



U.S. Department  
of Transportation

**Pipeline and Hazardous  
Materials Safety  
Administration**

**July 10, 2023**

1200 New Jersey Avenue, SE  
Washington, DC 20590

DOT-SP 970  
(SIXTEENTH REVISION)

(FOR RENEWAL, SEE 49 CFR § 107.109)

1. GRANTEE: (See individual authorization letter)
2. PURPOSE AND LIMITATION:
  - a. This special permit authorizes the transportation in commerce of diborane in DOT Specification 3AA cylinders subject to the limitations and special requirements specified herein. 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.
  - c. Unless otherwise stated herein, this special permit consists of the special permit authorization letter issued to the grantee together with this document.
3. REGULATORY SYSTEM AFFECTED: 49 CFR Parts 106, 107 and 171-180.
4. REGULATIONS FROM WHICH EXEMPTED: 49 CFR § 173.302a(e) in that a maximum authorized filling density of greater than 7 percent is not authorized, except as specified herein.
5. BASIS: This special permit is based on the Pipeline and Hazardous Materials Safety Administration's (PHMSA) editorial review under § 107.121 initiated on December 4, 2008, and additional information dated May 11, 2023.

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>
Diborane	2.3	UN1911	N/A

7. SAFETY CONTROL MEASURES:a. PACKAGING: Prescribed packaging is as follows:

(1) DOT Specification 3AA2015 or 3AA2400 cylinders with valves shown in Callery Chemical Company drawings 3233-D, Revision 4, dated July 30, 1996, and 5232 with a filling density of 7% must be overpacked in an insulated drum with dry ice as per Callery Chemical Company's drawing 3252A, or with a filling density of 14% overpacked in an insulated drum or case with dry ice as per Callery Chemical Company's drawings 3410A and 3272A. Drawings are on file with the Office of Hazardous Materials Safety (OHMS).

(2) DOT Specification 3AA2400 cylinders (Drawing 3025C) packaged in accordance with details included in Callery Chemical Company's Drawing No. 3219-A or in DOT Specification 3AA2015 and 3AA2400 cylinders packaged in accordance with details included in Callery Chemical Company drawing No. 3272A on file with the OHMS. Filling density may not exceed 28%. The outside packing case must be constructed of 3/4 inch outdoor plywood or equivalent with metal corners and have five-inch insulation throughout of polyurethane foam and a plywood or equivalent liner. The outside packing case must be equipped with steel frame centers to hold the cylinder in place and the surrounding area must be filled with dry ice.

(3) DOT Specification 3AA2015 or 3AA2400 cylinders with valves installed as per Callery Chemical Company drawings 3233-D, Revision 4, dated July 30, 1996, and 5232, with a filling density of up to 28%, must be overpacked in an insulated drum with dry ice as per Callery Chemical Company's drawing D4061, on file with the OHMS. The area surrounding the cylinder inside the outer packaging must be filled with dry ice.

(4) Cylinders authorized under this special permit may be overpacked in non-DOT specification metal drums, insulated, and filled with dry ice for refrigeration purposes. Insulated metal drums containing dry ice must have perforated top heads to allow venting of carbon dioxide. All drums used as overpacks, purchased after March 1, 1998, must meet the performance requirements for UN 1A2 steel drums for Packing Group I solids (see § 178.504 and §§ 178.601 through

178.608) prior to installation of the insulation. If the drums are marked as UN1A2 drums prior to modification by installation of insulation and perforation of the top head, the markings must be obliterated prior to use.

(5) The cylinders authorized under this special permit must comply with the requirements prescribed in § 173.40, except paragraph (d). The cylinders must be equipped with a single valve or the double valve arrangement detailed in Callery Chemical Company drawing No. 3233D, Revision 4, dated July 30, 1996, on file with OHMS.

(6) Where this special permit prescribes the use of outside shipping containers designed for inclusion of dry ice, sufficient dry ice must be packed therein to provide refrigeration for a period of at least 14 days. Normal time in transportation must not exceed 10 (ten) days.

(7) Cylinders containing residual diborane must be kept in the outer packaging packed with sufficient amounts of dry ice to provide adequate refrigeration for a period of at least 14 days. The shipper then must notify BASF Corporation in Evan's City, PA in writing via telegram or Facsimile (FAX) at (724) 538-1266 of the intent to return the above cylinders and must obtain confirmation from BASF Corporation of the shipment due date.

b. TESTING: Each cylinder must be reinspected and hydrostatically retested every five years in accordance with § 180.205, prescribed for DOT 3AA Specification cylinders as applicable.

c. OPERATIONAL CONTROLS:

(1) The shipper must require acknowledgment of receipt of shipment in writing by means of a telegram or facsimile (FAX) and must promptly notify the OHMS of any such shipment not received at the destination within two days after shipment is due.

(2) Drivers must be instructed of the necessary safeguards and proper procedure in event of unusual delay, fire, or accident.

8. SPECIAL PROVISIONS:

a. 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 modification or change is made to the package 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. **MARKING:** In addition to the POISON GAS label and the FLAMMABLE GAS label, each outside shipping container must bear a conspicuous marking that reads as follows: “IF NOT DELIVERED BEFORE \_\_\_\_\_, CARRIER MUST ADVISE THE (Name of Shipper, City and State), ALSO THE OFFICE OF HAZARDOUS MATERIALS SAFETY, WASHINGTON, D.C., BY FAX 202-366-3308.” The date inserted in the blank space on this marking must not be in excess of the number of days prescribed herein for each type of packaging, from the date shipment is first offered for transportation.
9. **MODES OF TRANSPORTATION AUTHORIZED:** Motor vehicle and rail freight.
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., where 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 “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: BD/NICKS