Safety and Environmental Exemption

Materials of Trade Exemption (MOT)

POLICY STATEMENT

Certain hazardous materials transported by private motor carriers, for the purpose of direct support of their business (e.g. clinical and laboratory research) are exempt from most of the Department of Transportation (DOT) hazardous materials regulations, as long as they adhere to the requirements described in the Materials of Trade (MOT) exception. Ultimately, by reviewing this policy, personal should gain a better understanding of the MOT requirements and be better prepared to transport hazardous materials for University business. Note: This exemption does not apply to the relocation/movement of laboratories on or between University of South Alabama campuses, nor the relocation or movement of hazardous waste.

REASON FOR POLICY

The purpose of this policy is to assist University Departments with compliance related to the DOT Materials of Trade exception when transporting small quantities of hazardous materials. The policy and exemption does not apply to Biological Substance, Category A materials or Radioactive Materials.

DEFINITIONS

Hazardous material: any item or agent (biological, chemical, physical) which has the potential to cause harm to humans, animals, or the environment, either by itself or through interaction with other factors. For more information regarding individual hazard classes see 49 CFR reference in the table A.

Materials of Trade: Materials of trade are 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 repellant, fire extinguishers)
- To support the operation or maintenance of motor vehicles/auxiliary equipment. (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. (e.g. academic and laboratory research, pest control, plumbing, painting). In other words, this exemption only applies to University employees transporting materials for University business, not commercial carriers (e.g. FedEx).

Expansion ration: The volume of a given amount of a substance in liquid or solid form compared to the volume of the same amount of substance in gaseous form, at a standard temperature and pressure.

Reportable quantity: ('RQ"): quantity of a EPA listed material (http//www.epa.gov/ceppo/pubs/title3.pdf), that if released outside the facility, requires notification to USA Safety and Environmental Compliance who will determine applicable reporting requirements to local, state and federal authorities. Note: while the EPA list contains reportable quantities (RQs) for hazardous waste, at no time is hazardous waste allowed to be transported in private motor carriers. All

departments must contact Safety and Environmental Compliance (SEC) for guidance regarding their hazardous waste,

MOT PACKAGING AND MARKING REQUIREMENTS

- The packaging must be either the manufacturer's original package or a package of equal or greater strength and integrity.
- Packaging must be leak proof for liquids and gases and sift proof for solids.
- Outer packaging is not required for receptacles such as cans or bottles that are secured against movement in cages, bins, boxes or compartments.
- The package must be marked with a common name such as spray paint, or a proper shipping name from the Hazardous Material regulations, such as isopropyl alcohol,, exempt human specimen, etc.
- For Class 6, Division 6.2, Category B materials OSHA requires that at biohazard label be placed on the outer or inner packaging.
- Packages must be securely closed, secured against movement and protected against damage.
- 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.
- A DOT specification cylinder (except DOT specification 39) must be marked and labeled as prescribed in 49 CFR 178 subpart C. Each DOT-39 cylinder must display the markings specified in 178.65(i).
- 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 MOT requirements.
- The aggregate gross weight of all materials of trade on a motor vehicle may not exceed 11.33 kgs (25 lbs.).
- Hazardous materials used as refrigerant for specimens:
    - Cryogenic liquids in Dewar flasks, insulated cylinders, insulated portable tanks, insulated cargo tanks, and insulated tank cars, designed and constructed so that the pressure in such packaging will not exceed 25.3 psig under ambient temperature conditions during transportation are not subject to the regulations. [1] The container must be marked as "liquid nitrogen".
    - Dry Ice, when transported over the roadway, is not subject to the regulations [2]:however, the container must be designed and constructed to permit the release of carbon dioxide gas in order to prevent a buildup of pressure that could rupture. Also, the package must be marked "Carbon dioxide, solid" or "Dry ice".

[1] US Department of Transportation Pipeline and Hazardous Materials Safety Administration letter of interpretation Ref. No. 10-0101

[2] US Department of Transportation Pipeline and Hazardous Materials Safety Administration letter of interpretation Ref. No. 06-131

- Personnel should always try to use the least amount of refrigerant necessary to maintain the integrity of the materials during transport.

