

May 18, 2006



U.S. Department
of Transportation

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

**Pipeline and
Hazardous Materials
Safety Administration**

DOT-SP 12221
(FOURTH REVISION)

EXPIRATION DATE: April 30, 2010

(FOR RENEWAL, SEE 49 CFR § 107.109)

1. GRANTEE: Advanced Technology Materials, Incorporated
Danbury, CT
2. PURPOSE AND LIMITATION:
 - a. This special permit authorizes the transportation in commerce of certain non-DOT specification cylinders containing certain compressed gases and liquids absorbed onto a microporous substrate. This special permit provides no relief from the Hazardous Materials Regulations (HMR) other than as specifically stated herein.
 - b. The safety analyses performed in development of this special permit only considered the hazards and risks associated with transportation in commerce.
 - c. No party status will be granted to this special permit
3. REGULATORY SYSTEM AFFECTED: 49 CFR Parts 106, 107 and 171-180.
4. REGULATIONS FROM WHICH EXEMPTED: 49 CFR §§ 173.192, 173.302a(a)(a), and 173.304a(a)(a) in that a non-DOT specification cylinder is not authorized, except as specified herein.
5. BASIS: This special permit is based on the application of Advanced Technology Materials, Inc. dated March 31, 2006, 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
Ammonia Anhydrous	2.3 Hazard Zone D	UN1005	N/A
Arsine	2.3 Hazard Zone A	UN2188	N/A
Boron Trichloride	2.3 Hazard Zone C	UN1741	N/A
Boron Trifluoride	2.3 Hazard Zone B	UN1008	N/A
Carbon Monoxide, compressed	2.3 Hazard Zone D	UN1016	N/A
Chlorine	2.3 Hazard Zone B	UN1017	N/A
Compressed gas, n.o.s.	2.2	UN1956	N/A
Compressed gas, Flammable, n.o.s.	2.1	UN1954	N/A
Compressed gas, Toxic, n.o.s.	2.3 Hazard Zone A	UN1955	N/A
Compressed gas, toxic, corrosive, n.o.s.	2.3 Hazard Zone B	UN3304	N/A
Dichlorosilane	2.3 Hazard Zone B	UN2189	N/A
Germane	2.3 Hazard Zone B	UN2192	N/A
Hydrogen Bromide Anhydrous	2.3 Hazard Zone C	UN1048	N/A
Hydrogen Chloride Anhydrous	2.3 Hazard Zone B	UN1050	N/A
Hydrogen Selenide, Anhydrous	2.3 Hazard Zone A	UN2202	N/A
Hydrogen Sulfide	2.3 Hazard Zone B	UN1053	N/A
Methyl Mercapton	2.3 Hazard Zone C	UN1064	N/A
Nitric Oxide, compressed	2.3 Hazard Zone A	UN1660	N/A
Phosgene	2.3 Hazard Zone A	UN1076	N/A
Phosphorus Pentafluoride	2.3 Hazard Zone B	UN2198	N/A

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Proper Shipping Name/ Hazardous Materials Description	Hazard Class/ Division	Identi- fication Number	Packing Group
Phosphine	2.3 Hazard Zone A	UN2199	N/A
Silane, compressed	2.1	UN2203	N/A
Silicon Tetrafluoride,	2.3 Hazard Zone B	UN1859	N/A
Sulfur dioxide	2.3 Hazard Zone C	UN1079	N/A
Toxic liquids, flammable, organic, n.o.s., <i>inhalation</i> <i>hazard, Packing Group</i> <i>I, Zone B</i>	6.1 Hazard Zone B	UN2929	PG I
Tungsten Hexafluoride	2.3 Hazard Zone B	UN2196	N/A

7. SAFETY CONTROL MEASURES:

a. PACKAGING - Packaging prescribed is a non-DOT specification cylinder filled with a microporous substrate onto which the gas is adsorbed. The gas remains adsorbed during transportation in essentially a solid state. The system is filled and operated at sub-atmospheric pressures, and is described as a sub-atmospheric gas delivery system (SDS). The welded cylinder is equipped with: internal baffles or with an internal cooling coil; and a separate fill port and a top protective ring. The cylinder must have pressure relief devices as prescribed for the hazardous material being transported in § 173.301(f). The cylinder must be designed and constructed in accordance with: NovaSource drawing 450-A1 Rev. 0 dated April 14, 1999 on file with the Office of Hazardous Materials Special Permits and Approvals; Section VIII, Division 1 of the ASME Code; and with the following specifications:

Capacity:	50 to 450 liters
Material:	ASTM A414 Carbon steel or Type 304 or 316 Stainless Steel
Minimum sidewall thickness:	0.187 inch
Maximum working pressure:	75 psig
Minimum design burst pressure:	300 psig

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b. TESTING - Each cylinder must be hydrostatically pressure tested every ten years in accordance with the requirements of § 180.205 for DOT 3AA specification cylinders.

c. OPERATIONAL CONTROLS - Each cylinder must remain in dedicated product service for its entire life.

8. SPECIAL PROVISIONS:

a. A person who is not a holder of this special permit who receives a package covered by this special permit 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 special permit and the HMR.

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

c. Packages permanently marked 'DOT-E 12221', prior to October 1, 2007 may continue to be used under this special permit for the remaining service life of the packaging or until the special permit is no longer valid. Packages marked on or after October 1, 2007 must be marked 'DOT-SP 12221'.

d. Shipping papers displaying 'DOT-E 12221' may continue to be used until October 1, 2007, provided the special permit remains valid.

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, 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.

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- o Registration required by § 107.601 et seq., when applicable.

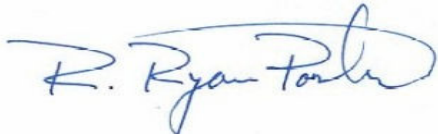
Each "Hazmat employee", as defined in § 171.8, who performs a function subject to this special permit must receive training on the requirements and conditions of this special permit in addition to the training required by §§ 172.700 through 172.704.

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 Robert A. McGuire
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: CWF/kah