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

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

DOT-E 10027 (EXTENSION)
ORIGINAL March 27, 1989

In accordance with 49 CFR 107.105 of the Department of Transportation (DOT) Hazardous Materials Regulations DOT-E 10027 is hereby extended for the party(ies) listed below by changing the expiration date in paragraph 10 to July 31, 1996. 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.

AUG 24 1994

Alan I. Roberts
Associate Administrator
for Hazardous Materials Safety

(DATE)

Dist: FHWA USCG

EXEMPTION HOLDER	APPLICATION DATE
Japan Oxygen, Inc. Long Beach, CA	July 18, 1994

ADVISORY

IF YOU ARE A HOLDER OF AN EXEMPTION THAT AUTHORIZES THE USE OF A PACKAGING WITH A MAXIMUM CAPACITY LESS THAN 450 L (119 GALLONS) OR A MAXIMUM NET MASS LESS THAN 400 KG (882 POUNDS), PLEASE BE ADVISED THAT YOUR EXEMPTION MAY NOT BE RENEWED BEYOND SEPTEMBER 30, 1996. IN ADDITION, NO NEW CONSTRUCTION OF PACKAGINGS WHICH FALL WITHIN THE NON-BULK CAPACITIES LISTED ABOVE ARE AUTHORIZED AFTER SEPTEMBER 30, 1994. THIS IS CONSISTENT WITH THE IMPLEMENTATION OF THE NEW PACKAGING REQUIREMENTS ADOPTED UNDER DOCKET HM-181. ANY APPLICATION SUBMITTED TO THIS OFFICE TO RENEW AN EXEMPTION BEYOND THE SEPTEMBER 30, 1996 DATE WILL BE DENIED UNLESS THE APPLICATION CONTAINS SUPPORTING INFORMATION TO JUSTIFY THE CONTINUATION OF THE EXEMPTION.

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DOT-E 10027

1. Japan Oxygen, Inc., Long Beach, California, is hereby granted an exemption from certain provisions of this Department's Hazardous Materials Regulations to offer for transportation packages prescribed herein of the hazardous materials described in paragraph 3 below in commerce, subject to the limitations and special requirements specified herein. This exemption authorizes the use of a non-DOT specification insulated portable tank, and provides no relief from any regulation other than as specifically stated.

2. BASIS. This exemption is based on the application of Cryogenic Technical Services (on behalf of Japan Oxygen Company) dated July 5, 1988, submitted in accordance with 49 CFR 107.103, and the public proceeding thereon.

3. HAZARDOUS MATERIALS (Descriptor and class). Liquefied helium classed as a nonflammable gas.

4. PROPER SHIPPING NAME (49 CFR 172.101). Helium, refrigerated liquid (cryogenic liquid).

5. REGULATION AFFECTED. 49 CFR 172.203, 173.318, 173.320, 176.30, 176.76(h), 178.338.

6. MODES OF TRANSPORTATION AUTHORIZED. Cargo vessel and motor vehicle.

7. SAFETY CONTROL MEASURES. Packaging prescribed is an insulated non-DOT specification portable tank designed and constructed in accordance with Section VIII of the ASME Code and subparagraph a of this paragraph. The portable tank is enclosed in an ISO type frame. The portable tank is vacuum-insulated with a supplemental liquid nitrogen shield. Design pressure is 91.5 PSIG for the internal tank, and 10 PSIG for the liquid nitrogen tank. Design temperature is -452 °F for the inner tank and any part, valve or fitting that may come in contact with the lading; and -320 °F for the liquid nitrogen tank and any part, valve or fitting that may come in contact with liquid nitrogen. Water capacity is 11,000 gallons, nominal for the inner tank and 380 gallons for the nitrogen tank. Tank material is SA 240 type 304 for the inner tank and for the nitrogen tank; and A 285 Grade C carbon steel for the outer jacket.

a. Each portable tank must conform with Cryogenic Technical Services, Inc. Drawing Nos. NSK D-100 Rev. A, issued August 2, 1987, NSK D- 201 Rev. A, checked January 12, 1987, and other referenced drawings and calculations on file with the Office of Hazardous Materials Transportation (OHMT), and with 49 CFR 178.338, except as follows.

(1) § 178.338-10 does not apply.

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

(3) "DOT-E 10027 " must replace the mark "MC 338".

8. SPECIAL PROVISIONS.

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

b. Each portable tank must be reinspected and retested once every 5 years in accordance with 49 CFR 173.32(e) at a pressure (in PSIG) of 14.7 plus 1.25 times the sum of the design pressure and the static head as prescribed for DOT 51 specification portable tanks. If the inner tank is under vacuum during the test, the outside pressure gauge must read 14.7 psi less than the test pressure calculated above.

c. Each portable tank must be plainly marked "DOT-E 10027" on both sides near the middle, in letters at least two inches high on a contrasting background.

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

e. Shipments by cargo vessel must conform with the following:

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

(2) 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.

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

(i) At the start of each trip;

(ii) Immediately before and after any manual venting;

(iii) At least every 24 hours; and

(iv) At the destination point.

(4) 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.

f. 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.

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 re-marked with the reduced holding time determined by this examination.

h. The holding time and the MRHT of the first portable tank must be determined and results thereof must be submitted to OHMT prior to initial shipment.

9. REPORTING REQUIREMENTS. Any incident involving loss of contents of the packaging must be reported to the OHMT as soon as practicable. The release of contents is not a reportable incident if the release is through a pressure controlling device set at 25 PSIG or less during shipments by motor vehicle.

10. EXPIRATION DATE. February 28, 1991.

Issued at Washington, D.C.:

MAR 27 1989

Alan I. Roberts
Director
Office of Hazardous Materials Transportation

(DATE)

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, FHWA.