



U.S. Department
of Transportation

**Pipeline and Hazardous
Materials Safety
Administration**

April 16, 2024

1200 New Jersey Avenue, SE
Washington, DC 20590

DOT-SP 21661

EXPIRATION DATE: 2026-03-31

(FOR RENEWAL, SEE 49 CFR 107.109)

1. GRANTEE: ThermAvant Technologies, L.L.C.
Columbia, MO
2. PURPOSE AND LIMITATION:
 - a. This special permit authorizes the transportation in commerce of non-DOT specification packagings (described in paragraph 7.a.) containing anhydrous ammonia. 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. 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 § 173.301(f) in that the packagings are not equipped with one or more pressure relief devices and § 173.304(a) in that non-DOT specification packagings are authorized.
5. BASIS: This special permit is based on the application of ThermAvant Technologies, L.L.C. dated October 26, 2023, submitted in accordance with § 107.105 and the public proceeding thereon and additional information dated January 16, 2024, and March 19, 2024.

Tracking Number: 2023104982

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

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

7. SAFETY CONTROL MEASURES:

a. PACKAGING: Prescribed packagings are non-DOT specification containers (heat pipes) containing anhydrous ammonia for use in specialty cooling appliances in the Department of Defense and commercial industries. The heat pipes are constructed without valves or pressure relief devices and have a maximum volume of 2 liters. Heat pipes must be constructed of materials listed in the application on file with the Office of Hazardous Materials Safety (OHMS). Each heat pipe design must have test data on file with OHMS. Heat pipes must be packaged within custom wooden crates.

b. TESTING: Metallurgically bonded joints must be evaluated using an appropriate non-destructive examination (NDE) technique described in ASTM-E1742, NAS1514, AFSPCMAN 91-710 Vol 3, or an equivalent specification. Each heat pipe must be pneumatically tested to 1.5 times the vapor pressure of the lading at 100 °C without failure and must have a minimum burst pressure of at least 1,400 psig.

c. OPERATIONAL CONTROLS:

(1) Each heat pipe may not contain more than 0.75 pounds of anhydrous ammonia.

(2) 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 must provide appropriate guidance in case receptacles are exposed to fire.

(3) Heat pipes must be over-packed in custom wood crates.

- d. MARKINGS: The custom wooden crates containing the non-DOT specification containers (heat pipes) must be marked on two sides in letters at least 2 inches high on contrasting background “DOT-SP 21661”.
8. SPECIAL PROVISIONS:
- a. Under the terms of this special permit, the grantee may only offer hazardous materials (i.e., the grantee is not authorized as a carrier).
- b. 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 package and it is reoffered for transportation in conformance with this special permit and the HMR.
- c. 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.
10. MODAL REQUIREMENTS: A current copy of this special permit must be carried aboard each motor vehicle used to transport packages covered by this special permit.
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: AS