



U.S. Department
of Transportation

**Pipeline and Hazardous
Materials Safety
Administration**

1200 New Jersey Avenue, SE
Washington, DC 20590

September 15, 2021

Ms. Simone Goncalves
Technical Manager
American Bureau of Shipping
1701 City Plaza Dr.
Spring, TX 77389

Reference No. 21-0043

Dear Ms. Gonçalves:

This letter is in response to your April 19, 2021, email requesting clarification of the Hazardous Materials Regulations (HMR; 49 CFR Parts 171-180) applicable to United Nations (UN) specification portable tanks. Specifically, you ask if a UN portable tank—without an outside framework—can meet the requirements for design and approval as provided in § 178.274.

A UN portable tank may technically be designed and constructed in accordance with § 178.274 without an “outside framework.” As provided in § 171.8, a “UN portable tank” is an intermodal tank with a capacity of more than 450 liters, and includes a shell fitted with service equipment and structural equipment, including stabilizing members external to the shell and skids, mountings, or accessories to facilitate mechanical handling. Additionally, in accordance with § 178.274(h)(1), UN portable tanks must be designed and constructed with a support structure to provide a secure base during transport, taking into account the forces and safety factors specified in paragraphs (c)(1) and (c)(2) of § 178.274. The support structure, or structural equipment, must also adequately protect the shell and service equipment from damage resulting from impact and overturning if the shell and service equipment are not constructed to withstand such forces, as per § 178.274(h)(5). Therefore, while an outside framework is typically used to fulfill design and construction requirements, a UN portable tank without the outside framework would still have to meet all applicable requirements, including those mentioned above.

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

Casey

From: [INFOCNTR \(PHMSA\)](#)
To: [Hazmat Interps](#)
Subject: FW: [EXTERNAL]: RE: Portable Tank Questions
Date: Tuesday, April 20, 2021 1:11:34 PM
Attachments: [image002.png](#)

21-0043

Hello Hazmat Interps,

Below is a request for letter of interpretation.

Thanks,

Jonathon, HMIC

From: Simone Goncalves [mailto:sgoncalves@eagle.org]
Sent: Tuesday, April 20, 2021 12:56 PM
To: INFOCNTR (PHMSA) <INFOCNTR.INFOCNTR@dot.gov>
Subject: RE: [EXTERNAL]: RE: Portable Tank Questions

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 Jonathan,

Please find below the requested information highlighted in BLUE:

Let me know if you need any additional information.

Best Regards,
Simone Gonçalves
Technical Manager
Container Certification Department
281-877-6325 wk
sgoncalves@eagle.org

From: INFOCNTR (PHMSA) <INFOCNTR.INFOCNTR@dot.gov>
Sent: Tuesday, April 20, 2021 8:27 AM
To: Simone Goncalves <sgoncalves@eagle.org>
Subject: RE: [EXTERNAL]: RE: Portable Tank Questions

Dear Simone,

We have received your request for a written letter of interpretation regarding the hazardous

materials regulations (49 CFR Parts 171-180). The hazardous materials regulations are available at the following URL:

<https://www.phmsa.dot.gov/phmsa-regulations>

However, before we can submit your request for processing, please respond to this email with:

- Full Name: [Simone Goncalves](#)
- Physical Mailing Address: [1701 City Plaza Dr, Spring, TX 77389](#)
- Telephone Number: [+1 936 900 2056](#)

Sincerely,

Jonathon, Hazardous Materials Specialist

An e-mail response from this office is considered informal guidance. Formal guidance may be requested in accordance with 49 CFR 105.20. <https://www.phmsa.dot.gov/standards-rulemaking/hazmat/hazardous-materials-information-center>

From: Simone Goncalves [<mailto:sgoncalves@eagle.org>]
Sent: Monday, April 19, 2021 2:56 PM
To: INFOCNTR (PHMSA) <INFOCNTR.INFOCNTR@dot.gov>
Subject: RE: [EXTERNAL]: RE: Portable Tank Questions

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.

Dear Sir/Madam,

I would like to clarify if Portable Tanks without an outside framework can be certified to 49 CFR 178.274? IMDG indicates that as long as the shell is designed to withstand the impact and overturning, the outer frame is not necessary. DoT has similar requirements as specified below. Is my understanding correct? Please note that the definitions from IMDG and DoT still mentioned that stabilizing members external to the shell is mandatory. So it might be a mismatching between the definitions and the design requirements.

