 CSN Procedure	Facilities Management
Category: Environmental Health and Safety	Effective Date: 10/11/2021
Transporting Biological Materials in Private Motor Vehicles	

I. PURPOSE

Biological materials and samples occasionally need to be transported between campuses or to off-site locations by laboratory personnel for educational purposes. Certain biological materials and samples that are transported by private motor or State-owned vehicles, for the purpose of direct support of their business (*i.e.*, education) are exempt from most of the Department of Transportation (DOT) hazardous materials regulations, if the requirements of the Materials of Trade (MOT) exemption are adhered to (see Appendix C). The College of Southern Nevada (CSN) has instituted this procedure to identify biological materials and samples that are covered under the MOT exemption and implement actions that need to be followed when transporting biological materials and samples.

II. SCOPE

This policy applies to all CSN faculty, staff, students, volunteers, space licensees, and contractors.

III. OVERVIEW

Biological materials and samples transported in personal vehicles must be handled, packaged, and transported in accordance with all applicable federal, state, local MOT regulations as well as with this procedure. Biological materials must not be transported on any form of public transportation (e.g., buses, taxis or subway). Personnel using personal vehicles to transport biological materials should consult with his/her personal insurance policy regarding liability and coverage in the event of an accident. Incidents/accidents are not covered through CSN. This policy does not apply to the relocation or movement of laboratories.

IV. DEFINITIONS

Division 6.2 Material (49 CFR 173.134 (a)): A material known or reasonably expected to contain a pathogen. A pathogen is a microorganism (including bacteria, viruses, rickettsia, parasites and fungi) or other agents, such as a proteinaceous infectious particle (prion), which can cause disease in humans or animals. A Division 6.2 Material must be assigned to one of the following categories:

- **Category A:** An infectious substance in a form capable of causing permanent disability or life threatening or fatal disease in otherwise healthy humans or animals when exposure to it occurs (*i.e.*, *Yersinia pestis* or *Ebola* virus)
- **Biological Substance Category B:** An infectious substance that is not in a form generally capable of causing permanent disability or life-threatening or fatal disease in otherwise healthy humans or animals when exposure to it occurs (*i.e.*, Influenza virus or Salmonella).
- **Biological product:** a virus, therapeutic serum, toxin, antitoxin, vaccine, blood, blood component or derivative applicable to the prevention, treatment, or cure of a disease or condition of human beings or animals.
- **Patient specimen:** human or animal material collected directly from humans or animals and transported for research, diagnosis, investigational activities, or disease treatment or prevention.

Materials of Trade (MOT) (49 CFR 173.6): Hazardous materials that are carried on motor vehicles for at least one of the following purposes.

- To protect the health and safety of the motor vehicle operator or passengers, (e.g. insect repellent, fire extinguishers).
- To support the operation or maintenance of motor vehicles/auxiliary. (*e.g.*, engine starting fluid, gasoline, spare battery).
- Materials that must be carried by a private motor carrier to directly support a principal business that is not transportation. (Academic and laboratory research, pest control, plumbing, painting).

Division 6.2 Material Exceptions (49 CFR 173.134 (b) (10)): A Division 6.2 material, other than a Category A infectious substance, contained in a patient sample being transported for research, diagnosis, investigational activities, or disease treatment or prevention, or a biological product, when such materials are transported by a private or contract carrier in a motor vehicle used exclusively to transport such materials. Medical or clinical equipment and laboratory products may be transported aboard the same vehicle provided they are properly packaged and secured against exposure or contamination.

MOT Biological Material (49CFR 173.6 (a)(4)): A Division 6.2 material, other than a Category A infectious substance, (*i.e.*, biological substance Category B or patient specimen) 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.

V. PROCEDURE

A. Responsibilities

1. CSN faculty, staff, contractors, student workers, space licensees and/or volunteers that transport biological materials must:
 - Have a general awareness of the MOT exemptions.
 - Package, label, and transport shipments materials appropriately.
2. Environmental Health & Safety
 - Identifies personnel that are transporting biological materials.
 - Ensures that the MOT exemption is communicated to appropriate personnel (see Appendix C).
 - Assists personnel with MOT exemption compliance.

B. Transportation of cultures and stocks

The transportation of biological materials and samples are covered under the MOT exemption as a Biological Substance Category B and can be transported in a personal vehicle or State owned if the following MOT exemption are met. However, Category A infectious substances are not allowed to be transported in private motor or State-owned vehicles under the MOT exemptions. These agents are fully regulated by the United States Department of Transportation (DOT) and must be transported by a contracted carrier.

