

May 29, 2019



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 20839

(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 lithium battery assemblies exceeding 35 kg 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. Unless otherwise stated herein, this special permit consists of the special permit authorization letter issued to the grantee together with this document.
 - d. This special permit serves as an approval under Special Provision A99 of the ICAO TI, the third paragraph of Section IA.2 of Packing Instruction 965 of the ICAO TI, and 49 CFR 173.185(b) (5) and as a "Competent Authority Approval" as defined under 49 CFR 107.1.
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 Column (9B) in that a lithium battery assembly may not exceed 35 kg when transported aboard cargo aircraft, except as provided herein.

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5. BASIS: This special permit is based on the application of A123 Systems LLC dated February 27, 2019 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
Lithium ion batteries	9	UN3480	N/A

7. SAFETY CONTROL MEASURES:

a. OPERATIONAL CONTROLS:

(1) Only lithium ion battery assemblies identified as the Karma Battery Pack (nominal watt-hour rating of 27.9 kWh) and comprised of seven battery modules identified as WXM14M025078A and seven battery modules identified as WXM14M025078B as specified in the application on file with the Office of Hazardous Materials Safety Approvals and Permits Division (OHMSAPD) may be offered for transportation and transported under the terms of this special permit. The battery modules each have a nominal watt-hour rating of 1.99 kWh and are electrically connected in series.

(2) Each battery module is comprised of 21 cells (each with a nominal rating of 94.9 Wh) identified as TR001863 as specified in the application on file with OHMSAPD. The cells are electrically connected in a 7S3P configuration.

(3) The battery assembly must be equipped with an effective means of preventing dangerous reverse current flow for those cells or modules that are connected in parallel.

(4) Cells, modules, and battery assemblies must be protected against short-circuiting.

(5) The state of charge for lithium ion battery assemblies may not exceed 30% when offered for transportation.

(6) A battery assembly, which has a rating exceeding 6,200 Wh, need not be tested in accordance with the UN Manual of Tests and Criteria, 6th Revised Edition provided that the assembly is equipped with a system capable of monitoring the battery assembly and preventing short circuits, or over discharge between the modules in the assembly and any overheat or overcharge of the battery assembly.

b. TESTING REQUIREMENTS: Each cell and battery module must be a type that has successfully passed the required tests in accordance with the UN Manual of Tests and Criteria, 6th Revised Edition.

c. PACKAGING:

(1) The battery assembly comprised of lithium battery modules with a mass of 12 kg or greater each must have a strong, impact-resistant outer steel casing while the modules have a strong aluminum casing.

(2) The battery assembly must be firmly attached to the bottom of a pallet and further packaged in a plywood crate.

(3) No more than one battery assembly may be packaged in a plywood crate.

(4) Each package must meet the additional requirements in Section 1A.2 of ICAO TI Packing Instruction 965.

(5) The net weight of the battery assembly within each package must not exceed 295 kg. The gross weight of the package may not exceed 500 kg.

d. MARKING: Each package covered under the terms of this special permit must be durably and legibly marked and displayed on a background of contrasting color with "DOT-SP 20839".

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 package or its contents and it is reoffered for transportation in conformance with this special permit, the HMR, and the ICAO TI.

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

c. 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.

d. The special permit grantee must maintain the following record and upon request and make this information available to DOT representatives or enforcement officials. The record to be maintained is as follows:

(1) Dates of shipment.

(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:

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

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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 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: Steve H