U.S. Department
of Transportation

**Research and
Special Programs
Administration**

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

MAR 31 1997

DOT-E 11299
(FIRST REVISION)

EXPIRATION DATE: March 31, 1999

(FOR RENEWAL, SEE 49 CFR 107.109.)

1. GRANTEE: Minnesota Valley Engineering, Incorporated, Bloomington, Minnesota.

2. PURPOSE AND LIMITATIONS: This exemption authorizes the manufacture, marking and sale of non-DOT specification insulated cylinders for the transportation in commerce of refrigerated liquids specified in paragraph 6. This exemption provides no relief from any regulation other than as specifically stated herein.

3. REGULATORY SYSTEM AFFECTED: 49 CFR Parts 106, 107 and 171-180.

4. REGULATIONS FROM WHICH EXEMPTED: 49 CFR Section 173.304(a)(1) to permit the use of non-DOT Specification insulated cylinders instead of the required DOT Specification 4L cylinder, for transportation of the hazardous materials specified in paragraph 6. In addition, portions of 49 CFR Section 178.57 as specifically stated in paragraph 7 of this exemption.

5. BASIS: This exemption is based on Minnesota Valley Engineering, Incorporated's application dated February 26, 1997, submitted in accordance with 49 CFR 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	Division 2.2	UN1951	N/A
Carbon dioxide, refrigerated liquid	Division 2.2	UN2187	N/A
Nitrogen, refrigerated liquid	Division 2.2	UN1977	N/A
Nitrous oxide, refrigerated liquid	Division 2.2	UN2201	N/A
Oxygen, refrigerated liquid	Division 2.2	UN1073	N/A

7. PACKAGING(S) and SAFETY CONTROL MEASURES:

a. PACKAGING - Packaging prescribed is a welded, insulated cylinder conforming to the DOT 4L Specification (§178.57) except as stated below:

§178.57-2 Type, size, service pressure, and design service temperature.

(a), (b) * * *

(c) The design service temperature must be -320°F.

§178.57-5 Material.

(a) Inner containment vessel must be constructed of ASTM A240 Type 201LN stainless steel.

(b) * * *

§178.57-10 Wall thickness.

(a) * * *

(1) 47,000 pounds per square inch.

* * *

§178.57-16 Acceptable results for physical tests.

Physical properties must meet the limits specified in §178.57-21 of this exemption, except that the minimum yield strength must be 47,000 psi.

§178.57-20 Marking.

(a) * * *

(1) Each cylinder must be marked "DOT-E 11299" in lieu of "DOT-4L", followed by the service pressure (for example, DOT-E 11299 200).

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§178.57-21 Authorized materials of construction.

(a) Inner containment vessel must conform to ASTM A240 Type 201LN stainless steel. The following chemical analysis and physical properties are authorized:

Designation	Chemical Analysis (limits in percent)
Carbon	0.03 max
Manganese	6.40 - 7.50
Phosphorous	0.045 max
Sulfur	0.015 max
Silicon	0.75 max
Chromium	16.00 - 17.50
Nickel	4.00 - 5.00
Nitrogen	0.10 - 0.25
Copper	1.00 max

Physical properties:

Tensile strength - minimum	95,000 psi
Yield strength - minimum	45,000 psi
Elongation in 2 inches - minimum	45%

(b) * * *

b. TESTING - Each cylinder must be retested in accordance with the requirements of §173.34 applicable to DOT 4L Specification cylinders.

8. SPECIAL PROVISIONS:

a. Offerors for transportation of the hazardous materials specified in this exemption may use the packaging described in this exemption for the transportation of such hazardous materials so long as no modifications or changes are made to the packages, all terms of this exemption are complied with, and a copy of the current exemption is maintained at each facility from which such offering occurs.

b. Each packaging manufactured under the authority of this exemption 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 for a specific manufacturing facility.

c. A copy of this exemption, in its current status, must be maintained at each manufacturing facility at which this packaging is manufactured and must be made available to a DOT representative upon request.

d. Shippers using the packaging covered by this exemption must comply with all provisions of this exemption, and all other applicable requirements contained in 49 CFR Parts 171-180.

9. MODES OF TRANSPORTATION AUTHORIZED: Motor vehicle, rail freight, cargo vessel, and cargo aircraft only.

10. MODAL REQUIREMENTS:

a. A copy of this exemption must be carried aboard each cargo vessel, aircraft or motor vehicle used to transport packages covered by this exemption. The shipper shall furnish a copy of this exemption to the air carrier before or at the time the shipment is tendered.

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 Federal hazardous materials transportation law, 49 U.S.C. Section 5101 et seq:

- All terms and conditions prescribed in this exemption and the Hazardous Materials Regulations, Parts 171-180.
- Registration required by 49 CFR 107.601 et seq., when applicable.

No person may use or apply this exemption, including display of its number, when the 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. (49 CFR 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 also inform the AAHMS, in writing, as soon as practicable of any incidents involving the package and shipments made under this exemption.

Issued at Washington, D.C.

Alan I. Roberts
Associate Administrator
for Hazardous Materials Safety

(DATE)

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.

The original of this exemption is on file at the above office. Photo reproductions and legible reductions of this exemption are permitted. Any alteration of this exemption is prohibited.

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