



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

400 Seventh St., S.W.  
Washington, D.C. 20590  
**SEP 3 2003**

DOT-E 8196  
(TWENTY-FIRST REVISION)

EXPIRATION DATE: July 31, 2005

(FOR RENEWAL, SEE 49 CFR § 107.109)

1. GRANTEE: Dana, Inc.  
Avenel, NJ  
(Former Grantee: Eurotainer, S.A., Paris, France  
U.S. Agent: Eurotainer U.S., Inc., New York, NY)

(See Appendix A to this document for a list of additional grantees)

2. PURPOSE AND LIMITATION:

- a. This exemption 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 exemption provides no relief from the Hazardous Materials Regulations (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 § 173.242, § 173.243, § 173.315(a), and § 178.245.
5. BASIS: This exemption is based on the application of Dana, Inc., dated July 29, 2003, 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 Refrigerant gas R 500 with <i>approximate 74 percent</i> <i>dichlorodifluoromethane</i>	2.2	UN2602	N/A
Dichlorodifluoromethane or Refrigerant gas R 12	2.2	UN1028	N/A
Dichlorofluoromethane or Refrigerant gas R 21	2.2	UN1029	N/A
1,1-Difluoroethane or Refrigerant gas R 152a	2.1	UN1030	N/A

Proper Shipping Name/ Hazardous Materials Description	Hazard Class/ Division	Identi- fication Number	Packing Group
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 with not more than 8.8 percent ethylene oxide	2.2	UN3297	N/A
Hexafluoropropylene, compressed or 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</i> (Trifluorochloroethylene, uninhibited) (Refer to insulation requirement in Section 7.a.13. below)	2.3	UN3160	N/A
Methylamine, anhydrous	2.1	UN1061	N/A
Methyl chloride or Refrigerant gas R 40	2.1	UN1063	N/A
Petroleum gas, liquefied or Liquefied petroleum gas	2.1	UN1075	N/A
Propane	2.1	UN1978	N/A
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

Proper Shipping Name/ Hazardous Materials Description	Hazard Class/ Division	Identi- fication Number	Packing Group
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 OHMEA, 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.

- (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 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 exemption who receives a package covered by this exemption 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 exemption and the HMR.

b. A current copy of this exemption 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-E 8196."

d. This exemption also constitutes approval of the Competent Authority of the United States for shipment of the materials identified in Paragraph 3 of this exemption as "SUVA" MP-33, MP-39, MP-52, MP-66, HFC-124 and Chlorotetrafluoroethane pursuant to Section 13.101.3.1 of the General Introduction to the IMDG Code. When the above identified materials are offered for transportation by vessel under this exemption, the shipper must provide the information prescribed in the Appendix to subsection 13.100 for each material and this information must accompany a copy of the exemption to be carried aboard each vessel.

e. 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).

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 exemption must be carried aboard each cargo vessel used to transport packages covered by this exemption.

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 exemption and penalties prescribed by the Federal hazardous materials transportation law, 49 U.S.C. 5101 et seq:

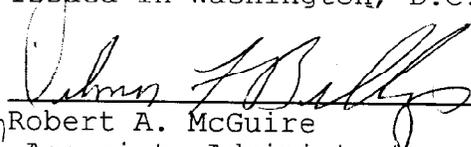
- o All terms and conditions prescribed in this exemption and the Hazardous Materials Regulations, 49 CFR Parts 171-180.
- o Registration required by § 107.601 et seq., when applicable.

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 incidents involving the package and shipments made under the terms of this exemption.

Issued in Washington, D.C.:

  
\_\_\_\_\_  
for Robert A. McGuire  
Associate Administrator  
for Hazardous Materials Safety

**SEP 3 2003**

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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.

**SEP 3 2003**

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: AM

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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	Applica- tion Date	Issue Date	Expiration Date
E.I. Dupont De Nemours & Co., Wilmington, DE	Jul 29, 2003	<b>SEP 3 2003</b>	Jul 31, 2005
Hi-Tech Pharmachem Company, Alhambra, CA	Jul 28, 2003	<b>SEP 3 2003</b>	Jul 31, 2005



Robert A. McGuire  
Associate Administrator for  
Hazardous Materials Safety

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