

November 30, 2009



U.S. Department
of Transportation

Pipeline and Hazardous
Materials Safety Administration

East Building, PHH - 30
1200 New Jersey Avenue, Southeast
Washington, D.C. 20590

DOT-SP 14570
(THIRD REVISION)

EXPIRATION DATE: October 31, 2013

(FOR RENEWAL, SEE 49 CFR § 107.109)

1. GRANTEE: DuPont SHE Excellence Center
Wilmington, DE
2. PURPOSE AND LIMITATIONS:
 - a. This special permit authorizes the manufacture, marking, sale and use of DOT specification 105J600W tank cars having a protective housing welded to the tank flange and having a maximum GWR (gross weight on rail) of 286,000 pounds for the transportation in commerce of titanium tetrachloride. This special permit provides no relief from the Hazardous Materials Regulations (HMR) other than as specifically stated herein. The most recent revision supersedes all previous revisions.
 - b. The safety analyses performed in development of this special permit only considered the hazards and risks associated with transportation in commerce. The safety analyses did not consider the hazards and risks associated with consumer use, use as a component of a transport vehicle or other device, or other uses not 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 special permit number on the shipping paper is waived; § 172.302(c) in that the requirement to mark the outside of the tank car with the special permit number is waived, except that a substitute marking is required as

November 30, 2009

specified herein; §§ 173.26 and 179.13 in that tank cars manufactured under this special permit may exceed 263,000 pounds GWR but may not exceed 286,000 GWR; and § 179.100-12(c), in that a welded protective housing is permitted.

5. BASIS: This special permit is based on the application submitted by DuPont SHE Excellence Center dated September 2, 2009 submitted in accordance with § 107.109.

6. HAZARDOUS MATERIALS (49 CFR § 172.101):

Hazardous Material Description			
Proper Shipping Name	Hazard Class/ Division	Identification Number	Packing Group
Titanium tetrachloride	8	UN1838	Hazard Zone B

7. SAFETY CONTROL MEASURES:

a. PACKAGING - Packaging prescribed is a specification DOT 105J600W tank car except that in lieu of bolted top fitting protection, the tank has a welded top fitting protection. Each tank car has a test pressure of 600 psig and has been constructed in accordance with Trinity Industries, Drawing No. D-41742 dated February 10, 2005, or D-43875 dated July 11, 2006, and other drawings and technical specifications on file with the Office of Hazardous Materials Special Permits and Approvals. The tank car must conform to the Association of American Railroads' Manual of Standards and Recommended Practices, Manual C-II, Specifications S-286 and C-III, Section 2.5, except that the cars built under this special permit are not permitted in free interchange.

(1) Each car built under this special permit must be designed and constructed to meet the following requirements:

Feature:	Detail:
Puncture Resistance	Tank heads manufactured from ASTM A516, Grade 70, normalized steel with a minimum thickness of 1.136 inches, and a tank shell manufactured from AAR TC128, Grade B, normalized steel, with a minimum thickness of 0.981 inches. Each plate-as-rolled must be Charpy V-notch impact tested transverse to the direction of rolling at -30° Fahrenheit and longitudinal to the direction of rolling at -50° Fahrenheit in accordance with ASTM E23. Transverse and longitudinal refer to the direction of the long axis of the test specimen. The test coupons for each direction must simulate the in-service condition of the material and must meet the minimum requirement of 15 ft-lb average for three specimens, with no single value below 10 ft-lb and no two below 15 ft-lb at the reference temperature.
Full-Head Protection	Tank head protection system complying with § 179.16.
Structural Integrity	Stub-sill designed and constructed to a fatigue life in excess of one million miles at 286,000 pounds GWR, calculated by applying an overall load factor of 1.09 to those designs approved for GWR at 263,000 pounds.
Trackworthiness	Variable-dampened type trucks, in compliance with AAR M-976 for 286,000 pounds GWR - Barber S-2-HD or ASF Motion Control are deemed compliant.
Pressure Relief Device	Re-closing pressure relief device designed and tested in accordance with § 179.15.

