

April 25, 2007



U.S. Department  
of Transportation

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

**Pipeline and Hazardous  
Materials Safety Administration**

DOT-SP 8196  
(TWENTY-THIRD 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 non-DOT specification IMO Type 5 portable tanks, each mounted in an ISO frame, containing certain compressed gases in Division 2.1, 2.2 and 2.3 and Class 3 materials. 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 § 173.242, § 173.243, § 173.315(a), and § 178.245 in that alternative packaging is authorized.
5. BASIS: This special permit is based on the application of Dana, Inc., dated March 20, 2007, submitted in accordance with § 107.109.

6. HAZARDOUS MATERIALS (49 CFR § 172.101):

Proper Shipping Name/ Hazardous Materials Description	Hazard Class/ Division	Identi- fication Number	Packing Group
Butadienes, inhibited	2.1	UN1010	N/A
Butane	2.1	UN1011	N/A
Butylene	2.1	UN1012	N/A
Chlorodifluorobromomethane, or Refrigerant gas R 12B1	2.2	UN1974	N/A
1-chloro-1, 1-difluoroethanes or or Refrigerant gas R 142b	2.1	UN2517	N/A
Chlorodifluoromethane or Refrigerant gas, R 22	2.2	UN1018	N/A
Chloropentafluoroethane or Refrigerant gas R 115	2.2	UN1020	N/A
1-Chloro-1,2,2,2- tetrafluoroethane or Refrigerant gas R 124	2.2	UN1021	N/A
1-Chloro-2,2,2-trifluoroethane, or Refrigerant gas R 133a	2.2	UN1983	N/A
Cyclopropane	2.1	UN1027	N/A
1,2-dichloro-1,1,2,2- tetrafluoroethane or Refrigerant gas R 114	2.2	UN1958	N/A
Dichlorodifluoromethane and difluoroethane azeotropic mixture or Regrigerant gas R 500 with approximate 74 percent dichlorodifluoromethane	2.2	UN2602	N/A
Dichlorodifluoromethane or Refrigerant gas R 12	2.2	UN1028	N/A

Proper Shipping Name/ Hazardous Materials Description	Hazard Class/ Division	Identi- fication Number	Packing Group
Dichlorofluoromethane <i>or</i> Refrigerant gas R 21	2.2	UN1029	N/A
1,1-Difluoroethane <i>or</i> Refrigerant gas R 152a	2.1	UN1030	N/A
Dimethyl ether	2.1	UN1033	N/A
Dimethylamine, anhydrous	2.1	UN1032	N/A
Ethylamine	2.1	UN1036	N/A
Ethyl chloride	2.1	UN1037	N/A
Ethylene oxide and chlorotetrafluoroethane mixture <i>with not more than 8.8 percent ethylene oxide</i>	2.2	UN3297	N/A
Hexafluoropropylene, compressed <i>or</i> Refrigerant gas R 1216	2.2	UN1858	N/A
Isobutane	2.1	UN1969	N/A
Isobutylene	2.1	UN1055	N/A
Liquefied gas, n.o.s.	2.3	UN3163	N/A
Liquefied gas, toxic, flammable, <i>Inhalation Hazard Zone B (Trifluorochloroethylene, uninhibited) (Refer to insulation requirement in Section 7.a.13. below)</i>	2.3	UN3160	N/A
Methylamine, anhydrous	2.1	UN1061	N/A
Methyl chloride <i>or</i> Refrigerant gas R 40	2.1	UN1063	N/A
Petroleum gas, liquefied <i>or</i> Liquefied petroleum gas	2.1	UN1075	N/A
Propane	2.1	UN1978	N/A

April 25, 2007

Proper Shipping Name/ Hazardous Materials Description	Hazard Class/ Division	Identi- fication Number	Packing Group
Refrigerant gases, n.o.s.	2.2	UN1078	N/A
1,1,1,2-Tetrafluoroethane, or Refrigerant gas R 134a	2.2	UN3159	N/A
Trifluorochloroethylene inhibited (Refer to insulation requirements in Section 7.a.13. below)	2.3	UN1082	N/A
Trimethylamine, anhydrous	2.1	UN1083	N/A
Vinyl chloride, inhibited, or Vinyl chloride, stabilized	2.1	UN1086	N/A
Vinyl methyl ether, inhibited	2.2	UN1087	N/A
Pentanes	3	UN1265	I and II
Vinylidene chloride, inhibited	3	UN1303	I

