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**Committee of Experts on the Transport of Dangerous Goods  
and on the Globally Harmonized System of Classification  
and Labelling of Chemicals****Sub-Committee of Experts on the Transport of Dangerous Goods****Forty-sixth session**

Geneva, 1 – 9 December 2014

Item 2 (e) of the provisional agenda

**Recommendations made by the Sub-Committee on its forty-third,  
forty-fourth and forty-fifth sessions and pending issues:****Miscellaneous pending issues****Labels and marks of reduced size****Transmitted by the International Paint and Printing Ink Council  
(IPPIC) and the European Chemical Industry Council (CEFIC)<sup>1</sup>****Introduction**

1. In the Model Regulations the descriptions of the limited quantities marks in sections 3.4.7 and 3.4.8, the environmentally hazardous substance mark in 5.2.1.6.3 and labels in 5.2.2.2.1 all provide for a reduction in the dimensions of the mark or label (below the normal minimum of 100 mm x 100 mm) where the size of the package so requires. The same provisions appear in the corresponding sections of the modal regulations for transport of dangerous goods by land, sea and air.

2. IPPIC and CEFIC have noted an issue in practice with the application of labels and marks to smaller packages. A strict requirement for transport labels/marks to be 100 x 100 mm if accommodated by the absolute size of the package, irrespective of its shape/design and other labelling requirements, creates difficulties for companies to fulfil all legal requirements related to product labelling.

3. At its forty-fifth session the Sub-Committee discussed an informal proposal from IPPIC and CEFIC (informal document INF.38) to modify the text of the provisions mentioned in paragraph 1 to take additional factors into account. Some experts expressed

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<sup>1</sup> In accordance with the programme of work of the Sub-Committee for 2013-2014 approved by the Committee at its sixth session (refer to ST/SG/AC.10/C.3/84, para. 86 and ST/SG/AC.10/40, para. 14).

support for taking account of the essential design of the packaging and the presence of other required regulatory labels as well as the physical size of the packaging, whilst others questioned the need for such considerations. IPPIC and CEFIC agreed to submit an official proposal at the next session taking account of the comments made.

## Discussion

4. IPPIC and CEFIC are aware from member companies that, for some smaller single packagings, the label/mark occupies a large proportion of the available surface area, and may overlap essential structural components of the packaging such as beads, chimes and ends. This can lead to adhesion failure and lifting of, or damage to, the labels. All such required information must remain legible and be securely fixed to the package, which can become a problem for such packagings.

5. This problem is exacerbated where a second, and in some cases even a third, transport label or mark is required. On packagings of some sizes or shapes it is impossible to affix the required number of transport labels/marks of full size, and the capacity of package at which difficulties arise increases with the number of required labels/marks.

6. To ensure that all of the transport information can be adequately communicated, it is best if this can all be seen in one aspect; it should not be necessary for operators to move or turn the package to see all of the relevant information. Furthermore it is a requirement for certain marks to be located adjacent to other markings, for example the environmentally hazardous mark as per 5.2.1.6.2.

7. It should be noted that, under the GHS hazard labelling for supply, substantial label information is also mandatory. The current transport requirements make no allowance for the fitting of other regulatory marks/labels.

8. At the forty-fifth session one expert suggested that packagings should be selected to accommodate all of the required labels and marks. However in the interests of safety, and of minimizing environmental impact and cost, it is preferable for packagings to be of the correct size and design to contain the required quantity of the substance without excess empty space. For some dangerous goods this could be compromised if a larger packaging had to be used in order to fit all labels and marks at full size.

9. It was suggested also that the problem is not significant since many of the dangerous goods can be shipped under limited quantities provisions in accordance with Chapter 3.4. However this is not always possible or practicable; for example this issue applies to many substances packaged in volumes above their maximum quantity in column 7a of the Dangerous Goods List. There can also be technical and practical reasons for not applying limited quantities provisions in other cases.

10. Some genuine examples of labelled packagings, illustrating the issues described above, are presented in the Annex to this document.

11. IPPIC and CEFIC propose to amend the provisions for reduced size labels and marks in 3.4.7 and 3.4.8, 5.2.1.6.3 and 5.2.2.2.1 to take into account, as additional factors besides the absolute size of the packaging, also the essential configuration (shape) of the packaging and the other regulatory elements which need to be displayed on it. Minimum dimensions for the reduced labels/marks are proposed where not already included in the text; for the Class/division labels in 5.2.2.2.1.1.3 it is proposed to add a table of minimum dimensions, using those currently specified in the Australian Code for the Transport of Dangerous Goods by Road & Rail.

## Proposal

### Limited quantity marking

12. Amend paragraphs 3.4.7.2 and 3.4.8.2 to read as follows:

“3.4.7.2 If the size of the package so requires, taking into account its configuration and/or the presence of other required regulatory marks or labels, the minimum outer dimensions shown in Figure 3.4.1 may be reduced to be not less than 50 mm x 50 mm provided the marking remains clearly visible. The minimum width of the line forming the diamond may be reduced to a minimum of 1 mm.

*NOTE: The provisions of 3.4.7 from the seventeenth revised edition of the Model Regulations may continue to be applied until 31 December 2016.*”

“3.4.8.2 If the size of the package so requires, taking into account its configuration and/or the presence of other required regulatory marks or labels, the minimum outer dimensions shown in Figure 3.4.2 may be reduced to be not less than 50 mm x 50 mm provided the marking remains clearly visible. The minimum width of the line forming the diamond may be reduced to a minimum of 1 mm. The symbol "Y" shall remain in approximate proportion to that shown in Figure 3.4.2.

