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

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

E6616

DOCKETS UNIT
(202)366-5046 BUS.
(202366-3753 FAX

CYLINDERS 3-AL
SEE LIST BELOW

D.O.T.E- 6498
7042
8107
8364
8422
6616
6668
8404

SEE SECTION 173.23
49 CFR CODE OF REGULATIONS

§ 173.23 Previously authorized packaging.

(a) When the regulations specify a packaging with a specification marking prefix of "DOT," a packaging marked prior to January 1, 1970, with the prefix of "ICC" may be used in its place if the packaging otherwise conforms to applicable specification requirements.

(b) [Reserved]

(c) After July 2, 1982, a seamless aluminum cylinder manufactured in conformance with and for use under DOT exemption E 6498, E 7042, E 8107, E 8364, or E 8422, may be continued in use if marked before or at the time of the next retest with the specification identification "3AL" immediately above the exemption number, or the DOT mark (e.g., DOT 3AL 1800) is added in proximity to the exemption marking.

(d) Cylinders (spheres) manufactured and marked DOT-E 6616 prior to January 1, 1983, may be continued in use if marked before or at the time of the next retest with the specification identification "4BA" near the exemption marking.

(e) After October 1, 1984, cylinders manufactured for use under exemptions DOT E-6668 or E-8404 may be continued in use, and must be marked "DOT-4LXXXYY" (XXX to be replaced by the service pressure, YY to be replaced by the letters "AL", if applicable) in compliance with Specification 4L (§ 178.57 of this subchapter) on or before January 1, 1986. The "DOT-4LXXXYY" must appear in proximity to other required specification markings.

(f) An MC 331 cargo tank motor vehicle must conform to structural integrity requirements in § 178.337-3 or to corresponding requirements in effect at the time of manufacture.

(g) A non-bulk packaging manufactured, tested, marked, and certified on or before September 30, 1996, in accordance with the applicable provisions of subparts L and M of part 178 of this subchapter in effect on September 30, 1995, may be used as authorized by this subchapter if the packaging conforms to all requirements applicable at the time of manufacture. In addition, such a packaging may be reused as authorized by § 173.28 without a nominal thickness marking, if it conforms to the minimum thickness criteria prescribed in § 173.28(b)(4).

[Amdt. 173-3, 33 FR 14921, Oct. 4, 1968, as amended by Amdt. 173-94; 41 FR 16063, Apr. 15, 1976; Amdt. 173-152, 47 FR 26633, June 21, 1982; Amdt. 173-16, 48 FR 50460, Nov. 1, 1983; Amdt. 173-176, 49 FR 24689, June 14, 1984; Amdt. 173-180, 49 FR 42735, Oct. 24, 1984; Amdt. 173-224, 55 FR 52610, Dec. 21, 1990; 57 FR 45460, Oct. 1, 1992; Amdt. 173-240, 60 FR 17400, Apr. 5, 1995; Amdt. 173-242, 60 FR 26805, May 18, 1995]

DEPARTMENT OF TRANSPORTATION
HAZARDOUS MATERIALS REGULATIONS BOARD
WASHINGTON, D.C. 20590

SPECIAL PERMIT NO. 6616

This special permit is issued pursuant to 49 CFR 170.15 of the Department of Transportation (DOT) Hazardous Materials Regulations, as amended, to authorize shipments of a nonflammable liquefied compressed gas under conditions as prescribed herein. This permit does not relieve any shipper or carrier from compliance with any requirement of the DOT Regulations, except as specifically provided for herein.

Standard special permit requirements and conditions relating to package markings, preparation of shipping papers, shipping experience reports, etc., are published in 49 CFR 171.6. These requirements are part of this special permit.

1. BASIS. Petitions dated December 20, 1971, and February 2, 1972, by Fenwal Incorporated, Ashland, Massachusetts.

2. COMMODITY. Bromotrifluoromethane pressurized with nitrogen.

3. PROPER SHIPPING NAME (49 CFR 172.5). Compressed gas, n.o.s.

4. REGULATION WAIVED. 49 CFR 173.304(a)(1).

5. AUTHORIZED SHIPPER. The petitioner identified above and any other shipper who registers his identity with and receives acknowledgement from this Board and has a copy of the special permit.

