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

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

NOV 2 6 2003

DOT-E 8096
(SIXTH REVISION)

EXPIRATION DATE: October 31, 2005

(FOR RENEWAL, SEE 49 CFR § 107.109)

1. GRANTEE: Scott High Pressure Technology
Plumsteadville, PA

2. PURPOSE AND LIMITATIONS:

a. This exemption authorizes the manufacture, mark, sale and use of a non-DOT specification cylinder conforming with all regulations applicable to a DOT Specification 3E 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)(1), § 173.304a, and § 175.3 in that non-DOT specification cylinders are not authorized, except as specified herein.

5. BASIS: This exemption is based on the application of Scott High Pressure Technology dated October 6, 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**
1-Chloro-1,2,2,2-tetrafluoroethane *or* Refrigerant gas R 124	2.2	UN1021	N/A
1-Chloro-2,2,2-trifluoroethane *or* Refrigerant gas R 133a	2.2	UN1983	N/A
Chlorodifluorobromomethane *or* Refrigerant gas R 12B1	2.2	UN1974	N/A
Chlorodifluoromethane *or* Refrigerant gas R 22	2.2	UN1018	N/A
Chlorotrifluoromethane *or* Refrigerant gas R 13	2.2	UN1022	N/A
1,1-Difluoroethane *or* Refrigerant gas R 152a	2.1	UN1030	N/A
1,1-Difluoroethylene *or* Refrigerant gas R 1132a	2.1	UN1959	N/A
1,2-Dichloro-1,1,2,2-Tetrafluoroethane *or* Refrigerant gas R 114	2.2	UN1958	N/A
Air, compressed	2.2	UN1002	N/A
Bromotrifluoromethane or Refrigerant gas R 13B1	2.2	UN1009	N/A
Carbon dioxide	2.2	UN1013	N/A
Chlorodifluoromethane and chloropentafluoroethane mixture *or* Refrigerant gas R 502 *with fixed boiling point, with aproximately 49 percent chlorodifluoromethane*	2.2	UN1973	N/A
Chloropentafluoroethane *or* Refrigerant gas R 115	2.2	UN1020	N/A

Proper Shipping Name/ Hazardous Material Description	Hazard Class/ Division	Identi- fication Number	Packing Group
Dichlorodifluoromethane and difluoroethane azeotropic mixture or Refrigerant gas R 500 *with approximately 74 percent dichlorodifluoromethane*	2.2	UN2602	N/A
Dichlorodifluoromethane *or* Refrigerant gas R 12	2.2	UN1028	N/A
Dichlorofluoromethane *or* Refrigerant gas R 21	2.2	UN1029	N/A
Ethylene, compressed	2.1	UN1962	N/A
Hexafluoroethane, compressed *or* Refrigerant gas R 116	2.2	UN2193	N/A
Nitrogen, compressed	2.2	UN1066	N/A
Oxygen, compressed	2.2	UN1072	N/A
Refrigerant gases, n.o.s.	2.2	UN1078	N/A
Refrigerant gases, n.o.s *or* Dispersant gases, n.o.s.	2.1	NA1954	N/A
Tetrafluoromethane, compressed *or* Refrigerant gas R 14	2.2	UN1982	N/A

7. SAFETY CONTROL MEASURES:

a. PACKAGING - Prescribed packaging is a non-DOT specification steel cylinder made in conformance with § 178.35 and DOT Specification 3E (§ 178.42) except as follows:

§ 178.35(f) *Markings.*

Applies except substituting "DOT-E 8096-1800" for "DOT 3E1800." All other markings are required.

§ 178.35(g) *Inspector's report.*

Applicable inspection reports required are:

1. Inspectors certification.
2. Record of chemical analysis.
3. Flattening test.

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

Seamless tubing partially closed in at either end with closure on either end by circumferentially welded end caps. Cylinder not over 90 cubic inch water capacity. Longitudinal seams and welded tubing prohibited. Service pressure. Must be 1800 psig.

§ 178.42(b) *Steel.*

(1) Aluminum killed 1010 seamless tubing of uniform quality. Content percent may not exceed the following: Carbon 0.12, manganese 0.50, phosphorous 0.04, and sulfur 0.05 (ladle analysis), or

(2) Cold drawn seamless type 4130 alloy tubing. Content percent may not exceed the following: carbon (0.25-0.35), manganese (0.40-0.90), phosphorus (0.04), sulfur (0.05), silicon (0.15-0.35), chromium (0.80-1.10), molybdenum (0.15-0.25).

§ 178.42(d) *Manufacture.*

The last sentence is deleted.

§ 178.42(f) *Hydrostatic test.*

(1) * * *

(2) The cylinder referred to in paragraph (f)(1) of this section must burst at a pressure higher than 6,000 psi without fragmenting or otherwise showing lack of ductility, and one additional cylinder in the same lot of 500 must be subjected to a 3000 psi test and subsequently to a flattening test between knife edges with the circumferential joint at a right angle to the plates. The knife edges must be 60° wedge shaped rounded to 1/2 inch radius. Flattening to six times the thickness of the seam joint without cracking is required. The last sentence is deleted.

(3) Other cylinders must be examined under hydrostatic pressure of at least 3000 psig and show no defect. The pressure must be maintained for at least 30 seconds and sufficiently longer to insure complete examination.

§ 178.42(g) *Leakage test.*

All cylinders must be tested for leakage by internal air or gas at 1,800 psig following the hydrostatic test. Leakers must be rejected.

b. OPERATIONAL CONTROLS - Cylinders must be shipped in strong outside packagings in conformance with § 173.301(a)(9). Each cylinder must be secured against rotational movement within the outside packaging.

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 modification or change is made to the package or its contents 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.

f. Charging of cylinders with liquefied gases must conform to the requirements in § 173.304a.

g. Ethylene is forbidden for shipment by passenger-carrying aircraft.

h. Transportation of oxygen is only authorized by aircraft when in accordance with § 172.102(c)(2) Special Provision A52 and §§ 175.85(h) and (i).

9. MODES OF TRANSPORTATION AUTHORIZED: Motor vehicle, rail freight, cargo vessel, cargo aircraft only, and passenger-carrying aircraft (See restrictions in paragraphs 8.g. and 8.h. of this exemption).

10. MODAL REQUIREMENTS: A current copy of this exemption must be carried aboard each cargo vessel or aircraft used to transport packages covered by this exemption. The shipper must 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:

- All terms and conditions prescribed in this exemption and the Hazardous Materials Regulations, Parts 171-180.
- 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 this 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.

NOV 2 6 2003

(DATE)

Robert A. McGuire
for Associate Administrator for
Hazardous Materials Safety

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/alb