



U.S. Department
of Transportation
**Pipeline and Hazardous
Materials Safety
Administration**

1200 New Jersey Avenue, SE
Washington, DC 20590

September 14, 2021

Mr. Steven W. Hansen
Law Offices of Steven W. Hansen
Long Beach, CA 90808

Reference No. 21-0037

Dear Mr. Hansen:

This letter is in response to your April 7, 2021, letter requesting clarification of the Hazardous Materials Regulations (HMR; 49 CFR Parts 171-180) applicable to lithium batteries. In your letter, you state that you represent a company that ships traditional “e-bikes,” meaning those that are in compliance with Consumer Product Safety Commission (CPSC) regulations under 16 CFR part 1512.2(a)(2). You state that the e-bikes have lithium batteries installed in them and that the batteries are in “sleep mode,” charged to 60% of full charge, and have a minimum 300 watt-hour (WH) rating. In addition, you state that the e-bikes are shipped only within the United States to retail stores via ground or rail transportation with a charger and a battery. You ask several questions pertaining to training, packaging, and hazard communication. We have paraphrased and addressed your questions as follows:

Questions Concerning Training

- Q1. You ask when a shipper is considered to be “certified” to ship hazmat under the HMR and whether this term refers to a company or an individual.
- A1. The term “certified” is often used to indicate that a hazmat employee has fulfilled its hazardous materials training requirements. As defined in § 171.8, the term “hazmat employee” includes all persons who—in the course of their employment—perform functions that directly affect hazardous materials transportation safety. The training requirements specified in Subpart H of Part 172 apply to an employee if that employee performs a function subject to the HMR. A hazmat employer must ensure that each of its hazmat employees are trained in the HMR. This training must include general awareness, function-specific, safety, security awareness training and (when applicable) in-depth security training as specified in § 172.704(a).

- Q2. You ask whether hazmat employees must indicate on a shipping paper that their hazardous materials training is completed and current.
- A2. The answer is no. While the HMR require recordkeeping for hazmat employee training under § 172.704(d), there are no training certification requirements for shipping papers.
- Q3. You ask whether the training requirements in Subpart H of Part 172 apply to a shipper who offers “UN3171, Battery-powered vehicle *or* Battery-powered equipment, 9” for transportation.
- A3. The answer is no. A properly classed product listed under “UN3171, Battery-powered vehicle *or* Battery-powered equipment, 9” prepared in accordance with § 173.220 and transported by motor vehicle or rail is not subject to any other requirements of the HMR—including the training requirements in Subpart H of Part 172. However, please note that the training requirements will apply when the lithium battery is shipped separately from the battery-powered e-bike.

Questions Concerning Packaging

- Q4. You ask which specifications apply to the fiberboard box that you use to package the lithium batteries and e-bikes.
- A4. Under § 173.220(h), batteries installed in battery-powered vehicles or equipment, which meet the applicable requirements in § 173.220 are excepted from specification packaging requirements. Therefore, for lithium batteries that are installed in a battery-powered vehicle—such as an e-bike—the HMR do not specify the standards for an outer box or overpack. Where a vehicle could possibly be handled in other than an upright position, the vehicle must be secured in a strong, rigid outer packaging. The vehicle must be secured by means capable of restraining the vehicle in the outer packaging to prevent any movement during transport which would change the orientation or cause the vehicle to be damaged (see § 173.220(d)). Please also note that lithium batteries not installed in the e-bike may not be shipped under the provision in § 173.220 and do require specification packaging (see § 173.185(b), Subpart B of Part 172, and Subparts L and M of Part 178).
- Q5. You ask what instructions apply to how e-bikes—with their lithium batteries installed—must be packed inside the fiberboard box.
- A5. When shipped under the provisions in § 173.220, the HMR do not specify standards for the outer package or specific instructions for the vehicle’s configuration in a package. However, § 173.220(d) describes packaging requirements that apply to e-bikes and similar lithium battery-powered vehicles (see A4). Lithium batteries must be securely installed in the vehicle (i.e., an e-bike in your example) and protected from short circuits.

- Q6. You ask how many “UN3480, Lithium ion batteries, 9” may be shipped in one package.
- A6. “UN3480, Lithium ion batteries, 9” are forbidden aboard passenger aircraft and are limited to 35 kilograms per package when shipped by cargo aircraft. In addition, as specified in special provision A100, when offered for transportation by air, lithium ion cells and batteries must be offered for transport at a state of charge not exceeding 30 percent of their rated capacity. However, when shipped by any mode of transportation other than air, there is no limit per package provided the package is authorized (see answer A4).
- Q7. You ask how the packaging requirements differ when shipping lithium batteries not installed in the e-bikes.
- A7. Lithium batteries not installed in the e-bike must be packaged in accordance with the requirements specified in § 173.185(b).

