Packing and Shipping Infectious Substances Training Requirements Job Aid

Do you handle, package or ship potentially infectious specimens for transport?

If yes, use this guide to help determine training requirements based on your job function(s).

Job Functions That Require Training

Collect or Handle Potentially Infectious Specimens

You must meet training requirements #1 - 3 below.

Classify Infectious Specimens

(Category A, Category B, or Exempt)

You must meet training requirements #1 - 4 below.

Select Packaging Materials for Infectious Specimen Shipping

You must meet training requirements #1 - 5 below.

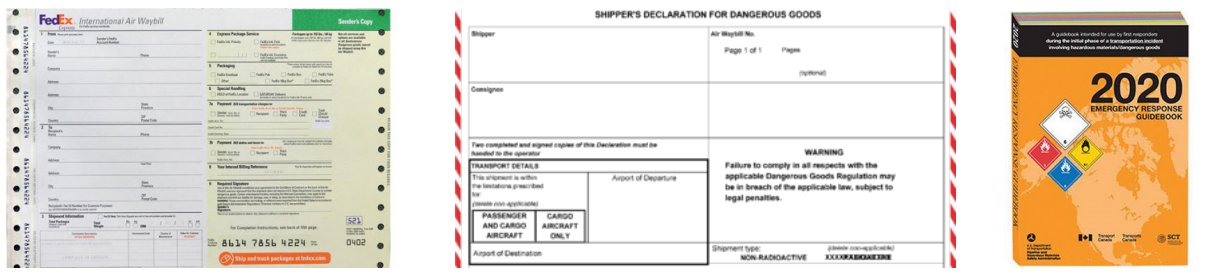
Package, Mark or Label Infectious Specimens for Shipping

You must meet training requirements #1 - 5 below.

Prepare or Keep Infectious Specimen Shipping Documentation

(e.g., Shipper's Declaration for Dangerous Goods form, air waybills, itemized list of contents)

You must meet training requirements #1 - 5 below.



Provide Infectious Specimens for Ground or Air Transport

You must meet training requirements #1 - 5 below.

Transport Infectious Material

(e.g., Couriers, FedEx, UPS)

You must meet training requirements #1 - 5 below.

TRAINING REQUIREMENTS

1. **General awareness/familiarization of the US Department of Transportation (DOT) Hazardous Material Regulations (HMR)**
   Familiarity with the general requirements of the HMR (49 CFR § 100-185) that enables the hazardous material (hazmat) employee to recognize and identify hazmat.
2. **Function specific training (based on duties assigned by employer)**
   Detailed understanding of HMR requirements applicable to the function(s) required to be performed by the hazmat employee (e.g., packaging of Category A or B specimens).
3. **Safety training**
   Training(s) that cover the hazards presented by hazmat, including safe handling, emergency response information, and methods and procedures for accident avoidance (e.g., OSHA Bloodborne Pathogens (29 CFR § 1910.1030), proper specimen collection and handling, and adherence to CDC Standard Precaution Guidelines).
   www.cdc.gov/infectioncontrol/basics/standard-precautions.html
4. **Security awareness training**
   General understanding of the security risks associated with hazmat transportation and the methods designed to enhance transportation security. This training should include methods on how to recognize and respond to possible security threats.
5. **Compliance with the requirements for specific transport mode and carrier**
   - Ground transport: DOT HMR 49 CFR § 100-185.
   - Air transport: Current IATA/ICAO Dangerous Goods Regulations and any carrier-specific (e.g., FedEx, UPS, USPS) requirements.
   - Courier transport: Any courier-specific requirements. Note that couriers will also need proper employer-provided training for transporting infectious material, including spill response.

   In-depth security training
   - Detailed understanding of an employer's security plan including security objectives, specific security procedures, employee responsibilities, actions to take in the event of a security breach, and the organizational security structure.
   - Not applicable to all but must be provided to hazmat employees who handle or perform regulated functions related to the transportation of the materials covered by the security plan or who are responsible for implementing the security plan (e.g., laboratories with a CDC registered Select Agent Program).