1. Biological materials and samples must be properly packaged and secured against movement and heat exposure using a triple packaging system (see Appendix A):
 - a. Primary leak-proof container (e.g. heat sealed, metal crimped, rubber stopper or secured lid with parafilm or tape).
 - b. Secondary leak-proof container with a leak-tight lid (e.g., wide mouth 1 L to 1 Gallon poly container, or equivalent):
 - For liquids, absorbent material such as loose vermiculite or absorbent material can be used inside the secondary container to absorb liquids.
 - For transporting multiple glass containers, separation of individual primary containers is required.
 - c. Rigid Outer Packaging with adequate strength for its capacity, mass, and intended use (e.g., rigid carboard box or 1-to-5-gallon bucket).
 - d. Secondary container must be secured within the outer package with packing material to prevent movement.
 - e. Include an itemized list of package contents between the secondary and outer packaging (see Appendix B).
 - f. Out container must be labeled "Bacterial Specimens" along with a biohazard label.
2. The personal vehicle used must be "dedicated" to the purpose of transporting the specimens from one campus to the other, not utilized for other purposes at the same time.

3. The driver must be licensed drivers and comply with all applicable driving laws and safety standards (e.g., use of seatbelts).
4. All passengers in the motor vehicle must be informed of the presence of the biological materials being transported.
5. In the event of an emergency or vehicle accident:
 - Call for 911 emergency assistance, if needed.
 - Let all emergency responders know that you are transporting potential biohazards.
 - Notify your supervisor.
 - Arrange for alternate transportation if you are not able to get to your destination.
 - A Biological Spill Kit should be available in the vehicle. Minimally the spill kit should include, appropriate gloves, eye protection, absorbent material, and bags for spill debris.
6. When transporting dry ice in a vehicle, the box should not be placed inside the passenger compartment to prevent carbon dioxide accumulation within the vehicle but can be placed in the trunk or open bed of the vehicle.

C. Training

No specialized training is required other than understanding the hazards associated with the bacterial materials and samples that they may pose.

VI. APPENDICIES:

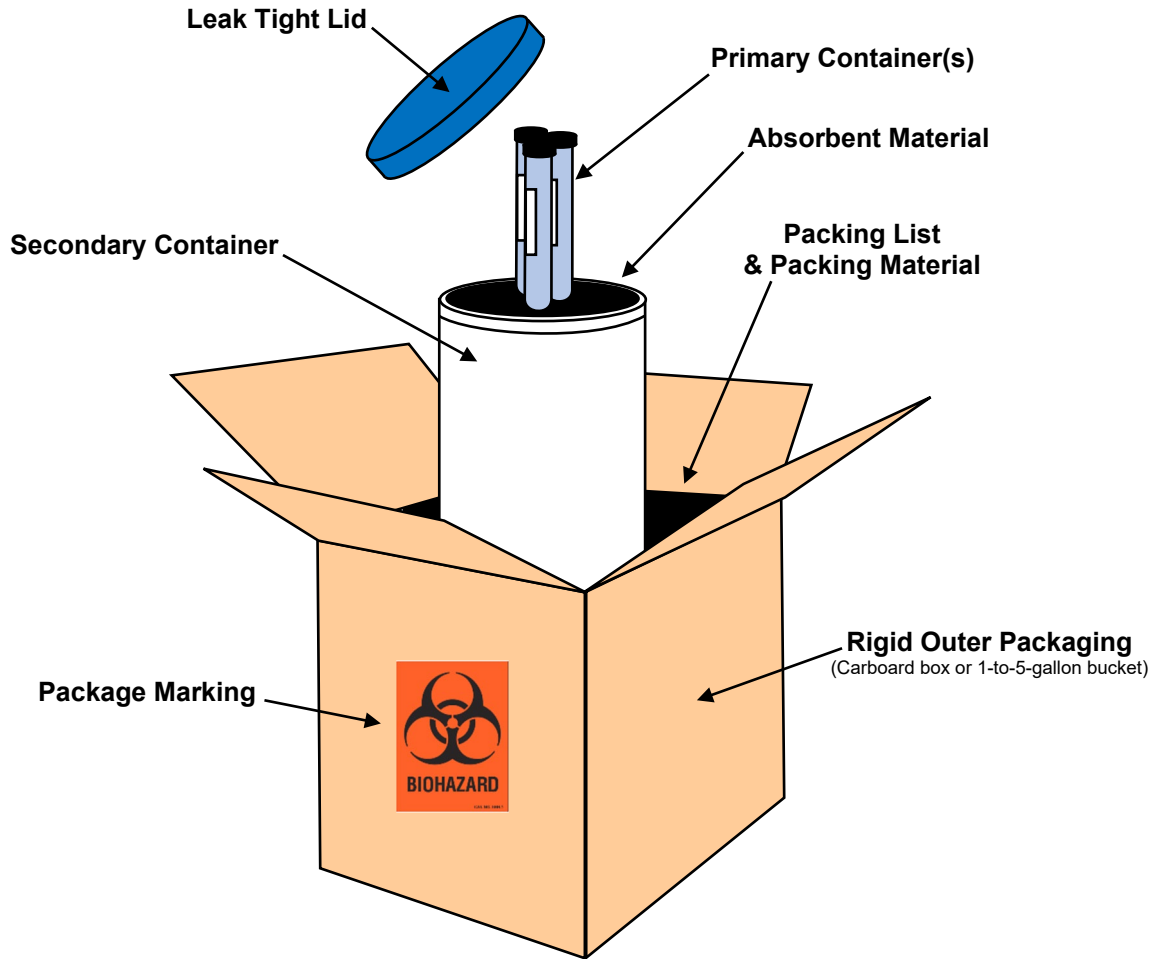
Appendix A – Example Triple Packaging System

