

March 13, 2019



U.S. Department  
of Transportation

East Building, PHH-30  
1200 New Jersey Avenue S.E.  
Washington, D.C. 20590

**Pipeline and Hazardous  
Materials Safety Administration**

DOT-SP 11808  
(TWELFTH REVISION)

**EXPIRATION DATE: 2023-02-28**

(FOR RENEWAL, SEE 49 CFR § 107.109)

1. GRANTEE: Arcosa Industries de México S.  
de R.L de C.V.  
Mexico City, Mexico  
  
US Agent: Arcosa Tank, LLC  
Dallas, TX
2. PURPOSE AND LIMITATIONS:
  - a. This special permit authorizes the manufacture, mark, sale and use of non-DOT specification cylinders (pressure vessels) for the transportation in commerce of chlorine subject to the limitations and special requirements specified 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.
  - 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 §§ 173.3 and 173.314 in that a non-DOT specification pressure vessel is not authorized, except as specified herein.

5. BASIS: This special permit is based on the application of Arcosa Industries de México S. de R.L de C.V. dated November 28, 2018, submitted in accordance with § 107.109.
6. HAZARDOUS MATERIALS (49 CFR § 172.101):

<b>Hazardous Materials Description</b>			
<b>Proper Shipping Name</b>	<b>Hazard Class/ Division</b>	<b>Identification Number</b>	<b>Packing Group</b>
Chlorine	2.3	UN1017	N/A

7. SAFETY CONTROL MEASURES:

a. PACKAGING: Packaging prescribed is a non-DOT specification pressure vessel in conformance with Trinity Industries drawing number S-66071 except as modified by the terms of this special permit and meeting the following requirements:

(1) Pressure vessels must be manufactured using equipment and processes adequate to ensure that each cylinder produced conforms to the requirements of this special permit. Pressure vessels must be cylindrical, circular in cross section, of welded steel with electric-arc welded longitudinal seam. The pressure vessel must have: an outside diameter (nominal) of 76.2 cm (30 inches), an overall length (nominal) of 188 cm (74 inches) and a bursting pressure not less than 86.18 Bar (1,250 psi).

(2) Material of construction must comply with § 179.300-7.

(3) The minimum thickness after forming of the body shells must be 11.11 mm (0.4375 inch) or the thickness required in § 179.300-6(a) whichever is greater. The welded joint efficiency for these pressure vessels is 1.0.

(4) Tank heads must be formed concave to pressure and must be fusion-welded to the tank shell. Heads must be an ellipsoid of revolution 2:1 ratio of major to minor axis. They must be one piece, hot formed in one heat

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so as to provide a straight flange of a length sufficient for the fusion-welding of the head to body shell. The minimum thickness after forming of the heads must be 15.24 mm (0.600 inch) or the thickness required in § 179.300-8(a), whichever is greater.

(5) All welding procedures and post-weld heat treatment procedures used to fabricate pressure vessels under this special permit must be in compliance with Appendix W of the Association of American Railroads Manual of Standards and Recommended Practices, Specifications for Tank Cars (Appendix W). Heat treatment must be accomplished after all forming and welding operations.

(6) Tank fittings must be protected as provided in § 179.300-12.

(7) Valves for venting, loading and unloading must comply with requirements of § 179.300-13 except that threaded connections directly to the head are required.

(8) Attachments must be in compliance with § 179.300-14.

(9) Safety relief devices must meet the requirements of § 179.300-15.

(10) Welding procedures and operators must be qualified in accordance with Appendix W.

b. TESTING:

(1) Design Qualification:

(i) Upon initiation of production, production on new tooling, modification of the production process or change in the design, one pressure vessel taken at random from the first 10 finished vessels must be hydrostatically pressurized to the minimum burst pressure (86.18 Bar, 1,250 psi) without rupture or leakage.

