



U.S. Department  
of Transportation

**Pipeline and Hazardous  
Materials Safety Administration**

**July 21, 2021**

East Building, PHH-30  
1200 New Jersey Avenue S.E.  
Washington, D.C. 20590

DOT-SP 21208

**EXPIRATION DATE: 2023-06-30**

(FOR RENEWAL, SEE 49 CFR § 107.109)

1. GRANTEE: LG Energy Solution, Ltd.  
Seoul, Republic of Korea

US AGENT: LG Energy Solution Michigan  
Troy, MI

2. PURPOSE AND LIMITATION:

a. This special permit authorizes the transportation in commerce of certain lithium ion modules and battery packs exceeding 35 kg when transported aboard cargo-only aircraft.

This special permit provides no relief from the Hazardous Materials Regulations (HMR) or the 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 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. This special permit serves as an approval under Special Provision A99, as an approval under 49 CFR 173.185(b)(5), and as a "Competent Authority Approval" as defined under 49 CFR § 107.1.

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3. REGULATORY SYSTEM AFFECTED: 49 CFR Parts 106, 107 and 171-180 and the ICAO TI.
4. REGULATIONS FROM WHICH EXEMPTED: 49 CFR § 172.101 Hazardous Materials Table Column (9B) in that a battery may not exceed 35 kg, except as specified herein.
5. BASIS: This special permit is based on the application of LG Energy Solution, Ltd. dated March 30, 2021, submitted in accordance with § 107.105 and the public proceeding thereon and additional information dated May 24, 2021.
6. HAZARDOUS MATERIALS (49 CFR 172.101):

Hazardous Materials Description			
Proper Shipping Name	Hazard Class/ Division	Identification Number	Packing Group
Lithium ion batteries <i>including lithium ion polymer batteries</i>	9	UN3480	N/A

7. SAFETY CONTROL MEASURES:

a. SAFETY CONTROLS:

(1) Only the following battery modules and batteries packs are authorized to be transported under the terms of this special permit:

(i) All battery modules identified as 517H Module and 519A\_CMA are made of P30B and P34 pouch cells, respectively with nominal energy capacities of 1.7 kWh and 1.96 kWh, respectively.

(ii) The battery packs identified as 517H and 519A are constructed from the 517H and 519A\_CMA battery modules, respectively, in which the modules are electrically connected into battery packs of nominal energy ratings of 8 kWh and 9.12 kWh, respectively.

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(2) Cells, battery modules and battery packs must be protected against short-circuiting.

(3) All of the battery modules and the battery packs must be offered for transportation at a state of charge no greater than 30%.

(4) Only production lithium ion modules and battery packs may be offered for transportation under the terms of this special permit.

(5) Battery modules or packs with cells connected in parallel must be equipped with an effective means to prevent dangerous reverse current flow.

(6) The battery packs must be equipped with a battery management system that has been verified as preventing overcharge, short circuits, and over-discharge between the modules.

(7) Each battery module and battery pack must weigh 12 kg or greater and have a strong, impact-resistant outer casing.

(8) The battery modules and packs must be secured to prevent inadvertent movement and the terminals may not support the weight of other superimposed elements.

b. TESTING REQUIREMENTS:

(1) Each cell type within each battery module and battery pack must have passed the required tests in accordance with the UN Manual of Tests and Criteria, 6<sup>th</sup> Revised Edition.

(2) Battery module, 517H or 519A, in a battery pack must have passed the required tests in accordance with the UN Manual of Tests and Criteria, 5<sup>th</sup> or 6<sup>th</sup> Revised Edition, respectively.

(3) Battery pack, 519A, must have passed the required tests in accordance with the UN Manual of Tests and Criteria, 6<sup>th</sup> Revised Edition.

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(4) Battery pack, 517H, which has a nominal energy rating exceeding 6,200 Wh, need not be tested in accordance with the UN Manual of Tests and Criteria, 6<sup>th</sup> Revised Edition if the battery pack is equipped with a battery management system that has been verified as preventing overcharge, short circuits and over-discharge between the battery modules.

c. PACKAGING:

(1) Each battery module must be packaged in a 4G fiberboard box that meets the Packing Group II performance level. The 4G fiberboard box serves as a strong outer packaging.

(2) Each battery pack must be packaged in a 4D plywood box that meets the Packing Group II performance level. The 4D plywood box serves as a strong outer packaging.

(3) Packaging must comply with the requirements in Packing Instruction 974 of the Supplement to the ICAO TI. Additionally, waste lithium modules and battery packs and lithium modules and battery packs being shipped for recycling or disposal are forbidden from air transport, and lithium ion modules and battery packs must not be packed in the same outer packaging with substances and articles of Class 1 (explosives) other than Division 1.4S, Division 2.1 (flammable gases), Class 3 (flammable liquids), Division 4.1 (flammable solids), or Division 5.1 (oxidizers).

(4) The net weight of each module (517H Module or 519A\_CMA) and each battery pack (517H or 519A) within each package must not exceed 12.3 kg and 115 kg, respectively.

(5) Only one battery module or battery pack may be packed within a packaging.

d. Marking Requirements: Each package, and overpack if used, prepared under the provisions of this special permit must be plainly marked with the special permit number: DOT-SP 21208.

8. SPECIAL PROVISIONS:

a. Under the terms of this special permit, the grantee may

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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 ICAO TI.

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, transit, and destination and the State of the Operator.

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: Cargo-only aircraft.

10. MODAL REQUIREMENTS: A current copy of this special permit must be carried aboard each aircraft 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:

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- 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-30, 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: Steve H