

**Secretariat**Distr.: General  
23 March 2011

English only

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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****Thirty-ninth session**

Geneva, 20–24 June 2011

Item 9 of the provisional agenda

**Guiding principles for the Model Regulations****Amendments to the Guiding Principles-Packagings****Transmitted by the expert from the United Kingdom<sup>1</sup>****Introduction**

1. The expert from the United Kingdom believes that the Guiding Principles is a living document which requires amendment from time to time to reflect changes in the Model Regulations. Below is the expert from the United Kingdom's suggested amendments to the text for Part 4 (Section 4.1) which explains the rationale behind the development of the packing instructions. The expert from the United Kingdom has also taken the opportunity to make some editorial changes which he hopes will make the text easier to understand.

2. To provide comprehensive Guiding Principles is challenging. This is the United Kingdom's first attempt and we would welcome comments from other experts. Part 4.2 of the Guiding Principles sets out the structure for IBCs and does not need to be changed. If the Sub Committee agrees the United Kingdom will add some guiding principles for large packagings at the next meeting. The expert from the United Kingdom hopes to have changes ready to adopt by the end of this biennium.

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<sup>1</sup> In accordance with the programme of work of the Sub-Committee for 2011-2012 approved by the Committee at its fifth session (refer to ST/SG/AC.10/C.3/76, para. 116 and ST/SG/AC.10/38, para. 16).

## "Part 4

### Packing and tank provisions

#### 4.1 Basic principles for developing packing instructions for the Model Regulations

##### General provisions

3. Packing instructions should be clear and provide as wide a choice of packagings as possible.
4. The packing instructions consist of a small number of general instructions supplemented by a limited number of more specific instructions for particularly hazardous or specialized dangerous goods.
5. Packing instructions should be developed with the objective of being suitable for multimodal transport. More severe packaging restrictions, in some instances, may be necessary for air transport.
6. A rationalized approach (based on similar properties or hazards presented) should be used for allocating packing instructions to specific substances.
7. Existing regulations establishing packaging requirements should be considered in developing packing instructions. Organizations specifically responsible for those existing regulations should bring forward relevant points.

**Note:** *The underlined text above is existing but it is suggested that it is no longer relevant as all modal regulations follow the principles that were adopted in 1998.*

8. The packing instructions are primarily intended for the person preparing the package for consignment they should not address classification or operational provisions.

##### The Packing Instruction Structure

9. There are packing instructions for:
  - Packagings "P" up to 400 kg net or 450 L (packagings in accordance with Chapter 6.1 (and for Division 6.2 Chapter 6.3,) and Chapter 6.2 for pressure equipment);
  - IBCs "IBC" up to 3 m<sup>3</sup> (intermediate bulk containers in accordance with Chapter 6.5.);
  - Large packagings "LP" exceeding 400 kg net/450 L (large packagings in accordance with Chapter 6.6).
10. The majority of substances and articles excluding Class 1 have been allocated to a packing instruction beginning "P0\*\*" and when considering new Packing Instructions the use of one of these numbers should be considered first; class specific packing instructions should only be used when there is need for very restricted packaging options or extensive special conditions.
11. Where the "P00" instructions cannot be used then there are series of class specific packing instructions all beginning with the class number.

## Packagings "P"

### Class 1 P100s

12. Given the intrinsic properties of explosive substances and articles and to variable effects that they display depending on the manner in which they are packaged, the classification process addresses issues of possible over-confinement, for example in metal packagings. Such packagings are often chosen for their robustness in handling rather than their appropriateness in transport.

13. However, given the desirability of uniformity in assessing packaging in relation to the classification process (as set out in the Manual of Tests and Criteria) it has been decided that packagings used to transport of explosive substances and articles should meet the Packing Group II test performance level.

14. Similar principles apply to the assignment of packaging for organic peroxides and self-reactive substances.

Class 2 P200s except some small articles such as UN1950 and 2037 which are allocated to P003.

Class 3 With explosive properties (P300) UN 3064  
Articles which cannot be packed in UN packagings (P301)  
Substances that form part of Chemical kits (P302)

Class 4 Self reactive substances in division 4.1 are packaged in the same way as organic peroxides and are allocated to P520.

Many substances of this class have been allocated to special P400 Packing instructions.

Division 5.2 P520 and IBC520. These packing instructions contain packing method codes OP1 to OP8 which refer to the packing methods for the various types of organic peroxides/self reactive substances.

Division 6.2 P620, P621 and P650

Class 7 No packing instructions have been allocated to radioactive materials as the packaging requirements have been set by IAEA and do not align easily to the system for the other classes. Instead radioactive material is assigned to special UN numbers which depend on a number of characteristics including packaging such as the activity level of radionuclides in the package, or the fissile or non fissile properties.

Where a substance solid or liquid can only be transported in a cylinder then allocation to Table 3 of P200 shall be considered.

The following should form the template for any new packing instruction (P) for other than Class 1, 2 or 5.2.

<b>PXXX    PACKING INSTRUCTION</b>		<b>PXXX</b>
<i>For specific UN number(s) ONLY:</i> <b>This instruction applies to UNXXXX.....</b> <i>(E.g. see P301)</i>		
The following packagings are authorized, provided that the general provisions of <b>4.1.1</b> and <b>4.1.3</b> are met: <i>Sometimes additional paragraphs will need to be quoted or alternatives e.g. P620</i>		
		<b>Maximum net mass (see 4.1.3.3)</b>
<b>Combination packagings</b>		
<b>Inner packagings</b>	<b>Outer packagings</b>	
<i>List permitted types</i>	<b>Drums</b> <i>List permitted types</i> <b>Boxes</b> <i>List permitted types</i>	
		<b>Maximum capacity (see 4.1.3.3)</b>
<b>Single packagings</b>		
<b>Drums</b> <i>List permitted types</i> <b>Jerricans</b> <i>List permitted types</i> <b>Composite packagings</b> <i>List permitted types</i>		
<b>Pressure receptacles</b> , provided the general provisions of 4.1.3.6 are met <i>If 4.1.3.6 is not sufficient then the use of cylinders should be addressed in detail. E.g.P602(4)</i>		
<b>Additional Requirements</b>		
<i>This section should contain additional packaging information which should be applicable to ALL the packaging choices listed above</i>		
<b>Special packing provision</b>		
<b>PPXX</b> For UNxxxx..... <i>These should address specific requirements for individual or groups of substances the provision should only address packaging issues not classification or operational provisions.</i>		

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