



U.S. Department  
of Transportation

**Pipeline and Hazardous  
Materials Safety  
Administration**

1200 New Jersey Avenue, SE  
Washington, DC 20590

**FEB 15 2019**

Mr. Dave Madsen  
Hazardous Materials Specialist, Logistics  
Autoliv ASP, Inc.  
3350 Airport Road  
Ogden, UT 84405

Reference No. 18-0113

Dear Mr. Madsen:

This is in response to your July 31, 2018, letter and August 2, 2018 email requesting clarification of the Hazardous Materials Regulations (HMR; 49 CFR Parts 171-180) applicable to micro-gas generators designed to be installed in and activate safety devices used in vehicles, vessels and aircraft. Specifically, you ask if these generators may be reclassified from Division 1.4S (explosives *with no significant blast hazard*) to Class 9 (miscellaneous) when they pass the Series 6(c) test of Part 1 of the United Nations (UN) Manual of Tests and Criteria, as prescribed in Special Provision (SP) 280, Volume One, Chapter 3.3, of the UN Recommendations on the Transport of Dangerous Goods (UN Recommendations).

The answer is yes. In 2003, the HMR incorporated UN SP 280, minus the phrase “when transported as component parts,” in § 172.102, DOT Special Provision 160 (*see* Docket No. RSPA-2002-13658 (HM-215E; 68 FR 44992)). Special Provision 160 permits component parts of safety devices used in vehicles, vessels, and aircraft to be reclassified as Class 9 provided they pass the prescribed above-mentioned Series 6(c) UN test, and comply with the applicable regulations in § 173.166. Special Provision 160 does not apply to life-saving appliances described in § 173.219 (UN2990 and UN3072). Section 173.166 defines a safety device as an article that contains a pyrotechnic substance or hazardous material of another class that is used in vehicles, vessels or aircraft to enhance safety to persons (*see* § 173.166 introductory paragraph). This section also provides examples of these devices that include but are not limited to air bag inflators, air bag modules, seat-belt pretensioners and pyromechanical devices.

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

Sincerely,

 in lieu of

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

Edmensen  
§ 172.102  
Special Provisions  
18-0113

**Dodd, Alice (OST)**

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**From:** INFOCNTR (PHMSA)  
**Sent:** Thursday, August 02, 2018 4:07 PM  
**To:** Hazmat Interps  
**Subject:** FW: Microgasgenerators as a Safety device  
**Attachments:** Micro-gasgenerator Classification Change.pdf

Hi Ikea,

Attached is a request for a letter of interpretation. Please let me know if you have any questions.

Thanks,  
Jodi

**From:** Dave Madsen [mailto:dave.madsen@autoliv.com]  
**Sent:** Tuesday, July 31, 2018 4:59 PM  
**To:** INFOCNTR (PHMSA) <INFOCNTR.INFOCNTR@dot.gov>  
**Cc:** lara costha.com <lara@costha.com>  
**Subject:** FW: Microgasgenerators as a Safety device

**From:** Dave Madsen  
**Sent:** Tuesday, July 31, 2018 2:38 PM  
**To:** 'standards@dot.gov' <standards@dot.gov>  
**Cc:** 'shane.kelley@dot.gov' <shane.kelley@dot.gov>  
**Subject:** Microgasgenerators as a Safety device

**Dave Madsen**  
Hazardous Materials Specialist  
Logistics

[dave.madsen@autoliv.com](mailto:dave.madsen@autoliv.com)  
Mobile: +1-435-720-1718  
Direct: +1-801-612-5665

Visiting Address: 1000 West 3300 South

[www.autoliv.com](http://www.autoliv.com)



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July 31, 2018

FY-18-110

Associate Administrator  
For Hazardous Materials Safety  
Pipeline and Hazardous Materials Safety Administration  
U.S. Department of Transportation  
East Bldg, 1200 New Jersey Ave. SE.,  
Washington, D.C. 20590-0001

Attention: Standards and Rulemaking, PHH-10

Subject: 10.2.236 Micro-gas generator Classification Change

Special Provision 280 states: "This entry applies to safety devices for vehicles, vessels or aircraft, e.g. air bag inflators, air bag modules, seat-belt pretensioners, and pyromechanical devices, which contain dangerous goods of Class 1 or of other classes, when transported as component parts and if these articles as presented for transport have been tested in accordance with Test Series 6(c) of Part 1 of the Manual of Tests and Criteria, with 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 ...".

It stands to reason if the product meets the criteria of Special Provision 280 then the product should be eligible for identification as a Safety device. One such product is a Micro gas-generator. A micro gas-generator fulfills the same function for a seat-belt pretensioner as an inflator does for an airbag module.

France and China have classified this product as a Safety device based on the wording of this Special Provision.

The DOT test lab report states:

**UN Test 6 (c): External fire (bonfire) test:** The result of the bonfire test was negative. There was no mass explosion. There were a few audibles to indicating a reaction of each initiator.

Maximum travel was 40 feet, but the MGG case, weighing 3.3 g max, generated very little energy. Most of the spent cases were found within 12 feet or in the ashes of on the burn grate.

**UN Test 6 (d): Unconfined single package tests:** The results of the three repetitions were negative. There was no sympathetic initiation between donor and acceptors. There was no fragment penetration on the inside of the 4G package. There was no ejection of flame or smoke. Most of the donor powder was found in the foam, indicating an incomplete burn. The outer packaging remained sealed posttest. Donor-acceptor orientation was rupture end against pins, rupture end against rupture end, and rupture end against wall of outer packaging<sup>1</sup>."

According to the distance criteria they are allowed to travel 290 feet for a 1.4S classification. The maximum distance for these parts was 40 feet. You can clearly see there is no safety concern for these parts.

July 31, 2018

Autoliv is petitioning your help to talk with your Tech Division to allow these parts to be classified as; UN3268, Safety device, 9. This will allow us to harmonize with China and France and will allow our U.S. facilities to be competitive with our France facility in shipping to their customers throughout the world.

Thank you in advance for your help and cooperation in this most important matter. If you have any questions please feel free to contact me at (801)-612-5665 or by email at: [dave.madsen@autoliv.com](mailto:dave.madsen@autoliv.com).

Sincerely Yours,

A handwritten signature in black ink that reads "Dave Madsen". The signature is written in a cursive style with a large initial "D" and "M".

Dave Madsen  
Regulatory Compliance Specialist-Autoliv Americas

P.S. I would welcome the opportunity to come and meet with your two offices in hopes that we can come to an agreement on this issue.

<sup>1</sup> New Mexico Tech Laboratory Report dated March 31, 2011, reference number D11040.