Questions Concerning Hazard Communication

- Q8. You ask which specific labels must be placed on the outside of a fiberboard box for shipments of e-bikes.
- A8. When shipped in accordance with § 173.220 and transported by motor vehicle or rail car, e-bikes are not subject to the HMR, which includes marking and labeling requirements. However, when shipped uninstalled, lithium batteries must be labeled and marked in accordance with Parts 172, Subparts D and E of the HMR.
- Q9. You ask whether the label and marking for lithium batteries as depicted in your letter are in compliance with the HMR for lithium batteries.
- A9. The answer appears to be yes. As you have illustrated in your letter, the label must appear as depicted in § 172.447, and the markings required under Part 172 Subpart D may be attached to the side of the label.
- Q10. You ask whether a package containing lithium batteries must be marked with “49 CFR 172.102 Special Provision 134 and 173.220(d).”
- A10. The answer is no. There is no requirement for this marking on a package containing lithium batteries.
- Q11. You ask whether the lithium battery watt-hour rating must be marked on the inner packaging within an outer package (i.e., the fiberboard box).
- A11. The answer is no. There is no requirement in the HMR to mark the inner packaging of a combination packaging with the watt-hour rating.

- Q12. You provide examples of two different adhesive “stickers” that may be used to label or mark a package containing lithium batteries forbidden by passenger aircraft. One is the “CARGO AIRCRAFT ONLY” label as specified in § 172.448; the other is the marking specified in § 173.185(c) “*Exceptions for smaller cells or batteries.*” You ask which of the two examples is appropriate for 300 WH batteries when either shipped separately from your e-bikes, or when shipped installed in the e-bikes.
- A12. When the batteries described in your scenario are installed in the e-bikes, these labels are not required. When they are shipped separately from the e-bikes, the “CARGO AIRCRAFT ONLY” label specified in § 172.448 is required. In accordance with § 172.402(c), each person who offers for transportation or transports by aircraft a package containing a hazardous material which is authorized on cargo aircraft only shall label the package with a CARGO AIRCRAFT ONLY label specified in § 172.448. The white sticker with red lettering in your example is designed to comply with the marking requirement specified in § 173.185(c) “*Exceptions for smaller cells or batteries,*” which does not apply to batteries with a minimum rating of 300 WH.
- Q13. You ask whether there is a required marking for lithium batteries that have passed the testing in Section 38.3 of the *UN Manual of Tests and Criteria*.
- A13. The answer is no. The HMR do not specify a marking requirement for lithium batteries that have successfully passed the testing in Section 38.3 of the *UN Manual of Tests and Criteria*.
- Q14. You ask what information needs to be stated on the shipping paper when offering “UN3171, Battery-powered vehicle *or* Battery-powered equipment, 9” for transportation.
- A14. “UN3171, Battery-powered vehicle *or* Battery-powered equipment, 9” properly prepared in accordance with § 173.220 and transported by motor vehicle or rail car are not subject to shipping paper requirements under the HMR.
- Q15. You ask whether the image you provide in your letter is the correct label and marking for a package containing “UN3480, Lithium ion batteries, 9.”
- A15. The answer appears to be yes, provided the label and marking meet the size and placement requirements specified in Subparts D and E of Part 172.
- Q16. You ask which labels and markings are required on a package containing more than one lithium battery.
- A16. See answer A15.

- Q17. You ask what the shipping paper requirements are when offering for transportation “UN3480, Lithium ion batteries, 9” not installed in e-bikes.
- A17. Shipping papers for hazardous materials must contain all required information specified in Subparts C and G of Part 172. Under § 172.202, the shipping description of a hazardous material on a shipping paper must include: the identification number (i.e., UN3480), the proper shipping name, hazard class, the packing group (if applicable), and the total quantity including number and type of packages (e.g., 40 kg or 3 batteries). In the example you provide in your letter, the description would read: “UN3480, Lithium ion batteries, 9, [*total quantity*].”

I hope this information is helpful. Please contact us if we can be of further assistance.

