U.S. Department
of Transportation

**Research and
Special Programs
Administration**

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

SEP 2 3 2004

DOT-E 10776
(EIGHTH REVISION)

EXPIRATION DATE: August 31, 2006

(FOR RENEWAL, SEE 49 CFR § 107.109)

1. GRANTEE: P.S.I. Plus, Inc.
East Hampton, CT

2. PURPOSE AND LIMITATIONS:

a. This exemption authorizes the manufacture, mark, sale and use of a non-DOT specification cylinder conforming with all regulations applicable to a DOT Specification 3E cylinder, except as specified herein, for the transportation in commerce of the hazardous materials described in paragraph 6 below. 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 §§ 173.302a(a)(1), 173.304a(a)(1) and 175.3 in that a non-DOT specification cylinder is not authorized, except as specified herein.

5. BASIS: This exemption is based on the application of P.S.I. Plus, Inc. dated July 9, and July 29, 2004 and additional information dated August 6, and September 2, 2004, submitted in accordance with §§ 107.109 and 107.105 and the public proceeding thereon.

6. HAZARDOUS MATERIALS (49 CFR § 172.101):

Hazardous Material Description			
Proper Shipping Name	**Hazard Class/ Division**	**Identi-fication Number**	**Packing Group**
Carbon dioxide	2.2	UN1013	N/A
Division 2.1 and 2.2 gases authorized in DOT Specification 39 cylinders	2.1 or 2.2, as appro-priate	as appro-priate	N/A
Ethylene, compressed	2.1	UN1962	N/A
Oxygen, compressed	2.2	UN1072	N/A
Refrigerant gases--the proper shipping name listed in the hazardous materials table in 49 CFR § 172.101	2.2*	as appro-priate	as appro-priate

*No Division 2.3 refrigerant gases are authorized.

7. SAFETY CONTROL MEASURES: Prescribed packaging is a non-DOT specification cylinder made in conformance with the requirements for a DOT Specification 3E cylinder under §§ 178.35 and 178.42 except as follows:

§ 178.42(a) *Type, size and service pressure*

Seamless tubing or Drawn Over Mandrel (D.O.M.) tubing partially closed in at either end with closure on either end by circumferentially welded end caps. Cylinder not over 90 cubic inch water capacity with service pressure of 1800 pounds per square inch. Cylinder outside diameter must not be over 4.5 inches.

§ 178.42(b) *Steel*

(i) Aluminum killed 1010 seamless tubing of uniform quality. Content percent for the following not over: Carbon 0.12, manganese 0.50, phosphorus 0.04, and sulfur 0.05 (ladle analysis), or

(ii) Cold drawn seamless type 4130 alloy tubing. Content percent for the following not over: Carbon 0.35, manganese 0.90, phosphorus 0.04, sulfur 0.05, silicon 0.35, chromium 1.10, and molybdenum 0.25, or

(iii) Drawn Over Mandrel (D.O.M.) 1010 or 4130 type steel tubing made to meet ASTM Specification A513 - Type 5. The D.O.M. steel tubing must be fully annealed/normalized after welding and before being drawn over the mandrel. The tubing must be stress relieved after drawing.

§ 178.42(d) *Manufacture* - The last sentence is deleted.

§ 178.42(f)(2) *Hydrostatic test*

The cylinder referred to in paragraph (f) (1) of this section must burst at a pressure higher than 6,000 psig without fragmenting or otherwise showing lack of ductility, and one additional cylinder in the same lot of 500 must be subjected to a 3,000 psi test and subsequently to a flattening test between knife edges with the circumferential joint at a right angle to the plates. The knife edges shall be 60° wedge shaped rounded to ½ inch radii. Flattening to six times the thickness of the seam joint without cracking is required. The last sentence on changes in the inspector's report is deleted.

§ 178.42(f)(3) Other cylinders must be examined under hydrostatic pressure of at least 3,000 psig and show no distortion or indication of defects. The pressure must be maintained for at least 30 seconds and sufficiently longer to ensure complete examination.

§ 178.42(g) *Leakage test*

All cylinders must be tested for leakage by internal air or gas at 1,800 psig following the hydrostatic test. Leakers must be rejected.

§ 178.42(i) *Marking* - Marking applies but substitute "DOT-E 10776" for "DOT 3E" in the marking.

8. SPECIAL PROVISIONS:

a. In accordance with the provisions of Paragraph (b) of § 173.22a, persons may use the packaging authorized by this exemption for the transportation of the hazardous materials specified in paragraph 6, only in conformance with the terms of this exemption.

b. A person who is not a holder of this exemption, but receives a package covered by this exemption, may reoffer it for transportation provided no modification or change is made to the package or its contents and it is offered for transportation in conformance with this exemption and the HMR.

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

d. 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 by the Office of Hazardous Materials Exemptions and Approvals for a specific manufacturing facility.

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

f. Charging of cylinders with liquefied gases must meet requirements in § 173.304a.

g. Each cylinder must be secured against rotational movement within the overpack. Cylinders must be shipped in strong outside packaging complying with § 173.301(a)(9).

h. Transportation of Division 2.1 (flammable gases) are not authorized aboard cargo vessel or aircraft unless specifically authorized in the Hazardous Materials Table (§ 172.101).

9. MODES OF TRANSPORTATION AUTHORIZED: Motor vehicle, rail freight, cargo vessel, cargo aircraft only, and passenger-carrying aircraft. (See restriction in paragraph 8.h).

10. MODAL REQUIREMENTS:

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

b. Ethylene and chlorflourocarbons classed as flammable gas are forbidden for shipment by passenger-carrying aircraft.

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, Parts 171-180.
- Persons operating under the terms of this exemption must comply with the security plan requirement in Subpart I of Part 172 of the HMR, when applicable.
- 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 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. (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 also inform the AAHMS, in writing, as soon as practicable of any incidents involving the package and shipments made under this exemption.

Issued in Washington, D.C.:

SEP 2 3 2004

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: CWF