JUN 2 4 2003

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

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

DOT-E 11435
(FOURTH REVISION)

EXPIRATION DATE: May 31, 2005

(FOR RENEWAL, SEE 49 CFR § 107.109)

1. GRANTEE: Air Products(UK) Limited, Acrefair, Wrexham, UK.
US Agent: Air Products and Chemicals
Allentown, Pennsylvania

2. PURPOSE AND LIMITATIONS:

a. This exemption authorizes the manufacture, mark, sale and use of vacuum insulated non-DOT specification portable tanks, designed and constructed in accordance with the ASME Code and enclosed in an ISO frame, to be used for the transportation in commerce of certain liquefied Division 2.2 materials. 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 §§ 173.318(a) in that a non-DOT specification vacuum insulated portable tank is not authorized, except as specified herein.

5. BASIS: This exemption is based on the application of Air Products and Chemicals, dated June 5, 2003, 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
Argon, refrigerated liquid	2.2	UN1951	N/A
Nitrogen, refrigerated liquid	2.2	UN1977	N/A
Oxygen, refrigerated liquid	2.2	UN1073	N/A

7. SAFETY CONTROL MEASURES:

a. PACKAGING - The authorized packaging is a vacuum insulated non-DOT specification portable tank, designed and constructed in accordance with Section VIII, Division I of the ASME Code, mounted in an ISO frame. Design pressure is 250 PSIG for the internal tank and the outer jacket is designed to withstand a collapse pressure of 30 PSIG. Design temperature range is -320°F to +100°F. Water capacity is 4,760 gallons, nominal for the inner tank. Tank material is SA 240 Type 304N stainless steel for the inner tank, 300 series stainless steel for the internal piping and SA 36 or SA 516-70 carbon steel for the outer jacket. Tank is designed and constructed in conformance with Air Products Drawing No. RY0885B/02, Sheets 1-3, design calculations and specifications on file with the Office of Hazardous Materials Exemptions and Approvals, and with § 178.338 except as follows:

(i) § 173.318(a)(6) does not apply. The outer shell is marked where a manhole may be cut.

(ii) §§ 178.338-6 and 178.338-10 do not apply.

(iii) The portable tank need not conform to §§ 178.338-13(a) and (b). Lifting lugs, framework and any anchoring to the inner tank, or the tank jacket must conform with § 178.338-13(a). A portable tank that meets the definition of "container" in § 450(a)(2) must meet the requirements of 49 CFR Parts 450 through 453, and each design must be qualified in accordance with § 178.270-13(c).

(iv) "DOT-E 11435" must replace the mark "MC 338".

b. TESTING - Each package must meet all requirements for initial qualification that are applicable to a DOT Specification MC-338 cargo tank. Pressure vessel joints and seams require 100% radiography. Each portable tank must be reinspected and retested once every five years in accordance with § 173.32(e) as prescribed for DOT Specification 51 portable tanks. The test pressure in 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 (maximum allowable working pressure), psig
H_s = Static head of liquid in inner tank, psi

c. OPERATIONAL CONTROLS - Each portable tank must be prepared and shipped as required in § 173.318, as applicable for the lading.

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 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.

f. No person may transport a charged portable tank unless the pressure of the lading is equal to or less than that used to determine the marked related holding time and the OWTT is equal to or greater than the expected elapsed time between the start and termination of travel.

g. 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 remarked with the reduced holding time determined by this examination.

h. MARKING - Each tank must be plainly marked on both sides near the middle, in letters at least two inches high on a contrasting background, "DOT-E 11435". Each pressure relief device must be marked with a start-to-discharge pressure in psig and a rated relief device capacity in SCF/min. Additionally, each portable tank must be marked in accordance with § 173.32(e)(3) after each retest.

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

10. MODAL REQUIREMENTS: A current 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. 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.

Ann Mazzullo

for Robert A. McGuire
Associate Administrator for
Hazardous Materials Safety

JUN 2 4 2003
(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.

Copies of this exemption may be obtained by accessing the Hazardous Materials safety Homepage at http://hazmat.dot.gov/exemptions Photo reproductions and legible reductions of this exemption are permitted. Any alteration of this exemption is prohibited.

PO: KFW/am