



U.S. Department  
of Transportation

**Pipeline and Hazardous  
Materials Safety  
Administration**

1200 New Jersey Avenue, SE  
Washington, DC 20590

August 18, 2021

Mr. Ryan Roberts  
Department of the Army, Army Sustainment Command (ASC)  
ASC Packaging, Storage, and Containerization Center  
Logistics, Testing, and Applications Division  
11 Hap Arnold Blvd.  
Bldg. 2, Bay 5  
Tobyhanna, PA 18466

Reference No. 21-0040

Dear Mr. Roberts:

This letter is in response to your April 14, 2021, email requesting clarification of the Hazardous Materials Regulations (HMR; 49 CFR Parts 171-180) applicable to the testing of non-bulk packagings and packages. Specifically, you seek clarification regarding the requirements for Variation 2 combination packagings in § 178.601(g)(2) and the criteria for passing the drop test outlined in § 178.603(f).

We have paraphrased and answered your questions as follows:


- Q1. You ask whether the requirements for non-bulk Variation 2 combination packagings contained in § 178.601(g)(2) are used in conjunction with the criteria for passing the drop test in accordance with § 178.603(f)(4).
- A1. The answer is yes. Variation 2 combination packagings allow articles or inner packagings of any type to be assembled and transported without testing in an outer packaging; however, the outer packaging must be part of a successfully tested combination packaging and have passed the drop test requirements in § 178.603(f)(4), as instructed in § 178.601(g)(2)(i). For inner packagings, inner receptacles, or articles, the drop test performance criteria is that they must remain completely within the outer packaging and no leakage of the filling substance may be observed from the inner receptacles or inner packagings. In the instance of Variation 2, the originally tested packaging must have inner packagings that are fragile (e.g., glass) and contain liquids (and were dropped at the Packing Group I drop height). Please note that in order to use a Variation 2 combination packaging, a person must also ensure compliance with additional conditions outlined in § 178.601(g)(2)(ii)-(vii).

- Q2. You ask—if the answer to Q1 is yes—can the outer packaging be considered to have passed the drop test if the inner packaging leaks or ruptures, but the leakage is contained within the leakproof liner and/or is completely absorbed by the absorbent material.
- A2. The answer is no. To be considered a “successful” pass result during the drop test, the outer packaging with fragile inner packagings must not show signs of leakage of the filling substance, and the fragile inner packagings must remain completely within the outer packaging. Please note, the originally tested packaging does not necessarily require a leakproof liner or use of absorbent material; rather, these packaging materials are criteria for packaging modifications without further testing.
- Q3. You ask whether a passing result is dependent on a liner and absorbent containing a leak together, or can either perform the function of the containment.
- A3. The answer is no. See answer A2.
- Q4. You ask whether the packaging requirements in § 178.601(g)(2) are intended to be utilized for a determination of a pass or a fail during any testing (e.g., design qualification or periodic retest) of a Variation 2 combination packaging or are these requirements standalone provisions that are assessed separately.
- A4. The answer is that it depends. Selective testing of a combination packaging that differs only in minor respects from a tested type is permitted in accordance with § 178.601(g). Moreover, the originally tested combination packaging from which the outer packaging is used in the Variation 2 combination packaging is subject to design qualification and periodic retesting based on § 178.601(g)(2)(i) and (iv), and the remaining conditions are considered standalone provisions for variation from the tested combination packaging. For example, under § 178.601(g)(2)(iii), the thickness of cushioning material between inner packagings and between inner packagings and the outside of the packaging may not be reduced below the corresponding thickness in the *originally tested packaging* (emphasis added).
- Q5. You ask—if the requirements are considered separate from testing—how would a self-certifier or third-party lab assess these packagings for the purpose of design qualification or periodic retesting.
- A5. The packaging manufacturer is subject to design qualification and periodic retesting of performance-oriented packaging. A person producing a Variation 2 packaging that is not the manufacturer of the originally tested packaging must take steps to ensure that the original design was successfully tested and is periodically tested. Variation 2 combination packages, when shipped, are not subject to design qualification or periodic retesting. The

originally tested packaging that provides the component parts (e.g., the outer packaging) used in a Variation 2 packaging is subject to the drop test and stack test requirements, in addition to other conditions as outlined (see § 178.601(g)(2)(i)-(vii)), that when adhered to, allow for the variation of the packaging without further testing.

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

Sincerely,

A handwritten signature in blue ink, appearing to read "Dirk Der Kinderen".

Dirk Der Kinderen  
Chief, Standards Development Branch  
Standards and Rulemaking Division

Baker

20-0040

**From:** [INFOCNTR \(PHMSA\)](#)  
**To:** [Hazmat Interps](#)  
**Subject:** FW: Request for Interpretation  
**Date:** Wednesday, April 14, 2021 12:38:13 PM  
**Attachments:** [Memo Request for Interpretation\\_PSCC.PDF](#)

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Hello,

Attached is a request for letter of interpretation.

Thanks,

Jonathon, HMIC

-----Original Message-----

From: Roberts, Ryan E CIV USARMY ASC (USA) [<mailto:ryan.e.roberts6.civ@mail.mil>]  
Sent: Wednesday, April 14, 2021 8:50 AM  
To: INFOCNTR (PHMSA) <INFOCNTR.INFOCNTR@dot.gov>  
Cc: Veneziano, Joseph CIV USARMY ASC (USA) <joseph.veneziano.civ@mail.mil>; Fitzpatrick, John L CIV USARMY ASC (USA) <john.l.fitzpatrick.civ@mail.mil>  
Subject: Request for Interpretation

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Mr. Kelley,

Please see the attached CFR 49 request for interpretation. Please let me know if you have any questions or require any additional information.

Thank you,

V/R,

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