DOT Hazardous Materials and Regulated Medical Waste

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Training will include the following:

- Code of Federal Regulations: Title 49 - Transportation
- General Awareness and Familiarization
- Function – Specific Training: Preparing Regulated Medical Waste (RMW) for Transportation by MED-FLEX, Inc.
- Hazardous Waste Definition
- Regulated Medical Waste Definitions, Category and Classifications
- Training Requirements
- Packaging Requirements
- Proper Packing
- Storage Requirements
- Shipping Papers
- OSHA Bloodborne Pathogen Standard
- Accident Avoidance and Safety
- Emergency Response
- Security Awareness
Title 49 – Transportation

49 CFR – 171.2

(c) Each person who performs a function covered by or having an effect on a specification or activity prescribed in part 178, 179, or 180 of this subchapter, an approval issued under this subchapter, or an exemption or special permit issued under subchapter A of this chapter, must perform the function in accordance with that specification, approval, an exemption or special permit, as appropriate.

(e) *No person may offer or accept a hazardous material for transportation* in commerce unless the hazardous material is properly classed, described, packaged, marked, labeled, and in condition for shipment as required or authorized by applicable requirements of this subchapter or an exemption or special permit, approval, or registration issued under this subchapter or subchapter A of this chapter.
A person who knowingly violates a requirement of the Federal hazardous material transportation law, an order issued thereunder, this subchapter, subchapter C of this chapter, or a special permit or approval issued under this subchapter applicable to the transportation of hazardous materials or the causing of them to be transported or shipped is liable for a civil penalty of not more than $50,000 and not less than $250 for each violation, except the maximum civil penalty is $100,000 if the violation results in death, serious illness or severe injury to any person or substantial destruction of property, and a minimum $450 civil penalty applies to a violation relating to training. When the violation is a continuing one, each day of the violation constitutes a separate offense.
Many agencies have regulations that govern Regulated Medical Waste (RMW):

- **Department of Transportation**
  - Code of Federal Regulations: Title 49 – Transportation

- **Occupational Safety and Health Administration (OSHA)**
  - Code of Federal Regulations: Title 29 – Occupational Safety and Health Standards
  - 29 CFR – 1910.1030: Bloodborne Pathogens

- **State of New Jersey – Department of Environmental Protection**
  - New Jersey Administrative Code: Title 7:26-3A – Regulated Medical Waste

- **State of Pennsylvania – Department of Environmental Protection**
  - The Pennsylvania Code: Chapter 284 – Infectious and Chemotherapeutic Waste
Hazardous waste is waste that is dangerous or potentially harmful to our health or the environment. Hazardous wastes can be liquids, solids, gases, or sludges. They can be discarded commercial products, like cleaning fluids or pesticides, or the byproducts of manufacturing processes.

- **Listed Wastes:** Waste that the EPA has determined are hazardous. The lists include the F-list (waste from common manufacturing and industrial processes), K-list (waste from specific industries), and P-list and U-list (waste from commercial chemical products... Pharmaceutical, chemotherapeutic medicines, etc.)

- **Characteristic Waste:** D-list wastes that do not meet any of the listings above but exhibit: ignitability, corrosivity, reactivity, or toxicity.

- **Mixed Wastes:** Waste that contains both radioactive and hazardous waste components

- **Universal Waste:** Batteries, pesticides, mercury containing equipment and lamps with fluorescent bulbs (See your State for the exact regulations pertaining to Universal Waste)
Hazardous and dangerous materials are divided into 9 classes on the basis of risk they present. They can assign more than 1 class if they present additional hazards. Each class has a primary hazard and can have numerous sub-hazards, called divisions. Vehicles transporting hazardous waste may be required to display a placard indicating the hazard contained inside the vehicle.

There is a DOT exemption stating that vehicles carrying Regulated Medical Waste (RMW) are exempt from the placarding requirements of Division 6.2 material. They only need to display a biohazard symbol on their vehicle. The Bloodborne Pathogens Standard requires that all containers used to store, transport or ship blood or other potentially infectious material must display a biohazard symbol.