RESPONSIBILITIES

1) Carriers must know the following
    - General knowledge of MOT regulations
    - Quality limitations
    - Packaging requirements
    - Marketing and labeling requirements
2) MOT regulations does not require:
    - Shipping papers (shipper's declaration)
    - Emergency response information
    - Placarding
    - Formal training or retention of training records
3) If refrigerant is required for the shipment then:
    - The major safety concern is asphyxiation of personnel operating the vehicle due to displacement of oxygen by gaseous nitrogen (N2) or carbon dioxide (CO2). Even though the mounts of refrigerant being transported are small, the expansion ratios for these materials are quite large (expansion ratio liquid N2=1:694 & solid CO2=1:554) and they can quickly displace the O2 in the environment. Although these particular materials are not regulated under the MOT exemption, they are still considered to be dangerous
    - Materials must be labeled as either dry ice or liquid nitrogen and the operator must have knowledge of the materials that are being transported
    - Materials should be transported in the trunk of a vehicle if possible. However, if not, then there should be adequate fresh air ventilation in the vehicle. This can be achieved by rolling the windows down during transport.
    - Materials must be in secondary containment, properly secured, properly vented and there must be enough absorbent material to absorb all of the liquid, to include the refrigerant.
4) USA requires that there be a spill kit in each vehicle suitable for cleaning up the materials that are being transported. In general, this would consist of personal protective equipment (e.g. gloves, eye protection), absorbent materials, broom and dustpan, and bags to contain clean-up debris. If refrigerant is used during the transport, then the operator should have a pair of cryogenic gloves available in the vehicle.
5) All spills of materials in transport must be reported to USA SEC immediately.
6) Hazardous materials must never be taken on any form of public transportation.
7) Liability and Insurance coverage:
    - It is highly recommended that materials of trade be transported in a University owned vehicle. Notify SEC prior to transport.
    - If an employee chooses to utilize his or her own personal vehicle for transport, they are strongly encouraged to discuss coverage scenarios with their own insurance carriers.

SANCTIONS

Improper transport of hazardous materials can lead to serious injuries, University property damage/loss, and personal property damage/loss. Injuries or accidents resulting from disregard for proper packaging , marketing, or communication outlined by this MOT exemptions document can result in inspection and citations by regulatory agencies, including DOT. All penalties or fines are the responsibility of the University department in which the infraction occurred. Grant funding may not be used to pay regulatory fines or penalties. Civil and criminal penalties may result from the improper disposal of hazardous materials.

Table A

HAZARDOUS MATERIALS TABLE FOR MATERIALS OF TRADE (MOT) EXEMPTION

In order to qualify for this exemption, the type of the material and the amount of the material are also regulated. A material of trade is limited to the following DOT hazard classes ONLY:

Hazard	DOT Class	Maximum Quantity by PG (Packing Group From DOT Hazmat Table)	Examples	Definitions found in: 49 CFR.173.XXX
Flammable Gasses	Class 2, Division 2.1	I 220 lbs. II 220 lbs. III 220 lbs.	Propane, Acetylene	115
Non-Flammable Gasses	Class 2, Division 2.2	I 220 lbs. II 220 lbs. III 220 lbs.	Nitrogen	115
Flammable and combustible liquid	Class 3	I 1lb / 1 Pint II 66 lbs. / 8 gallons III 66 lbs. / 8 gallons	Pint Solvents, Paints	120
Flammable solid	Class 4 Division 4.1	I 1 lb./1 pint II 66 lbs./ 8 gallons III 66 lbs./8 gallons	Charcoal	124
Spontaneous Combustible	Class 4 Division 4.3	II 1 oz. III 1 oz.	Test Kits	124
Oxidizer	Class 5 Division 5.1	I 1 lb./1 pint II 66 lbs./ 8 gallons III 66 lbs./8 gallons	Bleaching Compounds	128
Organic Peroxide	Class 5 Division 5.2	I 1 lb./1 pint II 66 lbs./ 8 gallons III 66 lbs./8 gallons	Benzoyl Peroxide	128
Toxic Materials	Class 6 Division 6.1	I 1 lb./1 pint II 66 lbs./ 8 gallons III 66 lbs./8 gallons	Pesticides	132
Biological Substance Category B (>1 container/pkg.)	*Class 6 Division 6.2	Combination Package Inner Package <1.1 lbs./0.5 Lt Total Package <8.8 lbs./ 4 Lt	Salmonella, Diagnostic Specimens	132
Biological Substance Category B (>1 container/pkg.)	*Class 6 Division 6.2	Combination Package Total Package <35.2 lbs./ 16 Lt	Salmonella, Diagnostic Specimens	132
Regulated Medical Waste (Not Category A)	*Class 6 Division 6.2	Combination Package Inner Package <8.8 lbs./ 4 Lt Total Package <35.2 lbs./16 Lt	Sharps Containers	132
Corrosive Materials	Class 8	I 1 lb./1 pint II 66 lbs./ 8 gallons III 66 lbs./8 gallons	Battery Acid, Muriatic Acid	136
Miscellaneous	Class 9	I 1 lb./1 pint II 66 lbs./ 8 gallons III 66 lbs./8 gallons	Dry Ice	140
Other Regulated Materials	ORMD	None	Hair Spray, Nail Polish	144

*NOTE: MOT exemption does not apply to Biological Substances, Category A Materials or Radioactive Materials.