



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

1200 New Jersey Avenue, SE
Washington, DC 20590

FEB 29 2016

Mr. Travis Morenz
Domestic Logistics and Compliance Analyst
Horizon Hobby, LLC
4105 Fieldstone Road
Champaign, IL 61822

Reference No. 14-0241

Dear Mr. Morenz:

This is in response to your December 18, 2014 e-mail requesting clarification of the Hazardous Materials Regulations (HMR; 49 CFR Parts 171-180) relating to the use of orientation arrows on packages and lithium battery classification. Your questions are paraphrased and answered as follows.

Q1. Is it a violation of HMR § 172.312 to have partially covered or completely covered orientation arrow markings on a package that contains a non-liquid hazardous material or a material that is not subject to regulation under the HMR?

A1. Section 172.312 specifies when appropriate package orientation arrows are required. The HMR do not prohibit partially or completely covered orientation arrow markings on packages where their display is not required in accordance with § 172.312.

You provide an example of a 2-cell lithium ion battery with each cell rated at 30 Watt-hours (Wh) and an overall battery rating of 60 Wh and ask the following:

Q2. Is the outer package for the example lithium ion battery required to be marked "LITHIUM BATTERIES-FORBIDDEN FOR TRANSPORT ABOARD AIRCRAFT AND VESSEL" in accordance with HMR § 173.185(c)(1)(iv)?

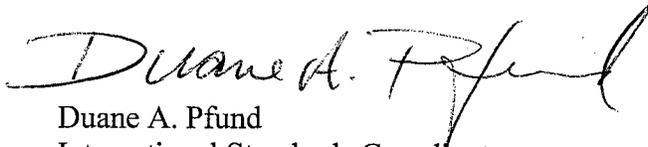
A2. The answer is no. Neither the individual cells within the example lithium ion battery exceed the 60 Wh threshold, nor does the battery exceed the 300 Wh threshold for the § 173.185(c)(1)(iv) marking requirement to apply.

Q3. Under special provision 188 of the International Maritime Dangerous Goods (IMDG) Code would the example lithium ion battery be classified as Class 9?

- A3. The example lithium ion battery does not exceed the 100 Wh limit and may be transported in accordance with special provision 188 of the IMDG Code. The 20 Wh cell and 100 Wh battery thresholds apply to the item being shipped. In this example, because the battery does not exceed 100 Wh, you would not have to consider the size of the component cells.
- Q4. Under Packing Instruction 965 of the International Civil Aviation Organization Technical Instructions for the Safe Transport of Dangerous Goods by Air (ICAO TI), would the example lithium ion battery fall under Section IA, Section IB or Section II?
- A4. Provided the lithium ion battery does not exceed 100 Wh, the example lithium ion battery would be subject to the requirements of Section II of Packing Instruction 965 of the ICAO TI.

I trust this information is helpful. If you have further questions, please do not hesitate to contact this office.

Sincerely,



Duane A. Pfund
International Standards Coordinator
Standards and Rulemaking Division

Babuch
\$172.312 Marking
\$173.185 Lithium Batteries
14-0241

Dodd, Alice (PHMSA)

From: Ciccarone, Michael CTR (PHMSA)
Sent: Thursday, December 18, 2014 2:22 PM
To: Hazmat Interps
Subject: FW: Request for formal Letter of Interpretation

Shante/Alice,

Please submit this for a formal letter of interpretation. I spoke with Mr. Morenz earlier today.

Thanks,

Mike

From: Travis Morenz [mailto:tmorenz@horizonhobby.com]
Sent: Thursday, December 18, 2014 2:20 PM
To: Ciccarone, Michael CTR (PHMSA)
Subject: RE: Request for formal Letter of Interpretation

Mike-

Thank you so much.

