U.S. Department
of Transportation

**Pipeline and Hazardous
Materials Safety
Administration**

1200 New Jersey Avenue, SE
Washington, DC 20590

APR 25 2017

Richard J. Lloyd
31 Bastian Lane
Allentown, PA 18104

Reference No. 17-0015

Dear Mr. Lloyd:

This letter is in response to your February 2, 2017, email requesting clarification of the Hazardous Materials Regulations (HMR; 49 CFR Parts 171-180) applicable to packaging for nitric acid of less than 90 percent concentration. Specifically, you describe your packaging configuration and ask if it meets the packaging requirements of § 173.158(e).

You describe in your email the following packaging configuration:

- The packaging is comprised of six 2.5L glass bottles placed between partitions and packed with absorbent padding to provide extra cushioning.
- This configuration is then placed in a 4 mil plastic bag and tied.
- The bag and intermediate packaging is then placed inside a 4G fiberboard box, and before the outer package is closed, additional Styrofoam padding is placed on top of the bottles.
- The materials in this packaging configuration are non-reactive to the nitric acid.

Section 173.158(e) outlines a packaging authorization for nitric acid of less than 90 percent concentration when offered for transportation or transported by rail, highway, or water in 4A, 4B, or 4N metal boxes, 4G fiberboard boxes, or 4C1, 4C2, 4D, or 4F wooden boxes with inside glass packagings not over 2.5 L (0.66 gallon) capacity each. When packaged in wooden or fiberboard outer packagings, the glass inner packagings must be packed in tightly-closed, intermediate packaging, cushioned with an absorbent material. The intermediate packaging and absorbent material must be compatible with the nitric acid.

Based on the packaging requirements set forth in § 173.158(e) and the configuration that you described, it is the opinion of this Office that your nitric acid packaging would meet the requirements of § 173.158(e) when the package is offered or transported by rail, highway, or vessel. Please note that your packaging must also meet general packaging requirements in §§ 173.24 and 173.24a, as well as performance oriented packaging requirements in Part 178.

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

Sincerely,

Dirk Der Kinderen
Chief, Standards Development
Standards and Rulemaking Division

Geller
§173.158(e)
Packaging Specs
17-0015

Dodd, Alice (PHMSA)

From: INFOCNTR (PHMSA)
Sent: Friday, February 03, 2017 4:11 PM
To: Hazmat Interps
Subject: FW: Interpretation Request -Packaging for Nitric Acid

Hi Shante/Alice,

Please submit this as a letter of interpretation. Please let me know if you have any questions.

Thanks,
Jordan

From: Richard Lloyd [mailto:dickchar@rcn.com]
Sent: Thursday, February 02, 2017 3:01 PM
To: INFOCNTR (PHMSA) <INFOCNTR.INFOCNTR@dot.gov>
Subject: Interpretation Request -Packaging for Nitric Acid

Dear Sir:

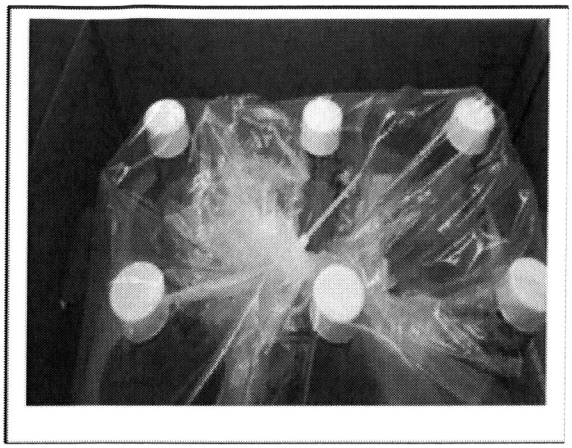
I will appreciate confirmation that the packaging configuration specified in this e-mail complies with the Hazardous Materials Regulations applicable to certain shipments of nitric acid. Docket HM-218H amended Sec. 173.158(e) so that nitric acid of less than 90 percent concentration, when placed in wooden or fiberboard outer packagings, the glass inner packagings must be packed in tightly-closed, non-reactive intermediate packagings, cushioned with a non-reactive absorbent material.

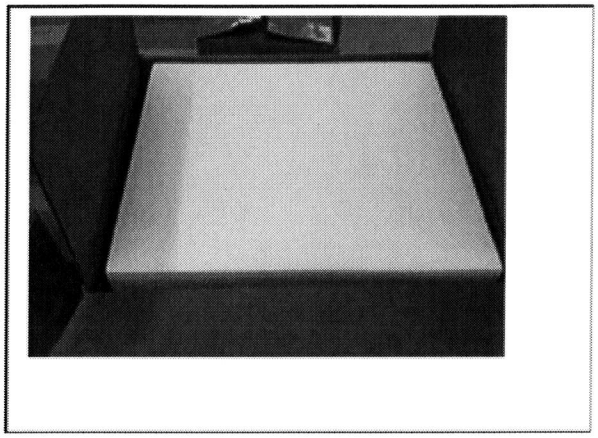
To meet this requirement, please provide your opinion that the following combination packaging is satisfactory for shipments of nitric acid of less than 90 percent concentration:

Six, 2.5 L glass bottles will be placed into individual molded cells or partitions of a Styrofoam tray. The Styrofoam tray covers about half the height of the glass bottles.
At the top of the bottles, there is a ~1 1/5" Styrofoam pad to protect the cap area.

Each cell or partition in the Styrofoam tray will have a 6 inch square absorbent pad inserted to provide cushioning. The entire tray (with the 6, 2.5 L bottles) will be encapsulated in a 4mil plastic bag that will be tied closed. The six glass bottles of nitric acid will collectively be enclosed in the intermediate packaging which will then be placed in an UN 4G approved fiberboard box (outer packaging). The Styrofoam pad will be inserted on top of the closed bottles and external to the bag prior to carton closure. All packaging materials, Styrofoam tray and pad, absorbent material, etc., will be non-reactive to the nitric acid.

Below are several pictures of the packaging described above.





It may be of value to note that the package described above, absent the bag and absorbent, cushioning pads, represents the current certified package, used by many in the industry, to transport nitric acid, of less than 90% concentration.

Thank you for your response and guidance in support of our hazardous materials compliance procedures.

Richard J. Lloyd
Lane

31 Bastian

Allentown, PA 18104

Telephone: 610-398-
3954

E-mail: dickchar@rcn.com