



U.S. Department  
of Transportation

**Pipeline and Hazardous  
Materials Safety  
Administration**

**August 30, 2022**

1200 New Jersey Avenue, SE  
Washington, DC 20590

DOT-SP 21193  
(THIRD REVISION)

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

(FOR RENEWAL, SEE 49 CFR 107.109)

1. **GRANTEE:** KULR Technology Corporation  
San Diego, CA
2. **PURPOSE AND LIMITATIONS:**
  - a. This special permit authorizes the manufacture, mark, sale, and use of specially designed thermal runaway shield (TRS) packagings for the transportation in commerce of damaged, defective, or recalled lithium ion cells and batteries and lithium metal cells and batteries and those contained in or packed with equipment. 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 development of this special permit only considered the hazards and risks associated with transportation in commerce. The safety analyses did not consider the hazards and risks associated with consumer use, use as a component of a transport vehicle or other device, or other uses not associated with transportation in commerce.
  - c. In accordance with 49 CFR 107.107(a), party status may not be granted to a manufacturing special permit. These packagings may be used in accordance with 49 CFR 173.22a.
3. **REGULATORY SYSTEM AFFECTED:** 49 CFR Parts 106, 107 and 171-180.
4. **REGULATIONS FROM WHICH EXEMPTED:** Except when a shipment of consolidated packages has an aggregate gross weight exceeding 1000 pounds, 49 CFR Subparts C through H of Part 172 in that shipping papers, marking, labeling, placarding, emergency response information, and training are not required for batteries and cells not exceeding the energy content limits of § 173.185(c); and § 173.185(f) in that more than

one lithium cell or battery per package, alternative packaging, and alternative marking are authorized, as specified herein.

5. BASIS: This special permit is based on the application of KULR Technology Corporation dated December 6, 2021 submitted in accordance with § 107.105 and the public proceeding thereon.
6. HAZARDOUS MATERIALS (49 CFR 172.101):

<b>Hazardous Material Description</b>			
<b>Proper Shipping Name*</b>	<b>Hazard Class/ Division</b>	<b>Identification Number</b>	<b>Packing Group</b>
Lithium ion batteries	9	UN3480	N/A
Lithium ion batteries contained in equipment	9	UN3481	N/A
Lithium ion batteries packed with equipment	9	UN3481	N/A
Lithium metal batteries	9	UN3090	N/A
Lithium metal batteries contained in equipment	9	UN3091	N/A
Lithium metal batteries packed with equipment	9	UN3091	N/A

\*Only damaged, defective, or recalled lithium ion cells or batteries including those suspected of being damaged or defective and those packed with or contained in equipment including instances where the cells or batteries cannot be appropriately assessed prior to transport and the packaging is being used as an added safety precaution may be transported under the terms of this special permit. All cells and batteries must have met all requirements of § 173.185(a) prior to being damaged or defective.

7. SAFETY CONTROL MEASURES:

a. SAFETY CONTROLS:

- (1) Damaged, defective, or recalled lithium cells and batteries, and lithium cells or batteries (DDRs), and those contained in or packed with equipment must have originally met the requirements for testing in accordance with the edition of the UN Manual of Tests and Criteria authorized at the time of testing, prior to becoming DDRs.
- (2) Packages must be stored away from heat.

(3) Lithium ion and metal cells and batteries must be secured and protected against short circuits while the packages are in transportation.

(4) Cells or batteries contained in or packed with equipment must be protected against short circuits (unless the equipment affords that protection) and unintentional activation.

b. PACKAGING: Prescribed packagings are as follows:

(1) INNER PACKAGING: Cells or batteries or pieces of equipment containing these cells or batteries must be packaged in a specially designed inner bag (TRS bag) as described in the application on file that consists of a synthetic composite temperature resistant bag that is lined with the fiber core material containing a cooling liquid.

(2) OUTER PACKAGING: Outer packaging is a UN specification packaging meeting the Packing Group I requirements.

(3) The aggregate energy content of each inner packaging with a fiber core lining containing a cooling liquid may not exceed 2.5 kWh or the equivalent lithium content (200 grams).

(4) Packages may not be transported aboard aircraft, ferry vessel, or cargo vessel under the terms of this special permit.

c. MARKING AND LABELING: Each package covered under the terms of this special permit must be durably and legibly marked/labeled and displayed on a background of contrasting color with the following:

(1) “DOT-SP 21193”.

(2) The words: “Damaged/defective lithium ion battery” and/or “Damaged/defective lithium metal battery”, as appropriate, in letters at least 12 mm (0.5 inch) in height.

(3) The words: “FOR GROUND TRANSPORT ONLY – FORBIDDEN FOR TRANSPORTATION BY AIRCRAFT AND VESSEL” at least 6 mm (0.25 inch) in height.

(4) For cells and batteries with an energy content not exceeding the limits specified in 49 CFR 173.185(c), the lithium battery handling marking conforming to 49 CFR 173.185(c).

(5) For cells and batteries with an energy content exceeding the limits in 49 CFR 173.185(c), the LITHIUM BATTERY label specified in and conforming to 49 CFR 172.447 and compliance with Subparts D and E of Part 172 is required.

(6) Emergency response information including the emergency response telephone number in case of damage to the packaging or contents.

d. OPERATIONAL CONTROLS:

(1) Cells or batteries, including those contained in or packed with equipment, each with an energy content not exceeding the limits in 49 CFR 173.185(c), are excepted from 49 CFR Part 172 Subparts C through H, except as specified herein. Each package must not exceed 30 kg (66 pounds) gross weight.

(2) Cells, batteries (including those packed with or contained in equipment), or a package that does not conform to the requirements in paragraph 7.d.(1) are subject to 49 CFR Subparts C through H of Part 172.

(3) KULR Technology Corporation must provide detailed closure, packing, and shipping instructions to individuals (consumers, retail employees, and KULR Technology Corporation hazardous materials employees) preparing shipments under the terms of the special permit.

(4) Persons offering packages for transportation must comply with the closure instructions accompanying the packaging.

(5) In lieu of shipping papers for batteries, cells, and packages conforming to paragraph 7.d.(1), a bill of lading is authorized including the description "Contains damaged, defective, recalled lithium cells and batteries in accordance with DOT-SP 21193".

(6) Shipments containing a single packaging, pallet or aggregate quantity of packages with a gross weight exceeding 1,000 pounds are not excepted from the requirements of Subparts C through H of Part 172.

8. SPECIAL PROVISIONS:

a. In accordance with the provisions of Paragraph (b) of § 173.22a, persons may use the packaging authorized by this special permit for the transportation of the hazardous materials specified in paragraph 6, only in conformance with the terms of this special permit.

b. A person who is not a holder of this special permit, but 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 offered 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.

- d. Each packaging manufactured under the authority of this special permit must be either (1) marked with the name of the manufacturer and location (city and state) of the facility at which it is manufactured or (2) marked with a registration symbol designated by the Office of Hazardous Materials Safety for a specific manufacturing facility.
- e. A current copy of this special permit must be maintained at each facility where the packaging is manufactured under this special permit. It must be made available to a DOT representative upon request.
9. MODES OF TRANSPORTATION AUTHORIZED: Motor vehicle and rail freight.
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 Materials 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