



U.S. Department
of Transportation

**Pipeline and Hazardous
Materials Safety
Administration**

1200 New Jersey Avenue, SE
Washington, DC 20590

January 24, 2023

Mr. James Owen
Dangerous Goods Specialist
Safety, Quality, Environment, and Security
Matson Navigation Company
426 North 44th Street, Suite 250
Phoenix, AZ 85008

Reference Nos. 22-0021 & 22-0061

Dear Mr. Owen:

This letter is in response to your March 25, 2022, and June 8, 2022, correspondence requesting clarification of the Hazardous Materials Regulations (HMR; 49 CFR Parts 171-180) applicable to polymeric beads transported in cargo transport units in accordance with § 176.907.

We have paraphrased and answered your questions as follows:

- Q1. You ask whether your understanding is correct that an explosion-proof refrigerated cargo transport unit is not required when transporting polymeric beads, provided the requirements pertaining to cargo transport units in § 176.907(b) are met.
- A1. Your understanding is correct. The requirement that a cargo transport unit be “explosion-proof” is required under § 176.907(a) for any mechanical devices used for ventilation and does not apply to refrigerating equipment used to comply with the alternative provisions in § 176.907(b).¹
- Q2. In your correspondence, you reference the requirement in § 176.907(d) for the marking and stowage of polymeric beads. You ask whether a refrigerated cargo transport unit used to satisfy the requirements in § 176.907(b) must be “powered off” prior to unloading to be clear of any source of ignition as specified in § 176.907(d)(2).

¹ Please note that polymeric beads will release volatile hydrocarbons during storage and transportation. The rate of release increases with temperature. In enclosed spaces and under warmer temperatures during normal conditions of transportation, polymeric beads may release a flammable concentration of gas, necessitating the safety controls in paragraph (a) to ensure proper ventilation and to prevent mechanical devices, such as an electric fan, from being a source of ignition. Refrigerated cargo transport units, however, are not subject to the ventilation or explosion-proof requirements for mechanical devices as the cooler temperatures provided by the refrigeration unit suppress the release of volatile hydrocarbons.

- A2. If—as a result of being powered on—the refrigerated cargo transport unit is a source of ignition, then it must be powered off prior to performing loading and unloading operations. The refrigerated cargo transport unit should be powered on as soon as practicable once loading operations are complete.

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

Sincerely,

A handwritten signature in blue ink, reading "T. Glenn Foster". The signature is fluid and cursive, with a long horizontal flourish extending to the right.

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

Friday, March 25, 2022

Standards and Rulemaking PHH-10

Pipeline and Hazardous Materials Safety Administration

U.S. Department of Transportation
1200 New Jersey Avenue, SE
Washington, DC 20590
United States

RE: § 49CFR176.907 Polymeric Beads and Plastic Molding Compounds.

To Whom It May Concern:

I am writing to request a letter of interpretation for the shipping of polymeric beads in refrigerated containers. Specifically I am looking for clarifying in writing regarding the use of regular refrigerated cargo transport unit vs that of explosion proof CTU's.

Section (a) below notes the need for explosion proof devices if they are mechanical when transporting polymeric beads in a cargo transport unit. Section (b) does not note this and appears to be an alternative to (a) thus is it my understanding that under section (b) an explosion proof refrigerated cargo transport unit is not required and a regular reefer would meet the requirements of this subchapter, provided the packages meet the packaging requirements for the product.

§ 49CFR176.907 Polymeric Beads and Plastic Molding Compounds.

(a) When transported in cargo transport units, the cargo transport units must provide an adequate exchange of air in the unit. This adequate exchange of air may be accomplished by utilizing a ventilated container, an open-top container, or a container in one door off operation. When cargo transport units with venting devices are used these devices should be kept clear and operable. If mechanical devices are used for ventilation, they must be explosion-proof.

(b) As an alternative to the options presented in paragraph (a) of this section to ensure an adequate exchange of air; a refrigerated cargo transport unit may be used.

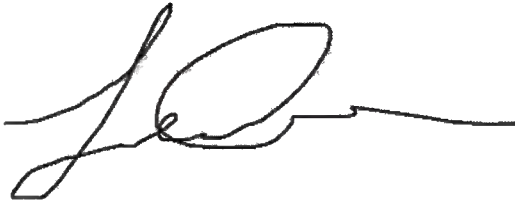
It would also be my understanding based on (d)(2) that the reefer should be powered off prior to unloading to negate any potential source of ignition. Please confirm.

(d) Cargo transport units must be marked with a warning mark including the words "CAUTION - MAY CONTAIN FLAMMABLE VAPOR" or "CAUTION - MAY CONTAIN FLAMMABLE VAPOUR" with lettering having a height of at least 25 mm (1 inch). The mark must be affixed to each access point in a location where it will be easily seen by persons prior to opening or entering the cargo transport unit and must remain on the cargo transport unit until the following provisions are met:

(1) The cargo transport unit has been completely ventilated to remove any hazardous concentrations of vapor or gas;

(2) The immediate vicinity of the cargo transport unit is clear of any source of ignition; and

(3) The hazardous materials have been unloaded.

A handwritten signature in black ink, appearing to read 'J. Owen', with a long horizontal line extending to the right.

James Owen
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Wednesday, June 8, 2022

Associate Administrator for Hazardous Materials Safety
PHMSA
U.S. Department of Transportation
Attention: PHH-30
1200 New Jersey Avenue, SE East Building, 2nd Floor
Washington, DC 20590-0001

RE: § 176.907 Polymeric Beads and Plastic Molding Compounds.

To Whom It May Concern:

I am requesting a letter of interpretation regarding the stowage of polymeric beads. Specifically I am asking for clarification regarding the use of refrigerated cargo transport units. Based on the below excerpt it is my understanding that a standard refrigerated cargo transport unit is acceptable for use when transporting polymeric beads to ensure proper ventilation. It is not my belief that an explosion proof refrigerated cargo transport unit is required as they are with class 2.1's. Please confirm via LOI.

(a) When transported in cargo transport units, the cargo transport units must provide an adequate exchange of air in the unit. This adequate exchange of air may be accomplished by utilizing a ventilated container, an open-top container, or a container in one door off operation. When cargo transport units with venting devices are used these devices should be kept clear and operable. If mechanical devices are used for ventilation, they must be explosion-proof.

(b) As an alternative to the options presented in [paragraph \(a\)](#) of this section to ensure an adequate exchange of air; a refrigerated cargo transport unit may be used.



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