

February 23, 2007



U.S. Department  
of Transportation

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

**Pipeline and Hazardous  
Materials Safety Administration**

DOT-SP 14164  
(FIRST REVISION)

EXPIRATION DATE: January 31, 2011

(FOR RENEWAL, SEE 49 CFR § 107.109)

1. GRANTEE: Sigma-Aldrich, Inc.  
(Former Grantee: Sigma-Aldrich Corporation)  
St. Louis, MO.
2. PURPOSE AND LIMITATION:
  - a. This special permit authorizes the transportation in commerce of a Division 4.2 material in a non-DOT specification pressure vessel. 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. The safety analyses did not consider the hazards and risks associated with consumer use, use as a component of a transport vehicle or other device, or other uses not associated with transportation in commerce.
  - c. Party status will not 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 § 173.181 in that a non-DOT specification pressure vessel is not authorized, except as specified herein.

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5. BASIS: This special permit is based on the application of Sigma-Aldrich Inc. dated February 12, 2007 submitted in accordance with § 107.109.
6. HAZARDOUS MATERIALS (49 CFR § 172.101):

<b>Hazardous Materials Description</b>			
<b>Proper Shipping Name</b>	<b>Hazard Class/ Division</b>	<b>Identification Number</b>	<b>Packing Group</b>
Aluminum alkyls	4.2	UN3051	I
Organometallic substance, liquid, pyrophoric, water-reactive (trimethylaluminum)	4.2	UN3394	I

7. SAFETY CONTROL MEASURES:

a. PACKAGING - Packaging prescribed are six (6) non-DOT specification pressure vessels designed, constructed and stamped to Section VIII, Division 1, 2001 edition, 2002 addenda, of the ASME Boiler and Pressure Vessel Code. Pressure vessels must be in accordance with Process Tube Systems Inc. Drawing No. AD03011-001 Revision 1 on file with the Office of Hazardous Materials Special Permits and Approvals (OHMPA) and with the following:

Maximum capacity: 40.5 gallons (150 liter nominal)  
 Shell material: SA312 316L Schedule 10 pipe  
 SA403 316L (heads)  
 Min. wall thickness: 0.25 inch  
 Corrosion allowance: 0.010 inch  
 Design pressure: 175 psig  
 Openings: One top opening fitted with valve.  
 Valve is protected by a steel ring welded to the shell  
 Structural equipment: A foot ring is welded to the bottom of the pressure vessel.

b. TESTING - Prior to first use, and at intervals not to exceed five years, each pressure vessel must be tested by a person holding a valid Requalification Identification number Approval (cylinder retester) as follows:

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(1) Visual inspection internally and externally in accordance with Compressed Gas Association Pamphlet C-6. Each pressure vessel must be approved, rejected, or condemned according to the criteria in the CGA pamphlet.

(2) Pressure test with nitrogen or other inert gas to a pressure of 75 psig. Pressure vessels must be carefully examined under test pressure and removed from service if evidence of a leak or defect is found.

(3) Each pressure vessel must be marked with the month and year of requalification.

c. OPERATIONAL CONTROLS -

(1) Material must not be shipped at a pressure greater than 10 psig.

(2) Each pressure vessels must be overpacked in a wooden crate.

8. SPECIAL PROVISIONS:

a. This special permit authorizes transportation of only six Process Tube Systems Incorporated pressure vessels with serial numbers 101 through 106. No new construction is authorized under this special permit.

b. 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 modification or change is made to the package or its contents and it is reoffered 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. Packagings permanently marked 'DOT-E 14164', 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. Packagings marked on or after October 1, 2007 must be marked 'DOT-SP 14164'.

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- e. Shipping papers displaying 'DOT-E 14164' may continue to be used until October 1, 2007, provided the special permit remains valid.
9. MODES OF TRANSPORTATION AUTHORIZED: Motor vehicle, rail freight, and cargo vessel.
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 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.

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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 Bob Richard  
Deputy Associate Administrator  
for Hazardous Materials Safety

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](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: CWFreeman/sln