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

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

FEB 21 2003

DOT-E 13112

EXPIRATION DATE: January 31, 2005

(FOR RENEWAL, SEE 49 CFR § 107.109)

1. GRANTEE: Conax Florida Corporation
St. Petersburg, FL

2. PURPOSE AND LIMITATIONS:

a. This exemption authorizes the manufacture, marking, sale and use of non-DOT specification, non-refillable pressure vessels 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 uses not associated with transportation in commerce.

c. The pressure vessels authorized by this exemption are limited to use on the Theater High Altitude Area Defense (THAAD) System, a part of the National Missile Defense Program.

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

4. REGULATIONS FROM WHICH EXEMPTED: 49 CFR §§ 173.302a(a)(1) and 175.3 in that the use of non-DOT specification packaging is not authorized except as specified herein.

5. BASIS: This exemption is based on the application of Conax Florida Corporation dated August 15, 2002 submitted in accordance with § 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** |
| Nitrogen, compressed | 2.2 | UN1066 | N/A |

**Note:** For the purpose of this exemption, a pressure vessel, system or component which contains a quantity of pyrotechnic materials must be classed and approved as provided for in § 173.56. If the pyrotechnic material augments the volume of the gas in the pressure vessel, or in any way enhances the performance of the compressed gas, the device must be tested in the same configuration as when shipped.

7. SAFETY CONTROL MEASURES:

a. PACKAGING - Packaging prescribed is a non-DOT specification, nonrefillable, welded pressure vessel equipped with a Division 1.4G pyrotechnic pressure relief device. Each pressure vessel must be designed and manufactured in conformance with BAE Systems Gas Bottle Performance Specification for the Theater High Altitude Area Defense (THAAD) Missile Seeker Engineering and Manufacturing Development (EMD) Program on file with the Office of Hazardous Materials Exemptions and Approvals (OHMEA). In addition, pressure vessels must be in conformance with Conax Florida's drawing 1811-175-01 dated August 12, 2002 on file with the OHMEA. Each pressure vessel must conform to DOT Specification 39 ( §§ 178.35 and 178.65), except as follows:

§ 178.35(e) Safety devices.

(1) Each pressure vessel must be equipped with a pressure relief device designed and prototype tested to auto-detonate and vent pressure at a temperature of 350 to 450°F.

(2) One pressure vessel per lot must have the pressure relief system tested by an auto detonation test. A fully assembled pressure vessel charged to 8300 psig shall be placed in a temperature chamber at ambient temperature. The temperature shall be increased 3 degrees per minute while monitoring the outlet ports for gas relief. The pressure vessel shall auto detonate at 350 to 450 degrees F (manifold temperature) and release nitrogen gas through the outlet port. The pressure vessel shall not become a missile and shall not fragment. If the test fails, the lot shall be rejected.

§ 178.65(a) Type, size, service, test, and burst pressures.

| Maximum Water Capacity (cubic inches) | Maximum Service Pressure @ 70°F (psig) | Minimum Test Pressure @ 130°F (psig) | Minimum Burst Pressure (psig) |
|---|---|---|---|
| 10.5 | 8375 | 14840 | 23375 |

§ 178.65(b) Material.

(1) Cylinders must be stainless steel, PH13-8MO conditioned to H1050, per AMS 5629 or ASTM GR XM-13.

(2) Does not apply.

§ 178.65(c) Manufacture.

* * *

(4) Welding procedures and operators must be qualified in accordance with AMS 2680 or 2681, MIL-STD-2219 and MIL-STD-1595.

(5) ADD: One pressure vessel from each lot must be sectioned and visually inspected. Full penetration of the head to body welds must be verified.

(6) ADD: Heat treatment. Each completed pressure vessel must be heat treated after welding operations to obtain Rockwell C hardness of 40 -46.

(7) ADD: Hardness Testing. One pressure vessel per lot must be hardness tested using Rockwell C to verify proper heat treatment. Hardness shall be RC 40 -46. The sample section shall be the same heat and shall be processed with the production lot.

§ 178.65(f) Pressure tests.

(1) Each pressure vessel must be proof pressure tested to 14,840 psig at ambient temperature for at least 3 minutes. In addition, each pressure vessel must be tested for leaks by submersing in water at 130°F for at least 30 seconds. If the cylinder leaks it must be rejected.

(2) Two pressure vessels per lot must be hydrostatically pressure tested to 23,375 psig for at least 30 seconds. The entire lot must be rejected if the pressure vessel ruptures or does not retain pressure for at least 30 seconds.

(3) A lot is defined as the quantity of pressure vessels fabricated from the same heat of material, manufactured by the same process and heat treated under the same conditions of time, temperature and atmosphere and may not exceed 200.

§ 178.65(g) Flattening test.

(1) One sample ring representative of the lot must accompany each lot. The sample ring must be from the same material and be subjected to the same heat treatment as the lot of pressure vessels it represents.

(2) The sample ring representative of the pressure vessel must be flattened. The sample ring must not include the heat affected zone or any weld.

(3) The sample ring must be flattened between plates.

(4) The sample ring must not crack when flattened so that the outer surfaces are not more than nine times the wall thickness.

(5) If the sample ring cracks when subjected to the specified flattening test, the lot of pressure vessels represented by the test must be rejected.

§ 178.65(i) Markings.

(1) * * *

(2) (i) "DOT-E 13112" must replace the "DOT 39" mark.

(3) (4) * * *

b. OPERATIONAL CONTROLS -

(1) Conax Florida Corporation must submit a report of the test results for the first lot of pressure vessels tested at Conax facilities before first shipment.

(2) Pressure vessels must be shipped in strong outside packagings in accordance with § 173.301(a)(9).

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.

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

10. MODAL REQUIREMENTS: A current copy of this exemption must be carried aboard each aircraft, cargo vessel or motor vehicle 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.

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.

- 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.

FEB 21 2003

Robert A. McGuire
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.

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