UCF Environmental Health and Safety	Effective Date: 09/25/2023	Procedure Number: EHS_SOP303
TITLE: Hazardous Materials Shipping, Receiving, and Transportation	**Revision: 1**	**Page** 1 of 8
	Approved by Director of Environmental Health & Safety	

1. APPLICABILITY

This procedure applies to all faculty members, visiting scholars, staff members, students, volunteers, and affiliates who ship, receive, or transport regulated hazardous materials or dangerous goods.

2. PROCEDURE STATEMENT

This procedure details the process for shipping, receiving, and transporting hazardous materials while also providing examples of various situations where this procedure is necessary.

3. DEFINITIONS

Dangerous Goods (DG) - Articles or substances which are capable of posing a risk to health, safety, property, or the environment; which are shown in the International Air Transportation Association (IATA) list of dangerous goods; or which are classified according to the IATA regulations

Dangerous Goods Regulations - IATA regulations governing air shipments of regulated materials

Hazardous Material (HM) - A substance or material which has been determined by the Secretary of Transportation to be capable of posing an unreasonable risk to health, safety, and property when transported by vehicle on a public roadway or by rail. All hazardous wastes are hazardous material under this definition. A list of hazardous materials can be found in U.S. Code of Federal Regulations (CFR) Title 49 part 172.101.

Hazardous Material Employee - A person who, in the course of full time, part time, or temporary employment, directly affects hazardous materials transportation safety. A person who loads, unloads, handles, or prepares (identifies, classifies, packages, marks, labels, or documents) hazardous materials packages, including the preparation of shipping papers; who tenders hazardous materials into commerce; or who otherwise transports hazardous

materials shipments. This does not include persons not directly employed by the University

Hazardous Materials Regulations (HMR) - Department of Transportation (DOT) regulations governing the transportation of hazardous materials in commerce, as found in 49 CFR parts 171 through 180. The DOT has established regulations for domestic transport (within the United States) of hazardous materials by rail, air, vessel (ships), and motor carrier (ground)

Materials of Trade - A hazardous material, other than a hazardous waste, that is carried on a motor vehicle:

- For the purpose of protecting the health and safety of the motor vehicle operator or passengers;
- For the purpose of supporting the operation or maintenance of a motor vehicle (including its auxiliary equipment); or
- By a private motor carrier (including vehicles operated by a rail carrier) in direct support of a principal business that is other than transportation by motor vehicle.

Materials of Trade are exempted from a portion of the 49 CFR. There are limitations on quantity and type of material that can be included in this exemption. (See Section 5, Associated Documents for all restrictions and requirements for Materials of Trade.) Materials of Trade should only be carried on a State-owned motor vehicle in direct support of university-related business.

Examples:

- A maintenance worker who carries pesticides or small amounts of gasoline for gas-powered equipment;
- A welder who carries acetylene and oxygen cylinders for use when welding in small amounts;
- A laboratory worker who carries prepared samples or reagents needed for a field experiment in to a field site.

4. RESPONSIBILITY

The Department of Environmental Health and Safety (EHS) is the designated authority for compliance with hazardous materials and dangerous goods shipping regulations.

Individuals acting on behalf of the University are responsible for safe and secure shipping, receipt, and transportation. Individuals must be properly trained and follow the shipping regulations as described in this procedure.

Failure to follow these regulations may result in accidents, injuries, regulatory violations, fines, loss of grant funding to the University, criminal penalties, and/or imprisonment.

5. ASSOCIATED DOCUMENTS

Materials of Trade: Rules and Regulations (49 CFR § 173.6)
§ 173.6 Materials of trade exceptions.

When transported by motor vehicle in conformance with this section, a material of trade (see § 171.8 of this subchapter) is not subject to any other requirements of this subchapter besides those set forth or referenced in this section.

