



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

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

DEC 12 2002

DOT-E 12549
(FIRST REVISION)

EXPIRATION DATE: November 30, 2004

(FOR RENEWAL, SEE 49 CFR § 107.109)

1. GRANTEE: Griro S.A.
Bucharest, Romania
(U.S. Agent: Gold Inspection Service, Inc.,
Kingwood, TX)
2. PURPOSE AND LIMITATIONS:
 - a. This exemption authorizes the manufacture, marking, sale and use of certain DOT Specification 51 steel portable tanks designed and constructed in accordance with Section VIII, Division 2 of the ASME Code instead of Section VIII, Division 1. The portable tanks, mounted in ISO frames, are authorized for the transportation in commerce of Division 2.1 and 2.2 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.
 - c. Party status will not be granted to this exemption.
3. REGULATORY SYSTEM AFFECTED: 49 CFR Parts 106, 107 and 171-180.
4. REGULATIONS FROM WHICH EXEMPTED: 49 CFR § 178.245-1(a) in that tanks are designed, constructed, certified and stamped in accordance with Section VIII, Division 2 of the ASME Code.
5. BASIS: This exemption is based on the application of Griro S.A. dated November 22, 2002, submitted in accordance with § 107.109.

6. HAZARDOUS MATERIALS (49 CFR § 172.101):

Proper Shipping Name/ Hazardous Material Description	Hazard Class/ Division	Identi- fication Number	Packing Group
Division 2.1 and 2.2 materials authorized for DOT Specification 51 portable tanks	2.1 2.2	Various	N/A

7. SAFETY CONTROL MEASURES:

a. PACKAGING - Packagings prescribed are DOT Specification 51 steel portable tanks that are designed, constructed, certified and stamped in accordance with Section VIII, Division 2 of the ASME Code, including the ASME "U2" stamp. Each portable tank must be constructed in accordance with Griro S.A. drawings numbered GR 4810-0 Rev. 2 for Model GR 4810 and GR 4834-0 Rev. 0 for Model GR 4834 and with other drawings, specifications and calculations on file with the Office of Hazardous Materials Exemptions and Approvals (OHMEA) and in compliance with the following provisions:

(1) **Code:** Tanks must comply with DOT Specification 51 in all respects except for the design code. This exemption authorizes the use of Section VIII, Division 2 of the ASME Code along with ASME Code Case 2279, 2261 and 2265 as the design code.

(2) **Shell and Head Material:** SA612-N carbon steel

(3) **Tank Design Criteria:**

MODEL	GR 4810	GR 4834
Water Capacity	22,000 Liters 5,812 Gallons	21,720 Liters 5,738 Gallons
Inside Diameter	2,280 mm 89.76 inches	2,274 mm 89.53 inches
Length	5,854 mm 230.47 inches	5,854 mm 230.47 inches
Min. Shell Thickness	12.3 mm 0.483 inch	15.75 mm 0.62 inch

Min. Head Thickness	12.1 mm 0.476 inch	15.75 mm 0.62 inch
Design Pressure ¹	19.1 bar 277 psig	25.0 bar 362.6 psig
Test Pressure	27.3 bar 396 psig	35.75 bar 518.5 psig
Exposed Surface Area	44.80 m ² 483 ft ²	44.8 m ² 483 ft ²
Pressure Relief Device Setting	21.0 bar 305 psig	27.5 bar 398.9 psig
Relief Device Capacity ²	43,024 m ³ /H 25,320 SCFM	55,728 m ³ /H 32,796 SCFM
Tare Weight	6,500 kgs +/- 2% 14,330 lbs	7,650 kgs 16,865 lbs
Maximum Net Weight	24,500 kgs 55,036 lbs	28,350 kgs 62,501 lbs

NOTES: ¹ Design pressure means "Maximum Allowable Working Pressure" as used in the ASME Code.

² The venting capacity requirement for each material must be determined by the flow formulas contained in the Compressed Gas Association (CGA) Pamphlet S-1.2.

(4) **Openings:** One (1) - 420 mm (16.5 inch) diameter manway; one (1) - 65 mm (2.5 inch) diameter liquid phase opening; one (1) - 65 mm (2.5 inch) diameter gas phase opening; one (1) 13 mm (½ inch) thermometer; and one 13 mm (½ inch) manometer opening on the end; one (1) - 142 mm (5.5 inch) diameter pressure relief device opening on the top.

NOTE: Each bottom outlet valve must be provided with a shear section that meets the requirements of § 178.337-12.

(5) **Pressure Relief Devices:** For each tank design, a spring-loaded pressure relief valve (minimum of 3-inch diameter) set at 110% of the design pressure must be provided. A rupture disc in series with the relief valve is optional. The venting capacity requirement for each material must be determined by the flow

formulas contained in the Compressed Gas Association (CGA) Pamphlet S-1.2.

(6) **G-Loadings:** Vertical down - 2; Vertical up - 2
Longitudinal - 2; Transverse - 2

(7) **Maximum Gross Weight:** 36,000 kg (79,366 lb)

(8) **Design Temperature Range:** -40°C to 55°C (-40°F to 131°F)

(9) **Corrosion Allowance:** 0.0

(10) **Radiography:** 100%

(11) **Design Specific Gravity:** 1.3

(12) **Baffles:** 2

(13) **Insulation:** Sun shield

b. TESTING -

(1) Hydrostatic test certificates for each tank must be maintained by the owner and made available upon request to any representative of the DOT.

(2) Each portable tank must be retested and inspected as specified for DOT Specification 51 portable tanks in § 173.32(e).

c. OPERATIONAL CONTROLS -

(1) The pressure produced by the lading and any gas padding at 50°C may not exceed the design pressure of the portable tank.

(2) Each tank must be visually inspected prior to shipment. Any unsafe condition must be corrected prior to the tank's use.

(3) The tank must be filled in accordance with the requirements specified in § 173.315.

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 the hazardous materials

specified in paragraph 6, only in conformance with the terms of this exemption.

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

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

d. Each packaging manufactured under the authority of this exemption 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 by the Office of Hazardous Materials Exemptions and Approvals for a specific manufacturing facility.

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

f. MARKING -

(1) Each portable tank must be plainly marked on both sides near the middle, in letters and numerals at least two inches high on a contrasting background "DOT-E 12549." Additionally, each portable tank must be marked "Case 2279/2265/2261" on the ASME name plate and on the Manufacturer's Data Report.

(2) Each pressure relief valve must be marked with its set pressure and flow rate in SCFH.

g. A test report documenting a satisfactory ISO prototype test for each tank design must be on file with OHMEA prior to the first shipment.

h. Transportation of Division 2.1 materials (flammable gases) 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.h).
10. MODAL REQUIREMENTS: A current copy of this exemption must be carried aboard each cargo vessel or motor vehicle used to transport packages covered by this exemption.
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, 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 this 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 also inform the AAHMS, in writing, as soon as practicable of any incidents involving the package and shipments made under this exemption.

Issued in Washington, D.C.

Ann Mazzullo

Robert A. McGivie
Associate Administrator for
Hazardous Materials Safety

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(DATE)

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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: PTO/AM