

November 14, 2013



U.S. Department  
of Transportation

East Building, PHH-30  
1200 New Jersey Avenue S.E.  
Washington, D.C. 20590

**Pipeline and Hazardous  
Materials Safety Administration**

DOT-SP 15531  
(SECOND REVISION)

**EXPIRATION DATE: September 30, 2017**

1. GRANTEE: National Aeronautics and Space Administration  
(NASA)  
Washington, DC
2. PURPOSE AND LIMITATION:
  - a. This special permit authorizes the transportation in commerce of a small amount of propane gas (Division 2.1) in a non-DOT specification container which is a part of NASA's Intra-Vehicular Tissue Equivalent Proportional Counter. This special permit provides no relief from the Hazardous Materials Regulations (HMR) other than as specifically stated herein. The most recent revision supersedes all previous revisions.
  - b. The safety analyses performed in development of this special permit 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. No party status will 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 § 173.302a in that a non-DOT specification container is not authorized and § 172.101 Column (9A) in that propane is forbidden for transportation on passenger carrying aircraft, except as specified herein.

**November 14, 2013**

5. BASIS: This special permit is based on the application of National Aeronautics and Space Administration (NASA) dated September 30, 2013, submitted in accordance with § 107.109.
6. HAZARDOUS MATERIALS (49 CFR § 172.101):

<b>Hazardous Materials Description</b>			
<b>Proper shipping name</b>	<b>Hazard Class/ Division</b>	<b>Identification Number</b>	<b>Packing Group</b>
Propane	2.1	UN1978	N/A

7. SAFETY CONTROL MEASURES:

a. PACKAGING - Packaging prescribed is a non-DOT specification vacuum chamber/vessel housing the radiation detector which is a part of NASA's Intra-Vehicular Tissue Equivalent Proportional Counter (IV-TEPC) hardware assembly designed to measure the ionization radiation inside the International Space Station (ISS).

b. Each system consists of two, a small and large, vacuum chambers as shown on drawings on file with the Approvals and Permits Division. The vacuum chambers are made of corrosion resistant (CRES) 304 stainless steel and have volumes of 8.78 and 9.94 cubic inches. The vacuum chambers contain 22.7 mg and 8.5 mg of propane at pressures of 66 and 22 Torr. The inner shell is further protected and structurally contained within an outer shell of anodized aluminum alloy 7075-T7351.

c. TESTING - The IV-TEPC system must undergo material certification, vibration and thermal qualification testing in accordance with NASA references; MATL -11-042, JSC 65876 and TH-7T036 respectively, to show that the hardware and packaging will meet the performance requirements and not cause inadvertent release during transportation.

- d. OPERATIONAL CONTROLS -

(1) Prior to shipment, each IV-TEPC unit must be packaged in accordance with the packaging description provided with NASA's application and on file with the Approvals and Permits Division.

**November 14, 2013**

(2) No more than two such packages may be shipped together at a time.

(3) Packaging shipped under the terms of this special permit must be plainly and durably marked "DOT-SP 15531". A durable label bearing "DOT-SP 15531" may be used in lieu of the marking.

8. SPECIAL PROVISIONS:

a. A person who is not a holder of this special permit who receives a package covered by this special permit may reoffer it for transportation provided no modifications or changes are made to the package and it is reoffered for transportation in conformance with this special permit and the HMR.

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

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

10. MODAL REQUIREMENTS: A current copy of this special permit must be carried aboard each cargo vessel, aircraft or motor vehicle used to transport packages covered by this special permit. The shipper must furnish a copy of this special permit 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 special permit 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 special permit and the Hazardous Materials Regulations, 49 CFR Parts 171-180.

o Persons operating under the terms of this special permit must comply with the security plan requirement in Subpart I of Part 172 of the HMR, when applicable.

**November 14, 2013**

- 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 special permit must receive training on the requirements and conditions of this special permit in addition to the training required by §§ 172.700 through 172.704.

No person may use or apply this special permit, including display of its number, when this special permit has expired or is otherwise no longer in effect.

Under Title VII of the Safe, Accountable, Flexible, Efficient Transportation Equity Act: A Legacy for Users (SAFETEA-LU) - "The Hazardous Materials Safety and Security Reauthorization Act of 2005" (Pub. L. 109-59), 119 Stat. 1144 (August 10, 2005), amended the Federal hazardous materials transportation law by changing the term "exemption" to "special permit" and authorizes a special permit to be granted up to two years for new special permits and up to four years for renewals.

12. REPORTING REQUIREMENTS: Shipments or operations conducted under this special permit are subject to the Hazardous Materials Incident Reporting requirements specified in 49 CFR §§ 171.15 - Immediate notice of certain hazardous materials incidents, and 171.16 - Detailed hazardous materials incident reports. In addition, the grantee(s) of this special permit must notify the Associate Administrator for Hazardous Materials Safety, in writing, of any incident involving a package, shipment or operation conducted under terms of this special permit.

Issued in Washington, D.C.:



for Dr. Magdy El-Sibaie  
Associate Administrator for Hazardous Materials Safety

**November 14, 2013**

Address all inquiries to: Associate Administrator for Hazardous Materials Safety, Pipeline and Hazardous Material Safety Administration, U.S. Department of Transportation, East Building PHH-30, 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 [http://hazmat.dot.gov/sp\\_app/special\\_permits/spec\\_perm\\_index.htm](http://hazmat.dot.gov/sp_app/special_permits/spec_perm_index.htm) Photo reproductions and legible reductions of this special permit are permitted. Any alteration of this special permit is prohibited.

PO: Shafkey/TG