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

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

DOT-E 9616 (EXTENSION)
ORIGINAL December 10, 1986

In accordance with 49 CFR 107.105 of the Department of Transportation (DOT) Hazardous Materials Regulations DOT-E 9616 is hereby extended for the party(ies) listed below by changing the expiration date in paragraph 10 to May 31, 1993. 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 and the public proceeding thereon. This extension constitutes a necessary part of this exemption and must be attached to it.

J. Suzanne Hedgepeth
SM Alan I. Roberts
Associate Administrator
for Hazardous Materials Safety

3 1991
(DATE)

Dist: FHWA USCG

EXEMPTION HOLDER	APPLICATION DATE
James Russell Engineering Works, Inc. Boston (Dorchester), MA	May 7, 1991

U.S. Department
of Transportation

Research and
Special Programs
Administration

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

DOT-E 9616

DEC 10 1986

1. James Russell Engineering Works Incorporated, Boston, Massachusetts is hereby granted an exemption from those provisions of this Department's Hazardous Materials Regulations specified in paragraph 5 below to manufacture, mark and sell the packaging prescribed in paragraph 7 below for use in the transportation of the nonflammable refrigerated (cryogenic) liquid described in paragraph 3 below in commerce subject to the limitations and special requirements specified herein. This exemption authorizes the use of non-DOT specification portable tanks, and provides no relief from any regulation other than as specifically stated.

2. BASIS. This exemption is based on an application from James Russell Engineering dated April 16, 1986, 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, motor vehicle.

7. SAFETY CONTROL MEASURES. Packaging prescribed is a non-DOT specification portable tank designed and constructed in accordance with Section VIII of the ASME Code and as follows. The portable tank is skid mounted or enclosed in an ISO type frame. The portable tank is vacuum insulated with a liquid nitrogen shield. Design pressure is 65 psig for the internal tank and 6 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. Design temperature is -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 inner tank. Tank material tank is SA 240 type 304 stainless steel for inner tank and nitrogen and SA 36 carbon steel or equivalent for the outer jacket. Each portable tank must conform with James Russell Engineering drawings 7992-2 Rev 1, 7992-6 Rev 3, 7992-7 Rev 1, 7992-8 Rev 1 7992-11 Rev 0, 7992-15 Rev O and 7992-27 Rev 1 on file with the Office of Hazardous Materials Transportation (OHMT), and with 49 CFR 178.338, except as follows:

(a) Impact test is not required on inner and nitrogen tank materials.

(b) Manholes are not required.

(c) §178.338-10 does not apply.

(d) Lifting lugs, framework and any anchoring to the inner tank or tank jacket must conform with 178.338-13(a) only. 178.338-13(b) and (c) do not apply. However, a portable tank that meets the definition of "container" in 49 CFR 450(a)(3) must meet the requirements of 49 CFR Parts 450 through 453 and each tank design must be qualified in accordance with 49 CFR 178.270-13(c).

(e) "DOT-E 9616 must replace the mark "MC 338".

8. SPECIAL PROVISIONS.

a. Shippers may use the packagings covered by this exemption pursuant to 49 CFR 173.22 a.

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

c. Each portable tank must be reinspected and retested at a pressure of 14.7 plus one and one-fourth times the sum of the design pressure plus the static head, once every 5 years in accordance with 49 CFR 173.32(e) as prescribed for DOT Specification 51 portable tanks.

d. Each portable tank must be plainly marked on both sides near the middle, in letters at least two inches high on a contrasting background, "DOT-E 9616".

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

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

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

(2) The legend "One Way Travel Time (OWTT) ____ Hours" must be marked on the shipping papers and on the dangerous cargo manifest immediately after the container description. The OWTT is determined by the formula: OWTT= MRHT - 24.

(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 road relief valve for the lading set at a pressure lower than that prescribed for the (safety) pressure relief valve must be closed during transportation by cargo vessel.

(g) 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 rated holding time and the OWTT is equal to or greater than the elasped time between the start and termination of travel.

(h) 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.

9. REPORTING REQUIREMENTS. Any incident involving loss of contents of the package must reported to the OHMT as soon as practicable. The release of a material covered by this exemption is not a reportable incident if the release is through a pressure controlling device or pressure relief device set at 25 psig or less during transportation by motor vehicle.

10. EXPIRATION DATE. August 30, 1988.

Issued at Washington, D.C.:

DEC 10 1986

Joseph T. Horning

for 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