

March 31, 2006



U.S. Department  
of Transportation

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

**Pipeline and  
Hazardous Materials  
Safety Administration**

DOT-SP 9401  
(EIGHTH REVISION)

(FOR RENEWAL, SEE 49 CFR § 107.109)

1. GRANTEE: (See individual authorization letter)
2. PURPOSE AND LIMITATION:
  - a. This special permit authorizes the transportation in commerce of certain Division 2.1 and 2.2 gases in non-DOT specification IMO Type 5 portable tanks. This special permit provides no relief from the Hazardous Materials Regulations (HMR) other than as specifically stated herein.
  - b. The safety analyses performed in development of this special permit only considered the hazards and risks associated with transportation in commerce.
  - c. Unless otherwise stated herein, this special permit consists of the special permit authorization letter issued to the grantee together with this document.
3. REGULATORY SYSTEM AFFECTED: 49 CFR Parts 106, 107 and 171-180.
4. REGULATIONS FROM WHICH EXEMPTED: 49 CFR § 173.315(a) in that non-DOT Specification packagings are not authorized, except as specified herein.
5. BASIS: This special permit is based on the application of Arbel-Fauvet-Rail (AFR) dated January 22, 2004, submitted in accordance with § 107.109.

6. HAZARDOUS MATERIALS (49 CFR § 172.101):

Hazardous materials description - - proper shipping name	Hazard Class/ Division	Identi- fication Number	Packing Group
Butadienes, stabilized	2.1	UN1010	N/A
Butane see also Petroleum gases, liquefied	2.1	UN1011	N/A
Butylene see also Petroleum gases, liquefied	2.1	UN1012	N/A
Cyclopropane	2.1	UN1027	N/A
Dimethylamine, anhydrous	2.1	UN1032	N/A
Dimethyl ether	2.1	UN1033	N/A
Ethylamine	2.1	UN1036	N/A
Ethyl chloride	2.1	UN1037	N/A
Isobutylene see also Petroleum gases, liquefied	2.1	UN1055	N/A
Methylamine, anhydrous	2.1	UN1061	N/A
Methyl chloride or Refrigerant gas R 40	2.1	UN1063	N/A
Propylene see also Petroleum gases, liquefied	2.1	UN1077	N/A
Trimethylamine, anhydrous	2.1	UN1083	N/A
Vinyl chloride, stabilized	2.1	UN1086	N/A
Isobutane also see Petroleum gases, liquefied	2.1	UN1969	N/A
Propane also see Petroleum gases, liquefied	2.1	UN1978	N/A
1-Chloro-1, 1-Difluorothanes, or Refrigerant gas R 142b	2.1	UN2517	N/A
Ammonia, anhydrous	2.2	UN1005	N/A
Chlorodifluoromethane or Refrigerant Gas, R 22	2.2	UN1018	N/A

Hazardous materials description - - proper shipping name	Hazard Class/ Division	Identi- fication Number	Packing Group
Chloropentafluoroethane or Refrigerant gas, R 115	2.2	UN1020	N/A
Dichlorodifluoromethane or Refrigerant gas, R 12	2.2	UN1028	N/A
Dichlorofluoromethane or Refrigerant gas, R 21	2.2	UN1029	N/A
1,2 Dichloro-1,1,2,2- Tetrafluoroethane or Refrigerant gas, R 114	2.2	UN1958	N/A
Chlorodifluoromethane and Chloropentafluoroethane Mixture or Refrigerant gas, R 502 with <i>fixed boiling point, with approximately 49 point percent chlorodifluoromethane</i>	2.2	UN1973	N/A
Chlorodifluorobromomethane or Refrigerant gas, R 12B1	2.2	UN1974	N/A
Dichlorodifluoromethane and Difluoroethane Azeotropic Mixture or Refrigerant gas R 500 <i>with approximately 74 percent percent dichlorodifluoromethane</i>	2.2	UN2602	N/A
1,1,1,2, Tetrafluoroethane or Refrigerant gas, R 134a	2.2	UN3159	N/A

7. SAFETY CONTROL MEASURES:

a. PACKAGING - Packaging constructed prior to July 1, 1986 is a non-DOT specification portable tank, mounted in an ISO frame, designed and constructed in accordance with Fauvet-Girel drawings

