



U.S. Department
of Transportation

**Pipeline and Hazardous
Materials Safety
Administration**

May 25, 2023

1200 New Jersey Avenue, SE
Washington, DC 20590

DOT-SP 14424
(ELEVENTH REVISION)

EXPIRATION DATE: 2027-04-30

(FOR RENEWAL, SEE 49 CFR 107.109)

1. GRANTEE: Chart, Inc.
Ball Ground, GA
2. PURPOSE AND LIMITATIONS:
 - a. This special permit authorizes the manufacture, mark, sale, and use of a DOT Specification 4L cylinder containing certain Class 2.2 refrigerated liquids, which may be filled and discharged without removal from the motor vehicle. 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 § 172.301(c) in that each package must be marked with the special permit number and § 177.834(h) in that a DOT Specification 4L cylinder may not be filled or discharged without being removed from the motor vehicle, except as provided herein.

Tracking Number: 2023045246

5. BASIS: This special permit is based on the application of Chart, Inc., dated April 26, 2023, submitted in accordance with § 107.109.
6. HAZARDOUS MATERIALS (49 CFR § 172.101):

Hazardous Material Description			
Proper Shipping Name	Hazard Class/ Division	Identification Number	Packing Group
Argon, refrigerated liquid, (<i>cryogenic liquid</i>)	2.2	UN1951	N/A
Carbon dioxide, refrigerated liquid	2.2	UN2187	N/A
Nitrogen, refrigerated liquid (<i>cryogenic liquid</i>)	2.2	UN1977	N/A
Oxygen, refrigerated liquid (<i>cryogenic liquid</i>)	2.2	UN1073	N/A

7. SAFETY CONTROL MEASURES:

a. PACKAGING: Prescribed packaging consists of up to two vacuum insulated DOT Specification 4L (§ 178.57) welded cylinders, each of which has a service pressure of 350 psig. The cylinders are securely attached in an upright position to a steel frame enclosure, which is then secured to a motor vehicle. The steel frame enclosure must be as shown in Chart Inc.'s Drawing # D-13375338 or # D-21288978, on file with the Office of Hazardous Materials Safety (OHMS). In addition:

- (1) Each cylinder must conform with Chart Industries Drawing # D-13394281 or # D-21218917 on file with the OHMS and in compliance with all requirements of the HMR (including, but not limited to design service temperatures, pressure relief devices, and filling limits) applicable to the materials list in the Hazardous Materials Table.
- (2) Each cylinder must be protected with at least one safety relief valve and at least one frangible disc complying with §§ 173.301(f) and 173.304a(e)(2). The relieving capacity of the safety devices must be in accordance with CGA Pamphlet S-1.1 on a bare tank basis, or with the insulation space saturated with gaseous lading at atmospheric pressure.

b. OPERATIONAL CONTROLS:

(1) The Safety Relief Valve has a start-to-open pressure of 350 psig. The maximum permitted filling densities that correspond to this pressure setting are as follows:

<u>Hazardous Material</u>	<u>Percent Filling Density</u>
Carbon dioxide	97.3
Nitrogen	65.5
Argon	113.3
Oxygen	93.5

(2) The temperature of the carbon dioxide at the time of loading must not exceed 0 °F (291 psig). The maximum travel time is not to exceed 120 hours.

(3) Total delivery time during loading or unloading must not exceed one hour.

(4) The skids must be secured to the motor vehicle in accordance with 49 CFR §§ 393.100 through 393.106.

(5) The filling (or discharge) hose may be transported containing product subject to the following conditions:

(i) The hose is enclosed in a housing that must provide mechanical protection to the hose in the event of collision or overturn of the vehicle. The housing must be locked during transportation.

(ii) The driver must have been instructed as to necessary safeguards and proper procedures for operating the system.

(iii) The hose is protected by a pressure relief valve set-to-discharge at 400 psig.

(iv) The burst pressure of the hose must be at least four times the service pressure.

(6) The delivery hose must be relieved of pressure during transportation.

(7) All discharge valves on the DOT Specification 4L cylinders must be closed during transportation.

(8) Each motor vehicle transporting a package covered by this special permit must be attended at all times during loading and unloading operations by a qualified person. For the purposes of this requirement, “attended” and “qualified” have the meanings described in § 177.834(i)(3) and (4), respectively.

(9) In accordance with 49 CFR § 173.320, the CGA-341 delivery vessel, as shown in Drawing # D-FNL, is excepted from the requirements of the HMR if it is insulated and the internal pressure is lower than 22 psig during transportation.

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 who 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 reoffered 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. The marking requirements specified in § 172.301 (c) are waived for the cylinders; however, each frame assembly must be plainly and durably marked in locations readily visible from each side of the vehicle, in letters at least two inches high on a contrasting background “DOT-SP 14424”.

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.:



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: Jephthah Nti