



U.S. Department
of Transportation

**Pipeline and Hazardous
Materials Safety
Administration**

1200 New Jersey Avenue, SE
Washington, DC 20590

JAN 21 2020

Lonnie Jaycox
Independent Consultant
Jaycox Consulting
4027 Magnolia Avenue
Saint Louis, MO 63110

Reference No. 19-0112

Dear Mr. Jaycox:

This letter is in response to your September 3, 2019, email requesting clarification of the Hazardous Materials Regulations (HMR; 49 CFR Parts 171-180) applicable to combination packagings. Specifically, you ask whether articles that are placed in a non-bulk outer packaging—such as a 4G box—without additional inner packagings, may be tested and certified as a combination packaging.

The answer is no. A combination packaging must be comprised of an inner packaging that is secured in a non-bulk outer packaging. Articles are not considered inner packagings and, therefore, their presence inside of a non-bulk outer packaging—such as a 4G box—would be insufficient for certification as a combination packaging.

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

Sincerely,

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

Dodd, Alice (PHMSA)

Casey
19-0112

From: INFOCNTR (PHMSA)
Sent: Wednesday, September 04, 2019 10:01 AM
To: Hazmat Interps
Subject: FW: Request for Clarification, articles in outer packagings, 9-3-19.pdf
Attachments: Request for Clarification, articles in outer packagings, 9-3-19.pdf

Hello Alice and Ikeya,

Please see attached for letter of interpretation request.

The requester spoke with Sarah in the HMIC on 8/20/19 and she provided 12-0216 but the letter did not address their specific question. She spoke with both Eamonn and Ben Moore about this question and was told to advise the caller to write in for a letter of interp request. I called Lonnie to verify his question (written at the very end of his request) but was unable to reach him.

Please contact our office with any questions.

Thanks,

Kathryn, HMIC

From: Lonnie Jaycox [mailto:lonnie@jaycoxconsulting.com]
Sent: Tuesday, September 3, 2019 3:53 PM
To: INFOCNTR (PHMSA) <INFOCNTR.INFOCNTR@dot.gov>
Subject: Request for Clarification, articles in outer packagings, 9-3-19.pdf

Attached is a request for clarification on a topic at issue for a client.

I am submitting this after quite a long call with a very helpful infocenter staffer; but who, unfortunately, could not offer a definitive reply.

Thank you for your time,
Lonnie Jaycox

Clarification request on behalf of a client:

This question concerns the status of a non-bulk outer packaging being tested to contain articles in general, and a fiberboard box being tested to contain an article or articles specifically under the HMR.

In the definition of a 4G box [178.516] there is nothing essential in that definition that makes a 4G box a combination packaging in the specific case; and in the general case of non-bulk packagings the situation is the same. And while it is true that the greatest majority of 4G packagings are combination packagings, and common industry usage often reinforces this idea; there are 4G boxes that are tested and certified as Single Packagings under the HMR. This is consistent with the regulations if the packaging system is tested and certified without “inner packagings”. It is then the case that 4G boxes, being no different than other commonly manufactured specification packagings, can be tested and manufactured to either definition: single or combination.

While there is no definition of “article” in the HMR, they are mentioned in various places in the HMR in the context of packaging applications. This clarification request does not seek answers to any question concerning the identification or classification of an item as an “article”. However, examples of common articles tested into packaging systems include manufactured/assembled items that contain solid and liquid hazardous materials. But the basic difference appears to be that the article is not designed to act as a traditional packaging that is filled, transported, and dispensed for the sake of the sale of the hazardous material itself. In articles the hazardous material is best thought of as integral to the intended use of the item. It is also noted that “articles” would, in almost every expected circumstance, be a very economically inefficient way to “package” the hazardous material. One achieves no economic benefit using a functioning battery over a bottle to transport acid.

- Examples of items commonly tested in combination packagings that would be considered articles:

Safety devices, instruments, batteries [Noting that individual packaging authorizations for certain types of batteries require additional, supplemental packaging. See: 173.185(b)(3)(i)], aerosols, service equipment, mechanical components, and other manufactured or assembled items that, while they may contain hazardous materials in liquid, solid, or gas form, do not function in their intended use in the manner of a traditional “inner packaging”. While aerosols actually do function as a more traditional inner packaging, they have been identified as a special case most reasonably treated as articles for packaging purposes.

This is not intended as an indicative or exhaustive list; it is only to indicate the types of articles commonly encountered in package testing under the HMR.

- Below is the definition of an “inner packaging”:

“Inner packaging means a packaging for which an outer packaging is required for transport. It does not include the inner receptacle of a composite packaging.”

This definition does not explicitly include or exclude the possibility of an “article” being placed in an outer packaging as creating a combination packaging system.

- Below is the definition of an intermediate packaging:

“Intermediate packaging means a packaging which encloses an inner packaging or article and is itself enclosed in an outer packaging.”

This definition treats articles and inner packagings as equivalent in relationship with the use of an intermediate packaging from a packaging component perspective.

- In 178.601(g)(6) we see:

“The provisions in Variations 1, 2, and 4 in paragraphs (g)(1), (2) and (4) of this section for combination packagings may be applied to packagings containing articles, where the provisions for inner packagings are applied analogously to the articles. In this case, inner packagings need not comply with §173.27(c)(1) and (c)(2) of this subchapter.”

For purposes of the testing variations associated with combination packagings only, articles are treated “analogously” to inner packagings in combination packagings.

While this exception does not indicate explicitly that the articles are inner packagings for the purposes of the HMR in the definition of the packaging type (single vs. combination); it would not make sense, from a packaging and transport safety perspective, to treat them as equivalent for the purposes of testing exceptions associated only with combination packagings, and not treat them as equivalent for the purposes of initial testing and definition of the packaging type.

- Variation 2 also specifically mentions articles as being interchangeable with inner packagings containing solids or liquids in combination packagings.
- In HM-215N PHMSA stated the following with respect to the packaging of aerosols:

“Aerosol: PHMSA revises the definition of “aerosol” to clarify that it is an article. Currently under the HMR, an aerosol is considered to be an article, and therefore, the use of inner packagings in a combination package is not necessary; however, practice has shown that an aerosol is often mistaken for the inner packaging of a combination packaging, including both the substance dispensed (liquid, paste, or powder) and the propellant gas itself.”

In this Final Rule PHMSA modified the definition of an aerosol to clarify that a filled aerosol is shipped as an article. In this quoted text, PHMSA states that:

“an aerosol is considered to be an article, and therefore, the use of inner packagings in a combination package is not necessary;”

This language clearly indicates that PHMSA considers articles functionally as “inner packagings” when being packaged, and when placed in an outer packaging and tested, would be considered a combination packaging.

- Given the conditions outlined above:

Q: If an item is properly treated under the HMR as an “article”, and if the article(s) are placed in a non-bulk outer packaging (such as a 4G box) without additional (supplemental) “inner packagings”; would this packaging system comply with the definition of a combination packaging, if tested and certified as such by a packaging manufacturer; provided all applicable standards and test performance requirements for the specific type of non-bulk packaging under the HMR are met?

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