



U.S. Department
of Transportation

**Pipeline and Hazardous
Materials Safety
Administration**

March 18, 2025

1200 New Jersey Avenue, SE
Washington, DC 20590

DOT-SP 14493
(SECOND 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 non-DOT specification containers (heat pipes) containing anhydrous ammonia for use in specialty cooling applications such as satellites and military aircraft. 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 the development of this special permit only considered the hazards and risks associated with the 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 §§ 173.304a(a)(1), 173.302a(a)(1), and 173.202 in that a non-DOT specification cylinder is not authorized. 49 CFR §173.301(f)(1) in that installation of a pressure relief device is required.
5. BASIS: This special permit is based on the application of Boyd Lancaster Inc. dated August 30, 2024, submitted in accordance with § 107.105 and the public proceeding thereon.

6. HAZARDOUS MATERIALS (49 CFR § 172.101):

Hazardous Materials Description			
Proper Shipping Name	Hazard Class/ Division	Identification Number	Packing Group
Ammonia, anhydrous	2.3	UN1005	N/A
Ammonia, anhydrous	2.2	UN1005	N/A
Ethane	2.1	UN1035	N/A
Helium, compressed	2.2	UN1046	N/A
Oxygen, compressed	2.2	UN1072	N/A
Methane, compressed <i>or</i> Natural gas, compressed (<i>with high methane content</i>)	2.1	UN1971	N/A
Propane <i>see also Petroleum gases, liquefied</i>	2.1	UN1978	N/A
Propylene <i>see also Petroleum gases, liquefied</i>	2.1	UN1077	N/A
Toluene	3	UN1294	II
Xenon, compressed	2.2	UN2036	N/A

7. SAFETY CONTROL MEASURES:

- a. PACKAGING: Packagings prescribed are non-DOT specification heat pipe cooling units constructed of aluminum, stainless steel, or a combination thereof. The heat pipes have an internal diameter of six inches or less. The heat pipes must be manufactured to MIL-STD-1522A entitled "Standard General Requirements for Safe Design and Operation of Pressurized Missile and Space Systems". Welding must be in accordance with MIL-STD 1595 or AMS-STD-1595 entitled "Qualification of Aircraft, Missile, and Aerospace Fusion Welders". The heat pipes are not equipped with pressure relief devices.

b. OPERATIONAL CONTROLS:

- (1) The amount of hazardous materials in each heat pipe must not exceed 1.2 kg.
- (2) The filling density prescribed in § 173.304 applies to the filling of heat pipes.
- (3) Each heat pipe must be transported in a strong outside packaging that will protect the heat pipe from damage during transportation.

c. TESTING: Each heat pipe cooling unit assembly must be proof pressure tested to at least 1.5 times the maximum working pressure.

d. Emergency response information provided with the shipment, and available via an emergency response telephone number, must identify those receptacles that are not fitted with pressure relief devices, and provide appropriate guidance for exposure 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 modification or change is made to the packaging or its contents 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. Heat pipes authorized under this special permit are only authorized to support aerospace (satellite) and military applications.

9. MODES OF TRANSPORTATION AUTHORIZED: Motor vehicle, rail freight, 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 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.

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 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: ae