



U.S. Department  
of Transportation

**Pipeline and Hazardous  
Materials Safety  
Administration**

1200 New Jersey Avenue, SE  
Washington, D.C. 20590

February 19, 2013

Mr. Dave Madsen  
Chair, Supplier Regulatory Workgroup  
North American Automotive Hazardous  
Materials Action Committee  
Autoliv Ogden Technical Center  
3350 Airport Road  
Ogden, UT 84405

Reference No. 12-0133R

Dear Mr. Madsen:

This is in further response to your June 14, 2012 letter requesting clarification of §§ 173.24a(a)(3) and 173.166(e), (e)(4), and (e)(4)(iii) of the Hazardous Materials Regulations (HMR; 49 CFR Parts 171-180) applicable to inner packagings of air bag inflators, air bag modules, seat-belt pretensioners, and other hazardous materials. You asked if inner packagings of these materials and other devices or dunnage are permitted to move or shift in a limited manner when placed within an outer package of a combination packaging provided no damage occurs that would reduce the overall structural integrity of the package. You state it is your understanding that §§ 173.24a(a)(3) and 173.166(e), (e)(4), and (e)(4)(iii) permit inner packagings of hazardous materials and other devices or dunnage to move or shift in a limited manner within an outer package of a combination packaging provided no damage occurs that would reduce the package's overall structural integrity.

Your understanding is correct. We are writing you this additional response to clarify what is meant by the wording "prevent movement of the articles and inadvertent operation" and "internal dunnage must be sufficient to prevent shifting of the devices within the container" as these phrases are used in §§ 173.166(e) and 173.166(e)(4)(iii), respectively. In our October 3, 2012 response, we stated that § 173.166(e) requires air bag inflators, air bag modules, seat-belt pretensioners and dunnage, which can include other equipment, to be secured within the outer packaging to "prevent movement of the articles and [their] inadvertent operation" during transportation in commerce. The intent of this requirement is to place these devices in a packaging in a manner that prevents their accidental activation when they experience the dynamic lift, impact, shift, compressive and other forces normally encountered in transportation. Conversely, all hazardous materials packagings and completed packages must perform the basic containment functions prescribed in the HMR's general packaging requirements (see §§ 171.8 ("Package" and "Packaging" definitions) and

173.24). Thus, "internal dunnage must be sufficient to prevent shifting of the devices within the container" means a sufficient amount packaging material and/or dunnage must be used to secure one or more of the devices you described within an outer packaging to prevent the devices from shifting but not in so great an amount that it damages them. A hazardous material packaging or package that is damaged (e.g., through compression with too-tightly packed inner packaging materials, forceful contact with other inner or outer packagings, or sudden inner packaging expansion) may be sufficiently reduced in effectiveness to no longer meet the HMR's general packaging requirements and increases the probability that the package may release the hazardous material or materials it contains.

I hope this further clarification is sufficient.

Sincerely,

A handwritten signature in black ink, appearing to read "T. Glenn Foster". The signature is fluid and cursive, with a long horizontal stroke extending to the left.

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

Edmonson  
§173.24a  
§173.166  
Applicability  
12-0133  
NAAHAC

North American Automotive  
Hazardous Materials Action Committee

June 14, 2012

Mr. Charles Betts  
Director, Standards & Rulemaking  
US DOT – PHMSA  
East Building – 2<sup>nd</sup> Floor  
1200 New Jersey Ave. SE  
Washington, DC 20590

Re: Request for Interpretation – Prevent / Control Shifting / Movement

Hello, Mr. Betts.

NAAHAC is an issue-driven, action-oriented voluntary working group currently comprised of participants employed by North American Automotive companies and their key suppliers, whose purpose is to consider and respond to the vital hazardous materials and dangerous goods issues of its membership.

The Supplier Regulatory Workgroup within NAAHAC consists of representatives from Autoliv, Key Safety Systems, Takata and TRW – all manufacturers of air bag inflators, modules, seat-belt pretensioners and other safety devices. We are seeking clarification of the DOT's intent regarding shifting or movement of hazardous materials inside packages.