(a) ***Materials and amounts.*** A material of trade is limited to the following:

(1) A Class 3, 8, 9, Division 4.1, 5.1, 5.2, or 6.1 material contained in a packaging having a gross mass or capacity not over -

(i) 0.5 kg (1 pound) or 0.5 L (1 pint) for a Packing Group I material;

(ii) 30 kg (66 pounds) or 30 L (8 gallons) for a Packing Group II or Packing Group III material;

(iii) 1500 L (400 gallons) for a diluted mixture, not to exceed 2 percent concentration, of a Class 9 material.

(2) A Division 2.1 or 2.2 material in a cylinder with a gross weight not over 100 kg (220 pounds), in a Dewar flask meeting the requirements of § 173.320, or a permanently mounted tank manufactured to the ASME Code of not more than 70 gallon water capacity for a non-liquefied Division 2.2 material with no subsidiary hazard.

(3) A Division 4.3 material in Packing Group II or III contained in a packaging having a gross capacity not exceeding 30 mL (1 ounce).

(4) A Division 6.2 material, other than a Category A infectious substance, contained in human or animal samples (including, but not limited to, secreta, excreta, blood and its components, tissue and tissue fluids, and body parts) being transported for research, diagnosis, investigational activities, or disease treatment or prevention, or is a biological product or regulated medical waste. The material must be contained in a combination packaging. For liquids, the inner packaging must be leakproof, and the outer packaging must contain

sufficient absorbent material to absorb the entire contents of the inner packaging. For sharps, the inner packaging (sharps container) must be constructed of a rigid material resistant to punctures and securely closed to prevent leaks or punctures, and the outer packaging must be securely closed to prevent leaks or punctures. For solids, liquids, and sharps, the outer packaging must be a strong, tight packaging securely closed and secured against shifting, including relative motion between packages, within the vehicle on which it is being transported.

(i) For other than a regulated medical waste, the amount of Division 6.2 material in a combination packaging must conform to the following limitations:

(A) One or more inner packagings, each of which may not contain more than 0.5 kg (1.1 lbs) or 0.5 L (17 ounces), and an outer packaging containing not more than 4 kg (8.8 lbs) or 4 L (1 gallon); or

(B) A single inner packaging containing not more than 16 kg (35.2 lbs) or 16 L (4.2 gallons) in a single outer packaging.

(ii) For a regulated medical waste, a combination packaging must consist of one or more inner packagings, each of which may not contain more than 4 kg (8.8 lbs) or 4 L (1 gallon), and an outer packaging containing not more than 16 kg (35.2 lbs) or 16 L (4.2 gallons).

(5) This section does not apply to a hazardous material that is self-reactive (see § 173.124), poisonous by inhalation (see § 173.133), or a hazardous waste.

(b) ***Packaging.***

(1) Packagings must be leak tight for liquids and gases, sift proof for solids, and be securely closed, secured against shifting, and protected against damage.

(2) Each material must be packaged in the manufacturer's original packaging, or a packaging of equal or greater strength and integrity.

(3) Outer packagings are not required for receptacles (*e.g.,* cans and bottles) or articles that are secured against shifting in cages, carts, bins, boxes, or compartments or by other means.

(4) For gasoline, a packaging must be made of metal or plastic and conform to the requirements of this subchapter or to the requirements of the

Occupational Safety and Health Administration of the Department of Labor contained in 29 CFR 1910.106(d)(2) or 1926.152(a)(1).

(5) A cylinder or other pressure vessel containing a Division 2.1 or 2.2 material must conform to packaging, qualification, maintenance, and use requirements of this subchapter, except that outer packagings are not required. Manifolding of cylinders is authorized provided all valves are tightly closed.

(c) ***Hazard communication.***

(1) A non-bulk packaging other than a cylinder (including a receptacle transported without an outer packaging) must be marked with a common name or proper shipping name to identify the material it contains, including the letters “RQ” if it contains a reportable quantity of a hazardous substance.

