

March 28, 2014



U.S. Department
of Transportation

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

**Pipeline and Hazardous
Materials Safety Administration**

DOT-SP 12118
(SEVENTH REVISION)

EXPIRATION DATE: February 28, 2018

(FOR RENEWAL, SEE 49 CFR § 107.109)

1. GRANTEE: TW CRYOGENICS LLC
(Former Grantee: Taylor-Wharton (TW Cylinders))
Theodore, AL
2. PURPOSE AND LIMITATION:
 - a. This special permit authorizes the manufacture, marking, sale and use of non-DOT specification cryogenic gas system (LASER PACK) consisting of DOT Specification 4L cylinders and non-DOT specification pressure vessels for the transportation in commerce of the materials authorized by this special permit. 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 § 173.301(g) in that cylinders containing cryogenic gases are not authorized to be manifolded; § 173.316(c) in that the non-DOT specification pressure vessels are not authorized packagings; § 173.316(c)(2) in that cylinders are not filled individually and § 177.834(h) in that discharge of containers is not authorized while attached to a motor vehicle, except as specified herein.

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5. BASIS: This special permit is based on the application of Taylor-Wharton dated March 21, 2014, submitted in accordance with § 107.109.
6. HAZARDOUS MATERIALS (49 CFR § 172.101):

Hazardous Materials Description			
Proper Shipping Name	Hazard Class/ Division	Identification Number	Packing Group
Argon, refrigerated liquid (<i>cryogenic liquid</i>)	2.2	UN1951	N/A
Nitrogen, refrigerated liquid (<i>cryogenic liquid</i>)	2.2	UN1977	N/A
Oxygen, refrigerated liquid (<i>cryogenic liquid</i>)	2.2	UN1073	N/A

7. SAFETY CONTROL MEASURES:

a. PACKAGING - Prescribed packaging is a cryogenic gas system (LASER PACK) that is welded in an upright position to the floor of a handling skid using mounting rings, clips, and/or brackets. Each LASER PACK must conform to the designs shown on Drawings LP55-9C01, Rev. A; LP55-9C00, Rev. A; or LP55-9C03 on file with the Office of Hazardous Materials Special Permits and Approvals (OHMSPA). The LASER PACK components must be as follows:

(1) Two ASTM A-240 stainless steel vacuum insulated DOT Specification 4L (§ 178.57) cylinders with a maximum service pressure of 412 psig and a maximum liquid capacity of 205 liters. Each cylinder must conform to Drawing VP55-0C01, VP55-0C02, BT55-0C01, or BT55-0C02 on file with the OHMSPA. Each cylinder is equipped with a pressure relief valve set at 500 psig and a frangible rupture disc set at 750 psig, in conformance with § 173.301(f). In addition, each cylinder is equipped with a 22 psig pressure relief valve that limits the pressure during transportation.

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(2) One, two, or four vaporizer assemblies constructed of 6063-T6 aluminum, and consisting of one to five finned tubes per assembly. The vaporizer assemblies are designed with a 4 to 1 safety factor and a maximum allowable working pressure of 660 psig. The vaporizer assemblies must conform to Drawing LP55-9C34, LP55-9C30, LP55-9C36, or LP55-9C38 on file with the OHMSPA. Each vaporizer assembly is equipped with a pressure relief valve set at 500 psig.

(3) The welded steel handling skid(s) must be in conformance with drawings on file with the OHMSPA. The skid(s) must be secured to the motor vehicle in accordance with 49 CFR Parts 393.100 - 393.106.

(4) LASER PACKS may not be transported in closed transport vehicles.

b. OPERATIONAL CONTROLS -

(1) Each DOT Specification 4L cylinder must meet the filling density requirements of § 173.316(c) (2).

(2) The two DOT 4L cylinders are manifolded and held together by structurally adequate means. The cylinders are authorized to be filled simultaneously. Each cylinder must be equipped with an individual shutoff valve that must be tightly closed while in transit. Manifold branch lines of shutoff valves and all interconnecting cylinder and vaporizer lines must be of flexible design with braided metal exterior sheathing. A temperature measuring device may be inserted in one cylinder of the manifold installation in place of the shutoff valve.

(3) The contents of the cryogenic gas system are authorized to be loaded or unloaded without removal from the motor vehicle, provided the gas system is attended at all times during loading and unloading operations by a qualified person. For the purposes of this requirement, the terms Aattended@ and Aqualified@ must have the meanings described in § 177.834(i) (3) and (4) respectively. The person who is responsible for loading the gas system is also responsible for ensuring that it is so attended.

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 package covered by this special permit, may reoffer it for transportation provided no modification or change is made to the package 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.

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 package is manufactured under this special permit. It must be made available to a DOT representative upon request.

9. MODES OF TRANSPORTATION AUTHORIZED: Motor vehicle.

10. MODAL REQUIREMENTS: A current copy of this special permit must be carried aboard each 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, Parts 171-180.

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- 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 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 notice 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, 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

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Address all inquiries to: Associate Administrator for Hazardous Materials Safety, Pipeline and Hazardous Materials Safety Administration, Department of Transportation, Washington, D.C. 20590. Attention: PHH-31.

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: dl