



U.S. Department  
of Transportation  
**Research and  
Special Programs  
Administration**

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

NOV 19 2002

DOT-E 11749  
(FIFTH REVISION)

EXPIRATION DATE: September 30, 2004

(FOR RENEWAL, SEE 49 CFR § 107.109)

1. **GRANTEE:** Union Tank Car Company  
East Chicago, Indiana

(See Appendix A for a list of additional grantees)

2. **PURPOSE AND LIMITATION:**

a. This exemption authorizes the use of acoustic emission testing as an alternative method for performing structural integrity inspections and tests when qualifying DOT Specification tank cars and non-DOT specification tank cars used for the transportation of hazardous materials. This exemption provides no relief from any Hazardous Materials Regulation (HMR) other than as specifically stated herein.

b. The safety analyses performed in development of this exemption only considered the hazards and risks associated with transportation in commerce.

3. **REGULATORY SYSTEM AFFECTED:** 49 CFR Parts 106, 107 and 171-180.
4. **REGULATIONS FROM WHICH EXEMPTED:** 49 CFR § 172.203(a) in that marking the exemption number on the shipping paper is waived; § 172.302(c) in that marking the exemption number on the tank cars is waived; § 173.22a(a) and (b) for exemption availability requirements; and § 180.509(e) in that alternate testing is not authorized, except as specified herein.
5. **BASIS:** This exemption is based on the application of Union Tank Car Company dated November 8, 2002 in accordance with § 107.109.

6. HAZARDOUS MATERIALS (49 CFR § 172.101):

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Hazardous Materials Description			
Proper Shipping Name	Hazard Class/ Division	Identification Number	Packing Group
Hazardous materials authorized in tank cars	As appropriate	As appropriate	As appropriate

7. SAFETY CONTROL MEASURES:

a. PACKAGING: Packaging prescribed are DOT Specification tank cars, or tank cars built to an Association of American Railroad (AAR) specification that are used for the transportation of hazardous materials.

b. TESTING:

1. In addition to the non-destructive examination methods specified in § 180.509(e), a tank car facility may use acoustic emission as an alternative test method to determine one or more of the welds are in proper condition.

2. Each person who qualifies a tank car under the terms of this exemption must comply with:

(i) the latest issue of the AAR "Procedure for Acoustic Emission Evaluation of Tank Cars and IM101 Tanks", including Annex Z; or

(ii) an alternative procedure approved in writing by the Associate Administrator for Safety, Federal Railroad Administration (see paragraph 10.c for mailing address).

3. Each person who qualifies a tank car under the terms of this exemption must comply with the requirements listed in the AAR Manual of Standards and Recommended Practices, Section C, Part III, Specifications for Tank Cars M-1002, Appendix T.

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4. When appropriate, the applicant must use calculation, laboratory test evidence, stress analysis, or comparative non-destructive testing of representative tank car designs, to establish and support the adequacy and sensitivity of the acoustic emission instrumentation, the test procedure, and the cumulative signal strength category (damage detection rating system). For each car tested, minimum detectable defect sizes must be determined for the principal structural areas of interest to the structural integrity inspection.

5. The twist test specified in Annex Z may not be used to qualify the integrity of welds inboard of the body bolster except as authorized in paragraph 7.b.2(ii).

c. MARKING:

1. After successfully passing an acoustic emission test, the tank must be marked "AE" followed by the year of the tank qualification in the Qualified Column of the stencil specified in the AAR, Specification for Tank Cars, Specification M-1002, Appendix C.

2. Tank cars previously marked "DOT-E 11749", "DOT-E 11747" or DOT-E 11824" may remain marked until the next tank car qualification.

