



U.S. Department of Transportation
**Pipeline and Hazardous Materials
Safety Administration**

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

MAY 26 2010

Mr. Steven Bilger
Air Liquide Industrial U.S. LP
12800 West Little York Road
Houston, TX 77041

Ref. No. 10-0079

Dear Ms. Bilger:

This responds to your April 9, 2010 email requesting clarification of the Hazardous Materials Regulations (HMR; 49 CFR Parts 171-180) regarding a nitrogen, refrigerated liquid based refrigeration system designed for insulated transport trailers. Specifically you ask if the HMR apply to the 250 gallon cryogenic tank mounted to the bottom of a refrigerated trailer that is used to feed one or more heat exchangers within the trailer.

The answer is no. Section 173.320(b)(2) provides an exception for atmospheric gases when used in operation of a process system; such as a refrigeration system.

I hope this answers your inquiry. If you have further questions, please do not hesitate to contact this office.

Sincerely,

A handwritten signature in black ink that reads "Charles E. Betts". The signature is written in a cursive style with a large, prominent initial "C".

Charles E. Betts
Chief, Standards Development
Office of Hazardous Materials Standards

Eichenlaub
§ 173.320(b)(2)
Exceptions
10-0079

Drakeford, Carolyn (PHMSA)

From: INFOCNTR (PHMSA)
Sent: Friday, April 09, 2010 4:07 PM
To: Drakeford, Carolyn (PHMSA)
Subject: FW: Hazmat Information Center Feedback: Interpretations (Letters) Issued by PHMSA

Carolyn,
Attached is yet another written request for an interpretation.
Thanks,
Rob

-----Original Message-----

From: PHMSA-Feedback [mailto:PHMSA-Feedback]
Sent: Friday, April 09, 2010 3:44 PM
To: PHMSA HM InfoCenter; PHMSA Webmaster
Subject: Hazmat Information Center Feedback: Interpretations (Letters) Issued by PHMSA

I would like to request a written letter of interpretation concerning the applicability of 49 CFR 173.320(b)(2) to a liquid nitrogen-based refrigeration system designed for insulated transport trailers. The refrigeration system consists of an insulated 250 gal cryogenic tank mounted to the bottom of the trailer which feeds one or more heat exchangers within the trailer. The flow of liquid nitrogen, the refrigerant, from the tank to the heat exchangers is due to tank pressure alone and is controlled by a network of valves, which either allow or prevent nitrogen flow. The transfer of heat from the trailer to the nitrogen causes the nitrogen to boil and vaporize within the heat exchanger coils. The heat exchanger coils feed a vent line which is piped outside of the trailer so as to avoid any nitrogen gas build up within the trailer. For the process to run effectively, a pressure of 30-60 psig is required within the liquid nitrogen tank during transport.

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