November 22, 2023

U.S. Department
of Transportation

**Pipeline and Hazardous
Materials Safety
Administration**

1200 New Jersey Avenue, SE
Washington, DC 20590

DOT-SP 12429
(THIRD REVISION)

EXPIRATION DATE: 2027-10-31

(FOR RENEWAL, SEE 49 CFR 107.109)

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

2. PURPOSE AND LIMITATION:

a. This exemption authorizes the transportation in commerce of carbon dioxide in certain non-DOT specification cylinders used as Portable Fire Extinguishers (PFE) for the International Space Station. 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 a transport vehicle or other device, or other uses not associated with transportation in commerce.

c. Party status will not be granted to this special permit.

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

4. REGULATIONS FROM WHICH EXEMPTED: 49 CFR § 173.309(b) in that a non-DOT specification cylinder is authorized to be used as a fire extinguisher as described herein; and the marking requirements specified in §§ 172.203(a) and 172.301(c).

5. BASIS: This exemption is based on the application of NASA dated November 14, 2023, submitted in accordance with §107.109.

Tracking Number: 2023114596

6. HAZARDOUS MATERIALS (49 CFR § 172.101):

Hazardous Materials Description			
Proper Shipping Name	**Hazard Class/Division**	**Identi-fication Number**	**Packing Group**
Carbon dioxide	2.2	UN1013	N/A

7. SAFETY CONTROL MEASURES:

a. PACKAGING - Packaging prescribed is a non-DOT specification cylinder used as a portable fire extinguisher (PFE) for the International Space Station. The cylinder is constructed of 316 type stainless steel and has a maximum volume of 850 cubic inches. The maximum operating pressure of the cylinder is 1050 psig, and the minimum required design burst pressure is 2,100 psig at 109□F. The cylinder must conform to Arde Incorporated drawings E4472, E4482 and E4489 on file with the Office of Hazardous Materials Safety (OHMS).

b. OPERATIONAL CONTROLS -

(1) The PFE is charged with a maximum of 6.07 pounds of grade B carbon dioxide. The total cylinder weight must not exceed 17.1 pounds.

(2) The PFE must be transported in a foam-lined, wood container or installed in the SpaceHab module.

(3) The PFE is authorized for a maximum service life of 30 pressure cycles.

c. TESTING - The PFE must be serviced every 5 years in accordance with the NASA International Space Station Logistics Support Analysis Record (LSAR) 060 Report.

8. SPECIAL PROVISIONS:

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

b. The marking requirements of §§ 172.203(a) and 172.301(c) are waived.

9. MODES OF TRANSPORTATION AUTHORIZED: Motor vehicle.

10. MODAL REQUIREMENTS: There are no modal specific requirements associated with 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 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, 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 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 inform the AAHMS, in writing, of any incident involving the package and shipments made under the terms of this exemption.

Issued in Washington, D.C.:

for William Schoonover
Associate Administrator for Hazardous Materials Safety

Address all inquiries to: Associate Administrator for Hazardous Materials Safety, Pipeline and Hazardous Material Safety Administration, U.S. Department of Transportation, East Building PHH-13, 1200 New Jersey Avenue, Southeast, Washington, D.C. 20590.

Copies of this special permit may be obtained by accessing the Hazardous Materials Safety Homepage at https://www.phmsa.dot.gov/approvals-and-permits/hazmat/special-permits-search. Photo reproductions and legible reductions of this special permit are permitted. Any alteration of this special permit is prohibited.

PO: KH