OCT - 7 1994

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

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

DOT-E 10380
(FIRST REVISION)

EXPIRATION DATE: September 1, 1996

(FOR RENEWAL, SEE 49 CFR SECTION 107.105.)

1. GRANTEE: Reeled Tubing, Incorporated
Harvey, LA.

2. PURPOSE AND LIMITATION: This exemption authorizes the transportation in commerce of a non-DOT specification vacuum-insulated portable tank for the shipment of Nitrogen, compressed, refrigerated liquid classed as Division 2.2. This exemption provides no relief from any regulation other than as specifically stated herein.

3. REGULATORY SYSTEM AFFECTED: 49 CFR Parts 106, 107 and 171-180.

4. REGULATIONS FROM WHICH EXEMPTED: 49 CFR Section 173.318.

5. BASIS. This exemption is based on Reeled Tubing, Incorporated's application dated July 20, 1994 and October 6, 1994, submitted in accordance with 49 CFR 107.103 and the public process thereon.

6. HAZARDOUS MATERIALS (49 CFR 172.101):

Hazardous materials description/proper shipping name	Hazard Class/ Division	Identification number	Packing Group
Nitrogen, refrigerated liquid (cryogenic liquid)	2.2	UN1977	N/A

7. PACKAGING AND SAFETY CONTROL MEASURES: Packaging prescribed must be in conformance with 49 CFR 176.76(h) except the authorized packaging is a vacuum-insulated non-DOT specification portable tank, designed, constructed, and tested in accordance with the Section VIII, Division 1, of the ASME Code and Hydra Rig Cryogenics drawings C70209, C70161, C70160, C70166 Rev. G, C70158, C70211, and other drawings and design calculations on file with the Office of Hazardous Materials Exemptions and Approvals (OHMEA).

a. The portable tank must be enclosed in a lifting frame with ISO corner castings. Design pressure (ASME Code "maximum allowable working pressure") is 46 psig for the inner tank. Design temperature is -320°F for the inner is 2000 gallons, nominal. Inner tank material is SA 240 type 304 stainless steel. Jacket material is ASTM A36 carbon steel or equivalent. The tank may be equipped with a road relief valve set to discharge at 25 psig, or less.

b. Lifting lugs, framework, and any anchoring to the inner tank or tank jacket must conform to the requirements of Section 178.338-13(a).

c. Each portable tank must conform to the provisions of 49 CFR 173.318 as applicable to atmospheric gases and liquid nitrogen.

d. A portable tank that meets the definition of "container" in 49 CFR 450.3(a)(3) must meet the requirements of 49 CFR Parts 450 through 453, and must be qualified in accordance with 49 CFR 178.270-13(c).

8. SPECIAL PROVISIONS.

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

b. Each portable tank must be plainly marked on both sides near the middle in letters at least two inches in height on a contrasting background, "DOT-E 10380".

c. Each tank must be reinspected and retested once every 5 years in accordance with 49 CFR 173.32(e) as prescribed for DOT Specification 51 portable tanks. The test pressure must be determined from the following formulas:

If there is no vacuum in the outer jacket during the test:

$$PT = 1.25 \times [PD + HS + 14.7]$$

If a vacuum exists in the outer jacket:

$$PT = 1.25 \times [PD + HS + 14.7] - 14.7$$

Where:

PT = Test pressure, psig

PD = Design Pressure, (ASME Code "maximum allowable working pressure") psig

HS = Static head of liquid in inner tank, psi

d. Each portable tank must be stowed in accordance with 49 CFR 176.76(h)(4). The portable tank may not be overstowed with other containers or freight.

e. A portable tank may not be offered for transportation by cargo vessel unless the pressure of the lading in the tank is equal to or less than that used to determine the marked rated holding time (MRHT), and the one way travel time (OWTT) is equal to or less than the elapsed time between the start and termination of travel. The OWTT is determined from the formula:

$$OWTT = MRHT - 24$$

(1) Each tank's actual holding time must be determined after each shipment. If examination indicates that the actual holding time is less than 90 percent of the MRHT of the tank, the tank may not be refilled until it is restored to its MRHT or the tank is remarked with the reduced holding time determined by this examination.

(2) The OWTT must be marked on the shipping paper and on the vessel's dangerous cargo manifest immediately after the container description.

f. A written record of the portable tank lading pressure and ambient (outside) temperature at the following times must be prepared for each shipment:

(1) At the start of each trip;

(2) Immediately before and after any manual venting;

(3) At least once every 24 hours; and

(4) At the destination point.

g. Any road relief valve set at a pressure lower than that prescribed for the (safety) pressure relief valve must be closed during transportation by cargo vessel, unless the holding time was determined on the setting of the road relief valve.