



**Billing Code: 4910-60-P**

**DEPARTMENT OF TRANSPORTATION**

**Pipeline and Hazardous Materials Safety Administration**

**[Docket No. PHMSA-2019-0156; Notice No. 2019-06]**

**Hazardous Materials: Request for Information on Safety Devices**

**AGENCY:** Pipeline and Hazardous Materials Safety Administration (PHMSA),  
Department of Transportation (DOT).

**ACTION:** Notice; Request for information.

**SUMMARY:** PHMSA is developing a national policy regarding safety devices (UN0503 and UN3268). PHMSA has continued to see advancements in technologies for articles containing hazardous materials that have been submitted to PHMSA requesting an approval or special permit to transport as safety devices (UN0503 and UN3268). PHMSA is requesting information or data from stakeholders regarding the classification, testing, and conditions for transportation of these devices requesting an approval to be classified as safety devices.

**DATES:** Interested persons are invited to submit comments on or before [INSERT DATE 60 DAYS AFTER DATE OF PUBLICATION IN THE *FEDERAL REGISTER*].

Comments received after that date will be considered to the extent practicable.

**ADDRESSES:** You may submit comments identified by the Docket Number PHMSA-2019-0156 by any of the following methods:

- *Federal eRulemaking Portal:* <http://www.regulations.gov>. Follow the instructions for submitting comments.
- *Fax:* 1-202-493-2251.

- *Mail:* Docket Management System; U.S. Department of Transportation, West Building, Ground Floor, Room W12–140, Routing Symbol M–30, 1200 New Jersey Avenue, SE, Washington, DC 20590.
- *Hand Delivery:* Docket Management System; Room W12–140 on the ground floor of the West Building, 1200 New Jersey Avenue, SE, Washington, DC 20590, between 9 a.m. and 5 p.m., Monday through Friday, except Federal holidays.

*Instructions:* All submissions must include the agency name and Docket Number (PHMSA-2019-0156) for this notice. To avoid duplication, please use only one of these four methods. All comments received will be posted without change to the Federal Docket Management System (FDMS) and will include any personal information you provide.

*Docket:* For access to the dockets to read background documents or comments received, go to <http://www.regulations.gov> or DOT’s Docket Operations Office (see **ADDRESSES**).

*Privacy Act:* In accordance with 5 U.S.C. 553(c), DOT solicits comments from the public. DOT posts these comments, without edit, including any personal information the commenter provides, to <http://www.regulations.gov>, as described in the system of records notice (DOT/ALL–14 FDMS), which can be reviewed at <http://www.dot.gov/privacy>.

*Confidential Business Information (CBI):* CBI is commercial or financial information that is both customarily and actually treated as private by its owner. Under the Freedom of Information Act (FOIA) (5 U.S.C. 552), CBI is exempt from public

disclosure. If your comments responsive to this notice contain commercial or financial information that is customarily treated as private, that you actually treat as private, and that is relevant or responsive to this notice, it is important that you clearly designate the submitted comments as CBI. Please mark each page of your submission containing CBI as “PROPIN.” PHMSA will treat such marked submissions as confidential under the FOIA, and they will not be placed in the public docket of this notice. Submissions containing CBI should be sent to Candace Casey, Standards and Rulemaking Division, (202) 366-8553, Pipeline and Hazardous Materials Safety Administration, U.S. Department of Transportation, 1200 New Jersey Avenue, SE, Washington, DC 20590-0001. Any commentary that PHMSA receives which is not specifically designated as CBI will be placed in the public docket for this notice.

**FOR FURTHER INFORMATION CONTACT:** Candace Casey, Standards and Rulemaking Division, (202) 366-8553, Pipeline and Hazardous Materials Safety Administration, U.S. Department of Transportation, 1200 New Jersey Avenue, SE, Washington, DC 20590-0001.

**SUPPLEMENTARY INFORMATION:**

**I. Executive Summary**

On January 8, 2015, PHMSA published a final rule titled, “Hazardous Materials: Harmonization with International Standards (RRR)” [80 FR 1075; HM-215M] which introduced, defined, and outlined broad criteria for transportation of safety devices in the HMR. Prior to publication of HM-215M, the safety device transport provisions were limited to air bag inflators, air bag modules, or seat-belt pretensioners, which were

classified and described as either Division 1.4G (explosive) or Class 9 (miscellaneous) under UN0503 or UN3268, respectively.

Due to advancements in technologies for safety devices and their associated use and questions concerning the appropriate application of the safety devices proper shipping name and its associated classification, PHMSA is developing a national policy to ensure consistent decisions regarding what devices and uses are eligible for these classifications and potentially the provisions and conditions for their transportation.

