Preparing Limited and Excepted Quantities of Dangerous Goods for Air Transport

OVERVIEW

The IATA Dangerous Goods Regulations generally require a dangerous goods shipment to be packaged using a UN Certified packaging. It must be marked and labeled, and accompanied by the completed Shipper’s Declaration for Dangerous Goods.

There are exceptions to this “normal” type of DG shipment. Two of the most common are: Limited Quantities (LTD QTY), and Excepted Quantities. These exceptions offer the shipper a legal and economic break: they allow the shipper to use a good, strong box that can withstand a drop test and stacking test. Most fibreboard boxes manufactured by reliable companies meet these requirements. Since most shippers have strong boxes in stock that do not meet the UN Specifications, using them saves money otherwise spent on UN specification packaging.
Additionally, Excepted Quantities shipments do not require a Shipper’s Declaration for Dangerous Goods. This also benefits the shipper in both time and money.

What these two exceptions have in common, aside from the packaging, is that the inner receptacles or packaging contain very small amounts of liquid or solid dangerous goods. The maximum amount of dangerous goods allowable within each inner packaging, and in the whole package, varies greatly depending on the commodity being shipped. You can find out the allowable amount in the IATA DGR Blue Pages. Each proper shipping name listed in the Blue Pages chart has an entry for the authorized maximum amount of dangerous goods per package for Limited Quantities and an “E” number for Excepted Quantities. (Note that there are some commodities where these exceptions are forbidden).

**Limited Quantities**

The only real advantage to shipping under the Limited Quantities Provision is that a UN box is not required. Otherwise, the package must be marked and labeled and the Shipper’s Declaration must be completed.

Limited Quantity shipments must be prepared under a “Y” packing instruction. “Y” in the Limited Quantity marking is the shipper’s certification that the item meets the requirements for the packaging of limited quantities to be shipped by air.
All packages of Limited Quantity shipments must, therefore, bear the “Y” mark alongside the Hazard Class label.

In the example below, the package contains Limited Quantities of dangerous goods classified as consumer commodity Class 9. The package has been labeled with the Hazard Class 9 and the “Y” mark.
The Shipper’s Declaration for Dangerous Goods must be completed as per the following example:
Excepted Quantities

If the net quantity per inner packaging is sufficiently small some substances may be transported under the Excepted Quantities Provision, section 2.6

- The “E” number is found in column F of the Blue Pages corresponding to the proper shipping name entry

- The maximum net quantity authorized for inner and outer packaging is shown in Table 2.6.A

<table>
<thead>
<tr>
<th>Code</th>
<th>Maximum net quantity per inner packaging</th>
<th>Maximum net quantity per outer packaging</th>
</tr>
</thead>
<tbody>
<tr>
<td>E0</td>
<td>Not permitted as Excepted Quantity</td>
<td></td>
</tr>
<tr>
<td>E1</td>
<td>30 g/30 mL</td>
<td>1 kg/1 L</td>
</tr>
<tr>
<td>E2</td>
<td>30 g/30 mL</td>
<td>500 g/500 mL</td>
</tr>
<tr>
<td>E3</td>
<td>30 g/30 mL</td>
<td>300 g/300 mL</td>
</tr>
<tr>
<td>E4</td>
<td>1 g/1 mL</td>
<td>500 g/500 mL</td>
</tr>
<tr>
<td>E5</td>
<td>1 g/1 mL</td>
<td>300 g/300 mL</td>
</tr>
</tbody>
</table>

- The Table indicates the inner container and individual package maximum authorized quantities for Excepted Quantity shipments of that exact proper shipping name

- A commodity may only be shipped as Excepted Quantities if a code appears in Column F in association with that proper shipping name
Example of the Excepted Quantities Dangerous Goods Shipment

A shipper has perfume in bottles of 0.5 oz. (approx 15 ml). We first determine the packing group. Let’s say it is PGII. There is an entry for Perfumery Products in the Blue Pages. The entry in Column F, for Excepted Quantities, is E2. We proceed to Table 2.6.A and find that E2 authorizes up to 30 ml per inner packaging and 500ml for each package for this shipment.

No Shipper’s Declaration or hazard class label is required.

The shipper must put the Excepted Quantities label on the package and mark the Hazard Class as shown in the following example:

(Note: the name/address of the shipper/consignee must appear on the label only if there is not already a shipping label containing this information on the box.)
Summary

The initial starting point for identifying Limited and Excepted Quantities of Dangerous Goods is the entry in the Blue Pages for the commodity you want to ship. If there is an entry in column F then you may check to see if you qualify for Excepted Quantities. If there is an entry in column H, then you may check to see if you qualify for Limited Quantities. If so, then simply follow the instructions above and you will be on your way.

Here is a short summary of requirements:

<table>
<thead>
<tr>
<th></th>
<th>Limited Quantities</th>
<th>Excepted Quantities</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Allowed Quantity</strong></td>
<td>Listed in IATA DGR, Blue Pages, Columns G and H</td>
<td>Look up “E” number in IATA DGR, Blue Pages, Column F. The allowed quantities for each “E” number are listed in IATA DGR, Table 2.6.A</td>
</tr>
<tr>
<td><strong>Packaging</strong></td>
<td>Non-spec (non-UN) Fibreboard boxes that pass drop and stacking test</td>
<td>Non-spec (non-UN) Fibreboard boxes that pass drop and stacking test</td>
</tr>
<tr>
<td><strong>Marking</strong></td>
<td>Proper Shipping Name UN Number Shipper/Consignee Name and Address</td>
<td>Shipper/Consignee Name and Address</td>
</tr>
<tr>
<td><strong>Labeling</strong></td>
<td>Hazard Class Label Limited Quantity Label</td>
<td>Excepted Quantity Label with a Hazard Class marked on it</td>
</tr>
<tr>
<td><strong>Shippers Declaration for Dangerous Goods</strong></td>
<td>Required</td>
<td>Not Required</td>
</tr>
</tbody>
</table>
It is very advantageous to utilize the Limited Quantity Provision if you do not have UN Certified boxes or do not want to spend the money to purchase them. You may use good, strong, ordinary industrial boxes so long as they pass the minimum testing. This saves a good deal of money over the long run.

It is even more advantageous to utilize the Excepted Quantity Provision if you ship very small quantities of dangerous goods, such as lab samples, perfumes, and so forth, because the requirements are minimal. This means fewer chances for error, less staff time for shipment preparation, and no Dangerous Goods paperwork (other than air waybill requirements). Importantly, many airlines do not charge a dangerous goods fee for this type of shipment, which also saves money over the long run.
About the Author
Michael Gotz has developed IATA-certified Dangerous Goods training programs and has been a panelist in numerous IATA Dangerous Goods international conferences. Michael is the author of published journal articles on the subject of the air transport of hazardous commodities, and is responsible for employee and customer training, regulatory updating, and shipment troubleshooting for the Quick Group of Companies.

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