6. PACKAGING PRESCRIBED. Non-DOT spherical, steel pressure vessels manufactured in compliance with DOT Specification 4BA (§178.51) except as otherwise provided as follows:

§178.51-2 No change except vessels must be spheres and must be welded type from two seamless hemispheres; inside diameter not to exceed 22 inches.

§178.51-10 No change except paragraph (b) does not apply and, instead, calculation for the spheres must be made by the formula:

$$S = \frac{PD}{4tE}$$

DEPARTMENT OF TRANSPORTATION
HAZARDOUS MATERIALS REGULATIONS BOARD
WASHINGTON, D.C. 20590

SPECIAL PERMIT NO. 6616
FIRST REVISION

Pursuant to 49 CFR 170.15 of the Department of Transportation (DOT) Hazardous Materials Regulations, as amended, and on the basis of the March 23, 1973 petition by Fenwal Incorporated.

Special Permit No. 6616 is hereby amended by changing paragraph (11) to read as follows:

11. EXPIRATION DATE. April 30, 1975.

All other terms of this permit, as revised remain unchanged. The complete permit currently in effect consists of the original issue and the First Revision.

Issued at Washington, D.C.:

for B. G. Milster
W. R. Fiste
For the Administrator
Federal Highway Administration

9 APR 1973
(DATE)

Ellis C. Langford
Ellis C. Langford
For the Administrator
Federal Aviation Administration

APR 10 1973
(DATE)

Address all inquiries to: Secretary, Hazardous Materials Regulations Board, U.S. Department of Transportation, Washington, D.C. 20590. Attention: Special Permits.

Dist: a, c, d

where:

S = wall stress in pounds per square inch;
P = test pressure prescribed for water jacket test, i.e., at least two times service pressure, in pounds per square inch;
D = outside diameter in inches;
t = minimum wall thickness in inches;
E = 0.85 (provides 85 percent weld efficiency factor which must be applied in the girth weld area and heat affected zones which zone shall extend a distance of 6 times wall thickness from center line of weld);
E = 1.0 (for all other areas).

§178.51-12 No change. Furthermore, each opening in a sphere must be provided with a fitting, boss, or pad of weldable steel securely attached to the sphere by fusion welding.

§178.51-15 Add: Physical test for spheres. Required on 2 specimens cut from flat representative sample plate of the same heat taken at random from the steel used to produce the sphere. This flat steel from which the 2 specimens are to be cut must receive the same heat-treatment as the spheres themselves. Sample plates to be taken for each lot of 200 or less spheres.

§178.51-19 In subparagraph (a)(1), "DOT SP 6616" must be substituted for the DOT-4BA specification marking. Additionally, paragraph (c) does not apply and instead, spheres must be marked as follows: Marking on spheres by stamping plainly and permanently only where the metal is at least .09 inch thick, or on a metal nameplate permanently secured to the container by means other than soft solder or by means that would not reduce the wall thickness.

§178.51-20 Insert "DOT SP 6616" in appropriate places on the inspector's report.

7. SPECIAL PACKAGING REQUIREMENTS.

a. Spheres must be shipped in strong outside packagings in conformance with §173.301(k)(1) or be securely mounted on wooden pallets. In either case, valves must be protected against damage.

b. Spheres must be retested and reinspected in accordance with §173.34(e) applicable to DOT-4BA cylinders.

8. MODES OF TRANSPORTATION AUTHORIZED. Passenger-carrying aircraft, cargo-only aircraft, and motor vehicle.

9. SPECIAL TRANSPORTATION REQUIREMENTS. A copy of this permit, kept current, must be carried aboard each aircraft.

10. REPORTING REQUIREMENTS. Any incident involving loss of contents of the package must be reported to this Board as soon as practicable.

11. EXPIRATION DATE. April 30, 1973.

Issued at Washington, D.C.:

for B.G. Milster — 26 APR 1972

W.R. Fiste
For the Administrator
Federal Highway Administration

(DATE)

Ellis C. Langford — 1 MAY 1972

Ellis C. Langford
For the Administrator
Federal Aviation Administration

(DATE)

Address all inquiries to: Secretary, Hazardous Materials Regulations Board, U.S. Department of Transportation, Washington, D.C. 20590. Attention: Special Permits.

Dist: a, c, d