Appendix B – Packing List

Appendix C – DOT Materials of Trade Brochure

APPENDIX A

Example Triple Packaging System



APPENDIX B

Packing List

Date: _____ Name of Transporter: _____

Transported To: _____

Transported From: _____

Department: _____

List of Materials Being Transported	Container Type	Total Quantity

Special Instructions:

APPENDIX C

DOT Materials of Trade Brochure
(See attached)

What are the Packaging and Marking Requirements for MOTs?

Materials of Trade also have packaging and marking requirements that help increase safety. The packaging must be the manufacturer's original packaging or a package of equal or greater strength and integrity. The packaging must be marked with a common name (such as "gas" or "spray paint") or a proper shipping name from the HMR (such as "Isopropyl Alcohol"). Additionally, the following other requirements apply to MOTs:

- Packagings must be leak tight for liquids and gases, and sift proof for solids.
- Packages must be securely closed, secured against movement, and protected against damage.
- Outer packagings are not required for receptacles (such as cans or bottles) that are secured against movement in cages, bins, boxes, or compartments.
- Gasoline must be transported in a metal or plastic container meeting DOT or OSHA requirements (Section 173.6 (b) (4) and Section 173.202 in the HMR).
- Cylinders and pressure vessels must conform to the HMR except that outer packagings are not required. These cylinders must be marked with the proper shipping name and identification number and have a hazard class warning label.
- If the package contains a reportable quantity of a hazardous substance, it must be marked "RQ". Reportable quantities are found in Appendix A of Section 172.101 in the HMR.
- A tank containing a diluted mixture (not more than 2% concentration) of a Class 9 material must be marked on two opposing sides with the identification number.

PHMSA Hazmat Safety Homepage

To learn more, visit the PHMSA Hazmat Safety Homepage on the Internet, at <http://hazmat.dot.gov>. There you can order training CD-ROMs, videotapes, and publications. You can also view or download the HMR, copies of the latest rulemakings, exemptions, clarifications of regulations, hazardous materials publications, and training schedules.



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PHH50-0062-0905

MOTs Video Available from the Pipeline and Hazardous Materials Safety Administration

To help you better understand Materials of Trade regulations, PHMSA has developed an informative video titled Understanding Materials of Trade Regulations. The video defines Materials of Trade; discusses what hazardous materials may be transported as MOTs; and provides an overview of what hazardous materials regulations apply. It is available from PHMSA's Office of Hazardous Materials Initiatives and Training for a shipping and handling fee of \$10.

The Understanding Materials of Trade Regulations video can be ordered on-line by visiting our web site at: <http://hazmat.dot.gov/pubs.htm>; by e-mail: training@dot.gov; or by filling out the form below and faxing it to: (202) 366-7342, or mailing it to the address indicated at the bottom of the form.

Please send ___ Understanding Materials of Trade Regulations video(s) to:

Name: _____

Company: _____

Address: _____

City: _____

State/Zip: _____

Phone: _____

FAX: _____

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\$10 (each video) covers shipping and handling.

