



U.S. Department
of Transportation

**Pipeline and Hazardous
Materials Safety Administration**

April 11, 2013

East Building, PHH-30
1200 New Jersey Avenue, Southeast
Washington, D.C. 20590

DOT-SP 15125
(FIRST REVISION)

EXPIRATION DATE: March 31, 2017

(FOR RENEWAL, SEE 49 CFR § 107.109)

1. GRANTEE: Essex Cryogenics of Missouri, Inc.
St. Louis, MO
2. PURPOSE AND LIMITATIONS:
 - a. This special permit authorizes the manufacture, marking, sale and use of a vacuum insulated non-DOT specification spherical pressure vessels conforming with all regulations applicable to DOT Specification 4L, except as specified herein, for the transportation in commerce of oxygen, refrigerated liquid. This special permit provides no relief from the Hazardous Materials Regulations (HMR) other than as specifically stated herein. The most recent revision supersedes all previous revisions.
 - b. The safety analyses performed in development of this special permit 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 § 173.316(c) in that a non-DOT specification cylinder is not authorized, except as specified herein; and § 178.57(f) in that a spherical shape is not authorized, except as specified herein.
5. BASIS: This special permit is based on the application of Essex Cryogenics of Missouri, Inc. dated March 15, 2013,

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submitted in accordance with § 107.109 and the public proceeding thereon.

6. HAZARDOUS MATERIALS (49 CFR § 172.101):

Hazardous Material Description			
Proper Shipping Name	Hazard Class/Division	Identification Number	Packing Group
Oxygen, refrigerated liquid (cryogenic liquid)	2.2	UN1073	N/A

7. SAFETY CONTROL MEASURES:

a. PACKAGING - Prescribed packing is a vacuum insulated non-DOT specification spherical pressure vessel known as a Mass Oxygen Distribution System (MODS) that is manufactured in accordance with Essex Cryogenics of Missouri, Inc's drawings on file with the Office of Hazardous Materials Special Permits and Approvals (OHMSPA). The pressure vessel conforms with the DOT-4L Specification (§§ 178.35 & 178.57) except as follows:

§ 178.35 (f) Markings

(1) Cylinders must be marked "DOT-SP 15125" in place of "DOT-4L".

* * *

§ 178.57(a) Type, size, service pressure, and design temperature. A fusion welded, insulated steel sphere (two seamless hemispheres) with a water capacity not over 200 pounds and a service pressure of 300 psig.

(1) * * *

(2) * * *

§ 178.57(f) Wall Thickness

(1) * * *

(2) * * *

(3) * * *

(4) * * *

(5) * * *

(6) * * *

(7) (added) Calculation must be made by the following formula:

$$S = PD/4tE$$

Where:

S = wall stress in pounds psi;

P = test pressure prescribed for water jacket test, i.e., at least 2 times service pressure, in psig;

D = outside diameter in inches;

t = wall thickness;

E = 0.85 (provides 85 percent weld efficiency factor which must be applied in the girth weld area and heat affected zones which zone must extend a distance of 6 times wall thickness from center line of weld).

8. SPECIAL PROVISIONS:

a. In accordance with the provisions of Paragraph (b) of § 173.22a, persons may use the packaging authorized by this special permit for the transportation of the hazardous materials specified in paragraph 6, only in conformance with the terms of this special permit.

b. A person who is not a holder of this special permit, but receives a packaging covered by this special permit, may reoffer it for transportation provided no modification or change is made to the packaging and it is offered for transportation in conformance with this special permit and the HMR.

c. A current copy of this special permit must be maintained at each facility where the package is offered or reoffered for transportation.

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- d. Each packaging manufactured under the authority of this special permit must be either (1) marked with the name of the manufacturer and location (city and state) of the facility at which it is manufactured or (2) marked with a registration symbol designated by the Office of Hazardous Materials Special Permits and Approvals for a specific manufacturing facility.
- e. A current copy of this special permit must be maintained at each facility where the packaging is manufactured under this special permit. It must be made available to a DOT representative upon request.
- f. Each cylinder must be shipped in a strong outside package in accordance with § 173.301(a)(9).
9. MODES OF TRANSPORTATION AUTHORIZED: Motor vehicle, cargo vessel, rail freight.
10. MODAL REQUIREMENTS: A current copy of this special permit must be carried aboard each cargo vessel or motor vehicle used to transport packages covered by this special permit.
11. COMPLIANCE: Failure by a person to comply with any of the following may result in suspension or revocation of this special permit 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 special permit and the Hazardous Materials Regulations, 49 CFR Parts 171-180.
 - o Persons operating under the terms of this special permit must comply with the security plan requirement in Subpart I of Part 172 of the HMR, when applicable.
 - 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 special permit must receive training on the requirements and conditions of this special permit in addition to the training required by §§ 172.700 through 172.704.

No person may use or apply this special permit, including

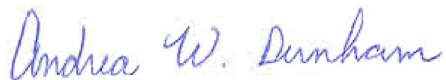
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display of its number, when this special permit has expired or is otherwise no longer in effect.

Under Title VII of the Safe, Accountable, Flexible, Efficient Transportation Equity Act: A Legacy for Users (SAFETEA-LU)—"The Hazardous Materials Safety and Security Reauthorization Act of 2005" (Pub. L. 109-59), 119 Stat. 1144 (August 10, 2005), amended the Federal hazardous materials transportation law by changing the term "exemption" to "special permit" and authorizes a special permit to be granted up to two years for new special permits and up to four years for renewals.

12. REPORTING REQUIREMENTS: Shipments or operations conducted under this special permit are subject to the Hazardous Materials Incident Reporting requirements specified in 49 CFR ' ' 171.15 Immediate notices of certain hazardous materials incidents, and 171.16 Detailed hazardous materials incident reports. In addition, the grantee(s) of this special permit must notify the Associate Administrator for Hazardous Materials Safety -- OHMSPA, in writing, of any incident involving a package, shipment or operation conducted under terms of this special permit.

Issued in Washington, D.C.:



for Dr. Magdy El-Sibaie
Associate Administrator for Hazardous Materials Safety

Address all inquiries to: Associate Administrator for Hazardous Materials Safety, Pipeline and Hazardous Material Safety Administration, U.S. Department of Transportation, East Building PHH-30, 1200 New Jersey Avenue, Southeast, Washington, D.C. 20590.

Copies of this special permit may be obtained by accessing the Hazardous Materials Safety Homepage at http://hazmat.dot.gov/sp_app/special_permits/spec_perm_index.htm Photo reproductions and legible reductions of this special permit are permitted. Any alteration of this special permit is prohibited.

PO: GREY-GREEN, BMOORE, SGREY