

November 28, 2017



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 20481

EXPIRATION DATE: 2019-10-31

(FOR RENEWAL, SEE 49 CFR 107.109)

1. GRANTEE: Advanced Green Innovations, LLC
Chandler, AZ
2. PURPOSE AND LIMITATIONS:
 - a. This special permit authorizes the manufacture, mark, sale and use of non-DOT specification pressure vessels for the transportation of certain Division 4.2 materials. 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 §§ 173.212 and 173.187 in that non-DOT specification pressure vessels are authorized as non-bulk packagings.

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5. BASIS: This special permit is based on the application of Advanced Green Innovations, LLC dated June 7, 2017, 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
Self-heating solid, inorganic, n.o.s.	4.2	UN3190	II
Metal catalyst, dry	4.2	UN2881	II

7. SAFETY CONTROL MEASURES:

a. PACKAGING - The Division 4.2 material is contained within non-DOT specification stainless steel pressure vessels that are designed, constructed, tested, and stamped in accordance with Section VIII Division 1 of the ASME Boiler and Pressure Vessel Code. The pressure vessels (identified as Part Number 10016805 Rev. Z05, Part Number 10017079 Rev. Z05, Part Number 10022954 Rev. Z02, and Part Number 10022825 Rev. Z02) will be transported with a nitrogen blanket not exceeding 10 psig. The maximum allowable working pressure (MAWP) of each pressure vessel is 50 psig. The pressure vessels must be transported using one of the following configuration:

- (1) The pressure vessels and associated components must be bolted and secured to a welded steel frame in the upright position in accordance with configurations on file with the Office of Hazardous Materials Safety Approvals and Permits Division (OHMSAPD) submitted by Advanced Green Innovations (AGI). All caps and ports of each pressure vessel must be capped/closed and torqued in accordance with AGI GP-30024, submitted by AGI and on file with OHMSAPD. Maximum of one (1) assembly containing two (2) pressure vessels to be transported per container with a total amount of hazardous material, to be entirely UN3190 or entirely UN2881, not to exceed 785 pounds; or

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(2) The pressure vessels and associated components must be chained or strapped down horizontally either on a flat-bed truck, box truck, rail flat-bed, or rail box car to ensure safe transport. All caps and ports of each pressure vessel must be capped/closed and torqued in accordance with AGI GP-30024, submitted by AGI and on file with OHMSAPD. Maximum of four (4) pressure vessels to be transported per shipment with a total amount of hazardous material, to be entirely UN3190 or entirely UN2881, not to exceed 1,570 pounds.

b. TESTING - All pressure vessels must be:

(1) Pressure tested in accordance with ASME Section VIII Division 1 to 78 psig prior to initial shipment, and prior to any subsequent shipment if five (5) or more years have passed since last pressure test.

(2) Leak tested prior to initial shipment, after on-site installation, and prior to any subsequent shipment in accordance with AGI GP-52024, submitted by AGI and on file with OHMSAPD.

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

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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 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, 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. The shipper must furnish a copy of this special permit to the freight 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, 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.

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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-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: AE/VC