Regulated Medical Waste is a Class 6 (Poisonous / Toxic Material), 6.2 (Infectious Substance), Category B material, UN Identification number UN3291, Packaging Group - PGII, with a DOT shipping name of “Regulated Medical Waste, n.o.s, UN3291.”
DOT Hazard Class and Divisions

Class 1: Explosives
  Divisions: 1.1, 1.2, 1.3
    1.4, 1.5, 1.6

Class 2: Gases
  Divisions: 2.1, 2.2, 2.3

Class 3: Flammable Liquid
  & Combustible Liquid

Class 4: Flammable Solid,
  Spontaneously, and
  Dangerous When Wet

Class 5: Oxidizer and
  Organic Peroxide

Class 6: Poison (Toxic) and
  Poison Inhalation Hazard

Class 7: Radioactive

Class 8: Corrosive

Class 9: Miscellaneous
Definition of Regulated Medical Waste (RMW):

Is any solid waste, generated in the diagnosis, treatment (e.g. provision of medical services), or immunization of human being or animals, in research pertaining thereto or in the production or testing of, biologicals, but does not include any hazardous or radioactive waste.

Liquid or semi-liquid blood or other potentially infectious materials; contaminated items that would release blood or other potentially infectious materials in a liquid or semi-liquid state if compressed; items that are caked with dried blood or other potentially infectious materials and are capable of releasing these materials during handling; contaminated sharps; and pathological and microbiological wastes containing blood or other potentially infectious material.

**Cultures and stocks:** Cultures and stocks of infectious agents associated biologicals, including: cultures from medical and pathological laboratories; cultures and stocks of infectious agents from research and industrial laboratories; waste from the production of biologicals; discarded live and attenuated vaccines; and culture dishes and devices used to transfer, inoculate and mix cultures.

**Pathological waste:** Human pathological wastes, including tissues, organs, and body parts and body fluids that are removed during surgery or autopsy, or other medical procedures, and specimens of body fluids and their containers. Body fluids include amniotic, cerebrospinal, synovial, pleural, peritoneal and pericardial fluids; and semen and vaginal secretions.
Human Blood and Blood Products: Liquid waste human blood; blood; items saturated and/or dripping with human blood; or items that or items that were saturated and/or dripping with human blood that are now caked with dried human blood; including serum, plasma, and other blood components, and their containers, which were used or intended for use in either patient care, testing and laboratory analysis or the development of pharmaceuticals. Intravenous bags (only if they have come into contact with blood or other regulated body fluid), soft plastic pipettes and plastic blood vials are also included in this category.

Sharps: Sharps that were used in animal or human patient care or treatment or in medical research, or industrial laboratories, including sharp, or potentially sharps if broken, items such as, but not limited to, hypodermic needles, all syringes to which a needle can be attached (with or without the attached needle) and their components, including those from manufacturing research, manufacturing and marketing, pasteur pipettes, scalpel blades, blood vials, carpules, needles with attached tubing, acupuncture needles and culture dishes, (regardless of presence of infectious agents). Also included are other types of broken or unbroken glassware that were in contact with infectious agents, such as used slides and cover slips.

Animal Waste: Contaminated animal carcasses, body parts, and bedding of animals that were known to have been exposed to infectious agents during research (including research in veterinary hospitals), production of biologicals, or testing of pharmaceuticals. Carcasses that are not know to have been exposed to agents infectious to humans are considered Waste Type ID 25, and, therefore, are not included in this class.
Isolation Wastes: Biological waste and discarded materials contaminated with blood, excretion, exudates, or secretions form humans who are isolated to protect others from certain highly communicable diseases, or isolated animals known to be infected with highly communicable diseases.

Unused Sharps: The following unused, discarded sharps, that were intended to be used: hypodermic needles, suture needles, syringes, and scalpel blades.

49 CFR 173.134

Category A Materials: 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 occurs. A Category A substance must be assigned one of two identification numbers: (MED-FLEX, Inc. does not accept Category A materials)

UN2814 – Infectious substance affecting humans, or humans and animals
UN2900 – infectious substance which cause disease only in animals

Category B Materials: 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 occurs.
Who needs to be trained?

Any person who is employed and in the course of such employment directly affects hazardous materials transportation safety. This includes all employees that load, unload, or handle hazardous materials; prepare hazardous materials for pickup and/or transportation. This also includes those employees who sign the shipping documents.

Initial Training:
A new employee, or employee who changes job functions, may perform hazmat job functions before completing training provided the employee does so under the direct supervision of a properly trained and knowledgeable hazmat employee, the hazmat training is completed within 90 days of employment or change in job function.

