

May 28, 2020



U.S. Department  
of Transportation

East Building, PHH-30  
1200 New Jersey Avenue S.E.  
Washington, D.C. 20590

**Pipeline and Hazardous  
Materials Safety Administration**

DOT-SP 20641  
(FIRST REVISION)

**EXPIRATION DATE: 2024-04-30**

(FOR RENEWAL, SEE 49 CFR 107.109)

1. GRANTEE: Thermo MF Physics LLC  
Colorado Springs, CO
2. PURPOSE AND LIMITATIONS:
  - a. This special permit authorizes the manufacture, mark, sale, and use of non-DOT specification high voltage accelerators for the transportation in commerce of sulfur hexafluoride. 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. In accordance with 49 CFR 107.107(a) party status may not be granted to a manufacturing permit. These packaging 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 § 173.304(a) in that the prescribed packaging is not authorized for sulfur hexafluoride, except as provided herein.
5. BASIS: This special permit is based on the application of Thermo MF Physics LLC dated May 5, 2020, submitted in accordance with § 107.109.

May 28, 2020

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>
Sulfur hexafluoride	2.2	UN1080	N/A

7. SAFETY CONTROL MEASURES:

a. PACKAGING: Packaging prescribed is a high voltage accelerator system, consisting of a Type 304 or 316 stainless steel outer housing with end caps. The bottom end cap is welded to the outer housing and the top end cap is bolted. The system contains various electronic components and instrumentation within the outer shell. The system must be in conformance with Thermo MF Physics LLC's drawings on file with the Office of Hazardous Materials Safety Approvals and Permits Division (OHMSAPD) and with the following requirements:

(1) The high voltage accelerator system may not be charged with sulfur hexafluoride to a pressure exceeding 120 psig at 70 °F.

(2) The high voltage accelerator system must be equipped with a safety relief device capable of limiting the pressure to 185 psig.

(3) The high voltage accelerator system must be capable of withstanding a pressure of 480 psig without leakage or rupture.

b. TESTING:

(1) Prior to shipment, each high voltage accelerator system must be leak tested to at least 150 psig without evidence of leakage.

(2) Only Thermo MF Physics LLC is authorized to service or refurbish high voltage accelerator systems authorized under this special permit. Prior to

**May 28, 2020**

shipment of any serviced or refurbished system, each system must be leak tested to at least 150 psig and show no evidence of leakage.

(3) Each high voltage accelerator must be reinspected and retested in accordance with Thermo MF Physics LLC procedures detailed in the application for special permit on file with OHMSAPD.

c. OPERATIONAL CONTROLS -

(1) The high voltage accelerator system must be overpacked in strong, foam-lined shipping containers as described in the application for special permit on file with the OHMSAPD.

(2) Each outside packaging must be marked "INSIDE CONTAINERS CONFORM WITH DOT-SP 20641".

(3) The limited quantity of Class 7 material contained in the high voltage accelerator system must meet the requirements of § 173.423.

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. Each packaging manufactured under the authority of this special permit must be either (1) marked with the name of the manufacturer and location (city and state) of the facility at which it is manufactured or (2) marked with the

**May 28, 2020**

registration symbol designated by the Office of Hazardous Materials Safety Approvals and Permits Division for a specific manufacturing facility.

- e. A current copy of this special permit must be maintained at each facility where the package is manufactured under this special permit. It must be made available to a DOT representative upon request.
9. MODES OF TRANSPORTATION AUTHORIZED: Motor vehicle, cargo vessel, cargo-only aircraft, and passenger-carrying aircraft.
10. MODAL REQUIREMENTS: A current copy of this special permit must be carried aboard each cargo vessel, aircraft, and motor vehicle used to transport packages covered by this special permit. The shipper must furnish a copy of this special permit to the air 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.

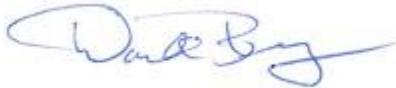
No person may use or apply this special permit, including display of its number, when this special permit has expired or is otherwise no longer in effect.

**May 28, 2020**

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-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 [http://hazmat.dot.gov/sp\\_app/special\\_permits/spec\\_perm\\_index.htm](http://hazmat.dot.gov/sp_app/special_permits/spec_perm_index.htm) Photo reproductions and legible reductions of this special permit are permitted. Any alteration of this special permit is prohibited.

PO: BenMOORE/NICKS