



U.S. Department  
of Transportation

**Research and  
Special Programs  
Administration**

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

**OCT 19 2004**

DOT-E 13032  
(FOURTH REVISION)

EXPIRATION DATE: September 30, 2006

(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, mark, sale and use of non-DOT specification, non-refillable, composite 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 consumer use, use as a component of a transport vehicle or other device, or other uses not associated with transportation in commerce.
  
  - c. The pressure vessels authorized by this exemption are limited to use on the Exoatmospheric Kill Vehicle, a part of the National Missile Defense Program.
  
3. REGULATORY SYSTEM AFFECTED: 49 CFR Parts 106, 107 and 171-180.

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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 October 1, 2004, submitted in accordance with § 107.109.
6. HAZARDOUS MATERIALS (49 CFR § 172.101):

<b>Hazardous Material Description</b>			
<b>Proper Shipping Name</b>	<b>Hazard Class/ Division</b>	<b>Identi- fication Number</b>	<b>Packing Group</b>
Nitrogen, compressed	2.2	UN1066	N/A
Krypton, compressed	2.2	UN1056	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, composite pressure vessel (cylinders and toroids), equipped with a Division 1.4G pyrotechnic pressure relief device. The pressure vessel is constructed of welded titanium liners and overwrapped with carbon fiber filaments. Each pressure vessel must be designed and manufactured in conformance with Raytheon Systems Company EKV Development Specification for the Adapter Cryo Gas Supply Assembly Numbers DS60649-624 and DS60649-625 and Conax Florida Corporation's drawings 1811-178-01 (for toroids) and 1109-207-01 (for cylinders) dated February 11, 2002 and March 25, 2003 respectively, on file with the Office of Hazardous Materials Exemptions and Approvals (OHMEA). Additionally, each pressure vessel must be in conformance with the following:

(1) Safety devices. 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) Type, size, service, test, and burst pressures.

Pressure Vessel	Maximum Water Capacity (cubic inches)	Maximum Service Pressure @ 70°F (psig)	Minimum Test Pressure @ 130°F (psig)	Minimum Burst Pressure (psig)
Cylinder	17	8388	10,000	25,000
Toroid	130	8475	11,100 (Krypton) 10,000 (Nitrogen)	27,750 (Krypton) 25,000 (Nitrogen)

(3) Material.

(i) Cylinders must be constructed of a welded liner of 6AL 4V Annealed titanium per MIL-T9047G with Carbon epoxy impregnated continuous filament windings in both longitudinal and circumferential directions.

(ii) Toroids must be constructed of a welded liner of 15-3-3-3 titanium with Carbon epoxy impregnated continuous filament windings.

(4) Manufacture.

(i) Welding procedures and operators must be qualified in accordance with MIL-STD-2219 and MIL-STD-1595.

(ii) Design stresses and load distributions for the liner and overwrap must be as shown in the Conax Florida Corporation application for exemption on file with the OHMEA.

b. TESTING - Design qualification testing except for shock, acoustic, and acceleration tests must be performed at Conax Florida Corporation facilities in accordance with the following test procedures and acceptance criteria:

(1) Acceptance Test Procedure for N2 Gas Cylinder Assembly Conax P/N 1811-174-01 (ATP-482) dated January 12, 2002, and

(2) Acceptance Test Procedure for Adapter Gas (Toroid) Assembly Conax P/N 1811-178-01 (ATP-483) dated May 7, 2001.

c. OPERATIONAL CONTROLS -

(1) This exemption authorizes transportation from Conax Florida facilities to and from off-site testing facilities for the purpose of completing the design qualification testing and evaluation. Only pressure vessels that pass all on-site acceptance tests at Conax facilities are authorized to be transported off-site.

(2) Pressure vessels are non refillable.

(3) 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.

f. Each pressure vessel must be plainly and durably marked "DOT-E 13032".

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 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*

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Robert A. McGuire  
Associate Administrator for  
Hazardous Materials Safety

**OCT 19 2004**

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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: CWF/AM