I appreciate your help on this matter.

Best Regards,
Simone Gonçalves
Technical Manager

- IMDG section 6.7.4.1 indicates that:

Portable tank means a thermally insulated multimodal tank having a capacity of more than 450 L fitted with service equipment and structural equipment necessary for the transport of refrigerated liquefied gases. The portable tank shall be capable of being filled and discharged without the removal of its structural equipment. **It shall possess stabilizing members external to the tank**, and shall be capable of being lifted when full. It shall be designed primarily to be loaded onto a transport vehicle or ship and shall be equipped with skids, mountings or accessories to facilitate mechanical handling. Road tank-vehicles, rail tank-wagons, non-metallic tanks, intermediate bulk containers (IBCs), gas cylinders and large receptacles are not considered to fall within the definition for portable tanks;

- IMDG section 4.2.1.2 indicates:

During transport, portable tanks shall be adequately protected against damage to the shell and service equipment resulting from lateral and longitudinal impact and overturning. **If the shell and service equipment are so constructed as to withstand impact** or overturning, it need not be protected in this way. Examples of such protection are given in 6.7.2.17.5.

- 49 CFR 171.8 indicates:

UN portable tank means an intermodal tank having a capacity of more than 450 liters (118.9 gallons). It includes a shell fitted with service equipment and structural equipment, **including stabilizing members external to the shell and skids**, mountings or accessories to facilitate mechanical handling. A UN portable tank must be capable of being filled and discharged without the removal of its structural equipment and must be capable of being lifted when full. Cargo tanks, rail tank car tanks, non-metallic tanks, non-specification tanks, bulk bins, and IBCs and packagings made to cylinder specifications are not UN portable tanks.

- 49 CFR 178.274 (h) (5) indicates:

(5) During transport, portable tanks **must be adequately protected against damage to the shell, and service equipment resulting from lateral and longitudinal impact and overturning**, or the shell and service equipment must be constructed to withstand the forces resulting from impact or overturning. External fittings must be protected so as to preclude the release of the shell contents upon impact or overturning of the portable tank on its fittings. Examples of protection include:

Best Regards,
Simone Gonçalves

Technical Manager
Container Certification Department
281-877-6325 wk
sgoncalves@eagle.org

From: Benninghoven, Neil (PHMSA) <james.benninghoven@dot.gov>
Sent: Friday, October 30, 2020 11:53 AM
To: Simone Goncalves <sgoncalves@eagle.org>
Subject: [EXTERNAL]: RE: Portable Tank Questions

Simone,

This may be better if you submit for a letter of interpretation with our Standards branch. Please submit your question to the infocntr@dot.gov email address. Sorry I could not be more assistance for you.

Regards,

Neil Benninghoven

Transportation Specialist, Pressure Vessels Branch

US Department of Transportation
Pipeline and Hazardous Materials Safety Administration
1200 New Jersey Ave., SE
Washington, D.C. 20590-0001
Office: 202-366-2665 ◊ Mobile: 202-573-4342

[PHMSA Home](#) | [LinkedIn](#) | [Twitter](#) | [HAZMAT](#) | [OPS](#)



Know what's below.
Call before you dig.



From: Simone Goncalves [<mailto:sgoncalves@eagle.org>]
Sent: Friday, October 30, 2020 11:48 AM
To: Benninghoven, Neil (PHMSA) <james.benninghoven@dot.gov>
Subject: RE: Portable Tank Questions

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Dear Neil,

I was wondering if you have any updates on my below question?

Thank you

Simone

From: Simone Goncalves

Sent: Wednesday, September 9, 2020 12:46 PM

To: Neil Benninghoven (james.benninghoven@dot.gov) <james.benninghoven@dot.gov>

Subject: Portable Tank Questions

Dear Neil,

I hope you and your team are safe.

I have a quick questions regarding certification of portable tanks. Can we certify Portable Tanks in accordance with section 49 CFR 178.274 without an outside frame? According IMDG, it appears that as long as the shell is designed to withstand the impact and overturning, the outside frame is not necessary. Dot has similar requirements as specified below. Am I correct? Please note that the definitions from IMDG and DoT still mentioned that stabilizing members external to the shell is mandatory. So it might be a mismatching between the definitions and the design requirements.

I appreciate your help on that.

Simone

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