



U.S. Department  
of Transportation

**Pipeline and Hazardous  
Materials Safety  
Administration**

**November 30, 2022**

1200 New Jersey Avenue, SE  
Washington, DC 20590

DOT-SP 15642  
(SEVENTH REVISION)

**EXPIRATION DATE: 2026-08-31**

(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 Division 2.1 and 2.2 hazardous materials in DOT Specification 3AL cylinders, cylinders manufactured under DOT-SP 12440 and ISO 7866 cylinders that are requalified every ten years rather than every five years using 100% ultrasonic examination. Cylinders containing Division 2.3 hazardous materials must be requalified every 5 years using 100% ultrasonic examination. 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) in that marking “DOT-SP 15642” on shipping papers is waived; § 180.205(c), § 180.209(a) and part of § 180.209(b), in that DOT-3AL cylinders may be requalified every ten years and are not required to be hammer tested prior to each refill; and § 180.209(b)(1)(iv) in that ultrasonic examination is authorized in lieu of hydrostatic testing and visual inspection.
5. BASIS: This special permit is based on the application of Linde Gas & Equipment, Inc. dated September 7, 2022, submitted in accordance with § 107.109, and additional information submitted on October 19, 2022.

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>
Liquefied or non-liquefied compressed gases, or mixtures of such compressed gases, classed as Division 2.1 (flammable gas), Division 2.2 (nonflammable gas), and Division 2.3 (gas toxic by inhalation), which are authorized in the HMR for transportation in aluminum cylinders manufactured from aluminum alloy 6061-T6 in accordance with the DOT-3AL specification, DOT-SP 12440, or ISO 7866*	2.1, 2.2, 2.3	As appropriate	N/A

\*Cylinders containing Division 2.3 gases must be requalified once every 5 years

7. SAFETY CONTROL MEASURES:

a. PACKAGING: Packaging prescribed is an aluminum cylinder that is manufactured from aluminum alloy 6061-T6 in accordance with the DOT-3AL specification, DOT-SP 12440, or the ISO 7866 standard. The cylinder is subjected to periodic retesting, reinspection, and marking prescribed in §§ 180.205, 180.209, and 180.213, except that:

(1) The requalification periodicity may increase from 5 to 10 years after each cylinder is requalified by 100% ultrasonic examination (UE) of the sidewall by an approved facility holding a valid UE special permit. The UE for 10-year requalification must use a referenced standard (calibration) that includes a flat bottom hole (FBH) with a diameter less than or equal to 1/8" and a depth less than or equal to 0.025", respectively.

(2) After successful completion of requalification as described in the above paragraph 7.a.(1), the cylinder must be marked in accordance with the applicable UE special permit, indicating UE as the method of requalification.

(i) To indicate the 10-year periodicity, each cylinder must be plainly marked "DOT-SP 15642" followed by "★" as specified in § 180.209(b)(1)(vi) indicating 10-year requalification period.

(ii) Cylinders with diameters less than 5.0” may be marked using a 1/8” high character or alternatively, a label bearing “DOT-SP 15642” followed by “★” may be affixed to the cylinder’s sidewall near the shoulder region. Marking and/or labeling must be permanent and durable through each requalification period.

(3) The cylinder is not required to be hammer tested prior to each refill.

b. OPERATIONAL CONTROLS:

(1) Cylinders under this special permit must remain in dedicated service.

(2) Prior to each filling, the company filling the cylinder must ensure that:

(i) Gas mixtures are chemically compatible with the cylinder material (aluminum alloy) and do not have an adverse effect on the cylinder’s strength.

(ii) The quality of the gas or gaseous mixture meets the requirements of § 180.209(b)(ii) and has a dew point below minus 52 °F at 1 atmosphere.

(3) Prior to each fill the cylinder under this special permit must be externally inspected in accordance with CGA Pamphlet C6.1.

(4) Any cylinder exhibiting evidence of fire or excessive heat damage may not be retested under the terms of this special permit.

8. SPECIAL PROVISIONS:

a. 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 must be identified (i.e., isolated pits, line corrosion or SBT crack) and the specific size of the defect must be determined (i.e., length, depth, width, diameter, area, etc.). The record includes cylinder type, size, minimum design wall thickness, age, etc. of the rejected cylinder.

b. Shippers (offerors) may use the cylinders specified and tested in accordance with the provisions of this special permit for the transportation in commerce of those hazardous materials specified herein, provided no modifications or changes are made to the cylinders. All terms of this special permit and other applicable requirements contained in 49 CFR Parts 100-185 must be met.

- c. Transportation of Division 2.1 (flammable gases) and Division 2.3 (toxic by inhalation gases) is not authorized aboard cargo vessel or aircraft unless specifically authorized in the Hazardous Materials Table (§ 172.101).
- d. Transportation of oxygen is only authorized by aircraft when in accordance with § 175.501.
9. MODES OF TRANSPORTATION AUTHORIZED: Motor vehicle, rail freight, cargo vessel, passenger-carrying aircraft, and cargo aircraft.
10. MODAL REQUIREMENTS: None, other than required by the HMR.
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.

PO: JN