U.S. Department
of Transportation

**Pipeline and Hazardous
Materials Safety
Administration**

February 07, 2022

1200 New Jersey Avenue, SE
Washington, DC 20590

DOT-SP 10511
(FOURTEENTH REVISION)

EXPIRATION DATE: 2025-10-31

(FOR RENEWAL, SEE 49 CFR § 107.109)

1. GRANTEE: Schlumberger Technology Corporation
Sugar Land, TX

2. PURPOSE AND LIMITATION:

a. This special permit authorizes the transportation in commerce of certain non-DOT specification stainless steel cylinders containing Sulfur Hexafluoride (SF_6) classed as a Division 2.2 material. 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. Party status will not 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 173.304a in that a non-DOT specification packaging is not authorized, except as specified herein.

5. BASIS: This special permit is based on the application of Schlumberger Technology Corporation dated August 30, 2021, 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**	**Identi-fication Number**	**Packing Group**
Sulfur hexafluoride	2.2	UN1080	N/A

7. SAFETY CONTROL MEASURES:

a. PACKAGING:

(1) The first packaging consists of a sealed metal cylinder (manufactured of Stainless Steel or High Strength Grade Aluminum) called a TNG or PNG, within one of eight housings or transport containers which are described below. The TNG or PNG contains electronic circuitry and will be charged with a volume of not more than 22 cubic inches of sulfur hexafluoride through a quick connect valve to a pressure not exceeding 100 psig at room temperature (20ºC). The TNG or PNG has three designs and are designed in accordance with drawing numbers DH343573, DH547563 or DH547564. Welded versions of the TNG or PNG may be used in place of the standard TNG or PNG. These are dimensionally the same as the standard TNG or PNG except for differences required to replace O-ring seals with welds, and to replace the quick connect valve with a metal tube pinch-off. The TNG or PNG is transported in one of five configurations:

(i) The TNG in the TNH housing, which is stainless steel external pressure housing designed in accordance with drawing number DH343572.

(ii) The TNG or PNG in the UDFH housing, which is similar to the TNH, but has heavier wall construction.

(iii) The TNG or PNG in CYC carrying cases, which are heavy walled aluminum transport containers designed in accordance with drawing numbers DH541197, DH547581 or DH547583.

(iv) The PNG in the RSSH, APH, or DPNS housings, which are stainless steel, external pressure housings designed in accordance with drawing numbers DH547549, DH547556, DH547562, or 101298515D. This special permit is granted only for the packaging described in drawings and accompanying analysis which are on file with the Office of Hazardous Materials Safety Approvals and Permits Division (OHMSAPD).

(v) The PNG in a strong outer packaging consisting of a PVC tube with threaded caps and an internal volume of not less than 399 cubic inches packed in a wooden crate. The PNG is cushioned inside the PVC tube with foam inserts and the ends closed using PVC threaded end caps. The PVC tube is further cushioned inside the wooden crate with additional foam inserts. The strong outer packaging is tested to ensure that it can survive a drop of at least 1.2 meters without damage to the packaging or its contents.

(2) The second packaging consists of a sealed metal cylinder (manufactured of Stainless Steel or High Strength Grade Aluminum) called a PNG, TNG, or EPG. The packaging must:

(i) Be hermetically sealed, metal container that will not fragment upon impact. The hermetic seal must be formed by using redundant o-ring seals and manufactured using the procedures on file with the Approvals and Permits Division.

(ii) The maximum design pressure of the PNG, TNG, or EPG shall not exceed 1.21 MPa (175 psig). The cylinder must not be charged to a capacity exceeding 51 fluid ounces (92 cubic inches).

(iii) The cylinder must be designed and fabricated with a burst pressure of not less than three time the design pressure if it is equipped with a pressure relief device and not less than four the design pressure if it is not equipped with a pressure relief device.

b. TESTING:

(1) Each TNH, UDFH, RSSH, APH, or DPNS external housing is pressure tested to 16,000 psig minimum external pressures before being put into service.

(2) Any prototype(s) or cylinder(s) offered for transportation under the terms of this special permit must be shipped in a strong outer packaging capable of withstanding a drop test of at least 1.2 meters (4 feet) without breakage of the PNG/TNG and rupture of the outer packaging. If the PNG/TNG is shipped as part of other equipment the equipment must be packaged in strong outer packaging or the equipment itself must provide an equivalent level of protection.

c. OPERATIONAL CONTROLS:

(1) The driver of the transport vehicle must be instructed that when the vehicle is in an accident involving spilled fuel or fire, the vehicle must be moved to a safe location unless moving the vehicle would directly endanger others.

(2) Emergency response information provided with the shipment and available via an emergency response telephone number must indicate that the receptacles are not fitted with pressure relief devices and provide appropriate guidance in case receptacles are exposed to fire.

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: The outside of each packaging offered under the authority of this special permit must be stamped plainly and permanently on the shoulder, top head, neck or sidewall as follows: "DOT-SP 10511 100."

9. MODES OF TRANSPORTATION AUTHORIZED: Motor vehicle, rail freight, cargo vessel, cargo aircraft only, and passenger-carrying aircraft.

10. MODAL REQUIREMENTS:

a. A current copy of this special permit must be carried aboard each cargo vessel, aircraft or 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 before or at the time the shipment is tendered.

b. Motor carriers operating under the terms of this special permit must have a "Satisfactory" or "Conditional" safety rating as prescribed in 49 CFR Part 385.

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:

- All terms and conditions prescribed in this special permit and the Hazardous Materials Regulations, 49 CFR Parts 171-180.
- 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.
- 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 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-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 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: Andrew Eckenrode/Kenny Herzog