



U.S. Department
of Transportation

**Pipeline and Hazardous
Materials Safety
Administration**

May 16, 2023

1200 New Jersey Avenue, SE
Washington, DC 20590

DOT-SP 20588
(FIFTH REVISION)

EXPIRATION DATE: 2027-04-30

(FOR RENEWAL, SEE 49 CFR 107.109)

1. GRANTEE: Nantong Tank Container Co. Ltd.
Jiangsu, China

US AGENT: Chlorine Service Co.
Houston, TX

2. PURPOSE AND LIMITATIONS:

a. This special permit authorizes the manufacture, marking, sale, and use of certain UN T-50 portable tanks designed, constructed, certified and stamped in accordance with Section VIII, Division 2 of the ASME Code (2019 Edition) instead of Section VIII, Division 1. The portable tanks, mounted in ISO frames, are authorized for the transportation in commerce of the materials described herein. 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 §§ 178.274(b)(1) and 178.276(b)(1) in that the tanks are designed, constructed, certified and stamped in accordance with Section VIII, Division 2 of the ASME Code; and § 178.276(a)(2) in that a design reference temperature less than 55°C is authorized as specified herein.
5. BASIS: This special permit is based on the application of Nantong Tank Container Co. Ltd. dated May 5, 2023, submitted in accordance with § 107.109.
6. HAZARDOUS MATERIALS (49 CFR 172.101):

Hazardous Materials Description			
Proper Shipping Name	Hazard Class/ Division	Identification Number	Packing Group
Division 2.1 and 2.2 materials authorized in UN portable tanks (see PORTABLE TANK CODE T50).	2.1 or 2.2	As appropriate	N/A
Ammonia, anhydrous	2.3	UN1005	N/A

7. SAFETY CONTROL MEASURES:

a. **PACKAGING**: Packagings prescribed are UN portable tanks conforming to the requirements of § 172.102(c)(7) PORTABLE TANK CODE T50, which are designed, constructed, certified, and stamped “Class 2” and “U2” in accordance with Section VIII, Division 2 of the ASME Code (2019 Edition). Each portable tank must be constructed in accordance with the manufacturer’s drawings, specifications, and calculations on file with the Office of Hazardous Materials Safety (OHMS) and in compliance with the following requirements:

(1) **Code**: Tanks must conform to all the requirements for UN portable tanks in §§ 178.274, 178.276, and with PORTABLE TANK CODE T50 in all respects except for the design code and design reference temperature. This special permit authorizes the use of Section VIII, Div. 2 of the ASME Code (2019 Edition), Code Case 2624-1, and Code Case 2594-2 as the design code. The design margin must be 3.0:1.

(2) **Design pressure**: The design pressure must not be less than the vapor pressure of the lading, including any gas padding, at a design reference temperature of 46.1°C (115°F).

(3) **Material:** Any permitted by Section VIII, Div. 2 or by Code Case 2594-2.

(4) **Tank capacity and pressure:** The following range of designs is authorized:

Design pressure (<i>see Note 1</i>)	150 psig (10.35 bar) min.; 455 psig (31.4 bar) max.
Water capacity	4624 USWG (17,500 liters) min.; 6869 USWG (26,000 liters) max.

Note 1: The design pressure means the “Maximum Allowable Working Pressure” as used in the ASME Code.

(5) **Maximum Gross Weight:** 36,000 kg (79,366 lbs.)

(6) **Design Temperature Range:** -40/55°C (-40/131°F).

(7) **G-Loadings:** Vertical down – 2; Vertical up – 2; Longitudinal – 2; Transverse – 2.

(8) **Insulation:** None. However, each tank must be provided with a sunshield.

(9) **Baffles:** Optional.

(10) **External Design Pressure:** Full vacuum

(11) **Test Pressure:** 1.3 times design pressure

(12) **Service equipment*:**

(i) Liquid line: internal stop/excess flow valve** + external ball valve + blind flange and/or 3¼” screwed ACME cap;

(ii) Vapor line: internal stop/excess flow valve** + external ball valve + blind flange and/or 1¾” screwed ACME cap;

(iii) Pressure gauge: 0 – 60 bar pressure gauge with isolation valve; and

(iv) Temperature gauge: - 60 to 100 °C gauge with no connection to pressure.

* all service equipment located within valve cabinet at rear or side of tank.

** internal valve machined with shear section and operated with remote cable tripped mechanically and thermally.

(13) **NDE:** Butt welds must be 100% tested RT (radiographically); all fillet welds must be MT (magnetic particle) or PT (liquid penetrant).

(14) **Pressure Relief Device:** Fort Vale 015/2XXX5F 3" flanged pressure relief valve set at 100% design pressure at 55 °C, preceded by an optional rupture disc (set at 10% above the start-to-discharge pressure of the reclosable pressure relief device).

b. TESTING:

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

(2) A test report documenting a satisfactory ISO prototype test for each tank design must be on file with OHMSAPD prior to the first shipment.

(3) Each tank must be inspected, retested, and repaired as specified in § 180.605 for UN portable tanks. Repair or alteration of any tank may only be performed by a repair facility holding a valid National Board Certificate of Authorization for use of the National Board "R" stamp, and must be made in accordance with the edition of the National Board Inspection Code in effect at the time the work is performed.

c. OPERATIONAL CONTROLS:

(1) The pressure produced by the lading and any gas padding at 46.1°C (115°F) may not exceed the design pressure of the portable tank.

(2) Each portable tank must be filled by weight in accordance with § 173.315.

(3) Each tank must be visually inspected prior to each shipment to ensure that it has not been damaged during loading. Any unsafe condition must be corrected prior to the tank's use.

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 package covered by this special permit, may reoffer it for transportation provided no modification or change is made to the package 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 OHMS for a specific manufacturing facility in accordance with 49 CFR 107.705.
- e. A current copy of this special permit must be maintained at each facility where the package is manufactured under this special permit. It must be made available to a DOT representative upon request.
- f. In addition to markings specified in § 178.274(i), 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-SP 20588". Additionally, each tank must be marked with the applicable Code Case on the name plate and on the Manufacturer's Data Report.
- g. Each pressure relief valve must be marked with its set pressure and flow rate in SCFH.
- h. The following documentation must be submitted to and acknowledged in writing by OHMS prior to the first shipment in any portable tank design:
 - (1) Design drawings and/or calculations for each new revision or new portable tank design.
 - (2) ASME certificate of accreditation indicating a current/valid ASME "U2" stamp.
 - (3) Fatigue analysis is required. The FEA must be in accordance with:
 - (i) RPE-stamped User Design Specification/ Manufacturer's Design Report (ref. Annex 2-A / Annex 2-B of Section VIII-Div. 2 of the ASME Code);
 - (ii) Fatigue analysis for each tank design must be in accordance with Part 5 of Section VIII, Division 2 of the ASME Code.

(4) The designated approval agency must verify compliance with all requirements of § 178.274, § 178.276 and PORTABLE TANK CODE T50 as modified by this special permit.

(5) Except as modified herein the manufacturer and the Designated Approval Agency must meet the requirements of § 173.273.

i. 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.

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 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 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