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

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

DOT-E 10477 (EXTENSION)
ORIGINAL September 6, 1991

In accordance with 49 CFR 107.105 of the Department of Transportation (DOT) Hazardous Materials Regulations DOT-E 10477 is hereby extended for the party(ies) listed below by changing the expiration date in paragraph 10 to May 31, 1995. This change is effective from the issue date of this extension. All other terms of the exemption remain unchanged.

This extension applies only to party(ies) listed below based on the application(s) received in accordance with 49 CFR 107.105. This extension constitutes a necessary part of this exemption and must be attached to it.

JUN 25 1993
(DATE)

Alan I. Roberts
Associate Administrator
for Hazardous Materials Safety

Dist: FHWA FRA USCG FAA

EXEMPTION HOLDER	APPLICATION DATE
Minnesota Valley Engineering, Inc. New Prague, MN	April 27, 1993

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

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

SEP 6 1990

DOT-E 10477

1. Minnesota Valley Engineering, Inc., New Prague, Minnesota, is hereby granted an exemption from certain provisions of this Department's Hazardous Materials Regulations to manufacture, mark and sell the packaging described in paragraph 7 below for use in the transportation in commerce of the hazardous materials described in paragraph 3 below, subject to the limitations and special requirements specified herein. This exemption authorizes the shipments of liquid oxygen, liquid nitrogen, and liquid argon in an insulated non-DOT specification cylinder conforming with the DOT 4L Specification except that the container is made of Type 316L stainless steel and provides no relief from any regulation other than as specifically stated.

2. BASIS. This exemption is based on an application from Minnesota Valley Engineering, Inc., dated September 19, 1990 submitted in accordance with 49 CFR 107.103 and the public proceeding thereon.

3. HAZARDOUS MATERIALS (Descriptor and class). Liquid oxygen, liquid nitrogen, or liquid argon, all classed as nonflammable gases. Liquid oxygen is not authorized to be transported on cargo aircraft only.

4. PROPER SHIPPING NAME (49 CFR 172.101). Oxygen, refrigerated liquid (cryogenic liquid); Nitrogen, refrigerated liquid (cryogenic liquid); or Argon, refrigerated liquid (cryogenic liquid), as appropriate.

5. REGULATION AFFECTED. 49 CFR 173.316, 178.57

6. MODE OF TRANSPORTATION AUTHORIZED. Motor vehicle, rail freight, cargo vessel, and cargo aircraft only.

7. SAFETY CONTROL MEASURES. Packaging prescribed is an insulated non-DOT specification cylinder conforming with Minnesota Valley Engineering Inc.'s design DURA-TRONIC 230 and drawings Nos. D-32404 and D-3557 dated August 15, 1990, on file with the Office of Hazardous Materials Exemptions and Approvals (OHMEA) and DOT Specification 4L (49 CFR 178.57) except as follows:

178.57-20 Marking.

Each cylinder must be marked as required by §178.57-20 except "DOT-E 10477" must be used in place of "DOT-4L".

178.57-21 Authorized materials of construction:

(a) Inner containment vessel (cylinder). Electric furnace steel of uniform quality. Chemical analysis must conform to ASTM A240 Type 316L stainless steel. The following chemical analysis and physical properties are authorized:

Chemical composition:

Designation	Chemical analysis, limits in percent
Carbon	0.08 max.
Manganese	2.00 max.
Phosphorous	0.045 max.
Sulphur	0.030 max.
Silicon	1.00 max.
Nickel	10.0/14.0
Chromium	16.0/18.0
Molybdenum	2.0/3.0
Titanium	---------
Columbium	---------

8. SPECIAL PROVISIONS.

a. In accordance with the provisions of 49 CFR Part 107, Appendix B to Subpart B, Paragraph 3, the shipper shall furnish a copy of this exemption to the air carrier before or at the time the shipment is tendered. In addition, a copy of this exemption must be carried aboard each aircraft used to transport packages covered by this exemption.

b. 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 modification 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.

c. Drivers must have been instructed as to necessary safeguards and proper procedure in the event of unusual delay, fire, or accident.

d. Qualification, maintenance and use of the cylinder must conform with that required for a DOT 4L cylinder.

e. 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.

h. 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.

i. Cylinders being transported in a rail car must be loaded in an upright position and securely braced. Cylinders are prohibited from being shipped in hopper bottom cars.

j. Shippers using the packaging covered by this exemption must comply with the shipping paper, marking, labeling, and placarding requirements of 49 CFR Part 172; the special packaging requirements of 49 CFR 173.3a for certain poisonous materials; all provisions of this exemption, and all other applicable requirements contained in 49 CFR Parts 100-180.

9. REPORTING REQUIREMENTS. Any incident involving loss of packaging contents or packaging failure must be reported to the Associate Administrator for Hazardous Materials Safety as soon as practicable.

10. EXPIRATION DATE. June 30, 1993.

Issued at Washington, D.C.:

SEP 6 1991

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, U.S. Department of Transportation, Washington, D.C. 20590. Attention: Exemptions Branch.

Dist: FHWA, FAA