



U.S. Department
of Transportation

**Pipeline and
Hazardous Materials Safety
Administration**

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

MAR 27 2009

Mr. Doug Mullins
GATX Rail
500 West Monroe
Chicago, IL 60661

Reference No. 05-0109

Dear Mr. Mullins:

This is in response to your letter and telephone conversation with a member of my staff asking how to apply the requirements prescribed in § 173.31(f)(1) and (f)(2) under the Hazardous Materials Regulations (HMR; 49 CFR Parts 171-180). This section requires a tank car loaded with two or more hazardous substances listed under § 173.31(f)(2) to conform to a limited design specification with greater protection in accidents. You asked about the applicability of this section to shipments of hazardous substances mixed with other materials, including other hazardous substances. We apologize for the delay in responding and any inconvenience this may have caused.

When one material listed in § 173.31(f)(2) is transported in a tank car, whether alone or in combination with other materials, and that one material meets the definition in § 171.8 for a hazardous substance, the tank car must be pressure tested to at least 13.8 Bar (200 psig) and be equipped with head protection and a metal jacket (see § 173.31(f)(1)). If a tank car contains more than one material listed in § 173.31(f)(2) but none of the materials is present in an amount that meets the definition of a hazardous substance, the tank car is not required to conform to the requirements in § 173.31(f)(1). A material is a hazardous substance when transported in a single package in an amount that equals or exceeds the reportable quantity for that material listed in Table 1 of § 172.101, Appendix A. In addition to this requirement, if the material is in a mixture, it must be present in the tank car in an amount that equals or exceeds the corresponding concentration by weight for that material's reportable quantity. Each material listed in Table 1 of § 172.101, Appendix A, must be considered individually to determine whether or not it meets the definition of a hazardous substance under the HMR.

Please note that when transporting the hazardous substances listed in § 173.31(f)(2), the tank car need not conform to the requirements in § 173.31(f)(1) if the following conditions are met:



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173.31(f)(1)
173.31(f)(2)

- The tank test pressure is 23.4 Bar (340 psig) or higher, or the tank shell and heads are constructed of AAR steel specification TC-128, normalized;
- A higher test pressure is required for the tank car in another section of the HMR; and,
- Excluding tank cars conforming to the scheduling and progress reporting requirements prescribed in § 173.31(b)(6), the tank car conforms to the requirements for transporting a hazardous substance in effect on June 30, 1996, and is no longer used after July 1, 2006. Tank cars that comply with the § 173.31(b)(6) scheduling and progress reporting requirements may continue to be used to transport hazardous substances after July 1, 2006. See § 173.31(f)(1)(i), (f)(1)(ii), and (f)(1)(iii).

I hope this information is helpful.

Sincerely,

A handwritten signature in black ink, appearing to read "Hattie L. Mitchell". The signature is fluid and cursive, with a long horizontal stroke extending to the right.

Hattie L. Mitchell, Chief
Regulatory Review and Reinvention
Office of Hazardous Materials Standards

05/23/2005 02:08 PM

John Swezey/CHI/GATXCORP@GATXCORP, John
cc Sbragia/CHI/GATXCORP@GATXCORP, ed.mazzulo@dot.gov
Subject Request for Interpretation - 49CFR 173.31(f)(1)

Edmonson
§173.31(f)(1)
Hazardous Substances
05-0109

Mr. Edward Mazzulo,
Director,
Office of Hazardous Materials Standards
PHMSA

Dear Mr. Mazzulo,

Please provide an interpretation of a portion of 49CFR 173.31(f)(1) as detailed below. We at GATX Rail are preparing a letter to be sent to our customers explaining these requirements.

In particular, we need to know at what concentration or mass of one or more hazardous substances listed in 49CFR 173.31(f)(2), would the higher standard tank car requirement in 49CFR 173.31(f)(1) apply. It seems as if the threshold limit for transport in a tank car is either (a) the reportable quantity shown in Appendix A to 172.101 or (b) the concentration by weight as shown in the definition of hazardous substance in 49CFR 171.8. Possibly both requirements must be met to achieve a threshold. The question applies for a single hazardous substance listed in 49CFR 173.31(f)(2) when mixed with substances other than those listed there. The question also applies to multiple hazardous substances listed in 49CFR 173.31(f)(2) with individual masses or concentrations below the threshold but with combined masses or concentrations above a threshold. Consider mixtures with different RQs in the same car.