## **II. Background**

The Hazardous Materials Regulations (HMR; 49 CFR parts 171-180) prescribe requirements for the transportation in commerce of safety devices<sup>1</sup>, including classification, packaging, and hazard communication provisions. On January 8, 2015, PHMSA adopted provisions for safety devices into the HMR in a final rule titled, “Hazardous Materials: Harmonization with International Standards (RRR)” [80 FR 1075; HM-215M].<sup>2</sup> Safety devices are described in the HMR as “articles which contain pyrotechnic substances or hazardous materials of other classes and are used in vehicles, vessels, or aircraft to enhance safety to persons.” 49 CFR § 173.166. Prior to publication of HM-215M, the use of the § 173.166 provisions was limited to air bag inflators, air bag modules, or seat-belt pretensioners for transportation and described as either “UN0503, Air bag inflators, *or* Air bag modules, *or* Seat-belt pretensioners, 1.4G” or “UN3268, Air bag inflators, *or* Air bag modules, *or* Seat-belt pretensioners, 9.”

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<sup>1</sup> This is separate from HMR provisions for life-saving devices. Life-saving devices are items, such as inflatable vests or rafts, used to assist with life-saving measures and do not require approval for classification and transport and are not used as part of vehicles (e.g., an air bag).

<sup>2</sup> <https://www.govinfo.gov/content/pkg/FR-2015-01-08/pdf/2014-30462.pdf>

As discussed in the preamble:

“The development of safety products has seen significant progress since the introduction of UN3268 and the range of current products extends beyond what can presently be assigned to UN3268. Some of the newer safety products include elements that are actuated by the electrical signal of the crash sensor (e.g., pyromechanical devices). Examples include: Devices that interrupt the electrical connection in case of emergency by disconnecting the main power cable in the vehicle from the battery to prevent short circuit and consequentially minimize the risk of fire in the vehicle; and actuators which are used for active headrests or for pedestrian protection to release special hinges of the engine hood.”

When offering safety devices for transportation, the articles may be classified as either a Division 1.4G (explosive) material or a Class 9 (miscellaneous) hazardous material and transported with the applicable basic description of “UN0503, Safety devices, pyrotechnic, 1.4G” or “UN3268, Safety devices, *electrically initiated*, 9.”<sup>3</sup> The appropriate classification may depend on the method of initiation, type of safety device, testing results, and other parameters. With the exception of air bag inflators, air bag modules, and seat-belt pretensioners, all safety device designs are required to be submitted to the Associate Administrator for an approval and assignment of an EX number.<sup>4</sup> The exception for these three devices stems from PHMSA’s experience with the safety in the design and manufacture of these devices and PHMSA’s long history of approving them for transportation as Class 9. Manufacturers of safety devices that do not meet the criteria for UN3268 may request an approval for classification as a Division 1.4G and may be issued an EX approval if the design type has been examined and tested in accordance with § 173.56 of the HMR.

In order for a safety device to be classified as “UN3268, Safety devices, *electrically initiated*, 9,” the safety device must be tested in accordance with Test series

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<sup>3</sup> Words in italics are not a required part of a proper shipping name.

<sup>4</sup> An EX number is a unique identifier for each approved explosive.

6(c) of Part I of the United Nations (UN) Manual of Tests and Criteria (incorporated by reference in § 171.7), with no explosion of the device, no fragmentation of device casing or pressure vessel, and no projection hazard or thermal effect that would significantly hinder fire-fighting or other emergency response efforts in the immediate vicinity.<sup>5</sup> Those safety devices must also be packaged and transported in accordance with provisions in § 173.166 and other appropriate general provisions of the HMR.

PHMSA adopted provisions for UN3268 into the HMR based on provisions adopted in the 19th Revised Edition of the UN Model Regulations. The UN Sub-Committee of Experts on the Transport of Dangerous Goods considered multiple proposals during 2012-2016 to develop classification and transport provisions similar to those applied to air bags, air bag inflators, and seat-belt pretensioners. The UN Sub-Committee recognized that these articles (e.g., articles containing micro gas generators) had a long-standing experience of consistent performance in the classification testing. As such, many competent authorities provided streamlined testing and approval mechanisms commensurate with that experience. However, by providing a general description, the UN Sub-Committee determined that additional conditions should apply. Specifically, the UN Model Regulations Special Provision 280 was developed and assigned to UN3268. SP 280 includes the definition of a Division 1.4S (“no explosion of the device, no fragmentation of device casing or pressure receptacle, and no projection hazard nor thermal effect which would significantly hinder fire-fighting or emergency response efforts in the immediate vicinity”) with the addition of slightly more stringent assessment criteria for the Series 6(c) test. In supporting this amendment at the UN, it was the view of the U.S. delegation that the intent was to require that, in order for an article to be

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<sup>5</sup> See § 172.102 Special Provision 160, assigned to “UN3268, Safety devices, 9.”

