



U.S. Department
of Transportation

**Pipeline and Hazardous
Materials Safety
Administration**

1200 New Jersey Avenue SE
Washington, DC 20590

OCT 03 2012

Mr. Sam Newman
President
Guerilla Air
14111 S. Kingsley Dr.
Gardena, CA 90249

Reference No.: 12-0095

Dear Mr. Newman:

This is in response to your April 12, 2012 e-mail requesting clarification of the Hazardous Materials Regulations (HMR; 49 CFR Parts 171-180). You ask several questions pertaining to the production of aluminum cylinders that do not exceed 4 fluid ounces water capacity, to be used for carbon dioxide service. Your questions are paraphrased and answered as follows:

Q1. How is the maximum water capacity of the cylinders measured?

A1. The maximum water capacity of a cylinder is measured by filling the cylinder to the base of the neck, at the point where the threads inside the neck of the cylinder end and the shoulder of the cylinder begins to flare out away from the neck. The threaded portion of the neck is designed to accept the valve assembly and is not intended to be included in the volumetric capacity of the cylinder.

Q2. In accordance with § 173.306(i), can three of the described individual cylinders be placed in communication with each other using an apparatus (manifold) and be shipped by ground using the ORM-D designation?

A2. Yes, provided certain conditions are met. In accordance with § 173.306(a)(1) and § 173.306(a) respectively, the individual cylinders must not exceed 4 fluid ounces capacity and each package must not exceed 30 kg (66 pounds) gross weight. In addition, to meet the 4 fluid ounce capacity limitation provided by § 173.306(a)(1) each cylinder in the assembly would have to be isolated with a positive restriction or a shutoff valve that remains tightly closed in transit. Also, in accordance with § 172.316(a)(2), as of December 31, 2013, the ORM-D designation will no longer be available for ground transportation. However, in response to a final rule published on January 19, 2011 (HM-215K; 76 FR 3308) that adopted this sunset date for the use of the ORM-D designation, administrative appeals have been filed requesting an additional period of time to continue using this designation. We intend to address these appeals in a future rulemaking.

Q3. Do the described cylinders have to meet the manifolding conditions provided in § 173.301(g) when charged with Division 2.2 carbon dioxide?

A3. The cylinders must meet the manifolding requirements of § 173.301(g). In accordance with § 173.301(g)(1), the Division 2.2 carbon dioxide gas is not subject to the requirement for individual shutoff valves that are securely closed while in transit. However, if the individual cylinders are not isolated as discussed in A2 the limited quantity and ORM-D designation exceptions provided in § 173.306 would not be available.

I trust this satisfies your inquiry. Please contact us if we can be of further assistance.

Sincerely,

A handwritten signature in black ink, appearing to read "Delmer Billings". The signature is fluid and cursive, with a large initial "D" and "B".

Delmer Billings
Senior Regulatory Advisor
Standards and Rulemaking Division

Drakeford, Carolyn (PHMSA)

Babich
§ 173.304
Cylinders
12-0095

From: Foster, Glenn (PHMSA)
Sent: Thursday, April 12, 2012 3:25 PM
To: Drakeford, Carolyn (PHMSA)
Subject: FW: Clarification of 173.306 (i)

Carolyn,

Here is the consolidate request from Mr. Newman.

Thanks,
Glenn

From: sam@ysnimports.com [mailto:sam@ysnimports.com] **On Behalf Of** Sam Newman
Sent: Thursday, April 12, 2012 2:55 PM
To: Foster, Glenn (PHMSA)
Cc: Billings, Delmer (PHMSA)
Subject: Re: Clarification of 173.306 (i)

Dear Mr. Foster,

I am working on a project and I would appreciate your help with some clarification.

We want to produce an aluminum cylinder of Co2 that does not exceed 4 fluid ounces water capacity and filled in accordance to the limits specified in 173.304.

- How do you measure the four fluid ounce maximum water capacity?

Is the measurement to the top rim of the cylinder (when the valve is threaded in the cylinder neck there is water displacement)? Alternatively is the measurement taken by measuring the displacement from the valve and compensating the lost space by increasing the overall capacity (still insuring that the water capacity is less then 4 fluid ounces)?

- In accordance with 173.306 (i) Can I take three individual containers as described above and put them in communication with each other using an apparatus and still ship them by ground using the ORM-D label (the gross weight of the entire package would not exceed the 30kgs. allowed)?
- Do the cylinders (173.304) have to meet the manifolding conditions in 173.301(G) (ii) when transporting division 2.2 Co2 gas?

Thank you in advance for your assistance,
Sam Newman
President
Guerrilla Air

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