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We accept: 

**or personal checks made payable to:
USDOT/PHMSA/PHH-50**

**WHAT
ARE
MATERIALS**

OF

**TRADE,
And What
Regulations
Apply?**

U.S. Department
of Transportation
Pipeline and Hazardous
Materials Safety Administration

Whether you are self-employed or work for a large company, you may be carrying hazardous materials as part of your job. A hazardous material is “a substance or material which has been determined by the U.S. Department of Transportation (DOT) to be capable of posing an unreasonable risk to health, safety, and property when transported in commerce.” This definition is found in the requirements for transporting hazardous materials known as the Hazardous Materials Regulations (HMR), issued by DOT’s Pipeline and Hazardous Materials Safety Administration (PHMSA.) The HMR tell you:

- how to classify and package hazardous materials;
- how the package must be marked and labeled;
- how to complete shipping papers;
- how to provide required emergency response information;
- whether the vehicle transporting hazardous materials must be placarded and the specific placards required; and
- what training is required for handlers and shippers of hazardous materials.

The HMR are published in Title 49, Code of Federal Regulations (49 CFR), Parts 171-180.

Certain hazardous materials transported in small quantities as part of a business are subject to less regulation, because of the limited hazard they pose. These materials are known as Materials of Trade.

What Are Materials of Trade, and What Regulations Apply?

Materials of Trade (MOTs) are hazardous materials, other than hazardous waste, that are carried on a motor vehicle:

- to protect the health and safety of the motor vehicle operator or passengers, such as insect repellent or a fire extinguisher;
- to support the operation or maintenance of a motor vehicle (including its auxiliary equipment), such as a spare battery or gasoline; or
- to directly support a principal business of a private motor carrier (including vehicles operated by a rail carrier) that is other than transportation by motor vehicle – for example, landscaping, pest control, painting, plumbing, or welding services.

Be aware that it is your responsibility to know if you are transporting a hazardous material and the requirements in the HMR that apply.

The regulations that apply to MOTs are found in 49 CFR Section 173.6. They include:

- general knowledge of MOTs regulations;
- quantity limitations;
- packaging requirements; and
- marking and labeling requirements.

The MOTs regulations do not require:

- shipping papers;
- emergency response information;
- placarding; or
- formal training or retention of training records.

What Hazardous Materials Qualify as MOTs?

To be a Material of Trade, the hazardous material must fit into any one of the following classes or divisions:

Class or Division	Examples
Flammable Gases (Division 2.1)	acetylene, propane
Non-flammable Gases (Division 2.2)	oxygen, nitrogen
Flammable or Combustible Liquids (Class 3)	paint, paint thinner, gasoline
Flammable Solids (Division 4.1)	charcoal
Dangerous When Wet Materials (Division 4.3)	some fumigants
Oxidizers (Division 5.1)	bleaching compounds
Organic Peroxides (Division 5.2)	benzoyl peroxide
Poisons (Division 6.1)	pesticides
Some Infectious Substances (Division 6.2)	diagnostic specimens
Corrosive Materials (Class 8)	muratic acid, drain cleaners, battery acid
Miscellaneous Hazardous Materials (Class 9)	asbestos, self-inflating lifeboats
Consumer Commodities (ORM-D)	hair spray, spray paints

What Quantity Limits Apply for Hazardous Materials being Transported as MOTs?

With the exception of tanks containing diluted mixtures of Class 9 materials, no more than a combined gross weight of 200 kg (440 lbs) of Materials of Trade can be transported on any one vehicle. Size limits for individual packages apply to Materials of Trade as described below:

- If a hazardous material is a high-hazard material (Packing Group I), the maximum amount of material in one package is 0.5 kg (one lb) for solids, or 0.5 L (one pt) for liquids.
- If the hazardous material is a medium or

lower hazard – that is, if it belongs to Packing Group II or III, other than division 4.3, or is a consumer commodity (ORM-D) – the maximum amount of material in each package is 30 kg (66 lbs) for solids, or 30 L (8 gal) for liquids.

- For Division 4.3 materials (only Packing Group II and III materials are allowed) the maximum amount of material in each package is 30 ml (one oz.)
- Each cylinder containing a gas (Division 2.1 or 2.2) may not weigh more than 100 kg (220 lbs.)
- A diluted mixture of a Class 9 material (not exceeding 2% concentration) may be transported in a tank having a capacity of up to 1500 L (400 gal.)