



U.S. Department
of Transportation

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

Research and
Special Programs
Administration

MAR 17 2004

DOT-E 9347
(EIGHTH REVISION)

EXPIRATION DATE: February 28, 2006

(FOR RENEWAL, SEE 49 CFR § 107.109)

1. GRANTEE: PGI International
Houston, TX
2. PURPOSE AND LIMITATIONS:
 - a. This exemption authorizes the manufacture, marking, 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 materials authorized by this exemption. 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. The safety analyses did not consider the hazards and risks associated with use as a component of another device or other uses not associated with transportation in commerce.
3. REGULATORY SYSTEM AFFECTED: 49 CFR Parts 106, 107 and 171-180.
4. REGULATIONS FROM WHICH EXEMPTED: 49 CFR §§ 173.301(a)(1), 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 PGI International dated February 5, 2004, submitted in accordance with § 107.109.

6. HAZARDOUS MATERIALS (49 CFR § 172.101):

| Proper Shipping Name/ Hazardous Material Description | Hazard Class/ Division | Identi- fication Number | Packing Group |
|--|------------------------------|-------------------------------|------------------|
| Gasoline | 3 | UN1203 | II |
| Mercaptans, liquid, flammable, toxic, n.o.s. or Mercaptan mixtures, liquid flammable, toxic, n.o.s. | 3 | UN1228 | II |
| Petroleum crude oil | 3 | UN1267 | I, II, III |
| Petroleum distillates, n.o.s. or Petroleum products, n.o.s. | 3 | UN1268 | I, II, III |
| Petroleum oil | 3 | NA1270 | I, II, III |
| Petroleum gases, liquefied or Liquefied petroleum gas | 2.1 | UN1075 | I, II, III |
| Propane or Petroleum gases, liquefied | 2.1 | UN1978 | I, II, III |
| Propylene <i>see also</i> Petroleum gases, liquefied | 2.1 | UN1077 | I, II, III |
| Methane, compressed or Natural gas, compressed (<i>with high methane content</i>) | 2.1 | UN1971 | N/A |
| Helium, compressed | 2.2 | UN1046 | III |
| Nitrogen, compressed | 2.2 | UN1066 | I, II, III |

7. SAFETY CONTROL MEASURES:

a. PACKAGING - Packaging prescribed is a non-DOT specification stainless steel cylinder having a marked service pressure of 1800 psig, constructed from seamless stainless steel tubing, with flanged flat head end closures

at each end restrained by tie rods. The cylinder contains a floating piston which forms two pressure chambers. Each cylinder must conform with Boondock International, Inc.'s drawings and calculations on file with the Office of Hazardous Materials Exemptions (OHMEA) and with the DOT 3E specification (§§ 178.35 and 178.42), except as follows:

§ 178.35(d) *Safety devices and protection for valves, safety devices and other connections if applied.* Each head must be equipped with safety relief devices.

§ 178.35(g) *Inspector's report.* The inspector's report may be revised to accommodate the tests required by this exemption. A copy of the inspector's report on the first lot out of each design must be submitted to the OHMEA.

§ 178.42(a) *Type, size and service pressure.* Seamless cylinder conforming with the following:

- (1) Piston-style receptacle has flat heads on each end restrained with tie rods secured at each end by nuts. Dimensions are as follows:

| Model Nos. ^{1,2} | Volume | No.&Size of tie rods | Max. O.D. X length | Min. Wall thickness |
|---------------------------|--------|----------------------|--------------------|---------------------|
| Cxxx15-18x | 150 | 6 @ 3/8" OD | 2" X 8" | 0.113" |
| Cxxx30-18x | 300 | 6 @ 3/8" OD | 2" X 12" | 0.113" |
| Cxxx50-18x | 500 | 6 @ 3/8" OD | 2" X 16" | 0.113" |
| Cxxx80-18x | 800 | 6 @ 3/8" OD | 2" X 24" | 0.113" |
| Cxxx1K-18x | 1000 | 6 @ 3/8" OD | 2" X 29" | 0.113" |

NOTES: ¹ xxx denotes the alloy

² No new construction of models A-IS-84009 and A-IS-87001 is authorized.

§ 178.42(b) *Steel.* The seamless tubing must be ASTM A213 type 304 or 316 stainless steel. The tie rods, end caps, and all internal components must be ASTM A479 steel.

§ 178.42(f) *Hydrostatic test.* Cylinders must be tested as follows:

- (1) Each cylinder (seamless tube with end caps but without pistons, and with tie bolts, if applicable) must be subjected to a hydrostatic test of 3,600 psig. The cylinder must be held at the test pressure for at least 30 seconds and show no defects. If the cylinder fails this test, it must be rejected.

(2) Each compartment of each piston-style cylinder must be subjected to a pneumatic test of at least 500 psi without leakage. If the cylinder fails this test, it must be rejected.

(3) In addition, one cylinder (seamless tube with end caps with tie bolts, if applicable, but without pistons,) from each lot must be pressurized to failure. Rate of pressurization may not exceed 200 psi per second.

(i) A "lot" is defined as the quantity of pressure vessels fabricated from the same heat of steel, manufactured by the same process and heat treated in the same equipment under same conditions of time, temperature and atmosphere and may not exceed a quantity of 500. The burst test must be performed on each lot of cylinders produced or every six months whichever occurs first.

(ii) The pressure at which the cylinder fails to hold test pressure must be recorded. This pressure may not be less than 5,000 psi.

(iii) The size of the cylinder tested will be based on the size that had the greatest production during the previous 6 months or 500 cylinders.

(iv) If any cylinder fails this test, the entire lot must be rejected.

§ 178.42(g) *Leakage test.* Does not apply. Instead, a 6 inch section of production tubing from each heat of material that has passed the hydrostatic test (see § 178.42(f) above) number must be subjected to a flattening test without cracking to 10 times the wall thickness between wedge blocks.

§ 178.42(i) *Marking.* Applies except that each cylinder must be marked "DOT-E 9347 1800" in lieu of "DOT 3E 1800".

b. TESTING - Each cylinder must be visually reinspected at least once a year to determine that there has been no deterioration of seals, and to ensure that the physical integrity of the cylinder has not been adversely affected by scratches, dents or gouges. At this time the end caps, tie rods and indicating rods must be thoroughly cleaned with an appropriate solvent recommended by the manufacturer. A test report documenting that the cylinder was retested must be on file at the test site, and made available to a DOT official when requested.

c. OPERATIONAL CONTROLS -

(1) Each cylinder must be overpacked for shipment in accordance with § 173.301(a)(9).

(2) The cylinder may be used only for LP gas and oil well sampling service.

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.

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

9. MODES OF TRANSPORTATION AUTHORIZED: Motor vehicle and cargo aircraft only.
10. MODAL REQUIREMENTS: A current copy of this exemption must be carried aboard each aircraft or motor vehicle used to transport packages covered by this exemption. The shipper must furnish a current 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 the Federal hazardous materials transportation law, 49 U.S.C. 5101 et seq:
- o All terms and conditions prescribed in this exemption and the Hazardous Materials Regulations, Parts 171-180.
 - o 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.
 - o Registration required by § 107.601 et seq., when applicable.

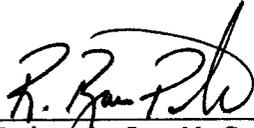
Each "Hazmat employee", as defined in § 171.8, who performs a function subject to this exemption must receive training on the requirements and conditions of this exemption in addition to the training required by §§ 172.700 through 172.704.

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 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.



Robert A. McGuire
Associate Administrator for
Hazardous Materials Safety

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(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.

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: MToughiry/sln