**March 31, 2006**

nos. Co 167916, Co 167917, Co 167918, and other drawings, technical specifications and calculations on file with the Officer of Hazardous Materials Special Permits and Approvals (OHMSPA), and in compliance with the following:

1. Code - Complies with DOT Specification 51 except that tanks are not ASME Code "U" stamped and have bottom outlets; IMO Type 5.
2. Insulation - None; Sunshield - optional.
3. Water capacity (U.S. Gallons) - 5,283
4. Material - French standard NF A 36 207, designation A 550 FP 2 Type II; Yield strength - 56,564 psi; Tensile strength - 82,381; elongation - 22%.
5. Tank Size (inches) (outside dia.) X (length) X (thickness)  

86.61	231.9	0.720 (min.)
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Head Thickness - 0.673 (min.)  
Weld Joint Efficiency - 1.0  
Corrosion Allowance - 0.0  
Number of Baffles - 2
6. Design Pressure (psig) - 336.63 psig.  
Note: Design pressure means "maximum allowable working pressure (MAWP)" as used in the ASME Code. Operating Pressure (psig) - 302.4 psig (maximum).
7. Test Pressure, Minimum (psig) - 507.63
8. Openings - One(1) - 9.2 inch diameter opening for the pressure relief devices on the top; one(1) - 24.8 inch diameter opening for the manhole and one(1) - 8.6 inch diameter opening for the inspection opening on the heads; one(1) 6.6 inch diameter opening for the liquid phase valve and one (1) - 6.6 inch diameter opening for the vapor phase valve on the bottom. NOTE: Each bottom outlet valve must be provided with a shear section that meets the requirements of § 178.337-12.
9. Tank surface area (square feet) - 447

10. Pressure Relief Devices - Two(2) - 2 1/2 inch diameter spring loaded safety relief valves in series with and outboard of one(1) - 3 inch diameter rupture disc all set at 332.7 psig. Total relief device capacity is 1,836,363 SCFH.

11. G-Loadings: Vertical down 2 : Vertical up 2 :  
Longitudinal 2 : and Transverse 2 .

12. Maximum Gross Weight (pounds:) - 67,197.

13. Maximum Commodity Weight (pounds) - 47,135.

14. Tare Weight (pounds) - 20,062.

15. Design Specific Gravity - 1.07

16. Design Temperature (° F) - 131

b. Packaging constructed after June 30, 1986 is identical to that described in paragraph 7.a. above with the following exceptions:

1. Code - Each tank must be ASME Code "U" stamped; IMO Type 5;
2. Material - SA-612 carbon steel; and
3. Pressure Relief Devices - One (1) - 3 inch diameter spring loaded safety relief valve in series with and outboard of one (1) - 3 inch diameter rupture disc all set at 332.72 psig. Total relief device capacity is 1,608,865 SCFH.

c. Packaging constructed after December 1, 1990 is a non-DOT specification portable tank, mounted in ISO, frame designed and constructed in accordance with Fauvet-Girel drawings nos. Co C300713, C30659, other drawings, technical specifications and calculations on file with the OHMSPA and is identical to that described in Paragraph 7.b above with the following exceptions:

1. Code - Each tank must be ASME "U" stamped; IMO Type 5;
2. Insulation-None;Sunshield installed

3. Water capacity (U.S. Gallons) - 5,283;
4. Material - ASME SA-612; Yield Strength-50000 psi;  
Tensile Strength-81000 psi; elongation-22%.
5. Tank Size (inches) (outside dia.) X (length) X (thickness)  
86.61 281.9 .732(min)  
Head Thickness - .673(min.)  
Weld Joint Efficiency - 1.0  
Corrosion Allowance - 0.0  
Number of Baffles - 2
6. Design Pressure (psig) - 336.63 psig.  
Note: Design pressure means "maximum allowable working pressure (MAWP)" as used in the ASMP Code. Operating Pressure (psig) - 332,73 psig(maximum).
7. Test Pressure, Minimum (psig) - 507.63.
8. Openings - One (1), diameter 3, 15 inch, for the safety device, located on the top part of the tank. One (1) visit hole, diameter 18.5 inch, located on the rear head. One (1), diameter 2,56 inch for the liquid line, one (1), diameter 2.56 inch for the gas line, located in the lower part of the tank. One (1) inspection hole, diameter 4.72 inch.
9. Tank surface area (square feet) - 467.
10. Pressure relief devices: one (1) 3 inch diameter safety spring valve in series with an outboard of one (1) - 3 inch diameter rupture disc all set at 332.72 psig. total relief defice capacity is 1,808,605 SCFH.
11. G-Loadings: Vertical down 2 : Verticle Up 2 : Longitudinal 2 : and Transverse 2.
12. Maximum Grose Weight (pounds) - 67,197.
13. Maximum Commodity Weight (pounds) - 45575.
14. Tare Weight (pounds) - 19,621.

