

Shipping Hazardous Materials by Air

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Definitions

- Dangerous Goods - "Dangerous goods are articles or substances which are capable of posing a risk to health, safety, property, or the environment and which are shown on the list of dangerous goods in these regulations or which are classified according to these regulations"
- Operator - A person, organization or enterprise engaged in or offering to engage in an aircraft operation.

Definitions

- Shipper - "One that sends goods by any form of conveyance. The combination of functions described individually in the Regulations (packing, marking, labeling, etc.) relating to the offering of Dangerous Goods in commerce."
- State - In the IATA Regulations, the term State is means Country. State of origin means the same as Country of Origin.

Who is IATA?

- IATA is an organization comprised of over 250 member airlines worldwide committed to the safe transport by air of hazardous articles and substances.
- The first regulations were published in 1956 as the *IATA Restricted Articles Regulations*.
- IATA is responsible for devising and implementing new regulations and changes in existing regulations.
- IATA recognized the emerging need to ship hazardous materials by air.

Purpose

- The regulations are designed to permit the safe transportation of these materials, while recognizing the unique concerns presented by air travel.
- These safety concerns are mitigated by forbidding some highly hazardous materials, limiting the quantity of certain materials that can be shipped, and specifying packaging requirements.

Applicability for Colleges & Universities

- Applies to all IATA member and associate member airlines and to "...all shippers and agents that offer consignments of dangerous goods to these operators"
- Responsibilities include
 - be in general compliance with regulations
 - ensure that articles or substances are not forbidden
 - properly identify, classify, mark, label, package and documented according to IATA regulations

Applicability for Colleges & Universities

- Options to maintain compliance:
 - Provide dangerous goods shippers with the appropriate training so that they may correctly ship the goods on their own. Training could be in person or via the web.
 - Provide the service of actually shipping material for individuals in need of shipping dangerous goods.
 - One school provides the shipping service for lab personnel, however, if the lab is going to be a repeat shipper, then training is provided so that lab can ship materials on their own.

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Training Requirements

- Training is required for all individuals who affect the air transportation safety of dangerous goods.
- Trainings can be tailored appropriately to the specific needs and responsibilities of personnel.
- IATA indicates which items must be covered at a minimum for different categories of personnel.

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Training Requirements

- Typical personnel requiring training within colleges and universities:
 - Shipping and receiving personnel
 - Museum personnel
 - Chemistry and Sciences personnel
 - Individuals working w/ radioactive materials
 - Individuals working w/ biological or infectious materials

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Training Requirements

- IATA Training Curricula includes:
 - General Philosophy
 - Limitations
 - General Requirements for shippers
 - Classification
 - List of dangerous goods
 - General packing requirements
 - Packing instructions
 - Labeling and marking
 - Shipper's declaration and other documentation
 - Acceptance procedures
 - Storage and loading procedures
 - Pilots' notification
 - Provisions for passengers and crew
 - Emergency procedures

Limitations

- Forbidden Dangerous Goods
- Hidden Dangerous Goods
- Dangerous Goods carried by Passengers or Crew
- Excepted Quantities
 - Very small quantities of specific materials may be exempt from the regulations.
- Limited Quantities
 - Small quantities of specific materials may be shipped in good quality combination packaging without following packing instructions.

General Requirements for Shippers

- Shippers must follow all Department of Transportation (DOT) Regulations to transport the material to the operator as the material will likely be transported over the road before arriving at the airport.
- It is the shipper's responsibility to comply with DOT and IATA Regulations when offering a consignment of dangerous goods to an operator.

Classification

- "Dangerous Goods are defined as those goods which meet the criteria of one or more of nine UN hazard classes and one of three UN Packing Groups."
- United Nations Hazard Classes and Packing Groups:
 - Class 1: Explosives
 - Class 2: Gases
 - Class 3: Flammable Liquids
 - Class 4: Flammable Solids; Spontaneously Combustible, Dangerous When Wet
 - Class 5: Oxidizing Substances and Organic Peroxides
 - Class 6: Toxic and Infectious Substances
 - Class 7: Radioactive Material
 - Class 8: Corrosives
 - Class 9: Miscellaneous Dangerous Goods
- Packing Groups I, II and III

List of Dangerous Goods

- The List of Dangerous Goods, located in Section 4.2 of the Dangerous Goods Regulations, contains ~3000 articles.
- Although similar, the contents of the List of Dangerous goods is not the same as the DOT's Hazardous Materials Table.
- Similar to the DOT's HazMat Table, the proper shipping names are identified in bold, and the hazard class, UN number and Packing on the List of Dangerous Goods.

General Packing Requirements

- Packaging dangerous goods is the shipper's responsibility.
 - The shipper must limit the quantity of dangerous goods in accordance with the List of Dangerous Goods.
 - The shipper must use the correct packaging and follow the appropriate packing instructions, assembling and securing all components of the packaging exactly in the manner intended.
 - The shipper must ensure that all of his responsibilities associated with the package have been completed correctly when he presents the package to an operator.

Packing Instructions

- Each article listed in the List of Dangerous Goods has a packing instruction associated with it.
- The packing instruction will detail how the dangerous good is to be packaged.
- The packing instructions indicate the different types of packaging materials that are suitable for different dangerous goods, allowing for some flexibility.
- The packing instructions also indicate the maximum quantity allowed in a single package.

Shipper's Declaration

- IATA requires two completed copies
- Shipper's responsibility to complete correctly
- Serves as the tracking device for the shipment. IATA requires that you hold onto shipping records for 375 days.

Who's Been Inspected?

- In recent months the FAA has inspected:
 - Harvard University
 - Massachusetts Institute of Technology
 - Yale University
 - University of New Hampshire
 - Boston University
 - Massachusetts General Hospital

Inspection Authority

- The Federal Aviation Administration (FAA) is responsible for the safety of civil aviation. The Federal Aviation Act of 1958 created the agency, under the name Federal Aviation Agency. We adopted our present name in 1967 when we became a part of the Department of Transportation. The FAA's major roles include:
 - regulating civil aviation to promote safety;
 - encouraging and developing civil aeronautics, including new aviation technology;
 - developing and operating a system of air traffic control and navigation for both civil and military aircraft;
 - researching and developing the National Airspace System and civil aeronautics;
 - developing and carrying out programs to control aircraft noise and other environmental effects of civil aviation; and
 - regulating U.S. commercial space transportation

Inspection Authority

- Enforcement of IATA in the United States is handled by the Federal Aviation Administration (FAA).
- 49 CFR 171.11 specifically allows individuals to follow the International Civil Aviation Organization (ICAO) Technical Instructions for air shipment.
- Differences between the ICAO and IATA Regulations are identified in the IATA Dangerous Goods Regulations.
