



U.S. Department
of Transportation

**Pipeline and Hazardous
Materials Safety
Administration**

1200 New Jersey Avenue SE
Washington, DC 20590

JUN 26 2015

Mr. Lee R. Zwiefelhofer
Senior Logistics/HazMat Specialist
Det-Tronics
6901 West 110th Street
Minneapolis, MN 55438

Reference No. 14-0146

Dear Mr. Zwiefelhofer:

This is in response to your recent e-mail requesting clarification of the Hazardous Materials Regulations (HMR; 49 CFR Parts 171-180) applicable to "UN 2800, Batteries, wet, non-spillable *electric storage*, 8, PG III" installed in devices. Specifically, you ask several questions concerning how these batteries may be transported under the HMR, including exceptions, and if any of these authorized packagings requires the use of the "NON-SPILLABLE" or "NON-SPILLABLE BATTERY" marking prescribed in § 173.159a. We have answered your questions and paraphrased them in the order you provided.

Q1. If non-spillable batteries are installed in devices, can the devices containing these batteries be described and shipped as non-spillable batteries?

A1. The HMR require a proper shipping name selected for a hazardous material to correctly describe the hazard(s) associated with the material (see § 171.2(e)). The HMR do not restrict the choice of a proper shipping name except in these instances: 1) when that name is preceded by a plus sign, 2) when the material is a mixture or solution meeting the definition of one or more hazard classes that are not identified on the Hazardous Materials Table (HMT; § 172.101), or 3) when a material meets the definition of hazard class, hazard zone, subsidiary hazard, or packing group other than that shown in association with the proper shipping name listed in the HMT for the material. Please note that while the proper shipping name "Batteries, wet, non-spillable" may accurately describe the hazardous material contained in your device, provided it contains no other hazardous material, it is the opinion of this Office that proper shipping names that refer to the equipment the battery is contained in may be more appropriate, such as: "Battery-powered vehicle" or "Battery-powered equipment," "Engines, internal combustion," or "Vehicle, 'flammable gas' or 'flammable liquid' powered," or "Dangerous Goods in Machinery" or "Dangerous Goods in Apparatus." For additional information, see §§ 172.101(b)(1), 172.101(c)(10)(F)(iii), and 172.101(c)(12)(i).

- Q2. Does the device in which the non-spillable battery is installed have to be marked as “NON-SPILLABLE BATTERY” if the battery is not visible?
- A2. Under the HMR, only the non-spillable battery itself, its outer packaging, and overpack, if applicable, containing the battery must be plainly and durably marked with the words “NON-SPILLABLE” or “NON-SPILLABLE BATTERY.” See §§ 171.24(d)(1)(i)(B), 173.159a(c)(2), 173.220(c) and (f)(1), and 175.10(a)(15)(v)(B) for additional restrictions and/or exceptions.
- Q3. Can devices that contain non-spillable batteries be packaged together with other non-hazardous materials in the same outer packaging as long as the outer packaging is marked with the “NON-SPILLABLE BATTERY” marking? Please clarify how to interpret the reference in § 173.159a(d) to § 173.159a(c). It is my understanding that § 173.159a(c) states batteries must meet the requirements prescribed in § 173.159(a), and that “Electric Storage batteries, containing electrolyte acid or alkaline corrosive battery fluid (wet batteries)” may not be packaged with other materials except as provided in § 173.159(g) and (h) and in §§ 173.220 and 173.222.
- A3. Your understanding is correct. Section 173.159(a) permits non-spillable batteries, dry batteries, and battery charger devices to be placed in the same package with electrolyte, acid, or alkaline corrosive battery fluid; filling kits in conformance with § 173.159(g) and (h); with engines, vehicles, or mechanical equipment in conformance with § 173.220; and in equipment, machinery, or apparatus in conformance with § 173.222. Both non-spillable batteries and their outer packagings that comply with § 173.159a(c) must be marked “NON-SPILLABLE” or “NON-SPILLABLE BATTERY.”

Non-spillable batteries that comply with § 173.159a(d) are excepted from all other requirements under the HMR when offered for transportation and transported in conformance with the following:

- § 173.159a(c), and
- At a temperature of 55 °C (131 °F) the batteries:
 - Do not contain any unabsorbed free-flowing liquid,
 - Are designed so that electrolyte will not flow from a ruptured or cracked case, and
 - When transported by aircraft --
 - When contained in a battery powered device, equipment or vehicle must be prepared and packaged for transport in a manner to prevent unintentional activation in conformance with § 173.159(b)(2).
 - Must be transported as cargo and may not be carried onboard an aircraft by passengers or crewmembers in carry-on baggage, checked baggage, or on their person unless specifically excepted under § 175.10.

