

March 20, 2009



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 11818
(FOURTEENTH REVISION)

(FOR RENEWAL, SEE 49 CFR § 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, and 2.3 liquefied and compressed gases and other hazardous materials identified in paragraph 6 of the special permit. 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.
 - c. Unless otherwise stated herein, this special permit consists of the special permit authorization letter issued to the grantee together with this document.
3. REGULATORY SYSTEM AFFECTED: 49 CFR Parts 106, 107 and 171-180.
4. REGULATIONS FROM WHICH EXEMPTED: 49 CFR § 172.101 Column (9B) in that lithium batteries may not exceed 35 kg; 49 CFR § 173.301(f) in that containers are not fitted with pressure relief devices; §§ 173.302a(a)(1), 173.304a(a)(2) and 175.3 in that non-DOT specification packagings are authorized.
5. BASIS: This special permit is based on the application of Loral Space Systems dated December 17, 2008, and additional information dated January 15, 2009, February 11, 2009, submitted in accordance with § 107.105 and the public proceeding thereon.

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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 |
| Helium, compressed | 2.2 | UN1046 | N/A |
| Methane, compressed or Natural gas, compressed (with high methane content) | 2.1 | UN1971 | N/A |
| Nitrogen trifluoride, compressed | 2.2 | UN2451 | N/A |
| 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 ion batteries** | 9 | UN3480 | 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.

** Packaging and transportation must be in accordance with the International Civil Aviation Organization's (ICAO) Technical Instructions for the Safe Transportation of Dangerous Goods by Air.

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

7. SAFETY CONTROL MEASURES:

a. PACKAGING - Packagings prescribed are non-DOT specification containers which are installed in spacecraft or components of spacecraft and over-packed in a wood or metal box constructed in accordance with drawings on file with the Office of Hazardous Materials Special Permits and Approvals (OHMSPA). The non-DOT specification containers are without valves or pressure relief devices and described as follows:

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 1 liter in volume.

2. Capillary pumped loops constructed of 6061-T6 aluminum or 300 series stainless steel or combination thereof, not to exceed 144 inches in length and 100 inches wide, and not to exceed 4 liters in volume.

3. Reservoirs constructed of 6061 aluminum or 300 series stainless steel, 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 - Welds must be radiographically inspected to MIL-STD-2219 or NAS1514 specification. Each non-DOT specification container must be pneumatically tested to pressure 1.5 times the vapor pressure of the lading at 100°C (212°F) without failure and must have minimum burst pressure of at least 1,400 psig.

c. OPERATIONAL CONTROLS -

1. Each heat pipe may not contain more than 0.25 pounds of anhydrous ammonia.

2. At 54.4°C (130°F), the design burst pressure of the heat pipes must be at least 4 times the vapor pressure of the lading.

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

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.

c. MARKING - The all metal container containing the FOS must be marked on two sides in letters at least 2 inches high on a contrasting background "DOT-SP 11818."

d. Transportation of Division 2.3 (gases which are poisonous by inhalation) materials are not authorized aboard aircraft unless specifically authorized in writing by OHMSPA, as provided in Special Provision A2 in the International Civil Aviation Organization's (ICAO) Technical Instructions for the Safe Transportation of Dangerous Goods by Air.

9. MODES OF TRANSPORTATION AUTHORIZED: Motor vehicle, cargo vessel and cargo aircraft only.

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 current copy of this special permit to the air carrier before or at the time the shipment is tendered.

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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.

No person may use or apply this special permit, including display of its number, when the 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 Theodore L. Willke
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: BMoore