



U.S. Department
of Transportation

**Pipeline and Hazardous
Materials Safety
Administration**

July 13, 2023

1200 New Jersey Avenue, SE
Washington, DC 20590

DOT-SP 21012
(FIFTH REVISION)

EXPIRATION DATE: 2027-06-30

(FOR RENEWAL, SEE 49 CFR § 107.109)

1. GRANTEE: Linde Gas & Equipment Inc.
Danbury, CT
2. PURPOSE AND LIMITATION:
 - a. This special permit authorizes the transportation in commerce of certain DOT Specification 3AA cylinders containing Division 2.2 gases that have been tested every 15 years. 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 the development of this special permit only considered the hazards and risks associated with the transportation in commerce.
 - c. No party status will be granted to this special permit.
3. REGULATORY SYSTEM AFFECTED: 49 CFR Parts 106, 107 and 171-180.
4. REGULATIONS FROM WHICH EXEMPTED: 49 CFR §§ 172.203(a) and 172.301(c) in that marking the special permit number is not required and § 180.209 in that a retest frequency greater than 10 years is authorized for DOT Specification 3AA cylinders.
5. BASIS: This special permit is based on the application of Linde Gas & Equipment Inc. dated June 29, 2023, submitted in accordance with § 107.109.

Tracking Number: 2023065218

6. HAZARDOUS MATERIALS (49 CFR § 172.101):

Hazardous Materials Description			
Proper Shipping Name	Hazard Class/ Division	Identification Number	Packing Group
Air, compressed	2.2	UN1002	N/A
Argon, <i>compressed</i>	2.2	UN1006	N/A
Helium, compressed	2.2	UN1046	N/A
Krypton, compressed	2.2	UN1056	N/A
Neon, compressed	2.2	UN1065	N/A
Nitrogen, compressed	2.2	UN1066	N/A
Oxygen, compressed	2.2	UN1072	N/A
Xenon, compressed	2.2	UN2036	N/A
Compressed gas, n.o.s. (mixtures of the gases listed above)	2.2	UN1956	N/A
Compressed gas, oxidizing, n.o.s. (mixtures of the gases listed above)	2.2	UN3156	N/A

7. SAFETY CONTROL MEASURES:

a. PACKAGING: Packagings prescribed are DOT 3AA cylinders with maximum water capacity of 125 pounds. Cylinders must have a minimum marked service pressure of 1,800 psig and be star (★) marked. Each cylinder must be subjected to the periodic retesting, reinspection, and marking prescribed in §§ 180.205, 180.209, and 180.213, except that:

- (1) Hammer testing is not required;
- (2) Once every 15 years:
 - (i) Each cylinder must be subjected to an external visual inspection in accordance with CGA Pamphlet C-6;

(ii) Each cylinder sidewall must be examined using ultrasonic examination (UE) in accordance with an existing DOT (UE) special permit that is applicable to the DOT Specification 3AA cylinders, except as follows :

(A) Simulated defect for an isolated pit. A flat bottom hole (FBH) must be machined into the inside surface of the cylinder to simulate an isolated pit. Dimensions must be as follows:

(1) For DOT 3AA with diameter less than or equal to 4 inches the FBH must be 1/8-inch diameter and 1/5 of t_m depth.

(2) For DOT 3AA with diameter greater than 4 inches the FBH must be 1/4-inch diameter and 1/5 of t_m depth.

(B) Simulated defect for line corrosion in the sidewall-to-base transition (SBT). A circumferential notch must be machined into the surface of the cylinder to simulate SBT line corrosion. The notch must be 1/10 of t_m depth, 1 inch long and less than or equal to 0.02 inch width.

(iii) Each cylinder passing external visual inspection and UE requalification under the provisions of this special permit must be marked in accordance with the UE special permit. Additionally, after the DOT specification, each cylinder must be plainly marked "DOT-SP 21012" followed by "★" (i.e., DOT 3AA-XXXX PSI, DOT-SP 21012★). Alternatively, in lieu of stamping "DOT-SP 21012★", a label bearing "DOT-SP 21012★" may be affixed to the cylinder's shoulder region. Marking and/or labeling must be permanent and durable through each requalification period. For "+" marking, see paragraph 8.d. of this special permit; and

(iv) The external visual inspection and UE report must be in accordance with the UE special permit and must be kept for a minimum of 15 years.

b. OPERATIONAL CONTROLS:

- (1) Only cylinders that have been star marked (★) and used exclusively for the gases listed in § 180.209(b)(ii) since the last requalification are authorized to be used under this special permit. Newly manufactured cylinders that have been used exclusively for the gases listed in § 180.209(b)(ii) are authorized to be used under this special permit.
- (2) Cylinders authorized under this special permit must be used exclusively for the Division 2.2 gases listed in paragraph 6. of this special permit.
- (3) Prior to each filling, the following conditions must be met:
 - (i) The authorized materials are chemically compatible with cylinder material and will not have an adverse effect on the cylinder's strength; and
 - (ii) The authorized materials have a dew point below minus 52 °F at 1 atmosphere.
- (4) Prior to filling, each cylinder must be externally inspected in accordance with CGA Pamphlet C-6.
- (5) No person may perform inspection and testing of cylinders subject to this special permit unless that person has a current copy of this special permit at the location of such inspection and testing and complies with all the terms and conditions of this special permit.
- (6) Any cylinder exhibiting evidence of fire or excessive heat damage may not be retested under the terms of this special permit.
- (7) Cylinders requalified under this special permit must not be used in underwater breathing applications.
- (8) The UE retest facility must have a valid special permit for re-qualifying DOT Specification 3AA cylinders using UE.

8. SPECIAL PROVISIONS:

a. A person who is not a holder of this special permit who receives a cylinder covered by this special permit may reoffer it for transportation provided no modification or change is made to the cylinder and it is reoffered for transportation in conformance with this special permit and the HMR.

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

c. The ultrasonic examination (UE) data, results, and additional technical information deemed pertinent in successful application of the UE must be recorded and kept at each facility for a minimum of 5 years after completion of UE. For any rejected cylinder the defect causing the rejection must be fully characterized and profiled. That is, the specific type of defect should be identified (i.e., isolated pit, line corrosion or SBT crack) and the specific size of the defect should be determined (i.e., length, depth, width, diameter, area, etc.). The record for each rejected cylinder must include cylinder type, size, minimum design wall thickness, age, etc.

d. To authorize a cylinder for a special filling limit “+” marking stated in § 173.302a(b), the cylinder must meet the following:

(1) The cylinder must meet the requirement of § 173.302a(b)(1); and

(2) The wall thickness of the cylinder is equal to or greater than the design minimum wall thickness as it is described in the accept/reject criteria of the UE special permit for the cylinder type.

e. Transportation of oxygen is only authorized aboard aircraft when in accordance with § 175.501. Additionally, transportation of oxygen and oxidizing gases is only authorized aboard aircraft when complying with 49 CFR 173.302(f).

9. MODES OF TRANSPORTATION AUTHORIZED: Motor vehicle, rail freight, cargo vessel, passenger-carrying aircraft, and cargo aircraft.10. MODAL REQUIREMENTS: A current copy of this special permit must be carried aboard each cargo vessel, aircraft, or for-hire motor vehicle used to transport packages covered by this special permit. The shipper must furnish a current copy of this special permit to the air carrier, freight forwarder, or for-hire 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.

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 Material 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.

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