



U.S. Department
of Transportation

**Pipeline and Hazardous
Materials Safety
Administration**

March 04, 2024

1200 New Jersey Avenue, SE
Washington, DC 20590

DOT-SP 20567
(FOURTH REVISION)

EXPIRATION DATE: 2028-01-31

(FOR RENEWAL, SEE 49 CFR 107.109)

1. GRANTEE: Omni Tanker Pty. Ltd.
New South Wales, Australia

US AGENT: North American Transportation Consultants, Inc.
Hightstown, NJ

2. PURPOSE AND LIMITATIONS:

a. This special permit authorizes the manufacture, mark, sale and use of non-DOT specification carbon fiber reinforced plastic (CFRP) cargo tanks, to be used in the assembly of cargo tank motor vehicles conforming to all applicable requirements for DOT specification 407/412 cargo tank motor vehicles, except as specified herein, for the transportation in commerce of the materials authorized by this special permit. 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.

c. In accordance with 49 CFR 107.107(a) party status may not be granted to a manufacturing permit. These packagings may be used in accordance with 49 CFR 173.22a.

3. REGULATORY SYSTEM AFFECTED: 49 CFR Parts 106, 107 and 171- 180.
4. REGULATIONS FROM WHICH EXEMPTED: 49 CFR §§ 107.503(b) and 107.503(c) in that the manufacturer is not required to hold an ASME U stamp or National Board R stamp; § 172.102(c)(3) provision B23 in that the cargo tank is not made of steel; §§ 173.241, 173.242, 173.243, 178.345-1, 178.347-1, and 178.348-1 in that a non-DOT specification cargo tank constructed of carbon fiber reinforced plastic (CFRP) is not authorized, except as specified herein.
5. BASIS: This special permit is based on the application of Omni Tanker Pty. Ltd. dated April 12, 2023, and submitted in accordance with § 107.105 and the public proceeding thereon.
6. HAZARDOUS MATERIALS (49 CFR 172.101):

Hazardous Material Description			
Proper Shipping Name	Hazard Class/ Division	Identification Number	Packing Group
Class 8 material authorized to be transported in a lined DOT 407/412 cargo tank*	8	As appropriate	I, II, or III
Class 3 material authorized to be transported in a lined DOT 407/412 cargo tank*	3	As appropriate	I, II, or III
Class 6.1 material authorized to be transported in a lined DOT 407/412 cargo tank*	6.1	As appropriate	I, II, or III
Class 9 material authorized to be transported in a lined DOT 407/412 cargo tank*	9	As appropriate	I, II, or III

*Hazardous material must be included in the compatibility list submitted and on file with the Office of Hazardous Materials Safety (OHMS)- specific chemical name or generic description as appropriate

7. SAFETY CONTROL MEASURES:a. PACKAGING:

(1) The authorized packagings are non-DOT specification carbon fiber reinforced plastic (CFRP) cargo tank conforming to all regulations applicable to a DOT Specification 412/407, except as specified herein. Each cargo tank must have a maximum allowable working pressure (MAWP) of 40 psig, and a design margin of at least 4.0:1. The total wall thickness must consist of three layers as follows: CFRP layer (6 mm), a cosmetic layer, and a thermoplastic layer. The thermoplastic layer may consist of polyethylene (PE), ethylene tetrafluoroethylene (ETFE), ethylene chlorotrifluoroethylene (ECTFE), fluorinated ethylene propylene (FEP), perfluoroalkoxy alkane (PFA), or polyvinylidene fluoride or polyvinylidene difluoride (PVDF) as appropriate for the materials being transported and stored in the cargo tank. The polyethylene layer must be at least 7 mm, while all other thermoplastic layers must be at least 4.5 mm. The minimum shell thickness displayed on the name plate must correspond to only the CFRP layer of the total wall thickness. Corresponding calculations, design drawings, and specifications for all CFRP cargo tank designs covered under this special permit must be on file with the Office of Hazardous Materials Safety (OHMS). The following designs are authorized:

(i) Cargo tanks with an inner diameter of 92 inches must have a maximum capacity of either 2,774 US water gallons (10.5 kL) or 6,208 US water gallons (23.5 kL), and must be designed and constructed in accordance with OMNI Tanker Pty. Ltd. drawing L4ISO_0000_00-02 Rev. A.1 dated April 19, 2018.

(ii) Cargo tanks with an inner diameter of 62 inches must have a maximum capacity not to exceed 5,700 US water gallons (21,577 L), a maximum internal length not to exceed 462.6 inches (11,750 mm), and be designed and constructed in accordance with OMNI Tanker Pty. Ltd. drawing USCR2_0000_00 Rev. A.2 dated July 14, 2023.

(iii) Cargo tanks with an inner diameter of 67 inches must have a maximum capacity not to exceed 5,500 US water gallons (20,820 L), a maximum internal length not to exceed 384.6 inches (9,769 mm), and be designed and constructed in accordance with OMNI Tanker Pty. Ltd. drawing USCR0_0000_01 Rev. A.2 dated July 14, 2023.