(ii) One pressure vessel, taken at random from the first 10 finished vessels, must have tensile tests performed on specimens taken from each head, the body section and across the body seam. Two weld bend specimens must be taken from the body

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seam. All specimens are to be prepared and tested as provided in Appendix W, with one weld bend specimen being a root bend and the second being a face bend. Tensile values and elongation values must not be less than that specified in § 179.300-7. Bend specimens must show no evidence of cracking.

(2) Production Testing:

(i) One pressure vessel from each lot of 200 consecutively produced must be tested to the minimum burst pressure without rupture or leakage. Additionally, when production has been suspended for more than 30 days, one pressure vessel taken at random from the first 10 finished vessels must be tested to the minimum burst pressure without rupture or leakage. All other pressure vessels must be hydrostatically tested to a test pressure of 34.47 Bar (500 psi) in a water-jacket, or other suitable method, operated so as to obtain accurate data. Alternate methods of testing must be approved in writing by the Associate Administrator for Hazardous Materials Safety. The pressure gauge must permit readings to an accuracy of 1 percent. The expansion gauge must permit readings of total volumetric expansion to an accuracy either of 1 percent or 0.1 cubic centimeter.

(A) Pressure must be maintained at test pressure for at least 30 seconds and sufficiently longer to ensure complete expansion. Any internal pressure applied after heat treatment and prior to the official test may not exceed 90 percent of the test pressure.

(B) Permanent volumetric expansion may not exceed 10 percent of the total volumetric expansion at test pressure.

(ii) The longitudinal shell joints and head to body shell girth joints must be 100% radiographed on each pressure vessel. Radiographic records for each vessel must be maintained by the manufacturer for 15 years after the date of manufacture.

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(iii) Safety relief devices must meet the requirements of § 179.300-15 except that only fusible plugs are authorized.

(iv) Tensile tests and check analysis must be performed on each heat of material before it may be released for production.

(3) Periodic retest and inspection: Each pressure vessel must be retested and inspected in accordance with § 180.519 as specified for DOT 110A500W.

c. MANUFACTURE: The manufacturer of pressure vessels under this special permit must secure an approval in accordance with the provisions of 49 CFR Part 107, Subpart H that apply. Each facility located outside the United States where pressure vessels are to be manufactured or where any part of the manufacture is to take place under this special permit must secure an authorization under § 107.807(a) in addition to the applicable requirements of 49 CFR Part 107, Subpart H.

d. INSPECTION: Compliance with the requirements of § 178.35 and § 107.803, which are not specifically addressed or excepted in this special permit, is required. In addition to the information required by § 178.35, the inspector's report must include information required in § 179.300-20.

e. OPERATIONAL CONTROLS: Pressure vessel design must allow application of the Chlorine Institute's Emergency Kit "B".

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 modifications or changes are made to the package and it is offered for transportation in conformance with this special permit and the HMR.

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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 marked with a registration symbol designated by the Office of Hazardous Materials Safety Approvals and Permits Division for a specific manufacturing facility.

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. Pressure vessels manufactured under this special permit must be in conformance with Trinity Industries drawing number S-66071 except that whenever a provision of this special permit is in conflict with the drawing, the grantee must comply with the conditions of this special permit and make appropriate revisions to the drawing. Revisions to drawings must be prepared by the manufacturer and be requested by the Independent Inspector (IIA) of record. Later drawings and revisions are considered a part of this special permit when requested by the IIA and approved in writing under the provisions of § 107.803.

g. MARKING: Each pressure vessel must be marked by stamping permanently and plainly in letters and figures at least 9.525 mm (3/8 inch) high into the metal of valve end chime as follows:

DOT-SP 11808/34.47 Bar  
A285C/WC XXXXXX  
M9301/Serial No.  
IA11/Test Date

Note: Variations to the required marking must be approved in writing by the Associate Administrator for Hazardous Materials Safety.

9. MODES OF TRANSPORTATION AUTHORIZED: Motor vehicle and rail freight.

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, 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 the 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

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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, 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)  
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PO: KFW/NICKS