

August 24, 2015



U.S. Department
of Transportation

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

**Pipeline and Hazardous
Materials Safety Administration**

DOT-SP 11494
(FOURTEENTH REVISION)

EXPIRATION DATE: December 31, 2017

(FOR RENEWAL, SEE 49 CFR 107.109)

1. GRANTEE: ARC Automotive, Inc.
Knoxville, TN
2. PURPOSE AND LIMITATION:
 - a. This special permit authorizes the manufacture, marking, sale and use of non-DOT specification pressure vessels for use as components of automobile vehicle safety systems (such as airbag inflators). 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. FIVE-YEAR TRANSPORTATION AUTHORIZATION: This special permit authorizes transportation of the pressure vessels identified herein for up to five years from the date of manufacture. This limitation does not apply to non-specification pressure vessels when installed in a safety device. This special permit provides no certification of safety for end use environments and life cycles.
 - c. SPECIAL PERMIT SCOPE LIMITATIONS: This special permit only applies to a package when it is an article of commerce in transportation. 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, incorporation as a component of a vehicle or other device, or other uses not associated with transportation in commerce.

3. REGULATORY SYSTEM AFFECTED: 49 CFR Parts 106, 107 and 171-180.
4. REGULATIONS FROM WHICH EXEMPTED: 49 CFR §§ 173.301(h) and 173.302a in that non-DOT specification cylinders are not authorized, except as specified herein.
5. BASIS: This special permit is based on the application of the ARC Automotive, Inc. dated January 9, 2014, submitted in accordance with § 107.109, and additional information submitted June 18, 2015.
6. HAZARDOUS MATERIALS (49 CFR 172.101):

Hazardous Materials Description			
Proper Shipping Name	Hazard Class/ Division	Identification Number	Packing Group
Argon, compressed	2.2	UN1006	N/A
Safety Devices, <i>electronically initiated</i>	9	UN3268	N/A

Note: A vehicle safety system or component which contains a quantity of pyrotechnic materials must be classed and approved as provided for in § 173.56 of the Hazardous Materials Regulations (HMR). If the pyrotechnic material augments the volume of the gas in the pressure vessel, or in any way enhances the performance of the compressed gas, the device must be tested in the same configuration as when shipped.

7. SAFETY CONTROL MEASURES: Prescribed packaging is a non-DOT specification pressure vessel meeting the following requirements:

- a. PACKAGING:

- (1) The maximum service pressure at 70° F may not exceed 5000 PSIG. The minimum test pressure is the pressure of the contents at 200° F. The rated service pressure may not exceed 80 percent of the test pressure and the water volume of each pressure vessel may not exceed one liter. The term "pressure of contents" as

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used in this special permit means the total pressure of all the materials to be shipped in the cylinder.

(2) Material of construction must conform to all requirements of § 178.65(b) except that aluminum is limited to 6061 alloy of T6 temper.

(3) Manufacturing requirements must conform to all requirements of § 178.65(c).

(4) The minimum wall thickness must be such that the wall stress meets the requirements of § 178.65(d).

(5) Openings and attachments must conform to all requirements of § 178.65(e).

(6) Each pressure vessel must be equipped with a pressure relief device designed to meet all the requirements for a rupture disk prescribed in the Compressed Gas Association (CGA) Pamphlet S-1.1. The pressure relief device must be capable of preventing rupture of the pressure vessel when subjected to a fire test conducted in accordance with CGA Pamphlet C-14.

(7) Pressure vessels, components, and vehicle safety systems must be transported in strong outside packaging in accordance with § 173.301(a)(9).

b. TESTING:

(1) Each pressure vessel must be tested as required in § 178.65(f) except that:

(i) The hold time at test pressure may be limited to that which is adequate to ensure compliance with the requirements contained in § 178.65(f)(1) subparagraphs (i) and (ii).

(ii) The requirement in § 178.65(f)(2)(iii) on the failure location does not apply to toroidal pressure vessels. Toroidal pressure vessels must not fail in the structural weld of the hemispheres that make up the device and the failure must occur at a gauge pressure of at least 4 times the service pressure.

(2) The flattening test specified in § 178.65(g) is not required.

- (3) A representative vehicle safety system, packaged as it would be for shipment, must be activated and no materials other than non-toxic, non-flammable vapors or gases may be expelled from the package.

8. SPECIAL PROVISIONS:

- a. This special permit is limited to pressure vessels used as components of a vehicle safety system. The pressure vessels are excepted from the requirements of the HMR, Part 178 when the design has been certified by an Independent Inspection Agency approved under § 107.803 as having met all the requirements of this special permit.
- b. The Independent Inspection Agency's design certification must include test results and documents related to explosive classification and approval. A copy of the certification must be maintained at each facility where the vehicle safety system is manufactured and by the Independent Inspection Agency for a period of 15 years from the date of completion of the design certification.
- c. ARC Automotive Products Group must comply with all provisions of this special permit, and all other applicable requirements contained in the HMR, Parts 171-177. No modifications may be made to the pressure vessel, pyrotechnic components or production vehicle safety system which would affect the performance of the vehicle safety system or its compliance with the requirements of this special permit until such modifications have been reviewed, tested and certified by an Independent Inspector as meeting the requirements of this special permit.
- d. Devices utilizing the non-DOT specification pressure vessel authorized herein are exempt from the requirements of 49 CFR Parts 171-180 when installed in a motor vehicle or in completed vehicle components such as steering columns or door panels.
- e. Pressure vessels or vehicle safety systems conforming to the special permit are authorized to be shipped pursuant to Packing Instruction 917 of the International Civil Aviation Organization's Technical Instructions for the Safe Transport of Dangerous Goods by Air (ICAO TI).

f. 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.

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

h. 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.

i. Each packaging manufactured under the authority of this special permit must be 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 Special Permits and Approvals for a specific manufacturing facility.

j. 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.

k. MARKING:

Each pressure vessel must be durably marked as follows:

DOT SP-11494/5000¹
lot No. xxxxx²
Manufacturer's Symbol
This Pressure Vessel May Not Be Refilled

¹ Where 5000 represents the design service pressure.

² Where xxxxx is the lot number as appropriate.

Note: Each line of these markings may be placed without regard to location or order on the pressure vessel.

9. MODES OF TRANSPORTATION AUTHORIZED: Motor vehicle, rail freight, cargo vessel, passenger-carrying aircraft (may not exceed the quantity limitation specified in § 172.101, Column (9A)), and cargo aircraft only.
10. MODAL REQUIREMENTS: A current copy of this special permit must be carried aboard each cargo vessel and aircraft used to transport the packages covered by this special permit. The shipper must furnish a current copy of this special permit to the air carrier before or at the time the shipment is tendered.
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

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"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 Dr. Magdy El-Sibaie
Associate Administrator for Hazardous Materials Safety

Address all inquiries to: Associate Administrator for Hazardous Materials Safety, Pipeline and Hazardous Material Safety Administration, U.S. Department of Transportation, East Building PHH-30, 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 http://hazmat.dot.gov/sp_app/special_permits/spec_perm_index.htm Photo reproductions and legible reductions of this special permit are permitted. Any alteration of this special permit is prohibited.

PO: CWFreeman/TG