



U.S. Department
of Transportation

**Pipeline and Hazardous
Materials Safety
Administration**

September 19, 2023

1200 New Jersey Avenue, SE
Washington, DC 20590

DOT-SP 14808
(SEVENTH REVISION)

EXPIRATION DATE: 2027-08-31

(FOR RENEWAL, SEE 49 CFR 107.109)

1. GRANTEE: Amtrol-Alfa, Metalomecanica S.A.
Guimaraes, Portugal

U.S. AGENT: Worthington Industries
Columbus, OH

2. PURPOSE AND LIMITATIONS:

a. This special permit authorizes the manufacture, marking, sale and use of non-DOT specification cylinders, similar to a DOT 4BA, 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. The safety analyses did not consider the hazards and risks associated with consumer use, 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 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.

Tracking Number: 2023075225

4. REGULATIONS FROM WHICH EXEMPTED: 49 CFR §§ 178.51(b), (f)(1) and (2) and (g) in that the use of a non-DOT specification cylinder is not authorized, except as specified herein.

NOTE: This special permit does not relieve the holder from securing an approval for manufacturing cylinders from the Associate Administrator for Hazardous Materials Safety.

5. BASIS: This special permit is based on the application of Amtrol-Alfa Metalomecnica, S.A. dated July 21, 2023, 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
Butane see also Petroleum gases, liquefied	2.1	UN1011	N/A
Petroleum gases, liquefied or Liquefied petroleum gas	2.1	UN1075	N/A
Propane see also Petroleum gases, liquefied	2.1	UN1978	N/A
Liquefied gas, flammable, n.o.s., (2,3,3,3-Tetrafloroprop-1-ene; <i>also known as HFO-1234yf</i>))	2.1	UN3161	N/A

7. SAFETY CONTROL MEASURES:

a. PACKAGING: Packaging prescribed is a non-DOT specification cylinder, similar to the DOT-4BA that have a maximum water capacity of 35.8 liters (9.5 US gallons). The maximum service pressure is 240 psig and the minimum cylinder burst strength is 960 psig. The cylinders are constructed in accordance with the Amtrol Alfa application for special permit, drawing number X-036-02-0003, specification and design qualification testing, on file with the Office of Hazardous Materials Safety (OHMS) and in accordance with § 178.51 except as follows:

§ 178.51(b) Steel

The steel composition is limited to the high strength, dual phase, deep draw quality, killed, low carbon type with all of the chemical properties of the Grade 1 steel as presented in Appendix A of Part 178 except that the maximum silicon content must not exceed 0.50%. The chemical analysis must conform to the following:

Element	Ladle Analysis %
Carbon	0.20 (max)
Manganese	1.60 (max)
Phosphorous	0.04 (max)
Sulfur	0.05 (max)
Silicon	0.50 (max)*
Copper	0.40 (max)

*Note: The maximum silicon content has been increased from 0.30%, shown in Table 1 of Appendix A in Part 178, to 0.50%.

The guaranteed minimum yield strength must be at least 79,700 psig and the minimum guaranteed tensile strength must be at least 101,500 psig.

§ 178.51(f) Wall thickness

The maximum wall stress in the cylinder at test pressure is calculated by the equation given in § 178.51(f)(2), and may not exceed a value equal to half of the guaranteed minimum tensile strength.

§ 178.51(g) Heat Treatment

Heat treatment is not required.

b. QUALIFICATION TESTING:

(1) For each new design a minimum of two cylinders must successfully pass a drop test onto an edged striker from a height of 1.2 meters (3.9 feet) in accordance with the documentation provided by Amtrol- Alfa Metalomecanica, S.A. to the OHMS. A minimum of one cylinder must also successfully complete a 12,000

cycle pressure cycling test; with full pressure cycles ranging between 0 to 435 psig. The remaining cylinders must successfully pass a post-drop burst test; and bursting at no less than 90% of the minimum guaranteed burst strength.

(2) In lieu of providing results for specimen elongation in accordance with § 178.51(k), a 12,000 cycle pressure cycling test must be conducted on 1 cylinder from every lot of 1000 cylinders of the same heat. If the lot of cylinders is from multiple heats, then additional cylinders must be selected to complete the test.

c. REQUALIFICATION TESTING:

(1) Cylinders must be requalified once every 5 years in accordance with ISO 14660, "Welded carbon steel gas cylinders – periodic testing and inspection".

(2) Alternatively, in lieu of the above testing, the cylinders may be requalified by external visual inspection every five years in accordance with CGA Pamphlet C-6. To qualify for this testing option, the cylinders must be used in service for Liquefied Petroleum Gas that meets the detailed requirement limits in Table-1 of ASTM D 1835, "Standard Specification for Liquefied Petroleum (LP) Gases" or an equivalent standard containing the same limits.

d. OPERATIONAL CONTROLS: Amtrol-Alfa Metalomecanica, S.A. must submit, on an annual basis, all compiled results from the 12,000 cycle pressure cycling test to OHMS for the first two years of production.

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 packaging covered by this special permit, may reoffer it for transportation provided no modification or change is made to the packaging 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. Since a puncture test and a post-puncture leakage test have been performed, outer packaging, as stipulated in § 173.301(a)(9), is not required.

- e. 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 Special Permits and Approvals for a specific manufacturing facility.
- f. 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.
9. MODES OF TRANSPORTATION AUTHORIZED: Motor vehicle, cargo vessel, and rail freight.
10. MODAL REQUIREMENTS: A current copy of this special permit must be carried aboard each motor vehicle or cargo vessel 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.

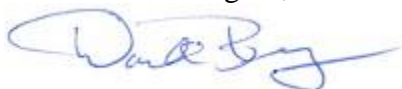
Each "Hazmat employee", as defined in § 171.8, who performs a function subject to this special permit must receive training on the requirements and conditions of this special permit in addition to the training required by §§ 172.700 through 172.704.

No person may use or apply this special permit, including display of its number, when 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 -- OHMS, 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-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 http://hazmat.dot.gov/sp_app/special_permits/spec_perm_index.htm Photo reproductions and legible reductions of this special permit are permitted. Any alteration of this special permit is prohibited.

PO: BB