



U.S. Department  
of Transportation  
**Research and  
Special Programs  
Administration**

400 Seventh St., S.W.  
Washington, D.C. 20590

**FEB 14 2003**

DOT-E 9295  
(FOURTH REVISION)

EXPIRATION DATE: January 31, 2005

(FOR RENEWAL, SEE 49 CFR § 107.109)

1. GRANTEE: Applied Companies  
Valencia, CA
2. PURPOSE AND LIMITATIONS:
  - a. This exemption authorizes the manufacture, mark, sale and use of a non-DOT specification toroidal pressure vessel conforming with all regulations applicable to a DOT 39 cylinder, except as specified herein, for the transportation in commerce of the materials authorized by this exemption. This exemption provides no relief from the Hazardous Materials Regulations (HMR) other than as specifically stated herein.
  - b. The safety analyses performed in development of this exemption only considered the hazards and risks associated with transportation in commerce.
3. REGULATORY SYSTEM AFFECTED: 49 CFR Parts 106, 107 and 171-180.
4. REGULATIONS FROM WHICH EXEMPTED: 49 CFR § 173.302a(a) in that non-DOT specification cylinders are not authorized, except as specified herein.
5. BASIS: This exemption is based on the application of Applied Companies dated January 27, 2003, submitted in accordance with § 107.109.

6. HAZARDOUS MATERIALS (49 CFR § 172.101):

Proper Shipping Name/ Hazardous Material Description	Hazard Class/ Division	Identi- fication Number	Packing Group
Air, compressed	2.2	UN1002	N/A
Argon, compressed	2.2	UN1006	N/A
Helium, compressed	2.2	UN1046	N/A
Nitrogen, compressed	2.2	UN1066	N/A

7. SAFETY CONTROL MEASURES:

PACKAGING - Prescribed packaging is a non-DOT specification, non-reusable (non-refillable), welded pressure vessel made in accordance with Applied Environment Corporation's drawing 289-4 on file with the Office of Hazardous Materials Exemptions and Approvals (OHMEA) and DOT 39 Specification (§§ 178.35 and 178.65) except as follows:

§ 178.35(c) *Duties of inspector.*

(3) \* \* \*

(iii) Inspector must verify heat treatment prior to test.

§ 178.65(a) *Type, size, service pressure and test pressure.*

Toroidal in shape with a maximum cross-section outside diameter of 2 inches. Maximum volume must not exceed 35 cubic inches with a service pressure not to exceed 7900 psi and a maximum test pressure of 14,900 psig.

§ 178.65(b) *Material.*

Authorized material must be AISI 4130 steel conforming to the analysis shown in § 178.44(b).

§ 178.65(c) *Manufacture.*

(1) \* \* \*

(2) \* \* \*

(i) thru (v) Not applicable.

(vi) and (vii) \* \* \*

(viii) Each cylinder must be subjected to magnetic particle inspection and all welded joints subject to pressure must be subjected to 100% radiographic inspection.

(3) \* \* \*

§ 178.65(d) *Wall thickness.*

The minimum wall thickness must be such that the wall stress at test pressure shall not exceed 110,000 psi nor the yield strength of the material of the finished cylinder wall.

(1) \* \* \*

(2) Does not apply.

§ 178.65(e) *Openings and attachments.*

(1) Openings must be located on the mean diameter of the torus and perpendicular to the cross section. Unless the torus has adequate thickness, the opening must be reinforced by a securely attached fitting, boss, pad or other suitable means.

(2) and (3). Not applicable.

(4) \* \* \*

§ 178.65(f) *Pressure tests.*

(1) \* \* \*

(2) \* \* \*

(i) Failure occurs at less than 19,900 psig.

(ii) thru (iv) \* \* \*

(c) \* \* \*

§ 178.65(g) *Flattening test.*

\* \* \*

(1) thru (3) \* \* \*

(4) Cylinder or test rings must not crack when flattened so that their outer surfaces are not more than 10 times the wall thickness apart.

(5) \* \* \*

§ 178.65(i) *Markings.*

Applies except "DOT-E 9295" must replace "DOT-39".

8. SPECIAL PROVISIONS:

a. In accordance with the provisions of Paragraph (b) of § 173.22a, persons may use the packaging authorized by this exemption for the transportation of the hazardous materials specified in paragraph 6, only in conformance with the terms of this exemption.

b. A person who is not a holder of this exemption, but receives a package covered by this exemption, may reoffer it for transportation provided no modifications or changes are made to the package and it is offered for transportation in conformance with this exemption and the HMR.

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

d. Each packaging manufactured under the authority of this exemption must be marked with a registration symbol designated by the Office of Hazardous Materials Exemptions and Approvals for a specific manufacturing facility.

e. A current copy of this exemption must be maintained at each facility where the package is manufactured under this exemption. It must be made available to a DOT representative upon request.

9. MODES OF TRANSPORTATION AUTHORIZED: Motor vehicle, rail freight, cargo aircraft only.

10. MODAL REQUIREMENTS: A current copy of this exemption must be carried aboard each aircraft used to transport packages covered by this exemption. The shipper shall furnish a copy of this exemption 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 exemption 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 exemption and the Hazardous Materials Regulations, Parts 171-180.
  - 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 exemption must receive training on the requirements and conditions of this exemption in addition to the training required by §§ 172.700 through 172.704.

No person may use or apply this exemption, including display of its number, when the exemption has expired or is otherwise no longer in effect.

12. REPORTING REQUIREMENTS: The carrier is required to report any incident involving loss of packaging contents or packaging failure to the Associate Administrator for Hazardous Materials Safety (AAHMS) as soon as practicable. (Sections 171.15 and 171.16 apply to any activity undertaken under the authority of this exemption.) In addition, the holder(s) of this exemption must also inform the AAHMS, in writing, as soon as practicable of any incidents involving the package and shipments made under this exemption.

Issued in Washington, D.C.:

  
for Robert A. McGuire  
Associate Administrator for  
Hazardous Materials Safety

**FEB 14 2003**

(DATE)

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Address all inquiries to: Associate Administrator for Hazardous Materials Safety, Research and Special Programs Administration, Department of Transportation, Washington, D.C. 20590.  
Attention: DHM-31.

Copies of this exemption may be obtained by accessing the Hazardous Materials Safety Homepage at <http://hazmat.dot.gov/exemptions> Photo reproductions and legible reductions of this exemption are permitted. Any alteration of this exemption is prohibited.

PO: KFW/AM