



U.S. Department  
of Transportation

**Pipeline and Hazardous  
Materials Safety  
Administration**

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

MAY 11 2016

Mr. Michael Muth  
Slide Products, Inc.  
430 Wheeling Road  
Wheeling, IL 60090

Reference No.: 15-0237

Dear Mr. Muth:

This letter is in response to your November 23, 2015 email and subsequent phone call requesting clarification of the Hazardous Materials Regulations (HMR; 49 CFR Parts 171-180) applicable to hot water bath testing requirements for aerosol cans. Specifically, you ask what temperature and length of time is required to perform a hot water bath test in accordance with § 173.306 for Department of Transportation (DOT) 2Q canisters filled to either 90% or above 95% of the can's fill volume.

As provided by § 173.306(a)(3)(v), each filled, metal aerosol container must be subjected to a test performed in a hot water bath. The duration of the water bath will vary based on the temperature of the water bath and the properties of the contents of the canister. If the liquid phase of the material does not exceed 95% of the capacity of the container at 50 °C, the temperature of the bath and the duration of the test must be such that the internal pressure reaches that which would be reached at 50 °C (122 °F). If the contents exceed 95% capacity, the temperature and duration of the test must be such that the internal pressure of the canister reaches that which would be reached at 55 °C (131 °F). The HMR does not specify a method for measuring the internal temperature of the canister.

It should be noted that on January 21, 2016, PHMSA published a final rule in the Federal Register, titled "Hazardous Materials: Adoption of Special Permits (MAP-21) (RRR);" (Docket No. PHMSA-2013-0042 (HM-233F); [81 FR 3635]). This final rule incorporated several longstanding special permits into the HMR, including those related to alternatives to the hot water bath test requirements for aerosols. As of February 22, 2016, instead of subjecting the containers to a hot water bath, the following alternative tests are also authorized under § 173.306(a)(3)(v):

- (A) *Alternative water bath test.* This paragraph authorizes a combination of a hot water bath test, a weight test, and visual inspection. Only one container out of each lot of 2,000 is subjected to the hot water bath test, a second is subjected to a weight test, the results of which must be compared to weight specification for the container as outlined in quality

control procedures, and finally, the remainder of the lot must be visually inspected by examining the valve, crimp, and seam areas for evidence of leakage.

- (B) *Automated pressure test.* This paragraph authorizes the use of an automated process for pressure checks (i.e., an “automated in-line pressure check”). This is a performance based test which requires the development of operating procedures inclusive of the basic components the procedures must address (e.g. inclusion of rejection criteria and periodic inspection).
- (C) *Weight test.* This paragraph authorizes the use of an automated process to check the weight of filled containers (i.e., an “automated in-line weight check”). Comparison of the weight of a container against the pre-determined target weight for the container provides an indication of the proper filling of the container.
- (D) *Leakage test.* This paragraph authorizes the use of a high pressure air test on empty containers combined with a leakage test for filled containers.

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

Sincerely,

A handwritten signature in black ink, appearing to read 'T. Glenn Foster', with a long horizontal flourish extending to the right.

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

hehman  
§ 173.306  
Limited Quantity  
15-0237

**Dodd, Alice (PHMSA)**

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**From:** Geller, Shelby CTR (PHMSA)  
**Sent:** Tuesday, November 24, 2015 9:48 AM  
**To:** Hazmat Interps  
**Subject:** FW: request for letter of interpretation

Dear Shante and Alice,

Forwarded is a request for a letter of interpretation. Mr. Muth's address is:

Michael Muth  
Slide Products, Inc.  
430 South Wheeling, IL 60090

Thanks,  
Shelby

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**From:** Michael Muth [<mailto:Mmuth@slideproducts.com>]  
**Sent:** Monday, November 23, 2015 3:04 PM  
**To:** PHMSA HM InfoCenter  
**Cc:** Aaron Gibson; Michael Muth  
**Subject:** request for letter of interpretation

Good afternoon,

Following a recent inspection of our manufacturing facility by a DOT inspector, some questions were raised about water bath testing requirements for an aerosol manufacturer. Specifically, section 173.306. We have reviewed this CFR citation numerous times, as has the DOT inspector himself, and none of us are able to completely interpret it or to make a determination as to what we need to be doing to be compliant with the water bath testing requirement. Are you able to offer us a better understanding of the requirements regarding temperature, internal pressure, and fill volume limits? Specifically, we use DOT 2Q cans. If we fill to a volume of 90% of the can's fill volume, to what temperature do we need to warm the cans and to what internal pressure do we need to target to ensure safe cans and compliance? And are we are to fill to a volume level of 95% of the can's potential volume? If so, what are the temperature and volume levels to target?

Thanks for any assistance and clarity you can offer. You can reach me by email at [mmuth@slideproducts.com](mailto:mmuth@slideproducts.com) or by calling 847-5471-7220.

Michael Muth  
Slide Products, Inc.  
800-323-6433  
[mmuth@slideproducts.com](mailto:mmuth@slideproducts.com)