November 30, 2009

Service Equipment Protection	Welded and reinforced top fittings protection designed to Trinity specifications submitted with the special permit application and complying with Association of American Railroads Manual of Standards and Recommended Practices, Manual C-III, Appendix E, Paragraph 10.2.
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(2) Gross weight on rail of these cars may not exceed 286,000 pounds.

(3) The requirements of § 173.24b(a) and the maximum permitted filling density requirements of § 173.314 apply to shipments made under this special permit.

b. MARKING—

(1) The manufacturer must install two identical permanent identification plates, one located on each inboard surface of the AR and BL body bolster webs so that each plate is readily accessible for inspection. The plates must be at least 3/32-inch thick and manufactured from corrosion resistant metal. If the tank jacket (flashing) covers the body bolster web and identification plates, identical plates must be installed on the AR and BL corners of the tank in a readily visible location. Additionally, each plate must be stamped, embossed, or otherwise marked by an equally durable method in letters 3/16 inch high with the following information (parenthetical abbreviations may be used, and the AAR form reference is to the AAR Specifications for Tank Cars, 2000 version):

(i) Tank Manufacturer (Tank MFG): Full name of the car builder as shown on the Certificate of Construction (AAR form 4-2).

(ii) Tank Manufacturer's Serial Number (SERIAL NO):

(iii) AAR Number (AAR NO) or Certificate of Construction Number (CERT NO): The AAR number from line 3 of AAR form 4-2.

November 30, 2009

(iv) Tank Specification and Special Permit number (SPECIFICATION): The specification to which the tank was built from line 7 of AAR form 4-2, followed by the special permit number permitting construction (SP-14570).

(v) Tank Shell Material / Head Material (SHELL MATL /HEAD MATL): ASTM or AAR specification of the material used in the construction of the tank shell and heads from lines 15 and 16 of AAR Form 4-2.

(vi) Insulation Material (INSULATION MATL): Generic names of the first and second layer of any thermal protection / insulation material applied.

(vii) Insulation Thickness (INSULATION THICK): In inches.

(viii) Underframe / Stub Sill Type (UF/SS DESIGN): The design from line 32 of AAR form 4-2.

(ix) Date of Manufacture: (DATE OF MFG): The month and year of tank manufacture. If the underframe has a different built date than the tank, both dates shall be shown.

(2) When a modification to the tank changes any of the information shown in paragraph 7.b.(2), above, of this special permit, the car owner or the tank car facility making the modification must install an additional variable identification plate on the tank, adjacent to the identification plate specified above and in a visible location, showing the AAR Number (AAR NO) from line 3 of the AAR form 4-2 for the alteration or conversion and showing all items of paragraph B of this special permit that were modified, followed by the month and year of modification.

8. SPECIAL PROVISIONS:

a. In accordance with the provisions of Paragraph (b) of § 173.22a, persons may use the packaging authorized by this special permit for the transportation of the hazardous materials specified in paragraph 6, only in conformance with the terms of this special permit.

November 30, 2009

b. A person who is not a holder of this special permit, but receives a packaging covered by this special permit, may reoffer it for transportation provided no modification or change is made to the packaging and it is offered for transportation in conformance with this special permit and the HMR.

c. Cars built under this special permit may not move in free interchange. The Association of American Railroads or an individual railroad may impose more stringent operating requirements for cars built under this special permit, so long as those different requirements are not in conflict with Federal requirements. Persons seeking to operate cars built under this special permit must secure written, signed agreements among and between the carriers involved in each route and must file those written, signed agreements with the Federal Railroad Administration at the address shown in Paragraph 10 hereof prior to the first offering on each route. These written, signed agreements are intended to memorialize only that the route is: (a) capable of supporting a railroad tank car of 286K GRL; and (b) that each railroad, in fact, agrees to move such cars over the specified route. The written, signed agreements should not contain any other financial or operational information deemed confidential by grantee, a user of the car(s), or the railroad(s) involved in an agreed route.

d. The builder of cars under this special permit must develop written procedures with demonstrable reliability and sensitivity which ensure creation of appropriate non-destructive inspection and test intervals and evaluation techniques in compliance with § 180.509 for the continuing qualification and maintenance of these tank cars. The builder must be able to prove the minimum crack size detectable by the chosen method or methods.

e. The manway nozzle weldments of cars built under this special permit must be requalified every three years using qualified procedures and qualified personnel. This requalification requirement may be scheduled to coincide with the three year tank thickness testing performed by builder. Any anomalies must be immediately reported to the Federal Railroad Administration at the address shown in paragraph 10.

f. A current copy of this special permit must be maintained at each facility where the package is offered or reoffered for transportation.