7. SAFETY CONTROL MEASURES:

a. PACKAGING - Packaging prescribed is a non-DOT specification portable tank, mounted in an ISO Type 1C frame, designed and constructed in accordance with ANF Industries Model 46.050; ANF drawings 224 886 (General Assembly); 224 877, Rev. F (tank); 244 845 (frame); 224 885 (manhole); however, tanks built after March 15, 1981 must be constructed in accordance with ANF Industries Drawing Number 4.6.05.0.990.0.01 (General Assembly), and technical specifications and calculations on file with OHMSPA, and in accordance with the following specifications:

1. Code--Complies with DOT specification 51 except the tanks are not ASME Code "U" stamped and have bottom outlets; IMO Type 5. Tanks manufactured after March 15, 1981 must be ASME Code "U" Stamped
2. Water Capacity - (U.S. Gallons) 4439
3. Material - French designation A52PR2 or A52FP steel with 74,000 psi tensile strength, 50,800 psi yield strength and 22% elongation.

**April 25, 2007**

- (outside dia.) X (length) X (Thickness)
4. Tank Size (inches) 78.7 233.2 .574 (min.)
- Head Thickness - .543 inch (min.)  
Weld Joint Efficiency - 100%  
Corrosion Allowance - 0.0  
Number of Baffles - 2.
5. Design Pressure (PSIG) - 270
- Note: Design pressure means "maximum allowable working pressure (MAWP)" as used in the ASME Code.
6. Openings - One (1) 23.6 inch diameter opening for the manhole on the head; two (2) - 5.1 inch diameter openings for the pressure relief devices on the top; one (1) - 8.3 inch diameter opening for the liquid phase valve and one (1) - 6.5 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.
7. Tank surface area (square feet) 441.
8. Pressure Relief Devices - Two (2) - 2½ inch diameter spring loaded safety relief valves set to discharge at a pressure between 270 psig and 297 psig and having a minimum total relief device capacity of 1,224,000 SCFH. Each pressure relief device must be marked with a start-to-discharge pressure in psig and a rated relief device capacity in SCFH.
9. G-Loadings: As tested; Vertical down 2.25;  
Vertical up 2; Longitudinal 1; and Transverse 1.
10. Maximum Gross Weight - 67,140 pounds.
11. Maximum Load - 52,350 pounds.
12. Tare Weight - 14,790 pounds (min.)
13. Insulation - Division 2.3 materials must be transported in portable tanks that conform with § 172.102 Special Provision B14 and the insulation

**April 25, 2007**

must be protected by stainless steel cladding. Portable tanks containing Division 2.1 and 2.2 and Class 3 materials may be uninsulated. A sun shield is optional.

14. Design Temperature (°F) -122.

b. 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. Minimum test pressure is 405 psig.
3. Each tank must be pressure tested at least once every 5 years at one and one-half times the design pressure as specified for DOT 51 portable tanks in § 180.605(c).

c. OPERATIONAL CONTROLS -

1. The tank must be filled so as not to be liquid full at 130°F.
2. Maximum permitted filling density (percent by weight) for monochloropentafluoroethane is 110 percent.
3. Each tank must be visually inspected prior to each trip to ensure that it has not been damaged on the previous trip.
4. Each tank must be visually inspected at least once in every 2 1/2 years as specified for DOT 51 portable tanks in § 180.605(c).
5. No product may be shipped that has venting requirements exceeding 1,224,000 SCFH. The venting capacity required for each product must be determined by the flow formulas contained in Compressed Gas Association (CGA) pamphlet S-1.2.

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 changes 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 8196."

d. Transportation of Division 2.1 (flammable gases) and Division 2.3 materials (gases which are poisonous by inhalation) are not authorized aboard cargo vessel unless specifically authorized in the Hazardous Materials Table (§ 172.101).

e. Packages permanently marked 'DOT-E 8196', 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. Packages marked on or after October 1, 2007 must be marked 'DOT-SP 8196'.

f. Shipping papers displaying 'DOT-E 8196' may continue to be used until October 1, 2007, provided the special permit remains valid.

9. MODES OF TRANSPORTATION AUTHORIZED: Motor vehicle, rail freight and cargo vessel (see restriction in paragraph 8.e).

10. MODAL REQUIREMENTS:

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

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

Issued in Washington, D.C.:



for Bob Richard  
Deputy 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: kah