There are several different references to either preventing or controlling shifting or movement within the 49 CFR. Two of these references are listed below.

**§ 173.24a Additional general requirements for non-bulk packagings and packages.**

(a) *Packaging design.* Except as provided in §172.312 of this subchapter:

(3) *Securing and cushioning.* Inner packagings of combination packagings must be so packed, secured and cushioned to prevent their breakage or leakage and to control their shifting within the outer packaging under conditions normally incident to transportation. Cushioning material must not be capable of reacting dangerously with the contents of the inner packagings or having its protective properties significantly weakened in the event of leakage.

And...

**§ 173.166 Air bag inflators, air bag modules and seat-belt pretensioners.**

(e) *Packagings.* Rigid, outer packagings, meeting the general packaging requirements of part 173, and the packaging specification and performance requirements of part 178 of this subchapter at the Packing Group III performance level are authorized as follows. The packagings must be designed and constructed to prevent movement of the articles and inadvertent operation.

(4) Reusable high strength plastic or metal containers or dedicated handling devices are authorized for shipment of air bag

inflators, air bag modules, and seat-belt pretensioners from a manufacturing facility to the assembly facility, subject to the following conditions:

(iii) Internal dunnage must be sufficient to prevent shifting of the devices within the container.

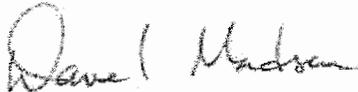
The Supplier Regulatory Workgroup, along with packaging engineers from each supplier, recently met to discuss how our companies develop packagings that conform with the regulations. Because our devices are not subject to inadvertent operation due to their design, our major considerations focus around shipping parts that are not damaged during transportation and ensuring that package integrity is maintained during transportation. The group agreed that whether we use spec packaging or non-spec packaging, and whether we use single or combination packagings, the goal is to **ENSURE THAT SHIFTING OF DEVICES WITHIN THE PACKAGE DOES NOT CAUSE DAMAGE THAT COULD REDUCE THE STRUCTURAL INTEGRITY OF THE PACKAGE.**

We feel that phrases such as "prevent shifting" and "control shifting" can lead to the interpretation that any shifting of the device(s) within a single package or devices / dunnage within a combination package is unacceptable, when we believe the DOT's intent is to ensure that the shifting is controlled to the extent that there can be no damage to the package that could reduce the structural integrity of the package. Example – a seat-belt buckle pretensioner in a combination packaging – inner packaging, bubble wrap, outer packaging, 4G fiberboard. This device may be able to shift within the package such that a sound of a buckle moving or the assembly sliding slightly within the package may be heard, but there is absolutely no possibility that this shifting would damage the package such that the structural integrity of the package would be reduced.

**To re-state NAAHAC's position, we believe that the DOT's intent is not to require no shifting or movement of devices, but rather to ensure that the shifting of devices within the package does not cause damage that could reduce the structural integrity of the package.** We would appreciate receiving a written response indicating either your agreement with this position or an interpretation that can be used by all.

We thank you in advance for your assistance in this matter. If you need additional information regarding our inquiry you can contact me by phone at (801) 612-5665 or by e-mail at [dave.madsen@autoliv.com](mailto:dave.madsen@autoliv.com). We look forward to your written response.

Sincerely,



Dave Madsen  
Chair, Supplier Regulatory Workgroup  
NAAHAC

## **NAAHAC Member Companies**

American Honda Motor Co., Inc.

Autoliv ASP, Inc.

BMW of North America

Chrysler Corp. LLC / Mopar

Delphi Automotive systems, LLC

Ford Motor Company

General Motors Company

General Motors Parts & Service

Honda of America Manufacturing

Key Safety Systems

Mercedes Benz USA

Mobis Parts America, LLC

Nissan North America, Inc.

TK Holdings / Takata

Toyota Motor Engineering and Manufacturing

Toyota Motor Sales U.S.A., Inc.

TRW Automotive, Occupant Safety Systems

Volkswagen Group of America