Our physical address is below,

Horizon Hobby LLC
4105 Fieldstone Road
Champaign IL, 61822

Travis Morenz
Domestic Logistics and Compliance Analyst
Horizon Hobby, LLC
Ph: 1-217-403-3126
Cell: 1-217-841-5980
tmorenz@horizonhobby.com

From: m.ciccarone.ctr@dot.gov [mailto:m.ciccarone.ctr@dot.gov]
Sent: Thursday, December 18, 2014 12:58 PM
To: Travis Morenz
Subject: RE: Request for formal Letter of Interpretation

Dear Travis,

We have received your request for a written letter of interpretation regarding the hazardous materials regulations (49 CFR Parts 171-180).

Please include your company's physical address to expedite the submission process.

Sincerely,

Mike, Hazardous Materials Specialist

An e-mail response from this office is considered informal guidance. Formal guidance may be requested in accordance with 49 CFR 105.20. <http://phmsa.dot.gov/hazmat/regs/interps>

From: Travis Morenz [<mailto:tmorenz@horizonhobby.com>]
Sent: Thursday, December 18, 2014 11:15 AM
To: PHMSA HM InfoCenter
Cc: infocenter@dot.gov
Subject: Request for formal Letter of Interpretation

Good day,

I am writing to day in hopes to get clarification and a formal Letter of Interpretation on 2 subjects, the use of Orientation Arrow markings and Lithium Battery classification.

- 1) In regards to Orientation arrow markings, is it a violation of 172.312 to have partially covered or completely covered Orientation arrow markings on a package that contains a) a non-liquid hazardous material or b) a material that is not covered by the HMR ?
- 2) Please help to clarify Lithium battery classification under 173.185 of the HMR, Special Provision 188 of the IMDG code (Amdt 36-12)_ and Packaging Instruction PI965 of the ICAO regulations. For this example we will use a 2-cell lithium ion battery that has a cell Wh rating of 30wh and an overall battery WH rating of 60Wh.

Under the HMR, 173.185(c)(1) defines the size limits for lithium batteries as Wh rating may not exceed 20Wh for a lithium ion cell or 100Wh for a lithium ion battery.

- a) Question: Using the 2-cell battery example above would this battery be subject to the additional "LITHIUM BATTERIES—FORBIDDEN FOR TRANSPORT ABOARD AIRCRAFT AND VESSEL" marking requirement found in (c)(1)(iv)?

Under the IMDG code, Special Provision 188 states the same 20Wh cell, 100Wh battery rating requirements. Although the IMDG does not clearly indicate "or" but lists the size limits in the following fashion:

- .1 For a lithium-ion cell the watt-hour rating is not more than 20Wh;
- .2 For a Lithium-ion battery the watt-hour rating is not more than 100Wh;

- b) Question: Using the 2-cell battery example, since the cell watt-hour rating in the example is 30Wh, would this battery be subject to the requirements of SP188 or would the battery be classified as Class 9?

Under the ICAO regulations, PI965 states the general requirements for Section IA applies to lithium ion cells with a Wh rating in excess of 20Wh and lithium ion batteries with a Wh rating in excess of 100Wh. Section IB and Section II applies to lithium ion cells not exceeding a Wh rating of 20Wh and

Lithium ion batteries not exceeding 100Wh packaged in quantities not exceeding the allowances permitted in Table 965-II.

- c) Question: Using the 2-cell battery example, since the cell Wh rating of the battery is 30Wh, would this battery fall under Section IA, or Sections IB or Section II based of the Wh rating of the battery.

Please understand my confusion, as under the ICAO regulations the verbiage “and” is expressly used and in the HMR the verbiage “or” is used. This verbiage can mean different things, I recently received an interpretation from IATA stating the below in regards to the same example battery and question posed to you in question 2(c). From IATA (and I am paraphrasing):

“the Wh rating limit explicitly says “and” for cells “and” batteries to be below the limit. So for assigning the battery to section II you need to ensure the cells and batteries are below the Wh limit. Then, once in section II, you follow the package limits for either cells OR batteries based on what you have.

So your 2 cell battery at 30Wh / cell is a Section IA battery and you can’t follow any of the provision in Section II.”

Please feel free to reach out to me if you have further questions and I appreciate your time

Thank you,

Travis Morenz
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