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

1200 New Jersey Avenue, SE
Washington, DC 20590

October 13, 2022

Rodger Talstra, P.Eng.
Lead Test Engineer
CryoLogistics Refrigeration Technologies Ltd.
104 - 506 John St,
Victoria, BC, Canada V8T 1T6

Reference No. 22-0010

Dear Mr. Talstra:

This letter is in response to your February 18, 2022, email requesting clarification of the Hazardous Materials Regulations (HMR; 49 CFR Parts 171-180) applicable to a refrigeration device. In your email, you note that the device is constructed with four gas cylinders manifolded together—with each cylinder containing 50 pounds of carbon dioxide (CO_2") (i.e., total capacity of 200 pounds)—used to support the refrigerating function of the device. Further, you note that after use the liquid CO_2 refrigerant is vented in small amounts, similar to a dry ice cooling device, and is not an asphyxiant under normal conditions. Specifically, you ask whether the refrigeration device, which is intended to be in use during ground and air transportation to maintain temperature control of products inside the device—e.g., food and pharmaceuticals—is subject to the HMR.

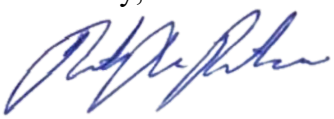
The answer is yes. As described in your email, the HMR does not provide a full exception from regulation for such refrigeration devices.

You may consider applying for a special permit for transportation of these refrigeration devices by submitting an application to the Associate Administrator for Hazardous Materials Safety in conformance with the requirements prescribed in 49 CFR Part 107, Subpart B.

You may obtain information on the special permit application process from our website at https://www.phmsa.dot.gov/approvals-and-permits/hazmat/hazardous-materials-approvals-and-permits-overview, or by calling PHMSA's General Approvals and Permits Division at (202) 366-4511.

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

22-0010

From: Kelley, Shane (PHMSA)
To: Dodd, Alice (PHMSA)
Cc: Patrick, Eamonn (PHMSA); Nickels, Matthew (PHMSA)
Subject: Fwd: PV Regulation for Transport Containers
Date: Friday, February 18, 2022 12:52:01 PM
Attachments: image002.png
image003.png
image004.png
image005.png

Hi Alice

Would you please log in as an interp request?

Eamonn has some background for whomever is assigned.

Best

Shane

From: Rodger Talstra <rtalstra@cryologistics.ca>
Sent: Friday, February 18, 2022 12:22:57 PM
To: Kelley, Shane (PHMSA) <shane.kelley@dot.gov>
Cc: Patrick, Eamonn (PHMSA) <eamonn.patrick@dot.gov>
Subject: PV Regulation for Transport Containers

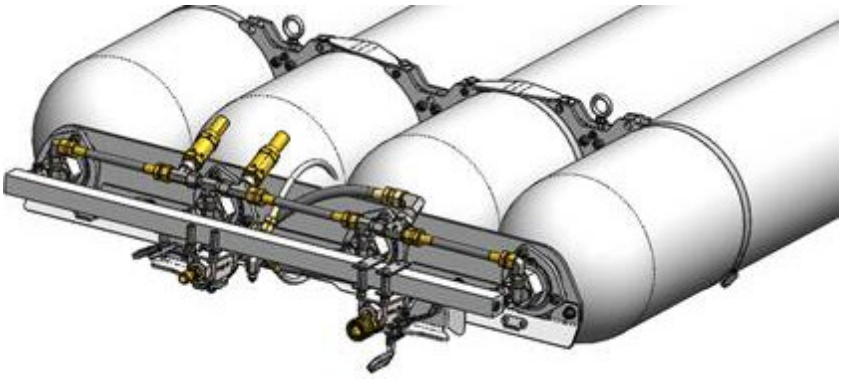
Hello Shane,

After reviewing our application with Eamonn Patrick and Steven Webb they have recommended that I proceed with a request for a written interpretation of the applicability of the US DOT Hazardous Materials Regulations for our cold storage container device.

Here is the information about our device again:
CryoLogistics manufactures pallet size cold storage containers in Victoria, BC that use pressurized liquid CO2 as a refrigerant. It is intended solely to consolidate and maintain temperature control of the items inside the device, and is not in and of itself an item delivered as cargo. Typical items transported in the container are temperature sensitive goods such as food and pharmaceuticals. After use the liquid CO2 refrigerant is vented in small amounts similar to a dry ice cooling device and is not an asphyxiant under normal conditions.

You can see our website for specs and pictures of the container:
https://cryologistics.ca/

And here is an image of the tank assembled and tested to ASME standards:



Construction is four gas cylinders manifolded together and this tank assembly is mounted and enclosed on top of the container behind the controller.

Our tank capacity is 200 pounds. We use four 50lb cylinders so we are filling to the same capacity that the cylinders would be rated for if used as an individual gas cylinder. Also the tank is fully pressure protected with two PRVs and we plan to add a backpressure regulator also.

I would like to know if this refrigeration device is subject to the HMR when transported via highway or aircraft. Transport Canada has determined that it is exempt from the TDG because the purpose of the refrigeration system is to operate in transport (Clause 1.27 (1)(d)).

Thank you for your review,
Rodger

CryoLogistics
REINVENTING THE COLD CHAIN

Rodger Talstra, P.Eng.
Lead Test Engineer | Testing & Validation
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