Address all inquiries to: Associate Administrator for Hazardous Materials Safety, Pipeline and Hazardous Materials Safety Administration, Department of Transportation, Washington, D.C. 20590. Attention: PHH-13.

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: SGrey/NICKS