U.S. Department
of Transportation

**Research and
Special Programs
Administration**

NOV 20 1998

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

DOT-E 11682

EXPIRATION DATE: August 31, 2000

(FOR RENEWAL, SEE 49 CFR SECTION 107.109)

1. GRANTEE: Cryolor Argancy, France
(U.S. Agent: ABS Industrial Verification, Houston, TX)

2. PURPOSE AND LIMITATION:

a. This exemption authorizes the transportation in commerce of nitrogen, argon or oxygen, refrigerated liquids in a non-DOT specification insulated portable tank conforming with all regulations applicable to a DOT Specification MC-338 insulated cargo tank, except as specified herein. 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 173.318 and 176.76(g)(1) in that a non-DOT specification packaging is authorized; and 178.338 as specified herein.

5. BASIS: This exemption is based on the application of ABS Industrial Verification, Inc. dated April 4, 1996, submitted in accordance with 49 CFR 107.105 and the public proceeding thereon.

6. HAZARDOUS MATERIALS (49 CFR 172.101):

Hazardous materials description -- proper shipping name	Hazard Class/ Division	Identification Number
Oxygen, refrigerated liquid	2.2	UN1073
Argon, refrigerated liquid	2.2	UN1951
Nitrogen, refrigerated liquid	2.2	UN1977

7. SAFETY CONTROL MEASURES:

a. PACKAGING -

(1) Packaging prescribed is an insulated non-DOT specification portable tank designed and constructed in accordance with Section VIII Division 1 of the ASME Code, including U stamp, and with DOT Specification MC-338 cargo tank motor vehicle, except as modified herein. The portable tank is enclosed in an ISO type frame and is vacuum-insulated. Design pressure is 72 PSIG for the internal tank. Design temperature is -294°F for the inner tank and any part, valve or fitting that may come in contact with the lading. Water capacity is 4372 gallons, nominal. Tank material is SA 240 Type 304 for the inner tank and SA516 or equivalent carbon steel for the outer jacket.

(2) Tanks must conform with Cryolor drawing numbers 40152, 58651, 58152, and other referenced drawings. All tanks must conform with calculations, specifications and drawings on file with the Office of Hazardous Materials Exemptions and Approvals (OHMEA) and with 49 CFR 178.338, except as follows.

(i) Postweld heat treatment is not required for stainless steel material.

(ii) §178.338-10 does not apply.

(iii) The portable tank need not conform with §178.338-13(b) or (c). Lifting lugs, framework and any anchoring to the inner tank or the tank jacket must conform with §178.338-13(a).

(iv) Portable tanks that meet the definition of "container" must meet the requirements of 49 CFR parts 450 thru 453, and each design must be qualified in accordance with 49 CFR 178.270-13(c).

(v) "DOT-E 11682" must replace the mark "MC-338" on the nameplate specified in §178.338-18(a).

(3) The following provisions for certification apply:

(i) At the time of delivery, the manufacturer of a portable tank shall furnish to the owner of the tank, the tank manufacturer's data report as required by the ASME Code, and a certificate bearing the tank serial number stating that the portable tank conforms to the requirements of this exemption. For each portable tank the certificate must be signed by a responsible official of the manufacturer.

(ii) For multiple stage construction, each manufacturer who performs a manufacturing operation on the portable tank or portion thereof shall furnish to the succeeding manufacturer, at the time of delivery, a certificate covering the manufacturing operation performed by that manufacturer, and any certificates received from previous manufacturers. Each certificate must be signed by an official of the manufacturing firm responsible for the portion of the tank represented thereby. The final manufacturer must furnish the owner with all certificates.

b. <u>TESTING</u> - Each portable tank must be reinspected and retested once every five years in accordance with the procedure prescribed in 49 CFR 173.32(e) for DOT Specification 51 portable tanks. The test pressure for the inner tank shall be determined from the following formulas:

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

$$P_T = 1.25 \times [\ P_d + H_s + 14.7]$$

If vacuum exists in the outer jacket during test:

$$P_T = 1.25 \times [P_d + H_s + 14.7] - 14.7$$

Where:

P_T = Test pressure, psig

P_d = Design pressure (the sum of the maximum allowable working pressure, liquid head and 14.7 psi)

H_s = Static head of liquid in inner tank, psi

c. OPERATIONAL CONTROLS -

(1) Each portable tank must be prepared and shipped as required in 49 CFR 173.318, as applicable for the lading.

(2) Shipments by cargo vessel must conform with the following:

(i) The package must conform with 49 CFR 176.76(g). The portable tank must not be overstowed with other containers or freight.

(ii) The legend "One-Way Travel Time _____ Hours" or "OWTT _____ Hours" must be marked on the shipping paper and on the dangerous cargo manifest immediately after the container description. The OWTT is determined by the formula:

OWTT = MRHT - 24 hours.

(iii) A written record of the portable tank's 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 every 24 hours; and

(4) At the destination point.

(iv) Any lading 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 based on the setting of the pressure control valve.

(3) No person may transport or offer for transportation a charged portable tank unless the pressure of the lading is equal to or less than that used to determine the marked rated holding time (MRHT) and the OWTT is equal to or greater than the elapsed time between the start and termination of travel.

(4) The actual holding time for each tank must be determined after each shipment. If it is determined 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 re-marked with the reduced holding time determined by this examination.

(5) The holding time and the MRHT of the first portable tank must be determined and results thereof must be submitted to OHMEA prior to initial shipment.

8. SPECIAL PROVISIONS:

a. A person who is not a holder of this exemption who 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 reoffered for transportation in conformance with this exemption and the HMR.

b. A current copy of this exemption must be maintained at each facility where the package is offered or reoffered for transportation.

c. The portable tank owner shall retain the data reports, certificates and related papers throughout his ownership of the portable tank.

9. MODES OF TRANSPORTATION AUTHORIZED: Motor vehicle and cargo vessel.

10. MODAL REQUIREMENTS: A copy of this exemption must be carried aboard each cargo vessel or motor vehicle used to transport packages covered by this exemption.

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. Section 5101 et seq:

- All terms and conditions prescribed in this exemption and the Hazardous Materials Regulations, 49 CFR Parts 171-180.

- o Registration required by 49 CFR 107.601 et seq., when applicable.

Each "Hazmat employee", as defined in 49 CFR 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 49 CFR 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. (49 CFR 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 inform the AAHMS, in writing, of any incident involving the package and shipments made under the terms of this exemption.

Issued at Washington, D.C.:

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Alan I. Roberts
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.

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PO: PTOlson