

## University of California, Irvine

### Instructions for Shipping Dangerous Goods in Excepted Quantities

#### Applicability

Small quantities of certain dangerous goods can be shipped without the Shipper's Declaration for Dangerous Goods and with less labeling requirements. Only the following may be shipped as Dangerous Goods in Excepted Quantities:

- a) Substances of Division 2.2 without a subsidiary risk but excluding UN1950, UN2037, UN2857, and UN3164;
- b) Substances of Class 3, all packing groups (PG), excluding those in PG I with a subsidiary risk and UN1204, UN2059, and UN3473;
- c) Substances of Class 4, PG II & III but excluding all self-reactive substances and UN2555, UN2556, UN2557, UN2907, UN3292, and UN3476;
- d) Substances of Division 5.1, PG II & III;
- e) Substances of Division 5.2, only when contained in a chemical kit, first aid kit or polyester resin kit;
- f) Substances of Division 6.1, except those having an inhalation toxicity of PG I;
- g) Substances of Class 8, PG II & III, but excluding UN1774, UN2794, UN2795, UN2800, UN2803, UN2809, UN3028, and UN3477;
- h) Substances of Class 9, other than carbon dioxide, solid, genetically modified organisms, and genetically modified microorganisms. All articles are excluded.

#### Step 1: Classification and Identification

You must first determine the Proper Shipping Name for your material, if it is not specifically listed in the List of Dangerous Goods then it will get a generic name based on definitions of dangerous goods. The materials characteristics will determine the hazard class and packing group the material will be assigned.

To determine the proper shipping name:

- a) Check the List of Dangerous Goods to see if your material is specifically listed
- b) Refer to the product's safety data sheet (SDS) to see if they list the proper shipping name in the transportation section
- c) Contact Environmental Health and Safety for assistance.

Once you have determined the Proper Shipping Name or the hazard class and packing group number you can look up the Proper Shipping Name in the List of Dangerous Goods (sec. 4 of the IATA manual). Then look up the Excepted Quantity Code in column F and compare to IATA Table 2.7.A to determine the volume of material allowed per container and package. If you do not have access to the List of Dangerous Goods contact Environmental Health and Safety for assistance.

- a) For gases, the volume indicated for the packaging refers to the water capacity of the receptacles.
- b) Where dangerous goods for which different codes are assigned are packaged together the total quantity allowed must be the most restrictive.

IATA Table 2.7.A

Code	Maximum quantity per inner packaging	Maximum quantity per outer packaging
E0	Not permitted as Excepted Quantity	
E1	30g/30mL	1kg/1L
E2	30g/30mL	500g/500mL
E3	30g/30mL	300g/300mL
E4	1g/1mL	500g/500mL
E5	1g/1mL	300g/300mL

### Step 2: Packing and Package Tests

Packaging used for the transport of dangerous goods in excepted quantities must be in compliance with the following (sometimes referred to as a triple pack):

- a) Inner packaging must be constructed of plastic, glass, porcelain, stoneware, earthenware, metal or plastic and be at least 0.22mm thick. The closure on each inner packaging must be secured with wire, tape or other means and be leak proof and compatible with the material.
- b) Intermediate packaging must contain cushioning material that will absorb all of the inner packaging contents, if there were to be a breakage or leak. The dangerous goods in the package must not react dangerously with cushioning, absorbent and packaging.
- c) Outer packaging must be strong and rigid that is either UN rated or complies with the following package tests:

#### Package Test

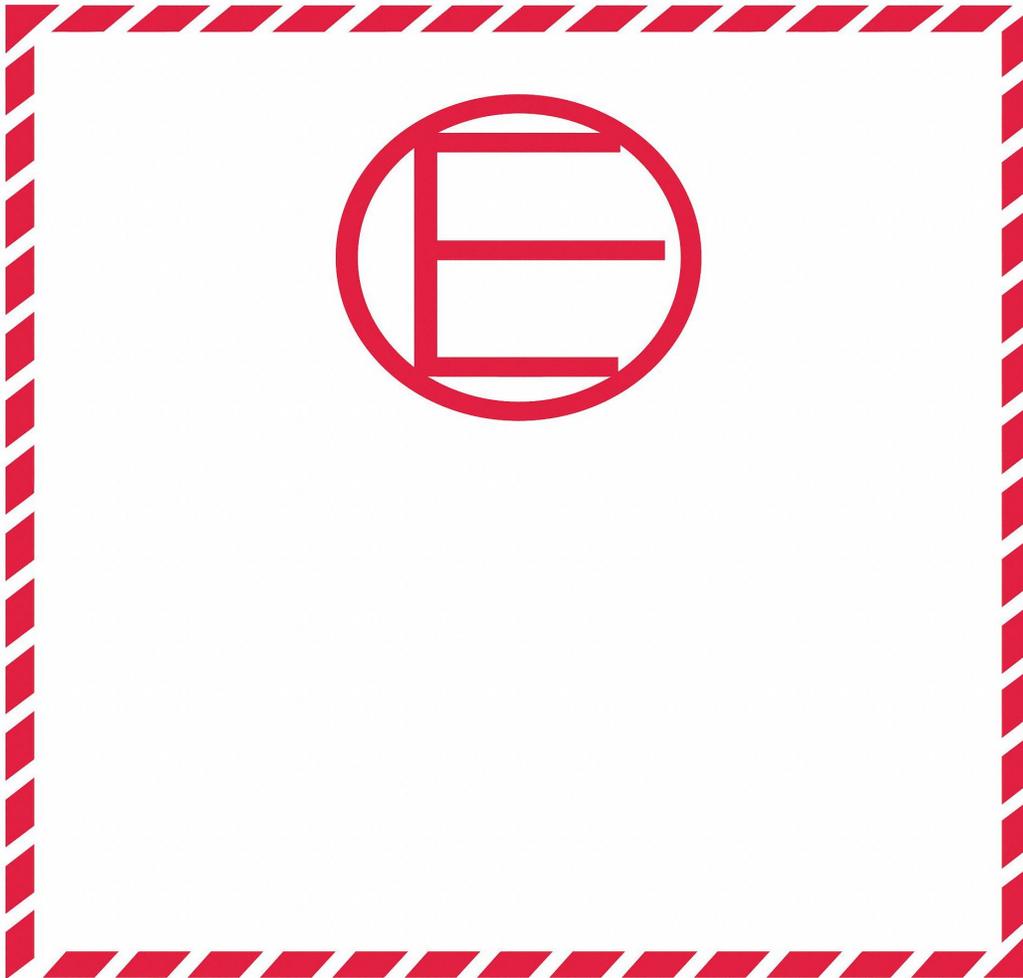
The complete package as prepared for transport must be capable of withstanding, as demonstrated by testing which is appropriately documented, without breakage or leakage and without significant reduction in effectiveness:

- a) Drops onto a rigid, non-resilient flat horizontal surface from a height of 1.8m:
  - If it's a box, the box dropped:
    - Flat on the base
    - Flat on the top
    - Flat on the longest side
    - Flat on the shortest side
    - On a corner
  - If it's a drum, it must be dropped:
    - Diagonally on the top chime, with center of gravity directly above the point of impact
    - Diagonally on the base chime
    - Flat on the side
- b) A force applied to the top surface of the package for a duration of 24hrs equivalent to the total mass of identical packages if stacked to a height of 3 m (including the drop sample).

### Step 3: Marking of Packages

Packages containing excepted quantities of dangerous goods prepared following these instructions must be marked with the label shown in Figure 2.7.B. The primary hazard class and division, if assigned must be shown on the label. The name of the shipper or consignee must be on the label if it is not shown elsewhere on the package. The label can be obtained from EH&S or you can make one yourself, but it must be the color red and measure 100 x 100mm.

Figure 2.7.B



Instructions:

- a) The label must be in color and measure 100mm x 100mm
- b) Place the UN Hazard Class/Division under the “E” (ex. If your material is flammable you would write the number “3” under the E)
- c) Place Name of Shipper/Consignee under the UN Hazard Class

**Step 4: Documentation**

The Shipper’s Declaration for Dangerous Goods is not required. If a document, such as a bill of lading or air waybill, accompanies your shipment then that document must include the statement “Dangerous Goods in Excepted Quantities” and indicate the number of packages.