Sincerely,



T. Glenn Foster
Chief, Regulatory Review and Reinvention Branch
Standards and Rulemaking Division

Pollack
21-0037

From: [INFOCNTR \(PHMSA\)](#)
To: [Hazmat Interps](#)
Subject: FW: questions for PHMSA Hazardous Materials Information Center
Date: Friday, April 9, 2021 2:38:23 PM
Attachments: [letter to DOT 4-7-21.pdf](#)

Hello Alice,

Attached is a request for letter of interpretation.

Thanks,

Jonathon, HMIC

From: Law Offices of Steven W. Hansen [mailto:steven.w.hansen@swhlaw.com]
Sent: Wednesday, April 7, 2021 7:23 PM
To: INFOCNTR (PHMSA) <INFOCNTR.INFOCNTR@dot.gov>
Subject: questions for PHMSA Hazardous Materials Information Center

CAUTION: This email originated from outside of the Department of Transportation (DOT). Do not click on links or open attachments unless you recognize the sender and know the content is safe.

Please see attached letter.

Sincerely,
Steve Hansen

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Voice/SMS/Text 562.912.1923
(9a-5p PST) | [Skype: swhlaw](#) |

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Our office is paperless after adopting the CA State Bar Eco Pledge

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Pollack

21-0037

April 7, 2021

Total of 3 page(s) via email only: infocntr@dot.gov

U.S. Department of Transportation
Pipeline and Hazardous Materials Safety Administration
PHMSA Hazardous Materials Information Center
1200 New Jersey Avenue, SE
Washington, DC 20590

Dear PHMSA:

I represent a company that ships traditional “e bikes” meaning those that comply with 16 CFR part 1512.2 (a)(2) and related sections. The bikes have their lithium ion (LI) batteries installed and the batteries are in “sleep mode” and charged to approximately 60% of full charge and have a *minimum* 300 watt hour (WH) rating.

The complete bikes are shipped (with charger and battery) within the USA to retail stores via ground shipments (truck or rail) and are not shipped via water or air. We had the following questions:

1. What standard or rating or specification applies to the cardboard box that they are shipped in?
2. What instructions (specifically) apply to how the bikes (with their batteries installed) must be packed inside the box (if any)?
3. What specific labels must be on the outside of the box for shipment that pertain to the battery specifically (when the battery is shipped installed on the bike)?
4. With respect to the UN3171 label is this the correct format below (of course with the addition of the phone no of the co. presenting the package for shipment) and must it mention “dangerous goods”?
5. Does the special provision 134 need to be called out like it is below on the label?



49CFR 172.102 Special Provision 134 & 173.220(d)

6. With respect to the WH rating we believe that must be denoted on the battery case itself; must it also be on the inner packaging and outer cardboard shipping box?
7. We understand that the following label(s) must be applied to restrict the box from being air or vessel (water) shipped: but would like clarification on which label below we should use a.) or b.)



8. We also understand that the battery must also be tested to comply with section 38.3 of the *UN Manual of Tests and Criteria*. This test result need only be “available” and not shipped with the bike and battery or solo battery shipment. Is there any specific label or requirement for what information must be specifically (permanently) on the battery housing itself for shipment?
9. With respect to the “shipper” being “DOT” certified does that mean that the individual person at the company that prepares the shipment needs to be certified?
10. If so how is his or her name added to the shipment document to reflect such certification status (or is that not required)?
11. Does a ‘shipper’ have to be DOT certified to ship a UN3171 shipment?
12. What specifically needs to be stated on the bill of lading or the shipping documents for a UN3171 shipment?
- 13. Next; the same set of questions from above as pertains to the same new battery shipped by itself in a separate box without a bike (i.e. not installed on a bike; i.e. UN3480 shipments)**
14. With respect to battery only shipments is this label below the correct label to use on the shipment box (of course with the addition of the phone no of the co. presenting the package for shipment):



15. An additional question would be what is the maximum number of batteries that could be shipped in one shipping box (without bicycles) disregarding shipper weight limits?
16. What labels would need to be on this shipping box containing more than one battery?
17. What special packaging would need to be used for a single or multiple battery only (not installed on bicycle) shipment box?
18. What specifically needs to be stated on the bill of lading or the shipping documents for a UN3480 shipment with a battery exceeding 300 WH?

Very Truly Yours,

A handwritten signature in black ink, appearing to read "Steven W. Hansen". The signature is fluid and cursive, with the first name "Steven" being more prominent than the last name "Hansen".

Steven W. Hansen
steven.w.hansen@swhlaw.com