



U.S. Department
of Transportation

**Pipeline and Hazardous
Materials Safety
Administration**

May 08, 2025

1200 New Jersey Avenue, SE
Washington, DC 20590

DOT-SP 7542
(FIFTHTEENTH REVISION)

EXPIRATION DATE: 2029-04-30

(FOR RENEWAL, SEE 49 CFR 107.109)

1. GRANTEE: Norris Cylinder Company
Huntsville, AL
2. PURPOSE AND LIMITATIONS:
 - a. This special permit authorizes the manufacture, mark, sale and use of non-DOT specification cylinder conforming with all regulations applicable to a DOT Specification 4BW cylinder, except as specified herein, for the transportation in commerce of the materials authorized by this special permit. 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. In accordance with 49 CFR 107.107(a) party status may not be granted to a manufacturing 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 § 173.303 in that non-DOT specification cylinders are not authorized, except as specified herein.
5. BASIS: This special permit is based on the application of Norris Cylinder Company dated April 3, 2025, and 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
Acetylene, dissolved	2.1	UN1001	N/A

7. SAFETY CONTROL MEASURES:

a. PACKAGING: Prescribed packagings are non-DOT specification steel cylinders which comply with DOT Specification 4BW (§§ 178.35 and 178.61) except as follows:

(1) Each cylinder must comply with § 178.35 except that § 178.35(b)(1) does not apply.

(2) Each cylinder must comply with §§ 178.60(g)(2), 178.60(p), 178.60(q) and 178.60(r). Cylinders must have a service pressure of 250 psig. Heads concave to pressure must have minimum thickness equal to required thickness of sidewall. Heads convex to pressure must have minimum thickness equal to 2.5 times the required thickness of the sidewall. A round out pressure must be applied prior to the official test prescribed in § 178.61(i). Test pressure must be at least three times the service pressure and the minimum burst pressure must be six times the service pressure. Cylinders having outside diameters greater than 5 inches must have a minimum wall thickness of 0.087 inch. The wall stress must be calculated by the formula:

$$S = 3P(1.3D^2 + 0.4d^2)/[E(D^2 - d^2)]$$

(3) Cylinders must not be identified as DOT-4BW and, instead, each one must be marked "DOT-SP 7542". The applicable portion of the inspector's report must be so noted.

(4) Only those cylinders that comply with the specifications, calculations, and test data included in reports dated May 27, 1975, January 24, 1976, and June 24, 1976, submitted to and on file at the Office of Hazardous Materials Safety (OHMS), are qualified under the terms of this special permit. Tests to qualify cylinders of any new design that differ from the above (e.g., change in diameter, length, volume, ends, etc.) must in addition to the 49 CFR requirements, satisfy the following, and the results thereof must be submitted to OHMS:

- (i) Cycle test data, 20,000 pressure cycles, from approximately zero psig to test pressure at a rate not to exceed ten cycles per minute.
- (ii) Permanent deformation measurements on heads convex to pressure as a result of cycle tests.
- (iii) Burst tests.
- (iv) Hydrostatic test result comparison to existing cylinder models.
- (v) Drawings.

b. TESTING: After June 30, 2002, each cylinder must be requalified in accordance with the requirements for DOT 8 and 8AL cylinders as described in § 180.209(i).

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 marked with a registration symbol designated by the OHMS 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. No new manufacturing as of March 22, 2010.

9. MODES OF TRANSPORTATION AUTHORIZED: Motor vehicle and rail freight.

10. MODAL REQUIREMENTS: No additional modal requirements.

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, 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: KH