considered a Class 9 safety device, the article would first have to qualify as a Division 1.4S, including the required Division 1.4S testing provisions, with the additional assessment criteria provided in SP 280 for the Series 6(c) test. The result would be a clear safety distinction from Division 1.4G safety devices and those that could be classed as Class 9. Additionally, to address the concerns of some delegates related to the transition from specific descriptive proper shipping names to the generic “Safety devices,” the intent of the previous proper shipping names was added as a further limitation to these articles (i.e., “used in vehicles, vessels, or aircraft to enhance safety to persons”). In the view of the U.S. delegation during the development of this provision at the UN, it is only through this tiered safety approach that Class 9 designation is clearly supported. Note that the UN Sub-Committee continues to work on the classification framework for safety devices. This work includes identifying conditions and testing methods to determine when an article containing a Division 1.4S explosive material is considered to be eligible for reassignment to Class 9 for transport purposes. PHMSA also continues to host UN public meetings for which we solicit comment from the public on UN working documents for changes to the UN Model Regulations and Manual of Tests and Criteria.

### **III. Safety Device Classification**

PHMSA is developing a national policy regarding safety devices (UN0503 and UN3268). PHMSA continues to see advancements in technologies for articles containing hazardous materials that have been submitted to PHMSA requesting an approval or special permit to transport as safety devices (UN0503 and UN3268). PHMSA is

requesting information or data from stakeholders regarding the classification, testing, and conditions for transportation relevant to the potential classification of these devices as safety devices.

#### **IV. Questions**

PHMSA seeks information or data on the following questions related to the classification, testing, and conditions for transportation relevant to the potential classification of these devices as safety devices. Comments or information provided by stakeholders need not be limited to the scope of these specific questions. To the extent possible, we request commenters include specific data with verifiable references to support their statements.

##### *Scope*

1. What information/data should PHMSA take into consideration in the expansion of the application of safety devices beyond those designed to be used in transport vehicles? If a device can be used both in a transport vehicle and in other non-vehicle applications, should all transport of the devices be allowed to be classified under UN3268? What specific information/data supports your answers?
2. Are there benefits or increased risks to considering the expansion of the applicability of safety devices beyond use in vehicles, vessels, or aircraft to enhance safety to persons?

3. Compared to manned transport vehicles, should automated / unmanned transport vehicles (e.g., drones, etc.) be treated differently with respect to safety devices? If so, in what way?
4. How should end use be considered in practical determination of classification or reclassification of devices or articles that have pyrotechnic substances or other hazardous materials?
5. At what point does an article become a safety device? For example, micro-gas generators are essential parts of a seat-belt pretensioner, but by themselves they would only be a component of a safety device. Should components of safety devices be allowed to be classified as safety devices? Why?

### *Testing*

1. Is there a need for guidance on testing to determine appropriate classification as it pertains to safety devices? If so, what areas of the requirements should this guidance address?
2. The current provisions in § 172.102, Special Provision 160, require Test Series 6(c) of Part I of the UN Manual of Tests and Criteria. This testing reflects the long-standing provisions applicable to air bags, seat-belt pretensioners, and air bag modules based on significant experience with testing of these articles. If the “UN3268, Safety device” classification is applied to other types of articles, should those articles (those other than air bags, seat-belt pretensioners, and air bag modules) require completion of the UN Test series 6 tests (i.e., UN 6(a), UN 6(b), UN 6(c) and UN 6(d)) first as a Division 1.4S or should other testing be

conducted? Would doing this allow for a more consistent reclassification to Class 9?

3. The provisions of § 173.166(b)(1)(iv) require articles other than air bags, seat-belt pretensioners, and air bag modules to be approved by the Associate Administrator. During the approval review, PHMSA may request additional testing beyond that specified in Special Provision 160 if considered necessary and appropriate to ensure a proper classification. What testing, outside of that already required by the HMR, would be appropriate for PHMSA to consider requiring under the terms of an approval to ensure the article classification properly reflects a Class 9 material?

*Conditions for Transportation and Carriage Aboard Aircraft*

1. What additional risks might an operator incur when a safety device is classified as Class 9 for transportation by air if additional articles are approved as safety devices?
2. What additional costs may a person incur when offering a safety device for transportation as a Division 1.4G article in contrast to a Class 9 article? What are the additional costs, if any, for storage incidental to transportation?
3. What different best practices / procedures may be conducted by an air operator when loading/handling a Division 1.4S/1.4G article in contrast to a Class 9 article?

4. Are additional costs incurred when offering a safety device for transportation as a Division 1.4S article in contrast to a Class 9 article? Are there additional costs for storage incidental to transportation?
5. Are the exceptions provided in § 173.166(d)(1) for safety devices when installed in motor vehicles, vessel, aircraft, or other conveyances sufficient to cover all types of safety devices, regardless of size or function, or are they more technically appropriate for air bag inflators, air bag modules, and seat-belt pretensioners?

Signed in Washington, DC on June 4, 2020, under authority delegated in 49 CFR

1.97.

William S. Schoonover,  
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*Pipeline and Hazardous Materials Safety Administration.*  
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