November 30, 2009

g. Any of the builder's procedures developed in relation to the car approved by this grant, whether for construction or subsequent modification or examination, must be open to a representative of the US Department of transportation upon request.

h. A current copy of this special permit must be maintained at each facility where the package is manufactured under this special permit. It must be made available to a DOT representative upon request.

i. Owners of the tank cars authorized under this special permit must develop a program of maintenance and qualification and must file such programs with FRA at the address shown in Paragraph 10 hereof prior to first use. Any such program must identify areas of inspection for fatigue, corrosion, wear, etc., have a "life cycle" maintenance plan, and be of demonstrable reliability and sensitivity. This program must identify inspection items, inspection methods, acceptance criteria, and inspection frequencies and must have written procedures that ensure that work performed on cars conforms to Federal requirements. Persons seeking to operate cars built under this special permit must acknowledge owner's program of maintenance and qualification in writing filed with FRA at the address shown in Paragraph 10 hereof prior to first use.

j. The marking requirements of §§ 172.203(a) and 172.302(c) are waived.

9. MODES OF TRANSPORTATION AUTHORIZED: Rail freight.

10. MODAL REQUIREMENTS: The applicant must notify the Federal Railroad Administration of any unusual incident or incidents known to it that occur during the movement of cars built under this special permit. FRA may be contacted at:

Federal Railroad Administration
Hazardous Materials Division
RRS-12, 3rd Floor
1200 New Jersey Avenue, SE
Washington, DC 20590
ATTN: William S. Schoonover, Staff Director
202-493-6229, FAX: 202-493-6309

November 30, 2009

11. COMPLIANCE: Failure by a person to comply with any of the following may result in suspension or revocation of this special permit 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 special permit and the Hazardous Materials Regulations, 49 CFR Parts 171-180.
 - o Persons operating under the terms of this special permit must comply with the security plan requirement in Subpart I of Part 172 of the HMR, when applicable.
 - 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 special permit must receive training on the requirements and conditions of this special permit in addition to the training required by §§ 172.700 through 172.704.

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

Under Title VII of the Safe, Accountable, Flexible, Efficient Transportation Equity Act: A Legacy for Users (SAFETEA-LU)—"The Hazardous Materials Safety and Security Reauthorization Act of 2005" (Pub. L. 109-59), 119 Stat. 1144 (August 10, 2005), amended the Federal hazardous materials transportation law by changing the term "exemption" to "special permit" and authorizes a special permit to be granted up to two years for new special permits and up to four years for renewals.

12. REPORTING REQUIREMENTS: Shipments or operations conducted under this special permit are subject to the Hazardous Materials Incident Reporting requirements specified in 49 CFR §§ 171.15 - Immediate notice of certain hazardous materials incidents, and 171.16 - Detailed hazardous materials incident reports. In addition, the grantee(s) of

November 30, 2009

this special permit must notify the Associate Administrator for Hazardous Materials Safety -- OHMSPA, in writing, of any incident involving a package, shipment or operation conducted under terms of this special permit.

Issued in Washington, D.C.:



for Dr. Magdy El-Sibaie
Acting Associate Administrator for Hazardous Materials Safety

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

Copies of this special permit may be obtained by accessing the Hazardous Materials Safety Homepage at http://hazmat.dot.gov/sp_app/special_permits/spec_perm_index.htm Photo reproductions and legible reductions of this special permit are permitted. Any alteration of this special permit is prohibited.

PO: Phemister:dl