*NOTE: The provisions of 3.4.8 from the seventeenth revised edition of the Recommendations on the Transport of Dangerous Goods, Model Regulations may continue to be applied until 31 December 2016.*”

### Environmentally hazardous substance mark

13. Amend section 5.2.1.6.3 and figure 5.2.2 to read as follows:

“5.2.1.6.3 The environmentally hazardous substance mark shall be as shown in Figure 5.2.2.

Figure 5.2.2



Environmentally hazardous substance mark

The marking shall be in the form of a square set at an angle of 45 degrees (diamond-shaped). The symbol (fish and tree) shall be black on white or suitable contrasting background. The minimum dimensions shall be 100 mm x 100 mm and the minimum width of line forming the diamond shall be 2 mm. If the size of the package so requires, taking into account its configuration and/or the presence of

other required regulatory marks or labels, the dimensions/line thickness may be reduced to be not less than 50 mm x 50 mm provided the marking remains clearly visible. Where dimensions are not specified, all features shall be in approximate proportion to those shown.

*NOTE 1: The labelling provisions of 5.2.2 apply in addition to any requirement for packages to bear the environmentally hazardous substance mark.*

*NOTE 2: The provisions of 5.2.1.6.3 from the seventeenth revised edition of the Recommendations on the Transport of Dangerous Goods, Model Regulations may continue to be applied until 31 December 2016.”*

### Class/division labels

14. Amend paragraph 5.2.2.2.1.1.3 to read as follows:

“5.2.2.2.1.1.3 If the size of the package so requires, taking into account its configuration and/or the presence of other required regulatory marks or labels, the dimensions may be reduced to be not less than the relevant minimum size specified in Table 5.2.2.2.1.1.3 below, provided the symbols and other elements of the label remain clearly visible. The line inside the edge shall remain 5 mm to the edge of the label. The minimum width of the line inside the edge shall remain 2 mm. Dimensions for cylinders shall comply with 5.2.2.2.1.2.

**Table 5.2.2.1.1.3: Minimum dimensions of labels**

Package or inner packaging containing:	Minimum dimensions of labels (mm)
≤ 0.5 kg / litres	15 x 15
> 0.5 to ≤ 5 kg / litres	20 x 20
> 5 to ≤ 25 kg / litres	50 x 50
> 25 kg / litres	100 x 100

*NOTE: The provisions of 5.2.2.2.1.1 from the seventeenth revised edition of the Recommendations on the Transport of Dangerous Goods, Model Regulations may continue to be applied until 31 December 2016. When so applied, 5.2.2.2.1.1.1, 5.2.2.2.1.1.2 and 5.2.2.2.1.1.3 shall not apply until 31 December 2016.”*

## Annex

### Examples of single packagings showing difficulties in properly accommodating 100 mm x 100 mm transport labels

#### Example 1: 5 litre jerrican



**Problem (above):** This packaging contains a product classified as Class 8 and Class 5.1. Two transport labels are therefore required to be displayed on the packaging. In order to affix two transport labels of 100 mm x 100 mm on the container so that they are visible simultaneously, these must overlap the mouldings and wrap around and underneath the packaging such that they are not completely visible. This increases the likelihood that the labels will lift during transport, leading to reduced legibility and, therefore, reduced safety.

Use of an alternative packaging, of larger capacity sufficient to accommodate both labels and marks on a single face, would lead to increased costs (transport of empty space in underfilled packagings) but also potential safety issues due to excessive ullage (more movement of the liquid possible, greater headspace for evaporation).

**Solution (below):** A small reduction in the size of the transport labels, e.g. to 70 x 70 mm, would enable these to be accommodated comfortably and securely, without prejudicing safety since such labels would still be clearly visible and legible from a single aspect. (Note: orientation arrows are displayed voluntarily on this package, although not required by transport regulations.)



## Example 2: 5 litre pail



**Problem:** This packaging contains a product classified as UN 3470 PAINT, CORROSIVE, FLAMMABLE. Two transport labels, Class 8 and Class 3, are therefore required to be displayed on the packaging. (The product is also classified for supply as a respiratory and skin sensitizer under GHS.)

It is only just possible to affix two transport labels of 100 mm x 100 mm on the pail without partially covering the obligatory supply label. It is difficult to see the whole of both labels from a single viewing point without rotating the pail; this becomes especially problematic when pails are arranged side by side. This product cannot be transported under limited quantities provisions since the maximum quantity per inner packaging for UN 3470 is one litre.

Other products in the same range are also classified as environmentally hazardous. For transport by sea, and by road in Europe, these must therefore carry the environmentally hazardous substance mark, in addition to the two labels above, for package sizes in excess of 5 litres, where similar problems can again be encountered.

**Solution:** A small reduction in the size of the transport labels, e.g. by 20%, would enable the required number of labels to be accommodated comfortably and securely on the pail, without prejudicing safety since all labels would be clearly visible and legible.

### Example 3: 2.5 litre pail



**Problem:** This packaging contains a flammable product, UN 1263 PAINT. Only one 100 mm x 100 mm transport label can fit on the pail alongside the supply label. Since this overlaps the strengthening bead in the pail wall, it is necessary for the Class 3 label to be pre-printed onto the pail during manufacture to prevent problems with label adhesion or distortion. This increases costs for the consignor and reduces flexibility in packaging stock allocation, whilst also causing the flame symbol to be visually distorted due to its location over the bead, which could compromise safety.

Furthermore, it would be impossible to accommodate two full-size transport labels or marks on packaging of this type such that they could be seen from a single aspect and without covering other regulatory information (supply labelling) required on the packaging.

**Solution:** transport labels of slightly reduced size, e.g. 70 x 70 mm, would fit just below the bead, preventing distortion and enabling a second label or mark to be applied if needed, whilst remaining clearly visible and legible on the pail. Such size reduction would also enable greater flexibility for the consignor through the use of adhesive labels.