Contact your local or state public health laboratory for additional guidance:
www.aphl.org/membership/Pages/memberlabs.aspx

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Additional Packing and Shipping Information and Resources

TRAINING REQUIREMENTS

49 CFR § 100-185 is the US Department of Transportation's (DOT) Hazardous Materials Regulations (HMR) which regulate the transport of hazardous materials. **Personnel who handle, pack or ship hazardous materials (e.g., infectious substances) in commerce are considered hazardous material (hazmat) employees.** All hazmat employees must be trained in their role, and most must be certified. Because your employer decides what tasks you will perform, they alone must ensure you are properly trained and certified to carry out those tasks. **You are a hazmat employee if your employer assigns you to do any of the following tasks:**

- Classify Division 6.2 infectious materials
- Select packaging materials for Division 6.2 materials
- Pack hazardous materials for transport (e.g., infectious substances)
- Label or mark a package that contains hazardous materials
- Prepare or sign a Shipper's Declaration for Dangerous Goods form or shipping paper (e.g., air waybill)
- Transport hazardous materials in commerce

Packing and shipping training requirements vary based on the hazmat employee's job function(s). Training requirements are found in 49 CFR § 172.704 and include:

- General awareness/familiarization training
- Function-specific training
- Safety training
- Security awareness training
- In-depth security training (if subject to security plan requirements and involving transport of select agents and toxins)

Initial Training
Initial training of new hazmat employees, or an employee who changes job functions, must be completed within 90 days of employment or change in job function. A new employee 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.

Refresher Training is required by the International Air Transport Association (IATA) every 2 years and by DOT every 3 years. Laboratories should consult with their accreditation program (e.g., CAP, Joint Commission) for any additional requirements.

Certification
Employers are required to provide training and must document that the hazmat employee has been trained and tested in accordance to the HMR (49 CFR §172.204).

TRAINING(S) MUST BE PROVIDED BY THE EMPLOYER.

Available Packing and Shipping Trainings

CDC free e-Learning shipping training course:
www.cdc.gov/labtraining

APHL shipping training resources:
www.aphl.org/training/Pages/default.aspx

Security awareness free online trainings:
- Iowa State Hygienic Laboratory – Biosecurity for Clinical Laboratories course: www.training-source.org/training/courses
- DOT training: dothazmat.vividlms.com/

Consult with your public health laboratory for any additional trainings they may provide.

Incident Reporting

You must report the release of a hazardous material in any transport mode to DOT. See 49 CFR § 171.15 for telephone or online reporting requirements and 49 CFR § 171.16 for written report requirements.

Shipping Supplies

Shipping supplies are available from several commercial vendors, and some may be available from the testing laboratory or your public health laboratory.

DEFINITIONS

Division 6.2 Infectious Substances
Hazard Class 6 (of 9 total hazard classes) that has two divisions: Division 6.1 (poisonous or toxic material) and Division 6.2 (infectious substances). Division 6.2 infectious substances are known or reasonably expected to contain a pathogen that can cause disease when exposure to it occurs in otherwise healthy humans or animals.

Category A Infectious Substance
An infectious substance in a form capable of causing permanent disability, life-threatening, or fatal disease in otherwise healthy humans or animals if exposure occurs is classified as Category A. Category A pathogens can be found on the Indicative Category A list within the Dangerous Goods Regulations. Examples include cultures of *Bacillus anthracis*, and Ebola virus specimens in any form. Category A specimens pose a higher degree of risk than Category B specimens (49 CFR § 173.196). The Category A Indicative List may also be accessed from the CDC website: www.cdc.gov/labtraining/docs/job_aids/packing_and_shipping/Step_2_DOT_Job_Aid_508.pdf

Category B Biological Substance
An infectious substance not in a form generally capable of causing permanent disability, life-threatening, or fatal disease in otherwise healthy humans or animals if exposure occurs is classified as Category B. The majority of infectious specimens shipped from clinical laboratories are classified as Category B. Examples are stool samples for an infectious disease outbreak investigation, a *Salmonella* culture, most STD/STI specimens, and COVID-19 swabs (49 CFR § 173.199).

Patient Specimen
Material collected directly from humans or animals, including excreta, secreta, blood and its components, tissue and tissue swabs, body parts, and specimens in transport media (e.g., transport swabs, culture media, and blood culture bottles).

Culture
An infectious substance containing a pathogen that is intentionally propagated. A specimen placed in culture media for immediate transportation would be considered a culture since it can propagate during transportation.

Exempt Human or Animal Specimen
A human or animal specimen for which there is minimal likelihood that a pathogen is present. An element of professional judgment is required for this classification. Exempt classifications apply to specimens transported by air, but not by ground.

Exceptions
Exceptions for specimens and other material that has been classified as non-hazardous include neutralized/inactivated pathogens, samples known not to contain infectious substances, dried blood spot or fecal occult blood samples, environmental samples (e.g., food, water) considered not to pose a significant health risk and samples for transplant/transfusion. Samples that can be classified as excepted (non-infectious) are considered not subject to the DOT HMR when transported by ground.

Contact your local or state public health laboratory for additional guidance:
www.aphl.org/membership/Pages/memberlabs.aspx

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