



U.S. Department
of Transportation

**Pipeline and Hazardous
Materials Safety
Administration**

1200 New Jersey Avenue, SE
Washington, DC 20590

October 30, 2023

Mr. Robert Richard
President
Hazmat Safety Consulting, LLC
10036 Lake Occoquan Drive
Manassas, VA 20111

Reference No. 23-0063

Dear Mr. Richard:

This letter is in response to your July 11, 2023, email requesting clarification of the Hazardous Materials Regulations (HMR; 49 CFR Parts 171-180) applicable to the packaging requirements for pyrophoric liquid materials as found in § 173.181(c). You state that the term “metal cans” is not clearly defined in paragraph (c), and that your client uses “tight metal receptacles”—which you describe as non-specification cylinders—to meet this packaging requirement. Specifically, you ask whether such packagings satisfy the requirements of this packaging instruction for pyrophoric liquid materials.

It is the opinion of this Office that a non-specification metal cylinder could be a type of metal can or receptacle. In accordance with § 173.181(c), each inner metal receptacle must be strong, tight, closed by positive means rather than friction, and not over 4.0 L (1 gallon) capacity.

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

Sincerely,

A handwritten signature in blue ink that reads "T. Glenn Foster".

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

From: [Bob Richard](#)
To: [Dodd, Alice \(PHMSA\)](#)
Cc: [Kelley, Shane \(PHMSA\)](#); [Pfund, Duane \(PHMSA\)](#); [Andrews, Steven \(PHMSA\)](#)
Subject: Please accept the attached request for Interpretation, Petition for Rulemaking and Request for PHMSA to Propose to Amend the UN Model Regulations
Date: Tuesday, July 11, 2023 1:57:03 PM
Attachments: [Interp. Petition for Rulemaking and UN proposal request.docx](#)

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Please accept the attached request for Interpretation, Petition for Rulemaking and Request for PHMSA to Propose to Amend the UN Model Regulations. This relates to the use of the wording “metal cans” in §173.181(c) and P400.

Best Regards,

Bob Richard

Hazmat Safety Consulting, LLC.



July 11, 2023

Shane Kelly
Director Standards and Rulemaking Division
Pipeline and Hazardous Materials Safety Administration
Attn: Standards and Rulemaking Division, PHH-10
U.S. Department of Transportation
1200 New Jersey Avenue, S.E.
East Building, Floor 2
Washington, DC 20590-0001

Subject: Request for Interpretation, Petition for Rulemaking and Request for PHMSA to Propose to Amend the UN Model Regulations – Use of the wording “metal cans” in §173.181(c)

Dear Mr. Kelley,

I am writing to confirm my understanding of the packaging requirements for Pyrophoric liquids in §173.181(c). §173.181(c) states:

Steel drums (1A1 or 1A2), aluminum drums (1B1 or 1B2), metal drums, other than steel or aluminum (1N1 or 1N2) or fiber drums (1G); steel jerricans (3A1 or 3A2) or aluminum jerricans (3B1 or 3B2); or steel boxes (4A), aluminum boxes (4B) or metal boxes, other than steel or aluminum (4N) not exceeding 220 L (58 gallons) capacity each with **strong, tight inner metal cans** not over 4.0 L (1 gallon) capacity each. The strong, tight metal cans must be closed by positive means, not friction.

(1) **Inner packagings** must have no opening exceeding 25 mm (1 inch) diameter and must be surrounded with noncombustible cushioning material.

(2) Net quantity of pyrophoric liquids may not exceed two-thirds of the rated capacity of the outer drum. For example, a 220 L (58 gallons) outer drum may contain no more than 147 L (39 gallons) of pyrophoric liquids.

(3) Each layer of **inner containers** must be separated by a metal plate separator in addition to cushioning material.

Our client uses tight metal receptacles which are basically non-specification cylinders. The term “cans” is not defined in the HMR. I don’t believe that the intent of §173.181(c) is to not allow a metal receptacle as an inner packaging. Further confusion exists with §173.181(c) because §173.181(c)(1) refers to “inner packagings” and §173.181(c)(3) refers to “inner containers”. There is an obvious lack of consistency in the terminology. We have advised our client that the use of the strong tight metal receptacles that they are using meet the intent and requirements of §173.181(c). We request confirmation of our interpretation and guidance provided to our client.

In addition, we are requesting that PHMSA amend §173.181(c) to change the words “strong, tight inner metal

cans” to “strong, tight metal receptacles”. §173.181(c)(1) uses the words “Inner packagings”. §173.181(c)(3) uses the words “inner containers” this should be changed to “inner packagings”.

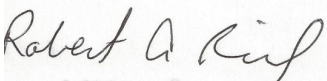
§173.181(c) is based on Packing Instruction P400 in the UN Model Regulations.

P400	PACKING INSTRUCTION	P400
<p>The following packagings are authorized, provided that the general provisions of 4.1.1 and 4.1.3 are met:</p> <ol style="list-style-type: none"><li data-bbox="99 394 1511 527">(1) Pressure receptacles, provided that the general provisions of 4.1.3.6 are met. They shall be made of steel and shall be subjected to an initial test and periodic tests every 10 years at a pressure of not less than 1MPa (10 bar) (gauge pressure). During transport, the liquid shall be under a layer of inert gas with a gauge pressure of not less than 20 kPa (0.2 bar).<li data-bbox="99 548 1511 747">(2) Boxes (4A, 4B, 4N, 4C1, 4C2, 4D, 4F or 4G), drums (1A1, 1A2, 1B1, 1B2, 1N1, 1N2, 1D or 1G) or jerricans (3A1, 3A2, 3B1 or 3B2) enclosing hermetically sealed metal cans with inner packagings of glass or metal, with a capacity of not more than 1 litre each, having threaded closures with gaskets. Inner packagings shall be cushioned on all sides with dry, absorbent, non-combustible material in a quantity sufficient to absorb the entire contents. Inner packagings shall not be filled to more than 90% of their capacity. Outer packagings shall have a maximum net mass of 125 kg.<li data-bbox="99 758 1511 957">(3) Steel, aluminium or metal drums (1A1, 1A2, 1B1, 1B2, 1N1 or 1N2), jerricans (3A1, 3A2, 3B1 or 3B2) or boxes (4A, 4B or 4N) with a maximum net mass of 150 kg each with hermetically sealed inner metal cans not more than 4 litre capacity each, with threaded closures fitted with gaskets. Inner packagings shall be cushioned on all sides with dry, absorbent, non-combustible material in a quantity sufficient to absorb the entire contents. Each layer of inner packagings shall be separated by a dividing partition in addition to cushioning material. Inner packagings shall not be filled to more than 90% of their capacity.		
<p>Special packing provision: PP86 For UN Nos. 3392 and 3394, air shall be eliminated from the vapour space by nitrogen or other means.</p>		

P400 also refers to metal cans. Specifically, P400 refers to “hermetically sealed inner metal cans”. P400 then goes on to use the term “inner packagings”. We request that PHMSA submit a proposal to the UN Transport of Dangerous Goods Sub-Committee to change the words “hermetically sealed inner metal cans” to “strong, tight metal receptacles”.

Thank you for your consideration of this matter.

Respectfully submitted,



Robert Richard
President Hazmat Safety Consulting, LLC
10036 Lake Occoquan Drive
Manassas, VA 20111

