



U.S. Department  
of Transportation

**Pipeline and Hazardous  
Materials Safety  
Administration**

1200 New Jersey Avenue, SE  
Washington, DC 20590

January 17, 2023

Travis Arledge  
Packaging & Equipment Engineer  
State Industrial Products  
383 North High Street  
Hebron, OH 43025

Reference No. 22-0111

Dear Mr. Arledge:

This letter is in response to your October 26, 2022, email requesting clarification of the Hazardous Materials Regulations (HMR; 49 CFR Parts 171-180) applicable to hydrostatic pressure testing of non-bulk packagings. Specifically, you indicate that you have plastic pails—used for shipments of “UN1824, Sodium hydroxide solution, 8, PG II”—rated to a test pressure of 20 kPa, which is more than the required hydraulic test pressure calculated for the specific hazardous material, as prescribed in § 178.605(d)(1). You believe this to be compliant with the HMR but inquire whether the packagings must instead be rated to a minimum test pressure of 100kPa, as is prescribed in §§ 178.605(d)(2) or (3).

The answer is no. Section 178.605(d) provides three options for determining the test pressure to be applied when performing hydrostatic pressure testing. When using the method specified in § 178.605(d)(1), the test pressure must not be less than the total gauge pressure measured in the packaging (i.e., the vapor pressure of the filling material and the partial pressure of the air or other inert gas minus 100 kPa (15 psi)) at 55 °C (131 °F), multiplied by a safety factor of 1.5. This total gauge pressure must be determined on the basis of a maximum degree of filling in accordance with § 173.24a(d) of the HMR and a filling temperature of 15 °C (59 °F). Section 178.605(d)(1) does not specify a minimum test pressure of 100 kPa similar to paragraphs (d)(2) or (d)(3).

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

**From:** [INFOCNTR \(PHMSA\)](#)  
**To:** [Dodd, Alice \(PHMSA\)](#); [Hazmat Interps](#)  
**Subject:** FW: Letter of Interpretation Request  
**Date:** Wednesday, October 26, 2022 11:09:04 AM

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Hi Alice and team,  
Please see the LOI request below. Thanks.  
-Rachel (HMIC)

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**From:** Arledge, Travis <tarledge@stateindustrial.com>  
**Sent:** Wednesday, October 26, 2022 10:56 AM  
**To:** INFOCNTR (PHMSA) <INFOCNTR.INFOCNTR@dot.gov>  
**Subject:** Letter of Interpretation Request

**CAUTION:** This email originated from outside of the Department of Transportation (DOT). Do not click on links or open attachments unless you recognize the sender and know the content is safe.

Hello,

We are requesting interpretation into 49 CFR 178.605 for Hydrostatic Pressure Testing. We have hazmat plastic pails containing Sodium Hydroxide being held up by UPS, they are quoting 178.605 (d) (2) & (3) stating that our plastic pails have to be rated to 100kPa, even though our product is packing group II. We believe that our pails which are rated for 20kPa falls under 178.605 (d) (1) and meets the regulations. Our supplier agrees and believes than no plastic pail could reach on 100 kPa rating. The calculations that we have done for 178.605 (d) (1) equal around 5.82kPa, after the safety factor and fall well below our rating of 20, with our product being mostly water.

My name is Travis Dale Arledge, the address for our company is 383 North High Street Hebron Ohio, 43025, and a valid phone number is 740-331-4023.

Regards,

Travis Arledge  
Packaging & Equipment Engineer  
State Industrial Products  
Phone- (740) 331-4023

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