



U.S. Department
of Transportation

**Pipeline and Hazardous
Materials Safety
Administration**

1200 New Jersey Avenue, SE
Washington, DC 20590

April 10, 2019

Mr. Joseph Tsiyoni
1415 North Rose Street
Tempe, AZ 85281

Reference No. 18-0156

Dear Mr. Tsiyoni:

This letter is in response to your December 6, 2018, phone conversations and emails requesting clarification of the Hazardous Materials Regulations (HMR; 49 CFR Parts 171-180) applicable to United Nations (UN) testing of lithium ion batteries.

We have paraphrased and answered your questions as follows:

- Q1. You seek confirmation of your understanding that the criteria in Part III, Sub-section 38.3 of the UN Manual of Tests and Criteria, along with the provisions in §§ 173.185 and 175.10 of the HMR, are applicable to the transport of any lithium battery by any mode of transport.
- A1. Your understanding is correct. Shippers of lithium ion batteries or lithium metal batteries must comply with the packaging instructions in § 173.185 of the HMR, which states in paragraph (a) that each lithium cell or battery must be of the type proven to meet the criteria in Part III, Sub-section 38.3 of the UN Manual of Tests and Criteria. Section 173.185(a) further states that lithium cells and batteries are subject to these tests regardless of whether the cells used to construct the battery are of a tested type. Section 173.1(a)(2) states that Part 173 of the HMR includes the requirements to be observed in preparing hazardous materials for shipment by air, highway, rail, or water, or any combination thereof. Therefore, the requirements of § 173.185—more specifically the requirement that all batteries be tested to meet the criteria in Part III, Sub-section 38.3 of the UN Manual of Tests and Criteria—are applicable to all lithium batteries shipped by any mode of transportation.

Section 175.10 provides exceptions for passengers, crewmembers, and air operators transporting lithium batteries aboard aircraft as part of a wheelchair or mobility aid. These lithium batteries are excepted from the requirements of the HMR provided they meet the criteria in Part III, Sub-section 38.3 of the UN Manual of Tests and Criteria, unless approved by the Associate Administrator of Hazardous Materials Safety (See § 175.10(a)(17)(i)). The exceptions in § 175.10 apply to shipments of hazardous materials by aircraft only.

Q2. You ask whether lithium batteries may be used on the ground if they have not been tested according to Part III, Sub-section 38.3 of the UN Manual of Tests and Criteria.

A2. The HMR do not govern the use of lithium batteries. However, batteries that have not been tested according to the UN Manual of Tests and Criteria are generally not acceptable for transport in the United States according to the HMR.

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

Sincerely,

A handwritten signature in black ink, reading "T. Glenn Foster". The signature is written in a cursive style with a large, sweeping initial "T" and a long, horizontal flourish extending to the right.

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

Lawson

18-0156

Dodd, Alice (PHMSA)

From: Alston, Barbara CTR (PHMSA)
Sent: Monday, December 10, 2018 9:55 AM
To: Dodd, Alice (PHMSA)
Subject: FW: UN38.3 and APPLICATION FOR EXEMPT JJJ
Attachments: RE: UN38.3 and APPLICATION FOR EXEMPT JJJ

Good Morning Alice,
Can you forward this message from Dr. Hwang to your "Interp" person? Many thanks and have a great work week.
Barbara

From: Hwang, Steve (PHMSA)
Sent: Monday, December 10, 2018 9:42 AM
To: Alston, Barbara CTR (PHMSA) <Barbara.Alston.CTR@dot.gov>
Subject: FW: UN38.3 and APPLICATION FOR EXEMPT JJJ

Barbara,
Mr. Tsiyoni withdrew his application for an approval (attached). He seems to have several more questions about his needs. I believe this needs an interpretation which can be answered by the Standards Office. Could you please forward this to Standards? Thanks.
Steve Hwang

From: tsiyoni <tsiyoni@cox.net>
Sent: Thursday, December 06, 2018 10:26 PM
To: Hwang, Steve (PHMSA) <steve.hwang@dot.gov>
Subject: RE: UN38.3 and APPLICATION FOR EXEMPT JJJ

=====JOSEPH TSIYONI=====

1415 N. Rose Street	Phone: (480) 949-0894
Tempe, Arizona 85281	<u>Tsiyoni@Cox.Net</u>

December 7, 2018

Dr. Steve Hwang steve.hwang@dot.gov
PHMSA
DOT
Phone: 202-366-4476

Re: EXEMPT – LITHIUM BATTERY

Dear Dr. Hwang:

First, it is me who needs to thank you for the time you spent and for the educational conversations. I appreciate everything. You have been extremely patient and I thank you for that.

