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

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

**DOT-E 8938 (EXTENSION)**
**FIFTH REVISION January 8, 1990**

In accordance with 49 CFR 107.105 of the Department of Transportation (DOT) Hazardous Materials Regulations DOT-E 8938 is hereby extended for the party(ies) listed below by changing the expiration date in paragraph 10 to September 30, 1994. This change is effective from the issue date of this extension. All other terms of the exemption remain unchanged.

This extension applies only to party(ies) listed below based on the application(s) received in accordance with 49 CFR 107.105. This extension constitutes a necessary part of this exemption and must be attached to it.

Suzanne Hedgepeth

Alan I. Roberts
Associate Administrator
for Hazardous Materials Safety

NOV 20 1992
(DATE)

Dist: FHWA FRA USCG FAA

| EXEMPTION HOLDER | APPLICATION DATE |
|---|---|
| Cryogenic Services, Inc.<br>Canton, GA | August 31, 1992 |

Expired- Not Active

JAN 8 1990

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DOT-E 8938
(FIFTH REVISION)

1. Cryogenic Services, Inc., Canton, Georgia, is hereby granted an exemption from certain provisions of this Department's Hazardous Materials Regulations to manufacture, mark, and sell the packaging described in paragraph 7 below for use in the transportation of the nonflammable gases described in paragraph 3 below in commerce subject to the requirements specified herein. This exemption authorizes the use of a DOT Specification 4L cylinder for certain specified gases and provides no relief from any regulation other than as specifically stated.

2. BASIS. This exemption is based on Cryogenic Services, Inc.'s applications dated September 20 and November 1, 1988, and August 8, 1989, submitted in accordance with 49 CFR 107.103 and 107.105, and the public proceeding thereon.

3. HAZARDOUS MATERIALS (Descriptor and class). Carbon dioxide, refrigerated liquid, and nitrous oxide, refrigerated liquid, classed as nonflammable gases.

4. PROPER SHIPPING NAME (49 CFR 172.101). Carbon dioxide, refrigerated liquid or Nitrous oxide, refrigerated liquid, as appropriate.

5. REGULATION AFFECTED. 49 CFR 173.304(a)(2), 173.316(a), 175.3.

6. MODES OF TRANSPORTATION AUTHORIZED. Motor vehicle, rail freight, cargo vessel and cargo-aircraft only.

7. SAFETY CONTROL MEASURES.

a. Packaging prescribed is a DOT Specification 4L welded cylinder with rated water capacity not over 1,000 pounds conforming with the following models and related drawings and calculations submitted to the Office of Hazardous Materials Transportation (OHMT).

| Model No. | Service Pressure | Drawing No. | Date |
|---|---|---|---|
| PLC 160 HP | 292 psi | Drawing 904-1357-160 | 02/20/82 |
| PLC 180 HP | 292 psi | Drawing 904-1874 | 02/29/84 |
| PLC 275 HP | 292 psi | Drawing 904-1819 | 10/28/83 |
| PLC 200 HP | 292 psi | Drawing 904-2705 | 12/18/85 |
| PLC 450 HP | 292 psi | Drawing 913-4768 | 09/22/88 |
| LD 275 HP | 292 psi | Drawing 884-4599 | 03/16/87 |
| LCDS 200 | 252 psi | Drawing 874-1988 | 02/09/87 |
| LCDS 400 | 252 psi | Drawing 874-2001 | 02/10/87 |

b. The maximum allowable filling density must be as follows:

| Pressure Relief Valve Setting - psig | Per Cent - Filling Density $CO_2$ | $N_2O$ |
|---|---|---|
| 300 | 97.0 | 94.0 |
| 350 | 94.5 | 90.5 |

c. Each cylinder must be protected with at least one pressure relief valve and at least one frangible disc complying with 49 CFR 173.34(d). The relieving capacity of the safety devices must be in accordance with CGA Pamphlet S1.1 on a bare tank basis.

8. SPECIAL PROVISIONS.

a. Shippers may use the packaging covered by this exemption pursuant to 49 CFR 173.22a.

b. A copy of this exemption must be carried aboard each vessel, aircraft or motor vehicle used to transport packages covered by this exemption.

c. Each cylinder must be plainly marked on both sides near the middle, in letters at least two inches high on a contrasting background, "DOT-E 8938."

d. The temperature of the cargo at the time of loading may not exceed 0°F. (291 psig) for carbon dioxide and +4°F. (291 psig) for nitrous oxide. Maximum travel time may not exceed 120 hours.

e. A copy of this exemption, in its current status, must be maintained at each manufacturing facility at which this packaging is manufactured and must be made available to a DOT representative upon request.

f. Each packaging manufactured in accordance with the requirements of this exemption must be marked in a manner which identifies the physical location (city and state) of the facility at which it is manufactured.

9. REPORTING REQUIREMENTS. Any incident involving loss of package contents or package failure must be reported to the OHMT as soon as practicable.

10. EXPIRATION DATE. December 31, 1990.

Issued at Washington, D.C.:

JAN 8 1990

(DATE)

Alan I. Roberts
Director
Office of Hazardous Materials Transportation

Address all inquiries to: Director, Office of Hazardous Materials Transportation, Research and Special Programs Administration, U.S. Department of Transportation, Washington, D.C., 20590. Attention: Exemptions Branch.

Dist: USCG, FAA, FHWA, FRA