Q4. If non-spillable batteries contained in devices can be excepted from most of the requirements in the HMR, like some exceptions that currently exist in the HMR for non-spillable batteries, can you please provide these HMR sections and paragraph numbers?

A4. The subchapter exceptions that currently exist in the HMR for non-spillable batteries are prescribed in the following sections: §§ 171.24(d)(1)(i); 172.102, Special Provision 136; 173.159(i); 173.159a(d); 175.10(a)(15) and (a)(16); 175.9(a)(5)(ii); and 173.220(c). For your information, PHMSA issued a final Rule on January 7, 2013, (78 FR 65453) that amended section § 173.159a(d) to clarify that non-spillable batteries cannot be carried aboard an aircraft by passengers or crewmembers in carry-on baggage, checked baggage, or on their person unless specifically excepted under § 175.10.

Q5. Has the Pipeline and Hazardous Materials Safety Administration (PHMSA) issued any letters of clarification that address non-spillable batteries installed in equipment? If so, please provide these reference numbers.

A5. PHMSA has issued the following clarification letters concerning non-spillable batteries installed in equipment: Reference Nos. 99-0258, 01-0129, 01-0267, 01-0309, 02-0261, 02-0297, 03-0253, 07-0189, 11-0113, 12-0101, 13-0162, 13-0182, and 14-0005. If you wish to conduct additional searches of PHMSA's clarification letter database, please enter a keyword "non-spillable" or a reference number in the search window at this website: "<http://www.phmsa.dot.gov/hazmat/regs/interps>."

I hope this satisfies your request.

Sincerely,



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

Edmondson
173.159a
Batteries
14-0146

Dodd, Alice (PHMSA)

From: Ciccarone, Michael CTR (PHMSA)
Sent: Thursday, July 24, 2014 3:58 PM
To: Hazmat Interps
Subject: FW: Request for Clarification - Packing of Non-Spillable Batteries under 173.159(a)

Shante and Alice,

Please submit this for a formal letter of interpretation. The caller discussed the topic with Mike Pagel in the HMIC.

Thanks,

Mike

From: Zwiefelhofer, Lee R BIS [<mailto:Lee.Zwiefelhofer@det-tronics.com>]
Sent: Thursday, July 24, 2014 2:19 PM
To: PHMSA HM InfoCenter
Subject: Request for Clarification - Packing of Non-Spillable Batteries under 173.159(a)

Dear Sir or Madam,

Detector Electronics Corporation is requesting clarification on the packing requirements for non-spillable batteries under paragraph 173.159a. We need clarification if batteries that comply with paragraph 173.159a can be packaged with other non-hazardous or hazardous materials.

CFR 49 Paragraph 173.159a(d) references 173.159a(c), which under 173.159a(c)(1) references that "The batteries must meet the requirements of 173.159(a)." Under 173.159(a) it states in part that: "Electric storage batteries, containing electrolyte acid or alkaline corrosive battery fluid (wet batteries), may not be packed with other materials except as provided in paragraphs (g) and (h) of this section and in §§173.220 and 173.222; and any battery or battery-powered device must be prepared and packaged for transport in a manner to prevent:" The remainder of 173.159(a) addresses prevention of a dangerous evolution of heat, short circuits, separation, exposed terminals and damage to terminals.

Non-spillable batteries must meet the capability requirements for vibration and pressure testing under 173.159(f)(1) and 173.159(f)(2) along with the requirement that at a temperature of 55 °C (131 °F), the battery must not contain any unabsorbed free-flowing liquid, and must be designed so that electrolyte will not flow from a ruptured or cracked case. Except for the reporting requirements called out under 173.159a(b), if it is determined that a battery meets those capability requirements and the battery and package is marked with "Nonspillable" or "Nonspillable Battery", they are then excepted from all other requirements of the subchapter.

It therefore then seems like the reference back to 173.159(a) for non-spillable batteries is more to assure compliance with the prevention of a dangerous evolution of heat, short circuits, separation, exposed terminals and damage to terminals, not to limit the packing of non-spillable batteries with other non-hazardous or hazardous materials. Paragraph 173.159(a) in its entirety seems to be geared to those wet batteries that are not non-spillable.

I would like clarification as to whether or not it is the intent of the 173.159a exception for non-spillable batteries to restrict them from being packed with other materials (hazardous (regulated) or non-hazardous (not regulated)) as called out under 173.159(a).