U.S. Department
of Transportation

**Research and
Special Programs
Administration**

JAN 14 2000

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

DOT-E 11417
(SECOND REVISION)

EXPIRATION DATE: December 31, 2001

(FOR RENEWAL, SEE 49 CFR § 107.109)

1. GRANTEE: Essex Cryogenics of Missouri, Inc., St. Louis, MO

2. PURPOSE AND LIMITATIONS:

This exemption authorizes the manufacture, mark, sale and use of non-DOT specification containing liquid oxygen, for the transportation in commerce as ambulance equipment, not subject to the Department's Hazardous Materials Regulations except as provided in this exemption.

3. REGULATORY SYSTEM AFFECTED: 49 CFR Parts 106, 107 and 171- 180.

4. REGULATIONS FROM WHICH EXEMPTED: 49 CFR Parts 100 - 180, except as provided in this exemption.

5. BASIS: This exemption is based on the application of Essex Cryogenics of Missouri dated October 13, 1999, 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
Oxygen, refrigerated liquid (*cryogenic liquid*)	2.2	UN1073	N/A

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7. SAFETY CONTROL MEASURES:

a. PACKAGING - Packaging prescribed is a non-DOT specification vacuum jacketed container. The container is part of a liquid oxygen system structurally mounted to an ambulance. The container must be in conformance with Essex Cryogenics drawing numbers 10C-0029-0015, 10C-0029-0012, and 10C-0040-1 on file with the Office of Exemptions and Approvals and with DOT Specification 4L (§ 178.57) except as follows:

§ 178.57(a) *Type, size, service pressure and design service temperature.*

(1) Type and size. Must be a spherical fusion welded container, with not over 10 liter water capacity.

(2) Service pressure. May not be more than 235 psig.

(3) Design service temperature. Must be -320°F or colder.

§ 178.57(d) *Manufacture.*

(1) and (2) * * *

(3) The surface of the cylinder must be insulated. The insulating material must be fire resistant. The insulation on non-evacuated jackets must be covered with a steel jacket not less than 0.060 inch thick or an aluminum jacket not less than 0.070 in. thick, so constructed that moisture cannot come in contact with the insulating material. If the vacuum is maintained in the insulation space, the evacuated jacket must be designed for a minimum collapsing pressure of 30 psi differential whether made out of steel or aluminum. The construction must be such that the total heat transfer, from the atmosphere at ambient temperature to the container lading, may not exceed 0.014 Btu per hour per degree Fahrenheit temperature differential per pound of water capacity of the container. The allowable evaporation loss may not exceed 3 pounds of liquid oxygen per day.

§ 178.57(p) *Marking.*

Applies except that container must be marked "DOT-E 11417" in lieu of "DOT-4L".

b. OPERATIONAL CONTROLS - The packaging authorized by this exemption may not be shipped outside the ambulance when filled with liquid oxygen.

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.

9. MODES OF TRANSPORTATION AUTHORIZED: Motor vehicle.

10. MODAL REQUIREMENTS: No modal-specific requirement is required 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, 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 also inform the AAHMS, in writing, as soon as practicable of any incidents involving the package and shipments made under this exemption.

Issued at Washington, D.C.

R. Ryan Posten

FOR Robert A. McGuire
Acting Associate Administrator for
Hazardous Materials Safety

JAN 14 2000
(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.

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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, S.W., Washington, DC 20590-0001, Attention: Records Center, 202-366-5046.

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