



U.S. Department
of Transportation

**Pipeline and Hazardous
Materials Safety
Administration**

March 17, 2025

1200 New Jersey Avenue, SE
Washington, DC 20590

DOT-SP 21772
(FIRST REVISION)

EXPIRATION DATE: 2026-11-30

(FOR RENEWAL, SEE 49 CFR 107.109)

1. GRANTEE: EnerVenue, Inc.
Fremont, CA
2. PURPOSE AND LIMITATION:
 - a. This special permit authorizes the transportation in commerce of UN 3537, articles containing flammable gas, n.o.s. The articles are comprised of non-DOT specification cylinders. This special permit provides no relief from the Hazardous Materials Regulations (HMR) or the International Maritime Dangerous Goods (IMDG) Code 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.
 - d. The non-DOT specification cylinders may be used in accordance with 4.1.6.1.14 of the IMDG Code.
3. REGULATORY SYSTEM AFFECTED: 49 CFR Parts 106, 107 and 171-180 and the IMDG Code.
4. REGULATIONS FROM WHICH EXEMPTED: 49 CFR Subparts D and E of Part 172 in that each filled cylinder need not be marked and labeled, respectively; and , § 172.101 in that the hazardous materials entry of UN 3537 includes special provision 391, which requires approval by the Associate Administrator, § 173.301 in that a pressure vessel that does not meet DOT specification nor UN pressure receptacle specifications is not authorized, IMDG Code SP391 in that this special permit would authorize the proper

Tracking Number: 2025024161

shipping name of UN 3537, Articles containing flammable gas, n.o.s., except as specified herein.

5. **BASIS:** This special permit is based on the modification application of EnerVenue, Inc. dated February 6, 2025, submitted in accordance with § 107.117 and the determination it is necessary to prevent economic hardship.
6. **HAZARDOUS MATERIALS (49 CFR 172.101):**

Hazardous Materials Description			
Proper Shipping Name	Hazard Class/ Division	Identification Number	Packing Group
Articles containing flammable gas, n.o.s. (contains hydrogen gas)	2.1	UN3537	N/A

7. **SAFETY CONTROL MEASURES:**

- a. **PACKAGING:** Prescribed packaging is as follows:

- (1) Non-DOT specification stainless steel cylinders comprising battery modules (Model ESV-E) must be securely placed on a rack designed to hold cylinders in horizontal positions. The pressure relief devices on the cylinders must stay closed during transportation.
- (2) A rack must hold up to 100 cylinders in secure horizontal positions.
- (3) The filled rack must be housed within a metallic enclosure as an outer packaging and be designed to induce passive air ventilation within the enclosure. A closed enclosure is termed a unit or an energy storage system (ESS) enclosure.
- (4) Up to 3 units may be transported in a shipment using a:
 - (i) Flatbed truck and/or flat rack container when shipped by road.
 - (ii) Flatcar and/or flat rack container when shipped by rail.
 - (iii) Flat rack container, above deck when shipped by cargo vessel.
- (5) The units within the flatbed truck, or flatcar and/or flat rack container must be securely fastened in the unit holder of the truck or the container.

b. OPERATIONAL CONTROLS:

- (1) Nickel hydrogen battery modules in the form of cylinders mounted on a rack and then enclosed in an aluminum cabinet as described in the application of EnerVenue, Inc. dated May 14, 2024, and on file with the Office of Hazardous Materials Safety may be offered for transportation under the terms of this special permit.
- (2) Each ESS (battery unit) comprising up to 100 cylinders may not exceed 1.2 kWh individually or 120 kWh in aggregate per ESS in nominal energy and a maximum system voltage of 1000 volts.
- (3) Battery modules must be protected against short-circuiting.
- (4) Each cylinder comprising a battery module has a volumetric capacity of 22.7 L and contains potassium hydroxide solution in water between 25% and 30% in concentration and compressed hydrogen not exceeding 220 psig.
- (5) The maximum weight of an ESS (battery unit) may not exceed 5,443 kg (12,000 pounds).
- (6) The electric cooling fan installed within the enclosed cabinetry must be turned off as it is turned on by external auxiliary power and the passive ventilation system must be operational during transportation.
- (7) The battery modules or cells must be equipped with an effective means of preventing dangerous reverse current flow for the modules or cells connected in parallel.
- (8) The BPVC compliant, non-DOT specification stainless steel cylinders used as battery modules must have maximum allowable working pressure (MAWP) of 835 psi and be filled to not more than 220 psig during transportation.
- (9) Emergency response information provided with the shipment and available via an emergency response telephone number must provide appropriate guidance in case of fire exposure or an incident.
- (10) Battery modules must be transported at a state of charge not exceeding 30%.

c. MARKING AND PLACARDING: The outer transport container unit must be:

(1) Plainly and durably marked on each side in letters at least 2 inches in height on a contrasting background, “DOT-SP 21772” and “DO NOT STACK”.

(2) Marked on each side and each end with UN ID number “3537” on an orange panel conforming to § 172.332(b), on a white square-on-point configuration conforming to § 172.336(b), or on a placard in accordance with § 172.332(c).

(3) Placarded on each side and each end with the FLAMMABLE GAS placard conforming to § 172.532 unless containing less than 454 kg (1001 pounds) aggregate gross weight of cylinders containing hydrogen.

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, the HMR, and the IMDG Code.

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

d. 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, and transit.

e. The special permit holder must maintain a record of all activity conducted under the authority granted in this special permit. The record must contain a complete listing and number of shipments made to include and upon request make this information available to a DOT representative or an enforcement official. The record must contain a listing and number of shipments made to include:

(1) Dates of shipment; and

(2) Description of each type of shipment.

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

10. MODAL REQUIREMENTS: A current copy of this special permit must be carried aboard each cargo vessel or 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: SH/TG