8. SPECIAL PROVISIONS:

a. In accordance with the provisions of Paragraph (b) of § 173.22a, persons may use the packaging authorized by this exemption for the transportation of hazardous materials specified in paragraph 6, only in conformance with the terms of this exemption. The tank car exemption holder or party conducting testing under the terms of this exemption must inform the offeror, at the time of delivery, that the tank car has been qualified with an alternative test method and, if requested, must furnish a copy of the current exemption to the offeror.

b. For each tank that is tested under the terms of this exemption, the following must be retained and made available to FRA and the AAR Tank Car Committee, upon request:

1. Records as required by the "Procedure for Acoustic Emission Evaluation of Tank Cars and IM-101 Portable Tanks."

2. Any calculations, laboratory test evidence, stress analysis, or comparative nondestructive testing of representative tank car designs, used to establish and support the adequacy and sensitivity of the acoustic emission instrumentation, the test procedure, the cumulative signal strength category (damage detection rating system), representative car design type grouping, and minimum detectable defect sizes.

c. The shipping paper notation requirements of § 172.203(a) are waived.

d. A current copy of this exemption must be maintained at each facility where the car is qualified under the terms of this exemption.

9. MODES OF TRANSPORTATION AUTHORIZED: Rail freight.

10. MODAL REQUIREMENTS:

a. At least thirty days prior to the first two AE tests performed by the grantee or a party to the exemption, the holder or party to the exemption performing the test must file with the Staff Director, Hazardous Materials Division, Federal Railroad Administration the results of stress analysis, test procedures, supporting documentation.

b. At least thirty days prior to the first two tests performed by a third party on behalf of the holder or party to this exemption, the holder or party to the exemption must provide to the Staff Director, Hazardous Materials, FRA, the test procedures, a copy of the completed AAR Form B-1 (Subcontractor Evaluation Sheet).

c. Testing must be conducted only by facilities approved by the Federal Railroad Administration for acoustic emission testing of tank cars. Requests for approval must be addressed to:

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Hazardous Materials Division  
Federal Railroad Administration  
RRS-12, Mail Stop 25  
1120 Vermont Avenue, N.W.  
Washington, D.C. 20590

11. **COMPLIANCE:** Failure by a person to comply with any of the following may result in suspension or revocation of this exemption and penalties prescribed by the Federal hazardous materials transportation law, 49 U.S.C. 5101 et seq:

- o All terms and conditions prescribed in this exemption and the Hazardous Materials Regulations, 49 CFR Parts 171-180.
- o Registration required by § 107.601 et seq., when applicable.

Each "Hazmat employee", as defined in § 171.8, who performs a function subject to this exemption must receive training on the requirements and conditions of this exemption in addition to the training required by §§ 172.700 through 172.704.

No person may use or apply this exemption, including display of its number, when the exemption has expired or is otherwise no longer in effect.

12. **REPORTING REQUIREMENTS:** The carrier is required to report any incident involving loss of packaging contents or packaging failure to the Associate Administrator for Hazardous Materials Safety (AAHMS) as soon as practicable. (Sections 171.15 and 171.16 apply to any activity undertaken under the authority of this exemption.) In addition, the holder(s) of this exemption must inform the AAHMS, in writing, of any incident involving the package and shipments made under the terms of this exemption.

Issued in Washington, D.C.:

  
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Robert A. McGuire  
Associate Administrator for  
Hazardous Materials Safety

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(DATE)

Address all inquiries to: Associate Administrator for Hazardous Materials Safety, Research and Special Programs Administration, Department of Transportation, Washington, D.C. 20590.  
Attention: DHM-31.

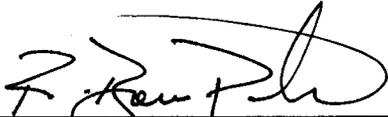
Copies of this exemption may be obtained by accessing the Hazardous Materials Safety Homepage at <http://hazmat.dot.gov/exemptions> Photo reproductions and legible reductions of this exemption are permitted. Any alteration of this exemption is prohibited.

PO: SCHOONOVER/sln

**JUL 2 0 2004**

The following are hereby granted party status to this exemption based on their application(s) submitted in accordance with § 107.107 or § 107.109, as appropriate:

Company Name City/State	Application Date	Issue Date	Expiration Date
GATX Rail Chicago, IL	Jan 06, 2003	Jan 23, 2003	Sep 30, 2004
Occidental Chemical Corp. Pasadena, TX	Jun 23, 2004	<b>JUL 2 0 2004</b>	Jun 30, 2006
PPG Industries Pittsburgh, PA	Sep 26, 2002	Oct 25, 2002	Sep 30, 2004



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Robert A. McGuire  
Associate Administrator for  
Hazardous Materials Safety