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

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

MAY 9 2003

DOT-E 7235
(EIGHTEENTH REVISION)

EXPIRATION DATE: April 30, 2005

(FOR RENEWAL, SEE 49 CFR § 107.109)

1. GRANTEE: Luxfer Gas Cylinders
(formerly Luxfer USA Limited)
Riverside, CA

2. PURPOSE AND LIMITATIONS:

a. This exemption authorizes the manufacture, mark, sale and use of a non-DOT specification fiber reinforced plastic (FRP) hoop wrapped (HW) cylinders for use in transporting certain Division 2.2 materials authorized under this exemption. This exemption provides no relief from any Hazardous Materials Regulation (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. 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.

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(a)(2) 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 Luxfer Gas Cylinders dated April 30, 2003, submitted in accordance with § 107.109.

6. HAZARDOUS MATERIALS (49 CFR § 172.101):

Hazardous Materials Description			
Proper Shipping Name	**Hazard Class/ Division**	**Identi- fication Number**	**Packing Group**
Air, compressed	2.2	UN1002	N/A
Argon, compressed	2.2	UN1006	N/A
Carbon dioxide	2.2	UN1013	N/A
Helium, compressed	2.2	UN1046	N/A
Nitrogen, compressed	2.2	UN1066	N/A
Oxygen, compressed	2.2	UN1072	N/A

7. SAFETY CONTROL MEASURES:

a. PACKAGING - Packaging prescribed is a non-DOT specification fiber reinforced plastic (FRP) hoop wrapped (HW) cylinder made in accordance with Luxfer USA Limited's technical data submitted with their application, on file with the Office of Hazardous Materials Transportation Exemptions and Approvals (OHMEA), and conforming with DOT FRP-2 Standard Revision 1(§ 178.BB) dated January 4, 1987, except as follows:

§ 178.BB-5 Authorized material and identification of material.

(a) Aluminum liner must be 6351 or 6061 alloy and T6 temper, except that after June 1989, liner material must be 6061 alloy.

(b) * * *

(c) Resin system must be epoxy or modified epoxy type. Resin system must be tested on sample coupons representative of the composite over-wrap in accordance with ASTM D-2344-67 for water boil shear test, and have a minimum shear strength of 3,000 PSI.

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§ 178.BB-15 Marking.

(a) Each cylinder must be permanently marked (other than stamping the composite) in the composite wrap on the side near the end of the cylinder containing the valve outlet, except that cylinders manufactured prior to October 1, 1982, may be marked as follows:

"DOT-E 7235" followed by the service pressure and the inspector's mark and must be located in the composite wrap. Other required markings must be in the composite wrap or on the metal shoulder, top head or neck of the cylinder.

b. TESTING - Each cylinder must be reinspected and hydrostatically retested every three years in accordance with § 180.209 as prescribed for DOT 3HT cylinders, except that the rejection elastic expansion does not apply and permanent volumetric expansion for cylinders made after July 1, 1979, must not exceed 5 percent of total volumetric expansion at test pressure. Retest dates must be stamped into the metal of the cylinder shoulder near the original test date.

c. OPERATIONAL CONTROLS -

(1) Cylinders must not be used for underwater breathing purposes.

(2) Cylinders used in oxygen service must conform with §§ 173.302(b)(5)(1) through (b)(5)(4).

(3) A cylinder is not authorized 15 years from the date of manufacture as marked on the cylinder.

(4) A cylinder that has been subjected to fire may not be returned to service.

(5) Cylinders must be packaged in accordance with § 173.301(a)(9).

(6) All cylinders marked with a 4500 psi service pressure must be fitted with a steel neckring, supplied by Luxfer, in accordance with Luxfer instructions and specifications contained in "Retrofit and Shop Procedures R2050" dated October 10, 1984. The visual inspection and neckring installation must be performed by a facility identified to OHMEA and qualified to

perform all operations in R2050, as determined by an independent inspection agency approved under § 107.803. Each inspection and retrofit facility must be reinspected by the independent inspector at least once every 3 months.

(7) Cylinders marked with 4500 psi service pressure which are not equipped with neckrings must be removed from service.

(8) No new construction of cylinders having marked service pressures higher than 3000 psi is authorized under this exemption.

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.

f. Transportation of oxygen is only authorized 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 paragraph 8(f) for restrictions).

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 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 at Washington, D.C.

for Ann Mazzullo

Robert A. McGuire
Associate Administrator for
Hazardous Materials Safety

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(DATE)

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/sln