



Safe Packaging Matters is published to advise and educate shippers of hazardous materials regarding important changes in the regulations that could potentially affect compliance.

DOT ADOPTS INTERNATIONAL REGULATIONS: LIMITED QUANTITY & ICAO/IATA

In the November, 2010 issue of Safe Packaging Matters, we communicated that extensive change to all facets of Limited Quantity and air shipments were coming in the 1st quarter 2011. The first step in this process came in the form of a rulemaking [HM-215K] intended to harmonize the CFR 49 with various international DG shipping regulations. As anticipated, these newly announced changes have a profound impact on shippers of hazardous materials due to the reformatting of the packing instructions in ICAO/IATA and the extensive changes in the International Limited Quantity shipping provisions that were incorporated into the CFR 49.

QUANTITY LIMITATIONS: LQ

PRE 1/1/11 Rule

CFR 49 made no distinction between transport modes (air or surface) for inner container or package quantity limitations for Limited Quantity shipments.

POST 1/1/11 Rule

DOT has adopted per inner container and per package quantity limitations from ICAO/IATA into the CFR 49. These will be more restrictive in many (if not most) cases. [See: CFR 49 173.27(f) Table 3] for revised quantity limitations.]

PACKAGE TESTING: LQ

PRE 1/1/11 Rule

CFR 49 had no package testing or performance requirements beyond the general packaging requirements of 173.24 and 173.24a for Limited Quantity shipments. (This does not include pressure differential capability requirements for air shipments.)

POST 1/1/11 Rule

DOT has adopted the package performance capability requirements that have long been in ICAO/IATA. Capability to meet drop and stack tests now required. Performance mark not needed, but air marking is required. Keep documentation on file in case of a DOT/FAA audit. [See: to CFR 49 173.27 (f) (2) (v)-(vi)]

PACKAGE DESIGN: LQ

PRE 1/1/11 Rule

CFR 49: Sturdy (or strong) outer packaging. Absorbent may have been required, if so, then a liner bag was required for cartons. Pressure differential capability and a “positive means of closure” required for inner packagings containing liquids.

POST 1/1/11 Rule

DOT has adopted the “secondary closure” or secondary means of containment in ICAO/IATA. Secondary closure is not a clearly defined packaging concept. An indicative list is given in ICAO/IATA, but not in the CFR 49. If secondary means of closure is not possible, then a secondary means of containment must be used (such as a liner bag.) [See: to CFR 49 173.27 (f) (2) (v)-(vi)]

SECONDARY CLOSURE

- In ICAO/IATA this is a general packing requirement for all combination packages containing liquid hazardous materials. In CFR 49 currently applies to Limited Quantity shipments by air (will likely be expanded with the issuance of HM-231A.)
- Example list from ICAO/IATA: tape, friction, sleeves, welding or soldering, positive locking wires, locking rings, induction seals, child-resistant closures. No example list in CFR 49—yet.
- Ratchet closures and other NBO features, while not specifically included in the examples list, should meet the requirement as “locking rings” this needs to be evaluated on a case by case basis until consensus emerges.

SECONDARY CONTAINMENT WHEN “SECONDARY MEANS OF CLOSURE” NOT POSSIBLE

“If this requirement [Ed: secondary closure] cannot be satisfied, the use of an intermediate and leakproof form of containment, such as a liner or liner bag, is required.”

- In ICAO/IATA this is applicable to all combination packages containing liquids. In CFR 49 currently applicable to Limited Quantity shipments of combination packages containing liquids by air.
- The ICAO TI is incorporated by reference into the CFR 49. Domestic air shipments may be offered under the provisions of the ICAO (IATA by extension.)

ICAO/IATA: PACKING INSTRUCTIONS

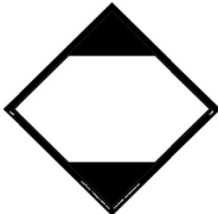

- 2011 editions of the international air regulations featured “re-formatted” packing instructions. Many substantial changes in the design and authorizations of packaging types were made. These include changes in intermediate packaging requirements for certain materials, general absorbent and liner bag requirements.
- This has created dis-harmonized packing requirements for some materials between these international regulations (ICAO/IATA) and the CFR 49. DOT, inexplicably did not address these harmonization issues in this “harmonization” rulemaking. Anyone who ships by air needs to review these changes for their particular materials.

PACKAGE MARKING: LQ

- New Limited Quantity marking adopted in CFR 49 172.315. This mark is the same as the ICAO/IMDG/IATA LQ marking protocols.
- The limited quantity marking must be durable, legible and of a size relative to the package that is readily visible.
- The marking must be applied on at least one side or one end of the outer packaging.
- The width of the border forming the square-on-point must be at least 2 mm and the minimum dimension of each side must be 100 mm unless the package size requires a reduced size marking that must be no less than 50 mm on each side.

PACKAGE MARKING: LQ (CONTINUED)

- The top and bottom portions of the square-on-point and the border forming the square-on-point must be black and the center white or of a suitable contrasting background.
- “For transportation by aircraft, a limited quantity package conforming to Table 3 of Sec. 173.27(f) of this subchapter must be marked as follows:.....and the symbol “Y” must be black and located in the center of the square-on-point and be clearly visible.....”
- In the past, black on Kraft brown was considered a “contrasting background” for the purposes of package markings (as opposed to labels), there is no clarification of this at this time.
- These LQ marks are now mandatory for international air shipments. ICAO/IATA are allowing for a transition period for previously marked packages until March 31, 2011. IMDG has the newmark mandatory January 1, 2012.
- Voluntary compliance in the US is immediate. The status of the transition period is under appeal of the final rule.
- Proper Shipping Name and UN ID Number are still required to be marked on all air packages.

GROUND SHIPMENTS	AIR SHIPMENTS
	

Use of the Air Shipment Package Mark (“Y” mark) is permitted for surface shipments, but the package must meet all air requirements.

Use of the ORM-D/Consumer Commodities provisions of the CFR 49 will end December 31, 2013; unless amended on appeal or in a future rulemaking. Do not depend on an extension.



- Transition period:
 - ORM-D-AIR: December 31, 2012
 - ORM-D: December 31, 2013
- Voluntary compliance is immediate.
- Most of the exceptions currently accorded ORM shipments are being incorporated for all Limited Quantity shipments. The extent of this incorporation by carriers is currently unknown. Carrier policies will be announced.
- Packages imported to the US under the IMDG are authorized with this marking until December 31, 2011; after that the new package marking is mandatory [See IMDG Amendment 34, 3.4.7] Amendment 35 of the IMDG becomes mandatory January 1, 2012 and requires the new LQ marking on what were previously ORM-D packages.

Packaging previously marked for Limited Quantity shipments.

Packagings previously manufactured and marked in conformance with CFR 49 172.315 as shown in the example may be offered for shipment in conformance with CFR 49 until December 31, 2011 or until existing stocks are depleted. No new packagings may be manufactured with this marking. [See: CFR 172.300(c) as revised by HM-215K]



Packagings marked in this manner are authorized in conformance to the IMDG (international maritime shipments) until December 31, 2011.

This marking is only authorized until March 31, 2011 for shipments offered under ICAO/IATA .

MISCELLANEOUS

- Special Provision 149 is now for surface shipments only. This may create issues for the coatings, flavorings, adhesives and extracts markets.
- Pressure differential requirements of CFR 49 173.27(c) now apply to Excepted Quantity shipments in conformance with 173.4a.
- Domestic shippers may prepare their shipments in accordance with the ICAO TI (IATA) per CFR 49 171.22-171.24. Many shippers may find this very advantageous.