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

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

DEC 2 2 2000

DOT-E 7985
(FOURTH REVISION)

EXPIRATION DATE: November 30, 2002

(FOR RENEWAL, SEE 49 CFR § 107.109)

1. GRANTEE: Chart, Inc.
Storage Systems Division
Plaistow, New Hampshire
(Former grantee: Process Engineering)

2. PURPOSE AND LIMITATIONS:

a. This exemption authorizes the manufacture, mark, sale and use of non-DOT specification portable tanks for the transportation in commerce of Nitrogen, refrigerated liquid. 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 § 173.315(a) except as specified herein.

5. BASIS: This exemption is based on the application of Process Engineering dated December 15, 2000, 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 |
|---|---|---|---|
| Nitrogen, refrigerated liquid (cryogenic liquid) | 2.2 | UN1977 | N/A |

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7. SAFETY CONTROL MEASURES:

a. PACKAGING - Packaging prescribed is a non-DOT specification vacuum insulated portable tank designed and constructed in accordance with Section VIII of the ASME Code having a stainless steel inner tank with a design temperature of -320°F and steel outer jacket. In addition:

1. Except as otherwise specified, the tank must comply with one of the following designs on file with the Office of Hazardous Materials Exemptions and Approvals (OHMEA).

| Water Capacity | Minimum Design Pressure (PSIG)* | Specification Drawing |
|---|---|---|
| 1050 gal. | 40 | D40654, Rev. 4; D40679,Rev. 1; D40742, Rev. 0; and A13790 all dated April 19, 1978. |
| 1920 gal. | 40 | D-41636,Rev. 3;D-41652,Rev. 2; D-41534, Rev. O, all dated 1/81; and A-13790 dated 7/19/78. |
| 2100 gal. | 40 | D40691, Rev. 1; D40770, Rev. 0; D40659, Rev. 2 and A13790, all dated April 19, 1978. |
| 1920 gal. | 100 | D-41693, Rev O; D41694, Rev. 1; D-41696, Rev. O; A16901. |

*Same as MAWP in the ASME Code

2. Each tank must be tested to 1-1/2 times the sum of design pressure plus the static head plus 14.7 psig prior to initial shipment.

3. Each tank must be filled to allow at least two percent outage below the inlet of the pressure relief valve under conditions of incipient opening of this valve with the tanks in a level attitude. Maximum allowable filling density is 73 percent at 40 psi safety relief valve setting or 68 percent at 100 psi safety relief valve setting.

4. Each tank must be protected by one or more safety relief valves and one or more frangible discs arranged to discharge upward and unobstructed to the outside of the housing. The minimum total relieving capacity of the safety relief valves and of the frangible discs must be as calculated using the flow formulas contained in CGA Pamphlet S-1.2 with the insulation space saturated with gaseous lading at atmospheric pressure. The safety relief valves must be set to start to discharge at a pressure no higher than 110 percent of tank design pressure. The frangible discs must be designed to function at a pressure between 130 percent and 150 percent of tank design pressure.

5. Each tank must be confined to "local" offshore oil well service and adequately mounted on barges or work boats.

b. TESTING -

1. Hydrostatic test certificates must be on file with the OHMEA prior to initial shipment.

c. OPERATIONAL CONTROLS -

1. Each portable tank must be plainly marked on both sides near the middle in letters at least 2 inches high on a contrasting background "DOT-E 7985".

2. Each tank must be designed to have a minimum holding time of 75 hours. Theoretical calculation of the holding time is acceptable.

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 either (1) marked with the name of the manufacturer and location (city and state) of the facility at which it is manufactured or (2) 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 and cargo vessel.

10. MODAL REQUIREMENTS:

a. A current copy of this exemption must be carried aboard each cargo vessel and motor vehicle used to transport packages covered by this exemption.

b. Before transportation by motor vehicle in an empty condition, each tank must be emptied of liquid content. In addition, the vapor pressure must be so reduced as to avoid the possibility of venting en route.

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 in Washington, D.C.

DEC 2 2 2000

For Robert A. McGuire
Associate Administrator for
Hazardous Materials Safety

(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.

The original of this exemption is on file at the above office. Photo reproductions and legible reductions of this exemption are permitted. Any alteration of this exemption is prohibited.

Copies of exemptions may be obtained from the AAHMS, U.S. Department of Transportation, 400 7th Street, Washington, DC 20590-0001, Attention: Records Center, 202-366-5046.

PO: sln