(2) Each cargo tank must be in compliance with §§ 173.241, 173.242, or 173.243 as prescribed in the Hazardous Materials Table (§ 172.101), except as specified herein. In addition, each tank must meet all requirements for a DOT-407

and DOT-412 specification cargo tank motor vehicle (§§ 178.345, 178.347 and 178.348), except as follows:

- (i) §§ 178.345-1, 178.347-1 and 178.348-1: Any references to ASME Code requirements do not apply.
- (ii) §§ 178.345-2 and 3; 178.347-2; and 178.348-2: Type of material, wall thickness and lining requirements do not apply. Tank shell, heads, manway, inner barrier and fittings must be constructed in accordance with the data on file with the OHMS.
- (iii) § 178.345-4: Joint weld requirements do not apply.
- (iv) § 178.345-7: Circumferential reinforcement requirements do not apply.
- (v) § 178.345-10(c): Pressure relief provisions for location do not apply.
- (vi) § 178.345-14: Specification plate and name plate requirements must be appropriately modified to reflect compliance with terms of this special permit. For example:

DOT NAME PLATE
CARGO TANK MANUFACTURED BY
OMNI Tanker Pty. Ltd.
Smeaton Grange, New South Wales
Australia
DOT Reg. # CT-XXXX

CARGO TANK MFR. SERIAL #: _____
SPECIFICATION: DOT 407/412 SP-20567
ORIGINAL TEST DATE: _____
CARGO TANK MAWP: 40 (psig)
CARGO TANK TEST PRESSURE: 60 (psig)
CARGO TANK DESIGN TEMP. RANGE: -°F to °F
NOMINAL WATER CAPACITY: _____
MAXIMUM LADING DENSITY: _____
SHELL MATERIAL: CFRP
MINIMUM SHELL THICKNESS: _____
HEAD MATERIAL: CFRP
MINIMUM HEAD THICKNESS: _____
EXPOSED SURFACE AREA: _____

CARGO TANK PRESSURE VESSEL CONSTRUCTED IN ACCORDANCE WITH DOT SP-20567

SPECIFICATION: DOT 407/412 SP-20567

CARGO TANK MOTOR VEHICLE CERTIFICATION DATE: _____

CARGO TANK MFR.: _____

CARGO TANK DATE OF MFG: _____

CARGO TANK MFR. SERIAL #: _____

CARGO TANK MOTOR VEHICLE MFR. VIN: _____

MAXIMUM PAYLOAD: _____

MAXIMUM LOADING RATE: _____

MAXIMUM UNLOADING RATE: _____

(ix) § 180.413: Any modification must be authorized in writing by OHMS. The cargo tank manufacturer must be notified and authorize any repairs to the pressure vessel including inner barrier. Repairs that effect the structural integrity of the cargo tank design that involve replacement of structural layers shall be considered “structural” and must be performed by the manufacturer of the cargo tank. If total “structural” repair area is less than 2 square feet in total area the repair may be performed by an authorized service center approved by the manufacturer following written procedures provided by the cargo tank manufacturer.

(1) The CFRP cargo tank motor vehicle shall meet all requirements for DOT 407/412 CTMVs except that references to the ASME Code do not apply. Qualification and maintenance shall meet all requirements for DOT 407/412 CTMVs in Subpart E of Part 180.

(2) Initial qualification testing must be in accordance with § 180.405, except that any references to ASME Code requirements do not apply.

(3) Periodic requalification must include a hydrostatic test and an annual inspection of the inner barrier. In addition to those items required to be examined by the visual inspections specified in § 180.407(d) and (e), the visual inspections must include detection of cracks, gouges, debonding or delamination of any layers, and inner barrier deterioration. Any cracks or contamination that are beyond the inner barrier and extend into the structural layers will be considered to require structural repairs. Inner barrier deterioration that includes significant “fiber bloom” or exposed carbon fibers subject to chemical attack below the surface layers will be cause for repair. Inner barriers on any cargo tanks that are manufactured with conductivity should be spark tested according to the manufacturer requirements.

c. OPERATIONAL CONTROLS: The compatibility of commodities and the CFRP cargo tank must be based on the compatibility list submitted and on file with the Office of Hazardous Materials Safety (OHMS). Test reports must be maintained by the owner or manufacturer for as long as the cargo tank remains in active operation.

d. The grantee must provide fundamental direction and guidance for mounting the cargo tank, to be used for the assembly of the cargo tank motor vehicle. Guidance provided must satisfy the requirements of §§ 178.345-6(a) and 180.413(e)(2).

e. The grantee may not utilize a new entity to manufacture the CFRP cargo tanks unless acknowledged in writing by OHMS. Persons manufacturing the CFRP cargo tanks may be inspected by PHMSA or other government agencies to verify their capability to perform their manufacturing functions authorized under the terms of the special permit.

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.

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

- d. 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 by the Office of Hazardous Materials Safety for a specific manufacturing facility.
- e. A current copy of this special permit must be maintained at each facility where the packaging is manufactured under this special permit. It must be made available to a DOT representative upon request.
9. MODES OF TRANSPORTATION AUTHORIZED: Motor vehicle.
10. MODAL REQUIREMENTS: A current copy of this special permit must be carried aboard each 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 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.:

A handwritten signature in blue ink, appearing to read "W. Schoonover", is written over a horizontal line.

for William Schoonover
Associate Administrator for Hazardous Materials Safety

Address all inquiries to: Associate Administrator for Hazardous Materials Safety, Pipeline and Hazardous Materials Safety Administration, U.S. Department of Transportation, East Building PHH-13, 1200 New Jersey Avenue, Southeast, Washington, D.C. 20590.

Copies of this special permit may be obtained by accessing the Hazardous Materials Safety Homepage at <https://www.phmsa.dot.gov/approvals-and-permits/hazmat/special-permits-search>. Photo reproductions and legible reductions of this special permit are permitted. Any alteration of this special permit is prohibited.

PO: ae