Recurrent Training:
Hazmat employees are required to be retrained every 3 years.

Training Records:
Must include the hazmat employee’s name, completion date of most recent training, training materials (copy, description or location), name and address of hazmat trainer and certification that the hazmat employee has been trained and tested.
Packaging Requirements

General Packaging Requirements: 49 CFR 173.24, 173.24a, 173.134

Each package used for shipment must be designed, constructed, maintained, filled and closed such that under normal conditions of transportation, including the effects of temperature and vibration, there is not an identifiable release of hazardous materials to the environment.

Packaging must be:

- Rigid
- Leak-resistant
- Closeable
- Impervious to moisture
- Sufficiently strong to prevent tearing or bursting under normal conditions of use and handling
- Labeled with a universal biohazard symbol on a contrasting background
- List the proper DOT shipping name and identification number
- Show proper orientation arrows
- Labeled with the generator or facilities name, address, telephone number, date, weight (as per State Reg)
All regulated medical waste must be placed into a rigid outer packaging or reusable medical waste container that meets all applicable Department of Transportation regulations prior to transportation.

- Rigid outer packaging includes: corrugated medical waste boxes, reusable medical waste containers, wheeled carts or bulk outer packaging
- All rigid outer packaging and reusable medical waste containers must be lined with a red biohazard bag that meets the DOT regulation ASTM D 1709-01 and the 165 gram dart test
- Sharps containers must be securely closed and locked to prevent spills or protrusions prior to being placed into the rigid outer packaging or the reusable medical waste container
- Any loose liquids in excess of 20 cubic centimeters must be placed into a leak-proof container prior to being placed into the rigid outer packaging or the reusable medical waste container
- Rigid outer packaging and reusable medical waste containers should never be over-filled as this will compromise the integrity of the packaging and the reusable container
No hazardous or medical waste material may remain on the outside of the rigid outer packaging or reusable medical waste container after being filled and closed.

A rigid outer package containing Class 6.2 (Infectious Waste) material may not be combined with any other hazardous material. Chemotherapeutic, pharmaceutical or pathological waste must be placed in its own packaging or container in order for it to be properly treated in the manner that your State regulations require. (e.g., incineration)

Once the rigid outer packaging or reusable medical waste container is full, the red biohazard bag must be tied with a single knot or twisted and folded over and then tightly taped.

The rigid outer packaging lid must then be securely closed and taped shut if necessary (cardboard medical waste boxes).

A white label must be attached to the rigid outer packing showing the generator/facility’s name, address, date, and State issued generator identification number (if applicable by your State regulations).

A yellow “CHEMO” label or an orange “PATH” label must be attached to any rigid outer packages containing Chemotherapeutic or Pathological waste. “Incinerate Only” label must be attached to any containers containing Non-Hazardous Pharmaceutical waste. (Not a DOT requirement, but a Best Management Practice)
Examples

Correct  Correct  Correct

Incorrect  Incorrect  Incorrect

Incorrect  Incorrect  Incorrect

By: MED-FLEX, Inc.
Proper Storage of Regulated Medical Waste (RMW):

- Store the Regulated Medical Waste in a manner and location that maintains the integrity of the packaging and provide protection from water, rain and wind
- Maintain the Regulated Medical Waste in a non-putrescent state
- Lock all outdoor storage areas containing Regulated Medical Waste to prevent unauthorized access
- Limit access to interior storage areas to authorized employees only; Do not store RMW in a public areas
- Store the Regulated Medical Waste in a manner that affords protection from animals, insects and rodents
- All Regulated Medical Waste must be stored in containers marked with the universal biohazard symbol
Shipping Papers and Requirements:

Shipping papers are the required documentation that must accompany all shipments of hazardous material.

According to the Department of Transportation (DOT), shipping papers can be in the form of a shipping order, bill of lading, manifest, tracking form, or other shipping documents that contain the information required in 49 CFR 172.202, 172.203 and 172.2041.