15. Design Specific Gravity - 1.08.

16. Design Temperature (°F) - 4° + 131°.

d. TESTING -

1. Hydrostatic test certificates for each tank must be maintained by the owner or manufacturer at its principal business office and be made available to any representative of the DOT upon request.

2. Each tank must be (i) visually inspected prior to each trip to insure that it has not been damaged on the previous trip; and (ii) retested and reinspected once every five years in accordance with § 173.32 as prescribed for DOT Specification 51 portable tanks.

8. SPECIAL PROVISIONS:

a. A person who is not a holder of this special permit who receives a package covered by this special permit may reoffer it for transportation provided no modifications or change are made to the package and it is reoffered for transportation in conformance with this special permit and the HMR.

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

c. MARKING - Each portable tank must be plainly marked on both sides near the middle, in letters at least two inches high on a contrasting background, "DOT-SP 9401".

d. No product may be shipped that has venting requirements exceeding that specified in paragraphs 7.a., 7b or 7.c. The venting capacity required for each product must be determined by the flow formulas contained in Compressed Gas Association (CGA) pamphlet S-1.2.

e. A test report documenting a satisfactory ISO prototype test for this tank design must be on file with the OHMSPA prior to the first shipment.

f. The tank must be filled by weight in accordance with the provisions of § 173.315.

g. Each packaging manufactured under the authority of this special permit must be either (1) marked with the name of the manufacturer and location (city and state) of the facility at which it is manufactured or (2) marked with a registration symbol designated for a specific manufacturing facility.

h. A current copy of this special permit, in its current status, must be maintained at each manufacturing facility at which this packaging is manufactured and must be made available to a DOT representative upon request.

i. Portable tanks may not be transported in container-on-flat car (COFC) or trailer-on-flat car (TOFC) service except under conditions approved by the Associate Administrator for Safety, Federal Railroad Administration.

j. DOT-SP 9401 must be stamped on the metal manufacturer's data plate on the line which reads "U.S. DOT Specification No.".

k. For each portable tank, the manufacturer must prepare a certificate which must be signed by a responsible official of the manufacturer and an independent inspection agency certifying that the portable tank is designed and constructed in accordance with the ASME Code and this special permit. The certificate for the first portable tank fabricated must be submitted to the AAHMS prior to the initial shipment.

l. Transportation of Division 2.1 materials (flammable gases) are not authorized aboard cargo vessel unless specifically authorized in the Hazardous Materials Table (§ 172.101).

m. Packagings permanently marked 'DOT-E 9401', prior to October 1, 2007 may continue to be used under this special permit for the remaining service life of the packaging or until the special permit is no longer valid. Packagings marked on or after October 1, 2007 must be marked 'DOT-SP 9401'.

n. Shipping papers displaying 'DOT-E 9401' may continue to be used until October 1, 2007, provided the special permit remains valid.



9. MODES OF TRANSPORTATION AUTHORIZED: Motor vehicle, rail freight, cargo vessel (see restriction in paragraph 8.1).

10. MODAL REQUIREMENTS:

A current copy of this special permit must be carried aboard each cargo vessel or motor vehicle used to transport packages covered by this special permit.

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 the 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:

a. The owner of the tanks covered by this special permit must provide to the AAHMS a list of all shippers who have shipped under this special permit and a shipping experience report every six months from the effective date of this special permit. The shipping experience report must contain approximate number of shipments made during the previous six months and any difficulties encountered.

b. The grantees of this special permit must contact the AAHMS immediately after any of the tanks covered by this special permit are sold to another party.

c. Shippers who ship under the terms of this special permit must report any incident involving loss of contents or failure of the tanks described herein to the Associate Administrator for Hazardous Materials Safety as soon as practicable.

Issued in Washington, D.C.:



for Robert A. McGuire  
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](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: sln