(2) A bulk packaging containing a diluted mixture of a Class 9 material must be marked on two opposing sides with the four-digit identification number of the material. The identification number must be displayed on placards, orange panels or, alternatively, a white square-on-point configuration having the same outside dimensions as a placard (at least 273 mm (10.8 inches) on a side), in the manner specified in § 172.332 (b) and (c) of this subchapter.

(3) A DOT specification cylinder (except DOT specification 39) must be marked and labeled as prescribed in this subchapter. Each DOT-39 cylinder must display the markings specified in 178.65(i).

(4) The operator of a motor vehicle that contains a material of trade must be informed of the presence of the hazardous material (including whether the package contains a reportable quantity) and must be informed of the requirements of this section.

(d) ***Aggregate gross weight.*** Except for a material of trade authorized by paragraph (a)(1)(iii) of this section, the aggregate gross weight of all materials of trade on a motor vehicle may not exceed 200 kg (440 pounds).

(e) ***Other exceptions.*** A material of trade may be transported on a motor vehicle under the provisions of this section with other hazardous materials without affecting its eligibility for exceptions provided by this section.

6. PROCEDURE

- **General**

All hazardous materials employees must receive function-specific training. Basic training may be provided by EHS, or EHS will provide a list of training vendors to departments with employees requiring more comprehensive training.

State-owned motors vehicles must be used for any transportation of hazardous materials by individuals acting on behalf of the University. Transporting chemicals in personal vehicles, either on campus or to off-site research locations for university-business, is prohibited. Use of campus shuttles and other public transit is prohibited. Any transportation, on private or public roadways, of regulated hazardous wastes by individuals other than trained EHS personnel or licensed waste vendors is prohibited.

- **Receipt of shipments of HM/DG**

  Examples:

  - Central Receiving personnel who load or unload HM/DG packages;

  - Administrative or laboratory personnel who receive or return orders of HM/DG packages from a carrier such as Federal Express (FedEx) or United Parcel Service (UPS).

Individuals involved in the receipt of HM/DG packaging must be trained in general DOT awareness and security measures. Training is required within 90 days of hire and recurrent every three years.

- **Transport of HM/DG on contiguous University property or public roadways**

  Examples:

  - Forwarding orders of HM/DG packages received at Central Receiving to an on-campus or Research Park facility;

  - Moving Materials of Trade from campus building to building, from campus to campus, or from campus to field location via State-owned motor vehicle;

  - Moving small amounts of chemicals from one lab to another lab via campus walkways or private roadways;

  - Shops or labs moving materials to a field location for use on projects.

Individuals involved in the transportation of hazardous materials on contiguous University property or over public roadways must be trained in Hazard Communication, or DOT Awareness, Security Measures, and Spill Response procedures, and in general vehicle loading practices. Training is at the time of assignment requiring transport of hazardous materials.

Materials of Trade rules and regulations apply to transportation over public roadways. (See Section 5, Associated Documents, above.)

- **Shipments of HM/DG**

  Examples:

  - Laboratory relocation;
  - Forwarding orders of HM/DG received at Central Receiving to facilities not located on contiguous University property or adjacent private roadways;
  - Shipping an HM/DG off campus, out of state, or out of the U.S. via a carrier;
  - Carrying an item with you when you travel on an airplane.

Individuals wishing to ship HM/DG are responsible for the accurate description of the materials. This may involve developing a Safety Data Sheet for otherwise uncharacterized research compounds.

The shipments must be properly classified, described, packaged, marked, and labeled. DOT or IATA training on each of these topics is required within 90 days of hire and is recurrent every three years (two years for certain IATA shipments).

Because of the training necessary and the continual changes in the regulations, EHS staff members have been trained to be in regulatory compliance and are available to help with your shipments. If a department needs to ship regulated materials frequently, EHS can provide information for department staff to receive compliance training.

7. RECORD KEEPING
8. ARCHIVES
9. DISTRIBUTION

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10. REVIEW

	Name	Signature	Date
Director	Renee Michel	Renee Michel	9/25/2023

11. DOCUMENT HISTORY

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