All Shipping Papers must containing the following information:

- Material Identification Number: (49 CFR 172.101) e.g. UN3291
- Proper Shipping Name: (49 CFR 172.101) e.g. Regulated Medical Waste, n.o.s.
- Hazard Class: (49 CFR 172.101) e.g. 6.2
- Packaging Group: (49 CFR 172.101) e.g. PGII
- Total Quantity of Waste Shipped: e.g. lbs., number of containers, cubic feet
Emergency Response Number: e.g. Emergency contact telephone number

Shipper’s Certificate: (49 CFR 172.204) “I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name, and are classified, packaged, marked and labeled/placarded, and are in all respects in proper condition for transport according to applicable international and national governmental regulations”

Customer must legibly print their name, sign and date the shipping paper

By signing the shipping paper, the Customer is agreeing with the volume or number of containers of waste being shipped

MED-FLEX employee must print their name, sign and date the shipping paper

Customer must retain their shipping papers for a period of 2 years as per Department of Transportation regulations. Individual State regulation may require the customer to retain their shipping papers for a longer period of time….e.g. New Jersey (3 years) and Pennsylvania (5 years)

MED-FLEX, Inc. must retain a copy of the customers shipping papers for a period of 1 year as per Department of Transportation regulations. Individual State regulation may require MED-FLEX, Inc. to retain the customer's shipping papers for a longer period of time…… e.g. New Jersey (3 years) and Pennsylvania (5 years)
OSHA Bloodborne Pathogen Standard:

The standard’s requirement state what employers must do to protect workers who are occupationally exposed to blood or other potentially infectious materials, as defined in 29 CFR 1910.1030 (Bloodborne Pathogens Standard). That is, the standard protects workers who can reasonably be anticipated to come into contact with blood or other potentially infectious materials as a result of doing their job duties. In general, the standard requires employers to:

- Provide a safe and healthy work environment
- Establish an exposure control plan and update the plan annually
- Implement the use of universal precautions
- Identify and use engineering controls
- Identify and ensure the use of work practice controls
- Provide personal protective equipment (PPE), such as gloves, gown, eye protection and masks
- Make available hepatitis B vaccinations to all workers with occupational exposure
- Make available post-exposure evaluation and follow-up to any occupationally exposed worker who experiences an exposure incident
- Use labels and signs to communicate hazards
- Provide information and training to workers
- Maintain worker medical and training records
- Needle sticks are the most common healthcare accident
- Always use Personal Protective Equipment (PPE), such as gloves, lab coats, eye protection, face shield, etc. when handling regulated medical waste
- Never recap a needle or syringe
- Employees must always be aware of the potential for a sharps injury
- Dispose of all sharp and glass items and metal instruments into an approved sharps container
- Any items that have the potential to break during transportation must be placed into a sharps container
- Sharps containers must be replaced when contents reach the “FULL LINE”, not when they are overfilled
- All containers and red bags must be securely closed and sealed before moving
- When handling medical waste, the employee should always take the necessary measures to avoid exposure
- Liquids must be solidified or over-packed with a solidifier prior to being transported
- Keep work areas clean, organized and free of contamination
- No eating, drinking, handling or storing of food in areas that medical waste is present
- Wash hand frequently with soap and water
- Employees should know and understand the company’s Exposure Control Plan and Emergency Response Plan
Emergency Response Information:

Any person who offers for transportation, accepts for transportation, transfers or otherwise handles hazardous materials during transportation and at facilities where hazardous materials are loaded for transportation, stored incidental to transportation or otherwise handled during any phase of transportation must immediately have available the following Emergency Response Information:

- The basic description and technical name of the hazardous material, e.g., Regulated Medical Waste, n.o.s.
- Immediate hazards to health
- Risks of fire or explosion
- Immediate precautions to be taken in the event of an accident or incident
- Immediate methods for handling fires
- Initial methods for handling spills or leaks in the absence of fire
- Preliminary first aid measures
- Emergency response telephone number
- The information required above must be printed legibly in English, available for use away from the package containing the hazardous material and presented on the shipping paper
Security Awareness

Components of a security plan:

The security plan must include an assessment of transportation security risks for shipment of the hazardous materials, including site-specific or location-specific risks associated with facilities at which the hazardous materials are prepared for transportation, stored, or unloaded incidental to movement, and appropriate measures to address the assessed risks. At a minimum, a security plan must include the following elements:

- **Personnel security** – measures to confirm information provided by job applicants hired for positions that involve access to and handling of hazardous materials

- **Unauthorized access** – measures to address the assessed risk that unauthorized persons may gain access to the hazardous materials

- **En route security** – measures to address the assessed security risks of shipments of hazardous materials
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