U.S. Department
of Transportation

**Pipeline and Hazardous
Materials Safety
Administration**

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

AUG 0 2 2016

Mr. John Heater
Transportation Safety and Security Specialist
The Dow Chemical Company
100 Independence Mall West
Philadelphia, PA 19106

Reference No. 16-0063

Dear Mr. Heater:

This letter is in response to your April 7, 2016, email requesting clarification of the Hazardous Materials Regulations (HMR; 49 CFR Parts 171-180) applicable to requirements for the periodic testing, inspection, and repair of portable tanks. Specifically, you ask whether a United Nations (UN) portable tank may be tested with an inert gas, such as nitrogen, for the leakage test prescribed in § 180.605(h).

The answer is yes. For the purposes of design and construction of UN portable tanks under subpart H of part 178 of the HMR, the definition of *leakage test* in § 178.274(a)(3) means *a test using gas to subject the shell and its service equipment to an internal pressure.* Thus, an inert gas, such as nitrogen, may be used as a test medium for tests conducted as required by § 180.605(h).

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

Sincerely,

T. Glenn Foster

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

Stevens
178.274
Specification for UN Portable Tanks
Re - 0063

Goodall, Shante CTR (PHMSA)

From: Geller, Shelby CTR (PHMSA)
Sent: Friday, April 08, 2016 9:22 AM
To: Hazmat Interps
Subject: FW: Interpretation Letter Request - Dow Chemical
Attachments: Dow Interpretation Letter Request.pdf

Dear Shante and Alice,

Forwarded is a request for a formal letter of interpretation.

Thanks,
Shelby

From: Heater, John L (J) [mailto:jheater@dow.com]
Sent: Thursday, April 07, 2016 3:44 PM
To: PHMSA HM InfoCenter
Cc: Casillas, Victor (PHMSA)
Subject: Interpretation Letter Request - Dow Chemical

The Dow Chemical Company respectfully submits the attached request for an interpretation letter. Your prompt processing is necessary and would be greatly appreciated.

Please contact me with any questions or need for additional information.

Sincerely,

John Heater
Transportation Safety and Security Specialist
The Dow Chemical Company
100 Independence Mall West
Philadelphia, PA 19106
Phone: (215) 592-3157
Email: jheater@dow.com

The Dow Chemical Company
Midland, MI 48674
U.S.A.

April 7, 2016

Via Email

U.S. DOT
PHMSA Office of Hazardous Materials Standards
Attn: PHH-10
East Building
1200 New Jersey Avenue, SE.
Washington, DC 20590-0001
phmsa.hm-infocenter@dot.gov

Subject: **Interpretation Letter Request**

The Dow Chemical Company ("Dow") respectfully submits this request for an interpretation letter.

Dow's request is with regard to the intermediate 2.5 year periodic leakage test on UN portable tanks, specifically the required test medium in the Hazardous Materials Regulations ("HMR"). In reviewing both the HMR and International Maritime Dangerous Goods ("IMDG") Code, it appears that 'a gas' is the required test medium. For example, if the hazardous material offered for transportation in a UN portable tank is water-reactive and oxygen-reactive, nitrogen would be the preferred test medium, as there would be significant risk in using air; residual air or contaminants could initiate a dangerous reaction or adversely affect product quality when the hazardous material would again be introduced into the UN portable tank. Can you please validate that nitrogen, as a gas, is an authorized test medium for the intermediate 2.5 year periodic leakage test on UN portable tanks under the HMR? Included below are both the applicable HMR and IMDG Code regulations for your reference:

HMR

§178.274 Specifications for UN portable tanks.
(a) *General.*
***
(3) *Definitions.* The following definitions apply for the purposes of design and construction of UN portable tanks under this subpart:
Leakage test means a test using gas to subject the shell and its service equipment to an internal pressure.

§180.605 Requirements for periodic testing, inspection and repair of portable tanks.
***
(d) *Intermediate periodic inspection and test.* For IM and UN portable tanks the intermediate 2.5 year periodic inspection and test must include at least an internal and external

The Dow Chemical Company
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examination of the portable tank and its fittings taking into account the hazardous materials intended to be transported; a leakage test; and a test of the satisfactory operation of all service equipment. Sheathing, thermal insulation, etc. need only be removed to the extent required for reliable appraisal of the condition of the portable tank. For portable tanks intended for the transportation of a single hazardous material, the internal examination may be waived if it is leakage tested in accordance with the procedures in paragraph (h) of this section prior to each filling, or if approved by the Associate Administrator. Portable tanks used for dedicated transportation of refrigerated liquefied gases that are not fitted with inspection openings are excepted from the internal inspection requirement.
***
(h) *Pressure test procedures for specification 51, 56, 57, 60, IM or UN portable tanks.* (1) Each Specification 57 portable tank must be leak tested by a minimum sustained air pressure of at least 3 psig applied to the entire tank. Each Specification 51 or 56 portable tank must be tested by a minimum pressure (air or hydrostatic) of at least 2 psig or at least one and one-half times the design pressure (maximum allowable working pressure, or re-rated pressure) of the tank, whichever is greater. The leakage test for portable tanks used for refrigerated liquefied gas must be performed at 90% of MAWP. Leakage tests for all other portable tanks must be at a pressure of at least 25% of MAWP. During each air pressure test, the entire surface of all joints under pressure must be coated with or immersed in a solution of soap and water, heavy oil, or other material suitable for the purpose of detecting leaks. The pressure must be held for a period of time sufficiently long to assure detection of leaks, but in no case less than five minutes. During the air or hydrostatic test, relief devices may be removed, but all the closure fittings must be in place and the relief device openings plugged. Lagging need not be removed from a lagged tank if it is possible to maintain the required test pressure at constant temperature with the tank disconnected from the source of pressure.

IMDG Code

6.7.2 **Provisions for the design, construction, inspection and testing of portable tanks intended for the transport of substances of class 1 and classes 3 to 9**

6.7.2.1 **Definitions**
For the purposes of this section:
***
Leakproofness test means a test using a gas, subjecting the shell and its service equipment to an effective internal pressure of not less than 25% of the MAWP;
***

6.7.2.19.5 The intermediate 2.5-year periodic inspection and test shall at least include an internal and external examination of the portable tank and its fittings with due

The Dow Chemical Company
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U S A.

regard to the substances intended to be transported, a leakproofness test and a test of the satisfactory operation of all service equipment.***

I trust this is sufficient information for issuance of a letter of interpretation. If additional information is needed, please contact me.

Sincerely,

John Heater

John Heater
Transportation Safety and Security Specialist
The Dow Chemical Company
100 Independence Mall West
Philadelphia, PA 19106
Phone: (215) 592-3157
E-mail: jheater@dow.com