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

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

FEB 1 0 2003

DOT-E 11383
(FIFTH REVISION)

EXPIRATION DATE: January 31, 2005

(FOR RENEWAL, SEE 49 CFR § 107.109)

1. GRANTEE: National Aeronautics and Space Administration (NASA)
Washington, D.C.

(See Appendix A for a list of additional grantees)

2. PURPOSE AND LIMITATION:

a. This exemption authorizes the transportation in commerce of certain hazardous materials in non-DOT specification stainless steel cylinders conforming to all regulations applicable to DOT Specification 4BW, except as specified herein. 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 §§ 173.40(a), 173.158(b), (g), and (h), § 173.192(a), and § 173.336 in that a non-DOT specification cylinder is not authorized, except as specified herein; § 173.40(c) in that deviation from the prescribed closures is not authorized, except as specified herein.

5. BASIS: This exemption is based on the application of NASA dated December 20, 2002, submitted in accordance with § 107.109.

6. HAZARDOUS MATERIALS (49 CFR § 172.101):

Proper Shipping Name/ Hazardous Materials Description	**Hazard Class/ Division**	**Identi-fication number**	**Packing Group**
Dinitrogen tetroxide, liquefied Hazard Zone A	2.3	UN1067	N/A
Nitric acid *other than red fuming, with more than 70 percent nitric acid*	8	UN2031	I
Nitric acid *other than red fuming, with not more than 70 percent nitric acid*	8	UN2031	II

7. SAFETY CONTROL MEASURES:

a. PACKAGING - Prescribed packagings are non-DOT specification 5 and 30 gallon stainless steel cylinders constructed in conformance with NASA Kennedy Space Center procurement Specification 81K05262 and with DOT Specification 4BW (§§ 178.35 and 178.61) except as follows:

§ 178.35(b) *Inspection and analyses*

Inspections and verifications must be performed by a third party. The third party inspector must either be a National Board Authorized Inspector or an independent inspection agency approved in writing by the Associate Administrator for Hazardous Materials Safety, in accordance with § 107.803.

§ 178.35(e) *Safety devices*

Cylinders may not be equipped with safety relief devices. Cylinders must be equipped with a detachable protective housing for the loading and unloading valves.

§ 178.35(f) *Markings*

Applies except each cylinder must be marked with "DOT-E 11383" instead of "DOT-4BW".

§ 178.61(b) *Authorized steel*

Material of construction must be SA240 type 304L or type 316L stainless steel.

§ 178.61(d) *Manufacture*

* * *

(1) * * *

(2) Circumferential seam welds must be full penetration butt welds with full 100% radiograph inspection.

§ 178.61(g) *Heat treatment*

Cylinders need not be heat treated.

§ 178.61(i) *Hydrostatic test*

* * *

(1), (2), (3), and (4) * * *

(5) The first finished cylinder out of each lot of 500 or less successively produced must be hydrostatically tested to 4 times the service pressure without bursting.

§ 178.61(j) *Physical tests*

(1) Specimens must be taken from the first cylinder from each lot of 500 or less, as follows:

* * *

b. TESTING -

(1) Cylinders must be inspected and tested as required in NASA Kennedy Space Center procurement specification 81K05262.

(2) Cylinders must be retested in accordance with the requirements of § 180.209(c) applicable to DOT 4BW cylinders.

c. OPERATIONAL CONTROLS -

The transport pressure must be limited to 50 psig.

8. SPECIAL PROVISIONS:

a. A person who is not a holder of this exemption who 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 reoffered for transportation in conformance with this exemption and the HMR.

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

c. Each packaging must be in conformance with § 173.40 except as follows:

§ 173.40(c)(1) - Connections must be straight threads with controlled root radius straight threads (thread form symbol UNJ) in accordance with Military Specification MIL-S-8879. Female ports must be UNJ straight threads and must meet Military Standard MS33649. The sealing gasket must be polytetrafluoroethylene preformed packing per Military Standard MS9956. Preformed packing must be deformed in assembly only once; reassembly requires a new preformed packing.

§ 173.40(c)(2) - Valves must be quarter-turn ball valves with secondary stem containment stem seals of a NASA approved design. Prior to filling, or at a minimum frequency of once a year, a bubble leak check must be performed on all mechanical joints at a minimum of 200 psig. Prior to cylinder refill, or at a five-year frequency, whichever is greater, valves must have all softgood materials (such as seats, packing, and o-rings) replaced, cleaned, and leak-tested at rated pressure at all joints and across the seat.

9. MODES OF TRANSPORTATION AUTHORIZED: Motor vehicle.

10. MODAL REQUIREMENTS: A current copy of this exemption must be carried aboard each motor vehicle used to transport packages covered by this exemption.

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 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, 49 CFR Parts 171-180.

- 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 inform the AAHMS, in writing, of any incidents involving the package and shipments made under the terms of this exemption.

Issued in Washington, D.C.:

FEB 10 2003

for 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: KFW/alb

FEB 2 4 2003

The following are hereby granted party status to this exemption based on their application(s) submitted in accordance with § 107.107 or § 107.109, as appropriate:

Company Name City/State	Application Date	Issue Date	Expiration Date
Astrotech Space Operations, Inc. Titusville, FL	2/21/2003	FEB 2 4 2003	1/31/2005

Ann Mazzullo

for Robert A. McGuire
Associate Administrator for
Hazardous Materials Safety