



U.S. Department
of Transportation

**Pipeline and Hazardous
Materials Safety
Administration**

1200 New Jersey Avenue, SE
Washington, DC 20590

September 3, 2024

Kevin Bourbeau
Staff Mechanical Engineer
KMC Systems, Inc.
220 Daniel Webster Highway
Merrimack, NH 03054

Reference No. 24-0028

Dear Mr. Bourbeau:

This letter is in response to your April 23, 2024, email requesting clarification of the Hazardous Materials Regulations (HMR; 49 CFR Parts 171-180) applicable to transporting refrigerating machines by air. Specifically, you ask whether an instrument containing two separate (i.e., isolated) refrigerating machines each containing up to 100 grams of R-290—a flammable, non-toxic gas—qualifies for the exception for compressed gases in refrigerating machines provided in § 173.307(a)(4)(v).

The answer is yes. Refrigerating machines and components thereof, containing 100 g or less of a flammable, non-toxic liquefied gas, are not subject to the requirements of the HMR. It is the opinion of this Office that this exception continues to apply to separate—and isolated—refrigerating machines regardless of whether the refrigerating machines component parts make up a larger instrument or piece of equipment. The refrigerating machines may not utilize the same tubing, piping, or relevant components to function.

Please note, if being transported in accordance with the International Civil Aviation Organization's Technical Instructions for the Safe Transport of Dangerous Goods by Air (ICAO TI), special provision A103 of the ICAO TI may also apply and includes design requirements for the refrigerating machine and its components.

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

Sincerely,

A handwritten signature in blue ink, appearing to read "Dirk Der Kinderen".

Dirk Der Kinderen
Chief, Standards Development Branch
Standards and Rulemaking Division

From: [INFOCNTR \(PHMSA\)](#)
To: [Dodd, Alice \(PHMSA\)](#)
Cc: [Hazmat Interps](#)
Subject: FW: Formal Letter of Interpretation
Date: Wednesday, April 24, 2024 3:52:19 PM
Attachments: [image001.png](#)
[image006.png](#)
[image002.png](#)

Hi Alice,

Please see the below interpretation request.

Let me know if you need anything.

Regards,

-Breanna

From: Bourbeau, Kevin <Kevin.Bourbeau@elbitsystems-us.com>
Sent: Tuesday, April 23, 2024 9:52 AM
To: PHMSA HM InfoCenter <PHMSAHMInfoCenter@dot.gov>
Cc: Brooks, William <William.Brooks@elbitsystems-us.com>
Subject: Formal Letter of Interpretation

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.

I am requesting a formal letter of interpretation. I have seen two online, but they are not quite the same as our circumstances. The two similar letters are:

- 08-0130
- 21-0011

My question is regarding shipping Refrigerating Machines by air. I see that § 173.307(a)(4)(v) has an exception for Refrigerating Machines with <100grams or less of a flammable, non-toxic liquefied gas.

We are designing an instrument and we would like to have two completely separate Refrigerating machines inside of one instrument, each of them containing up to 100 grams of R-290. Does the exception allow us to have up to 100grams in each Refrigerating machine or is the 100 grams for the total instrument? How does shipping two instruments together, each with one refrigerating machine differ from shipping one instrument with two refrigerating machines inside?

Thank you for your help with this.

Kevin Bourbeau

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KMCSystems.com

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