References:

49CFR 173.31(f)(1)

49 CFR 173.31
(f) Special requirements for hazardous substances. (1) A tank car used for a hazardous substance listed in paragraph (f)(2) of this section must have a tank test pressure of at least 13.8 Bar (200 psig), head protection and a metal jacket, except that—
(i) No metal jacket is required if—
(A) The tank test pressure is 23.4 Bar (340 psig) or higher; or
(B) The tank shell and heads are manufactured from AAR steel specification TC-128, normalized;
(ii) A higher test pressure is required if otherwise specified in this subchapter; and
(iii) Other than as provided in paragraph (b)(6) of this section, a tank car which does not conform to the requirements of this paragraph (f)(1), and was authorized for a hazardous substance under the regulations in effect on June 30, 1996, may continue in use until July 1, 2006.

49CFR 171.8 Definitions and Abbreviations

Hazardous substance for the purposes of this subchapter, means a material, including its mixtures and solutions, that—
(1) Is listed in the appendix A to §172.101 of this subchapter;

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(2) Is in a quantity, in one package, which equals or exceeds the reportable quantity (RQ) listed in the appendix A to §172.101 of this subchapter; and

(3) When in a mixture or solution—

(i) For radionuclides, conforms to paragraph 7 of the appendix A to §172.101.

(i) For other than radionuclides, is in a concentration by weight which equals or exceeds the concentration corresponding to the RQ of the material, as shown in the following table:

Concentration by weight		
RQ pounds (kilograms)	Percent	PPM
5000 (2270)	10	100,000
1000 (454)	2	20,000
100 (45.4)	0.2	2,000
10 (4.54)	0.02	200
1 (0.454)	0.002	20

The term does not include petroleum, including crude oil or any fraction thereof which is not otherwise specifically listed or designated as a hazardous substance in appendix A to §172.101 of this subchapter, and the term does not include natural gas, natural gas liquids, liquefied natural gas, or synthetic gas usable for fuel (or mixtures of natural gas and such synthetic gas).

Thank you

Doug Mullins
 GATX Rail
 Chicago
 Ph. 312-621-6669
 Fax 312-499-7611

Drakeford, Carolyn <PHMSA>

From: Mazzullo, Ed <PHMSA>
Sent: Thursday, April 28, 2005 2:37 PM
To: Drakeford, Carolyn <PHMSA>
Subject: FW: Request for Interpretation - 49CFR 173.31(f)(1)

Please assign for response and have the specialist call or email Mr. Mullins. Neither of his prior emails got to me as far as I can tell.

Ed

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

From: douglas.mullins@gatx.com [mailto:douglas.mullins@gatx.com]
Sent: Wednesday, April 27, 2005 5:18 PM
To: Mazzullo, Ed <PHMSA>
Subject: Fw: Request for Interpretation - 49CFR 173.31(f)(1)

Mr. Mazzullo,

You may not have received the following message of March 23. Please confirm that you have received this message.

Please also advise when we can expect a response.

Thank you.

Douglas Mullins
GATX Rail
Chicago
Ph: 312-621-6669
Fax: 312-499-7611

----- Forwarded by Douglas Mullins/CHI/GATXCORP on 04/27/2005 04:12 PM -----

Douglas Mullins/CHI/GATXCORP

To: ed.mazzullo@dot.gov

cc

03/23/2005 02:51 PM

Subject: Fw: Request for Interpretation - 49CFR 173.31(f)(1)

----- Forwarded by Douglas Mullins/CHI/GATXCORP on 03/23/2005 02:51 PM -----

Douglas Mullins/CHI/GATXCORP

To: smtp.ed.mazzullo@dot.gov

4/28/2005