U.S. Department
of Transportation
**Research and
Special Programs
Administration**

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

FEB 25 2002

DOT-E 11003
(FOURTH REVISION)

EXPIRATION DATE: January 31, 2004

(FOR RENEWAL, SEE 49 CFR § 107.109)

1. GRANTEE: Air Products and Chemicals Inc.
Allentown, PA

2. PURPOSE AND LIMITATION:

a. This exemption authorizes the transportation in commerce of Methane, refrigerated liquid, Division 2.1, in a DOT Specification 4L cylinder. This exemption provides no relief from the Hazardous Materials Regulations (HMR) other than as specifically stated herein.

b. The safety analyses performed in development of this exemption 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 §§ 172.101 and 173.316 in that this exemption authorizes transportation of Methane, refrigerated liquid, in a DOT specification 4L cylinder.

5. BASIS: This exemption is based on Air Products and Chemicals Inc.'s application dated February 7, 2002, submitted in accordance with § 107.109.

6. HAZARDOUS MATERIALS (49 CFR § 172.101): FEB 25 2002

Proper Shipping Name/ Hazardous Materials Description	Hazard Class/ Division	Identi-fication Number	Packing Group
Methane, refrigerated liquid	2.1	UN1972	N/A

7. SAFETY CONTROL MEASURES:

a. PACKAGING -

(1) Packaging prescribed is a vacuum insulated DOT Specification 4L cylinder having a water capacity not exceeding 1,000 pounds, and a design service temperature of -320°F.

(2) The filling density of each DOT 4L cylinder must be related to the set discharge pressure of the pressure relief devices as shown below:

Lowest Pressure Relief Setting (PSIG)	Maximum Fill Density (Percent by weight)
15	40.5
20	40.0
30	39.1
40	38.6
50	38.2
60	37.9
70	37.5
100	36.6
150	35.0
200	33.7
250	32.5
300	31.3
350	30.2

(3) Each cylinder must be designed with adequate insulation, fabricated and maintained so that during transportation, the total rate of venting must not exceed 30 SCF of methane per hour. The venting rate for each cylinder must be established by testing and must be marked in accordance with § 173.316(c)(3)(ii). The marking must include the month and year of the test performed.

(4) Each pressure relief device must be in direct contact with the vapor phase while in transportation and during discharge.

b. TESTING -

(1) Each cylinder must be reinspected and retested once every 5 years by hydrostatic or pneumatic pressure to 1.5 times the service pressure. When testing under pneumatic pressure, adequate precaution must be in place to prevent injury to personnel and loss of property. Any cylinder that shows evidence of distortion or leakage must be removed from service.

(2) Any cylinder for which the venting rate exceeds 110 percent of the marked venting rate must be inspected, reworked, retested for venting rate, and remarked with the new venting rate by the cylinder manufacturer, or an authorized repair facility. The entire procedure must be documented, and be made available to a DOT official upon request.

8. SPECIAL PROVISIONS:

a. A person who is not a holder of this exemption who receives a package covered by this exemption may reoffer it for transportation provided no modifications or change are made to the package and it is reoffered for transportation in conformance with this exemption and the HMR.

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

c. The cylinder may not be used as a fuel tank for powering a motor vehicle.

d. The one-way travel time must be normally accomplished within the holding time established for the cylinder type, with a safety factor of 2.

e. A current copy of this exemption must be maintained at each facility where the package is requalified under this exemption. It must be made available to a DOT representative upon request.

f. MARKING - In addition to the marking required in § 178.57(p), each cylinder must be marked "DOT E-11003". (See paragraph 7.a.(3) of this exemption for additional marking requirements.)

9. MODES OF TRANSPORTATION AUTHORIZED: Motor vehicle.

10. MODAL REQUIREMENTS:

a. A current copy of this exemption must be carried aboard each motor vehicle used to transport packages covered by this exemption.

b. Drivers must have been instructed as to necessary safeguards and proper procedures in the event of usual delay, fire, or accident.

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:

- All terms and conditions prescribed in this exemption and the Hazardous Materials Regulations, 49 CFR Parts 171-180.

- 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 this 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 inform the AAHMS, in writing, of any incident involving the package and shipments made under the terms of this exemption.

Issued in Washington, D.C.:

FEB 25 2002
(DATE)

for Robert A. McGuire
Associate Administrator for
Hazardous Materials Safety

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.

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

PO: AM