



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

APR 25 2003

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

DOT-E 9596  
(FIFTH REVISION)

EXPIRATION DATE: March 31, 2005

(FOR RENEWAL, SEE 49 CFR § 107.109)

1. GRANTEE: L'Air Liquide, Paris, France  
(U.S. Agent: Air Liquide America L.P.  
Houston, TX)
2. PURPOSE AND LIMITATION:
  - a. This exemption authorizes the transportation in commerce of helium, refrigerated liquid in non-DOT specification insulated portable tanks. 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 §§ 172.203, 173.318, 173.320, 176.30, 176.76(h) in that a non-DOT specification portable tank is not authorized, except as specified herein.
5. BASIS: This exemption is based on the application of Air Liquide America Corporation dated February 26, 2003, submitted in accordance with § 107.109.

6. HAZARDOUS MATERIALS (49 CFR § 172.101):

Proper Shipping Name/ Hazardous Materials Description	Hazard Class/ Division	Identi- fication Number	Packing Group
Helium, refrigerated liquid ( <i>cryogenic liquid</i> )	2.2	UN1963	N/A

7. SAFETY CONTROL MEASURES:

a. Prescribed packaging is a non-DOT specification insulated portable tank designed and constructed in accordance with Section VIII of the ASME Code and subparagraph b. 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 cooling. Design pressure is 64 PSIG for the internal tank and 8 PSIG for the liquid nitrogen tank. Design temperature is -453 degrees F., for the inner tank and any part, valve or fitting that may come in contact with the lading; and -320 degrees F., for the liquid nitrogen tank and any part, valve or fitting that may come in contact with liquid nitrogen. Water capacity is 10,911 gallons for the inner tank; 320 gallons for the nitrogen tank. Tank material is SA 240 Type 304 stainless steel for the inner tank and nitrogen tank, and SA 515 Gr 60 or SA 516 Gr 60 or equivalent steel for the outer jacket.

b. Each portable tank must conform to L'Air Liquide's drawing DTA 13350 L A1 011 dated January 14, 1986, DTA 13350 E AO 111 dated January 23, 1985, DTA 13350 F AO 111 dated March 11, 1985 and related drawings, calculations and technical specifications on file with the Office of Hazardous Materials Exemptions and Approvals (OHMEA) and to § 178.338, except as follows:

- (1) Impact testing is required for Type 304 stainless steel in contact with lading colder than -423 degrees F.
- (2) § 178.338-10 does not apply.
- (3) The portable tank need not conform with

APR 25 2003

Continuation of DOT-E 9596 (5th Rev.)

Page 3

§ 178.338-13(a) and (b). 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). A portable tank that meets the definition of "container" must meet the requirements of 49 CFR Parts 450 through 453, and each design must be qualified in accordance with § 178.270-13(c).

(4) "DOT-E 9596" must replace the mark "MC 338".

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. Each portable tank must be reinspected and retested once every five years at a pressure (in PSIG) of one and one-fourth times the sum of the design pressure plus the static head plus 14.7 in accordance with § 173.32(e) as prescribed for DOT 51 specification portable tanks. The test pressure must be reduced by 14.7 PSIG if the inner tank is under vacuum while under test.

d. Each portable tank must be plainly marked on both sides near the middle, in letters at least two (2) inches high on a contrasting background, "DOT-E 9596."

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

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

(1) The package must conform with § 176.76(h). The portable tank may not be overstowed with other containers and freight.

APR 25 2003

Continuation of DOT-E 9596 (5th Rev.)

Page 4

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

$$\text{OWTT} = \text{MRHT} - 24 \text{ hours.}$$

(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.
- (v) 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.

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 elapsed 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.

i. Shippers using the packaging covered by this exemption must comply with all provisions of this exemption, and all other applicable requirements contained in 49 CFR Parts 171-180.

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 and 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:

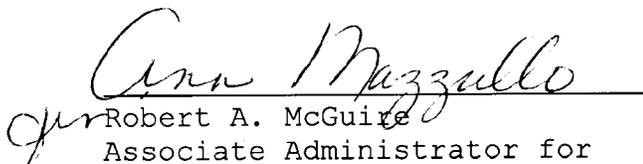
- o All terms and conditions prescribed in this exemption and the Hazardous Materials Regulations, 49 CFR Parts 171-180.
- o Registration required by § 107.601 et seq., when applicable.

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 inform the AAHMS, in writing, of any incident involving the package and shipments made under the terms of this exemption.

Issued in Washington, D.C.:

  
Robert A. McGuire  
Associate Administrator for  
Hazardous Materials Safety

APR 25 2003  
(DATE)

APR 25 2003

Continuation of DOT-E 9596 (5th Rev.)

Page 6

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: sdc