Packaging and Transportation of Diagnostic Specimens and Infectious Materials

The U.S. Department of Transportation (DOT) and International Air Traffic Association (IATA) have specifically defined UN2814 Infectious Substance Category A and Biological Substance Category B and have provided packaging requirements for their transportation.

Category A
Substance is an infectious substance which is transported in a form that, when exposure to it occurs, is capable of causing permanent disability, or life threatening or fatal disease to otherwise healthy humans or animals. Examples include cultures of: *Bacillus anthracis*, Hepatitis B virus, and Herpes B virus. This list is not all-inclusive.

Category A substances are packaged and transported by trained personnel following DOT and IATA regulatory requirements.

Category B
Substance is an infectious substance not in a form generally capable of causing disability, life threatening illness or fatal disease (eg, HIV, hepatitis, West Nile, and severe acute respiratory syndrome. This list is not all-inclusive.)

- Packaging of Category B substances for Hospital or Contract Carriers Using Motor Vehicles on Public Roads
  — Specimens must be triple packaged, consisting of a primary container, a secondary packaging, and an outer packaging.
  — Primary containers (ie, test tube, specimen jar, etc.) must be packed in secondary packaging in such a way that, under normal conditions of transport, they cannot break, be punctured, or leak.
    • Primary receptacles must be leak proof.
    • The volume of each primary container must not exceed 1,000 mL or 1 liter.
  — Secondary packaging must be secured in outer packaging with suitable cushioning material such that any leakage of the contents will not impair the protective properties of the cushioning material or the outer package.
    • Secondary package must be leak proof.
    • The secondary package may be coolers, plastic canisters, sealed plastic bags, sealed Styrofoam® containers, or screw-capped cans.
    • If several fragile primary containers are placed in a single secondary packaging, they must be individually wrapped or separated so as to prevent them from breaking in transit.
    • Absorbent material must be placed between primary and secondary packaging and must be of sufficient quantity to absorb entire contents of the primary receptacles (eg, cellulose pads, cotton balls, paper towels, and commercial absorbent packets).
    • An orange and black “biohazard” symbol must be affixed to the outer surface of the secondary container.

Transporting Specimens Within a Hospital Facility

- All specimens transported within a hospital facility must be in leak proof containers.
- Specimen containers that may be contaminated or may leak must be transported in leak proof secondary packaging.
- The time and transportation route should be carefully considered to minimize the potential exposure to employees, patients, and visitors.