



U.S. Department
of Transportation

**Pipeline and Hazardous
Materials Safety
Administration**

August 22, 2024

1200 New Jersey Avenue, SE
Washington, DC 20590

DOT-SP 20621
(THIRD REVISION)

EXPIRATION DATE: 2028-07-31

(FOR RENEWAL, SEE 49 CFR § 107.109)

1. GRANTEE: Sigma-Aldrich Co. LLC
Saint Louis, MO
2. PURPOSE AND LIMITATION:
 - a. This special permit authorizes the transportation in commerce of certain quantities of energetic materials for testing purposes that have not previously been classified. 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 §§ 173.56(b), 173.224(c) and 173.225(b) in that approval is required, except as specified herein.
5. BASIS: This special permit is based on the application of Sigma-Aldrich Co. LLC dated March 13, 2024 submitted in accordance with § 107.109.

Tracking Number: 2024034610

6. HAZARDOUS MATERIALS (49 CFR 172.101):

Hazardous Materials Description			
Proper Shipping Name	Hazard Class/ Division	Identification Number	Packing Group
Self-reactive liquid type C	4.1	UN3223	N/A
Self-reactive solid type C	4.1	UN3224	N/A

7. SAFETY CONTROL MEASURES:a. SAMPLES OF ENERGETIC MATERIALS FOR TESTING PURPOSES:

Samples of organic substances carrying functional groups listed in tables A6.1 and/or A6.3 in Appendix 6 (Screening Procedures) of the UN Manual of Tests and Criteria may be transported under UN3224 (self-reactive solid type C) or UN3223 (self-reactive liquid type C), as applicable, provided that:

- (1) The samples do not contain any known explosives, substances showing explosive effects in testing, compounds designed with the view of producing a practical explosive or pyrotechnic effect, or components consisting of synthetic precursors of intentional explosives;
- (2) For mixtures, complexes, or salts of inorganic oxidizing substances of Division 5.1 with organic material(s), the concentration of the inorganic oxidizing substance is less than 15 percent, by mass, if assigned to Packing Group I (high hazard) or II (medium hazard); or less than 30 percent, by mass, if assigned to Packing Group III (low hazard);
- (3) Available data do not allow a more precise classification; and
- (4) The material is not packed together with other goods.

b. PACKAGING: The energetic samples must be packaged as follows:

- (1) The maximum content of each inner packaging must not exceed 1 g for solids or 1 mL for liquids, and the maximum net quantity per outer packaging must not exceed 56 g for solids or 56 mL for liquids. In the case of mixed contents (i.e., the outer packaging contains solids and liquids), the sum of grams and mL must not exceed 56.
- (2) Materials must be contained in inner packagings of glass or plastic with a maximum capacity of 30 ml and must be cushioned by an expandable polyethylene foam matrix of at least 130 mm thickness having a density of 19 ± 2 g/l.
- (3) Within the foam carrier, inner packagings must be segregated from each other by a minimum distance of 40 mm and from the wall of the outer packaging by a minimum distance of 70 mm. The package may contain up to two layers of such foam matrices, each carrying up to 28 inner packagings.
- (4) The outer packaging must consist only of UN4G corrugated fiberboard boxes meeting the Packing Group II performance level and having minimum wall thickness of 1.3 cm.

c. OPERATIONAL CONTROLS: Coolant is only authorized for quality control measures, with the following requirements:

- (1) When dry ice or liquid nitrogen is used, all applicable requirements of the HMR must be met.
- (2) Interior supports must be provided to secure the inner packagings in the original position after the coolant has dissipated.
- (3) If ice is used, the outside packaging or overpack must be leakproof.
- (4) The inner and outer packagings must maintain their integrity at the temperature of the refrigerant used as well as the temperatures and the pressures, which could result if refrigeration is lost.

8. SPECIAL PROVISIONS:

- a. The special permit may only be used for the transportation in commerce of energetic materials for testing purposes that have not previously been classified.
- 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 modification

or change is 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.
9. MODES OF TRANSPORTATION AUTHORIZED: Motor vehicle, rail freight, cargo vessel, passenger-carrying aircraft (within the quantity limitation in §172.101, column (9A)), and cargo-only aircraft (within the quantity limitation in §172.101, column (9A)).
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.
 - 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.:

A handwritten signature in blue ink, appearing to read "W. Schoonover", is written over a light blue circular stamp.

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: Dunham/Casey Chambers