

October 22, 2014



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 11725
(NINETEENTH REVISION)

(FOR RENEWAL, SEE 49 § 107.109)

1. GRANTEE: (See individual authorization letter)
2. PURPOSE AND LIMITATION:
 - a. This special permit authorizes the transportation in commerce of certain non-DOT specification containers containing certain Division 2.1, 2.2, 2.3 liquefied and compressed gases and other hazardous materials identified in paragraph 6 of this special permit for use in specialty cooling applications such as satellites and military aircraft. This special permit provides no relief from the Hazardous Materials Regulations (HMR) or International Civil Aviation Organization's Technical Instructions for the Safe Transport of Dangerous Goods by Air (ICAO TI) 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 hazard and risks associated with transportation in commerce.
 - c. Unless otherwise stated herein, this special permit consists of the special permit authorization letter issued to the grantee together with this document.
 - d. This special permit serves as an "exemption" as defined in 1;3.1.1 of the ICAO TI and as a "Competent Authority Approval" as defined under 49 CFR § 107.1.
 - e. This special permit serves as an exemption to the ICAO Technical Instructions (ICAO TI) for the transportation of UN1005, Ammonia, anhydrous aboard cargo aircraft. For international flights, the ICAO TI may require exemption authorization by the States of origin, transit, over flight, and destination of the consignment, as well as the State of the air operator.

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- f. This special permit in no way affects the need to obtain any required authorizations from other agencies of the United States Government or from the competent authorities of countries of origin, transit, and destination.
3. REGULATORY SYSTEM AFFECTED: 49 CFR Parts 106, 107 and 171-180.
4. REGULATIONS FROM WHICH EXEMPTED: 49 CFR §§ 173.301(f) in that the non-DOT specification containers are not fitted with pressure relief devices, and 173.302a(a)(1), 173.304a(a)(2) and Packing Instruction 200 of the ICAO TI in that a non-DOT specification packaging is not authorized, and Column (9B) of § 172.101 Hazardous Materials Table and Columns 12 and 13 in Table 3-1 of the ICAO TI is waived in that anhydrous ammonia is forbidden for cargo air transport, and the "Q" value requirements for anhydrous ammonia in 4; 1; 1.1.9(e) of the ICAO TI are waived, except as provided herein.
5. BASIS: This special permit is based on the application of ATK Space Systems dated August 11, 2010, submitted in accordance with § 107.109 and additional information dated October 10, 2014.
6. HAZARDOUS MATERIALS (49 CFR § 172.101):

| Hazardous Materials Description | | | |
|--|------------------------------|------------------------------|----------------------|
| Proper Shipping Name | Hazard Class/Division | Identification Number | Packing Group |
| Ammonia, anhydrous* | 2.2/2.3 | UN1005 | N/A |
| Ethane | 2.1 | UN1035 | N/A |
| Methane, compressed or Natural gas, compressed (with high methane content) | 2.1 | UN1971 | N/A |
| Nitrogen, compressed | 2.2 | UN1066 | N/A |
| Nitrogen Trifluoride | 2.2 | UN2451 | N/A |

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| Hazardous Materials Description | | | |
|--|-------------------------------|------------------------------|----------------------|
| Proper Shipping Name | Hazard Class/ Division | Identification Number | Packing Group |
| Propane <i>see also</i> Petroleum gases, liquefied | 2.1 | UN1978 | N/A |
| Propylene <i>see also</i> Petroleum gases, liquefied | 2.1 | UN1077 | N/A |
| Toluene | 3 | UN1294 | II |
| Lithium batteries, contained in equipment | 9 | UN3091 | II |
| Lithium ion batteries, contained in equipment** | 9 | UN3481 | II |

*Division 2.3 for international transportation. Division 2.2 as an alternate when only domestic transportation is involved.

**Authorized for hazardous materials that are offered for transportation by aircraft and by motor vehicles either before or after being transported by aircraft.

7. SAFETY CONTROL MEASURES:

a. PACKAGING - Packagings prescribed are three (3) non-DOT specification containers which are installed in spacecraft or components of spacecraft and are over-packed in an approved wooden box. The non-DOT specification containers are sealed in a polyethylene or nylon bag, packed in foam cushioning and over-packed in a DOT Specification UN 4C or UN 4D wood box or non-DOT specification wooden box meeting the material requirements of § 178.513(b)(1) and (2) or § 178.514 (b)(1). The pressure in the containers during transportation may not exceed 370 psig at 130°F. The burst pressure of the non-DOT specification container must be as specified in MIL-STD-1522A entitled "Standard general requirements for Safe Design and Operation of Pressurized Missile and Space Systems". Packaging must be in accordance with drawings and specifications provided in the application on file with the Approvals and Permits Division. The non-DOT specification containers are without valves or pressure relief devices and are described as follows:

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(1) Heat pipes or variable conductance heat pipes, constructed of axially grooved tubing (aluminum alloy 6063 or 300 series stainless steel or combination thereof) with an end cap and fill tube welded to opposing ends, not to exceed 4 liters in volume.

(2) Loop heat pipes and capillary pumped loops constructed of 6061-T6 aluminum, stainless steel or Inconel not to exceed 4 liters in volume.

(3) Reservoirs constructed of 6061-T6 aluminum, 300 series stainless steel or Inconel, not to exceed 4 liters in volume. The maximum size of the reservoir is 6 inches in diameter and 24 inches in length.

b. TESTING:

(1) Welds must be radiographically inspected to AWS-D17.1, MIL-STD-2219 or NAS1514 specification. Each non-DOT specification container must be pneumatically tested to a pressure at least 1.5 times the maximum working pressure as specified in MIL-STD-1522A.

(2) Each non-DOT specification container design pressure and pneumatic proof pressure data file must be retained and made available to a DOT representative upon request.

c. OPERATIONAL CONTROLS:

(1) Non-DOT specification containers may not contain more than 2.5 pounds of anhydrous ammonia.

(2) Emergency response information provided with the shipment and available via an emergency response telephone number must indicate that the receptacles are not fitted with pressure relief devices and provide appropriate guidance in case receptacles are exposed to fire.

(3) Stacking of boxes is prohibited during shipment.

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

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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.

c. MARKING - The outer wooden box must be plainly and durably marked on two opposite sides on a contrasting background, "DOT-SP 11725" and "DO NOT STACK" as specified in § 172.301(c).

9. MODES OF TRANSPORTATION AUTHORIZED: Motor vehicle, cargo only aircraft and cargo vessel.
10. MODAL REQUIREMENTS: A current copy of this special permit must be carried aboard each cargo only aircraft, motor vehicle and cargo vessel used to transport packages covered by this special permit. The shipper shall furnish a current 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.
 - 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.

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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

Address all inquiries to: Associate Administrator for Hazardous Materials Safety, Pipeline and Hazardous Materials Safety Administration, Department of Transportation, Washington, D.C. 20590. Attention: PHH-31.

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 Photo reproductions and legible reductions of this special permit are permitted. Any alteration of this special permit is prohibited.

PO: dl