My response to your letter is as follows:

1. We agree that the "Associate Director" is authorized to grant an exempt for the use of lithium battery without any UN 38.3 testing or with cells testing only. (If incorrect, please kindly correct me).
2. You have cited 49 CFR 173.185, which I read carefully after our conversation. Would you confirm Dr. Hwang that this citation was to point that any transport of lithium batteries via ocean, ground or air is subject to UN 38.3 and the provisions of this rule 173.185 and the respective rules in 49 CFR 175.10 ??

If this is the case, does it mean that also no lithium battery shall be used on the ground without UN 38.3 testing of both cells and batteries??

I am not sure if this is correct. Please kindly confirm and may you can cite the provision in 49 CFR.

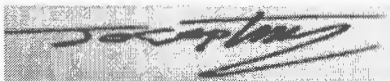
3. Regardless of the issues stated above, I understood that the process of exempt is complicated and involved numerous approvals by higher authorities and maybe also FAA personnel. You have made this clear.

In such case, you have convinced me that it is better to withdraw form the application, and proceed with getting a battery with UN 38.3 testing for cells and battery.

4. I therefore accept you suggestion and **withdraw my application.**

Again, thank you Dr. Hwang for your professional educational conversation, and please allow me to contact you in the future should I have any question on the lithium issue.

Respectfully,



Joseph Tsiyoni

From: Hwang, Steve (PHMSA) [mailto:steve.hwang@dot.gov]
Sent: Thursday, December 06, 2018 2:44 PM
To: tsiyoni (tsiyoni@cox.net) <tsiyoni@cox.net>
Subject: FW: UN38.3 and specification for 36V 7.8Ah battery

Mr. Tsiyoni,

REF: TN 2018010844

This is to confirm our telephone conversation today. First off, thank you for sending the battery information to Barbara Alston who forwarded it to me.

It is my understanding that you purchased a 36-volt lithium ion battery from a company in China to install on your old 3-wheel scooter and that you want an approval from the PHMSA of DOT which will allow you to take the scooter on the plane when you travel. It is also my understanding that you want this approval because the cells are tested according to the UN procedures but you are not sure that the battery you purchased was subjected to the UN-approved testing.

We indicated that the battery manufacturer should have tested according to the UN-test procedures before the battery was marketed for sale. You indicated that since you were not sure that the battery manufacturer

performed such tests, you want to get an approval instead as a replacement of such tests. At the end of our discussion we came up with the following recommendations as an option for you to pursue:

1. You will contact the battery manufacturer for a certificate for the battery test, or to request them to form the necessary tests to meet regulatory requirements, or
2. You will pursue whether other types of battery could be used for your purpose such as non-spillable wet batteries which use Gel or Absorbent Glass Matt (AGM) technology which needs not be tested according to the UN-test procedures.

You stated that your request for an approval is based on 49 CFR 175.10(a) (17) (i) which has a provision which allows the Associate Administrator to grant an approval for not testing the battery. We indicated that, however, the International Civil Aviation Organization (ICAO), Technical Instructions (TI), Part 8, Chapter 1, Item 7 in Table 8-1 does not allow approval by the Associate Administrator. Mobility aids powered by lithium ion batteries must have the batteries of a type that meets the requirements of each test in the UN Manual of Tests and Criteria, Part III, subsection 38.3. Hence your scooter powered by lithium ion batteries must have cells and a battery that have passed the UN testing criteria mentioned above. It is battery manufacturer's responsibility to have the batteries tested before they are marketed.

We will let you know if we could think of any other options as you suggested. In the meantime, please withdraw your request as soon as possible. If not, we will deny your request.

Thank you for your cooperation.

Steve Hwang, Ph.D.
PHMSA
DOT
202-366-4476

From: Alston, Barbara CTR (PHMSA)
Sent: Thursday, December 06, 2018 8:59 AM
To: Hwang, Steve (PHMSA) <steve.hwang@dot.gov>
Subject: FW: UN38.3 and specification for 36V 7.8Ah battery

From: tsiyoni [<mailto:tsiyoni@cox.net>]
Sent: Tuesday, December 04, 2018 7:09 PM
To: Alston, Barbara CTR (PHMSA) <Barbara.Alston.CTR@dot.gov>
Subject: FW: UN38.3 and specification for 36V 7.8Ah battery

Dear Barbara: Sorry for a second email, but this is a BINGO!

I found what Dr. Wong wanted.

Please kindly send to him before we have a telephone conference.

Thank you very much again. You have been a big help!!!



Joseph

Shenzhen Kamada Electronic Co., Ltd.

Dodd, Alice (PHMSA)

From: tsiyoni <tsiyoni@cox.net>
Sent: Friday, December 07, 2018 1:26 AM
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=====JOSEPH TSIYONI=====

1415 N. Rose Street Tempe, Arizona 85281	Phone: (480) 949-0894 <u>Tsiyoni@Cox.Net</u>
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