



U.S. Department
of Transportation

**Research and
Special Programs
Administration**

400 Seventh Street, S.W.
Washington, D.C. 20590

APR 27 2001

Ms. Carol Bonner
Norcold
1 Century Drive
Gettysburg, OH 45328

Ref. No. 01-0075

Dear Ms. Bonner:

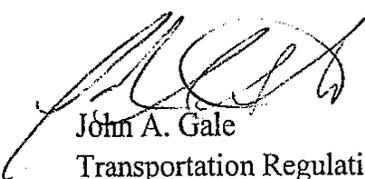
This responds to your March 1, 2001 letter requesting clarification on the proper description of your refrigeration cooling units under the Hazardous Materials Regulations (HMR; 49 CFR Parts 171-180). Specifically, you ask whether you have properly described the refrigeration cooling units and whether the exception under § 173.307(a)(4)(ii) applies.

According to your letter and follow-up telephone conversations with Deborah Boothe of my staff, Norcold produces absorption refrigeration units for the recreational vehicle industry. Each of the cooling units contain ammonia solution, with the largest unit containing 1,250 milliliters of solution. The gross weight of the largest unit is 67 pounds. The pressure in the cooling unit is between 350-400 psig. Hydrogen is used as a charging agent or dispersant gas to disperse the ammonia solution in the cooling unit. The residual hydrogen, which remains in the cooling unit with the ammonia solution after charging, only amounts to about 12 grams or less for the largest unit manufactured.

Based on the information provided, it is the opinion of this Office that the exception provided in § 173.307(a)(4)(ii) applies to the refrigerating machines and its components (cooling units) manufactured by your company. Therefore, the refrigerating machines and the components (cooling units) are not subject to the HMR.

I hope this answers your inquiry.

Sincerely,



John A. Gale

Transportation Regulations Specialist
Office of Hazardous Materials Standards



01-0075

173307



Boothe

§ 173.307(a)(4)

Applicability

01-0075

March 1, 2001

Department of Transportation
Research and Special Programs
Office of Hazardous Materials Standards
Washington DC

RE: Norcold Inc./DOT Labeling Requirement

To Whom It May Concern:

Norcold wants clarity and verification that we have taken the right approach in evaluating

1. The proper DOT classification for our refrigerating machines and
2. The lack of need for a "flammable gas" label for packaging and marking.

Norcold is a manufacturing facility that produces absorption refrigeration units for the R.V. industry. As part of the process, the cooling units, which are eventually attached to the refrigerator box, are manufactured in Gettysburg, Ohio. These units are treated as refrigerating machines. The refrigerators are put together at another Norcold facility located in Sidney, Ohio. There are two levels of transportation: 1) from Gettysburg to Sidney (cooling units), and 2) from Sidney to distributors (refrigerators). Each of the cooling units contains ammonia solution, with the largest unit containing 1,250 milliliters of solution.

Hydrogen is used as a charging agent or dispersant gas, to disperse the ammonia solution in the cooling unit. The residual hydrogen, which remains in the cooling unit with the ammonia solution after charging, only amounts to about 12 grams or less for the largest unit manufactured.

In making the determination of the DOT classification, the following was considered:

- The residual hydrogen is NOT pure because it is mixed with the ammonia solution
- The residual hydrogen is dissolved in the ammonia solution and/or mixed with the ammonia vapors; the resulting mixture is both liquid and vapor.
- The resulting liquid/vapor mixture is NOT a flammable gas or flammable liquid, by definition of 8173.115(a) and 8173.120(a)
- The hydrogen is NOT located in a container (tubing) holding hydrogen ONLY; the hydrogen is located in the SAME container (tubing) as the ammonia solution

Thus, for the purpose of DOT classification, the hydrogen is considered part of the ammonia solution or "refrigerant". In addition, Norcold believes that pursuant to 49 CFR 8173.307(a)(4)(ii), our refrigerating machines are exempted and/or exempt from all of the DOT Hazardous Material shipping requirements, including labeling, marking, and placarding, because our refrigerating machines and/or components (cooling units) contain less than 3 gallons of ammonia solution (UN2672). Thus, there is no need for any labels or markings.

Please respond as soon as possible. Thank you for your help in this matter.

Sincerely,

Carol Bonner

Carol Bonner
Environmental Health and Safety Coordinator

cc: file

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*pressure 519 = 350-400
gross wt = 67 lbs. 519
shipped in spec packaging
w/adsorbent
used by
Crotts*