



**WORKING PAPER**

**DANGEROUS GOODS PANEL (DGP)**

**TWENTY-SIXTH MEETING**

**Montréal, 16 to 27 October 2017**

**Agenda Item 2: Development of recommendations for amendments to the *Technical Instructions for the Safe Transport of Dangerous Goods by Air* (Doc 9284) for incorporation in the 2019-2020 Edition**

**DRAFT AMENDMENTS TO THE TECHNICAL INSTRUCTIONS TO ALIGN WITH THE UN RECOMMENDATIONS — PART 5**

(Presented by the Secretary)

**SUMMARY**

This working paper contains draft amendments to Part 5 of the Technical Instructions to reflect the decisions taken by the UN Committee of Experts on the Transport of Dangerous Goods and on the Globally Harmonized System of Classification and Labelling of Chemicals at its eighth session (Geneva, 9 December 2016). It also reflects amendments agreed by DGP-WG/17 (Montréal, 24 to 28 April 2017).

The DGP is invited to agree to the draft amendments in this working paper.

## Part 5

# SHIPPER'S RESPONSIBILITIES

## Chapter 1

### GENERAL

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#### 1.1 GENERAL REQUIREMENTS

Before a person offers any package or overpack of dangerous goods for transport by air, that person must ensure that:

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*Note 1.— Packages and overpacks containing dangerous goods may be included on the same air waybill as cargo which is not subject to these Instructions.*

*Note 2.— The requirement in 1.1 j) also applies to consolidated shipments offered to the operator.*

*Note 3.— For cooling purposes, an overpack may contain dry ice, provided that the overpack meets the requirements of Packing Instruction 954.*

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UN Model Regulations, 5.1.1 (see ST/SG/AC.10/44/Add.1)

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*Note 4.— In accordance with the GHS, a GHS pictogram not required by these Instructions should only appear in transport as part of a complete GHS label and not independently (see GHS 1.4.10.4.4).*

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ICAO translators and editors of versions other than English: There may be a need for amendment to 5.1.6.2 for the sake of alignment with 4.1.1.11 of the UN Model Regulations (see ST/SG/AC.10/44/Add.1)

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#### 1.6 EMPTY PACKAGINGS

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1.6.2 Before an empty packaging which had previously contained an infectious substance is returned to the shipper, or sent elsewhere, it must be disinfected or sterilized to nullify any hazard, and any label or mark indicating that it had contained an infectious substance must be removed or obliterated.

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#### 1.7 MIXED PACKING

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UN Model Regulations, 5.1.4 (see ST/SG/AC.10/44/Add.1)

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When two or more dangerous goods are packed within the same outer packaging, the package must be labelled and marked as required for each substance. Labels need not be applied for a subsidiary-risk hazard if the hazard is already represented by a primary-risk hazard label.

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## Chapter 3

### LABELLING

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UN Model Regulations, 5.2 (see ST/SG/AC.10/44/Add.1)

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#### 3.1 THE REQUIREMENT TO LABEL

3.1.1 Where articles or substances are specifically listed in the Dangerous Goods List (Table 3-1), a danger class label must be affixed for the hazard shown in column 3 of Table 3-1. A subsidiary-~~risk~~ hazard label must also be affixed for any ~~risk~~ hazard indicated by a class or division number in column 4 of Table 3-1. However, special provisions indicated in column 7 may also require a subsidiary-~~risk~~ hazard label where no subsidiary-~~risk~~ hazard is indicated in column 4 or may exempt from the requirement for a subsidiary-~~risk~~ hazard label where such a ~~risk~~ hazard is indicated in the Dangerous Goods List.

3.1.2 Labels identifying the primary and subsidiary-~~risk~~ hazards of the dangerous goods must bear the class or division number as required in 3.5.1.

3.1.3 All labels must be able to withstand open weather exposure without a substantial reduction in effectiveness.

#### 3.2 APPLICATION OF LABELS

3.2.1 The labels required to be displayed on packages of dangerous goods are identified in the Dangerous Goods List for articles and substances specifically listed by name and for articles and substances not specifically listed by name which are covered by generic or n.o.s. entries.

3.2.2 Packages containing substances of Class 8 need not show a subsidiary-~~risk~~ hazard label for Division 6.1 if the toxicity arises solely from the destructive effect on tissue. Substances of Division 4.2 need not show a subsidiary-~~risk~~ hazard label for Division 4.1 if the substance is also a flammable solid.

3.2.3 Packages containing organic peroxides which meet the criteria for Class 8, Packing Group I or II must be labelled with a corrosive subsidiary-~~risk~~ hazard label.

*Note.— Many liquid organic peroxide formulations are flammable; however, no subsidiary-~~risk~~ hazard flammable label is required because the organic peroxide label itself is considered to imply that the product may be flammable.*

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3.2.8 Except as provided in 3.5.1.1 b), each class hazard label must:

- a) be affixed to a background of contrasting colour or must have a dotted or solid line outer boundary;
- b) be located on the same surface of the package near the proper shipping name mark, if the package dimensions are adequate;
- c) be so placed on the packaging that they are not covered or obscured by any part of or attachment to the packaging or any other label or mark;
- d) when primary and subsidiary-~~risk~~ hazard labels are required, be displayed next to each other; and
- e) be affixed at an angle of 45° (diamond shaped), unless the package dimensions are inadequate.

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#### 3.5.1 Class hazard label specifications

3.5.1.1 Labels must satisfy the provisions of this section and conform, in terms of colour, symbols and general format, to the specimen labels shown in Figures 5-4 to 5-26.

*Note.— Where appropriate, labels in Figures 5-4 to 5-26 are shown with a dotted outer boundary as provided for in 3.5.1.1 a). This is not required when the label is applied on a background of contrasting colour.*

Class hazard labels must conform to the following specifications:

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 UN Model Regulations, 5.2.2.2.1.2 (see ST/SG/AC.10/44/Add.1)
 

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- b) Cylinders for Class 2 may, on account of their shape, orientation and securing mechanisms for transport, bear labels representative of those specified in this chapter, which have been reduced in size, according to ISO 7225:2005 "[Gas cylinders — Precautionary labels](#)", for display on the non-cylindrical part (shoulder) of such cylinders. Labels may overlap to the extent provided for by ISO 7225:2005 "[Gas cylinders — Precautionary labels](#)"; however, in all cases the labels representing the primary hazard and the numbers appearing on any label must remain fully visible and the symbols recognizable.

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 Corrigendum 1 to UN Model Regulations, Chapter 5.2, 5.2.2.2.1.3, see ST/SG/AC.10/1/Rev.19/Corr.1)
 

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ICAO translators and editors of versions other than English: There may be a need for amendment to 3.5.1.1 c) for the sake of alignment with 5.2.2.2.1.3 of the UN Model Regulations (see [ST/SG/AC.10/44/Add.1](#))

- c) With the exception of labels for Divisions 1.4, 1.5 and 1.6 of Class 1, the upper half of the label must contain the pictorial symbol and the lower half must contain the class or, in the case of labels for Class 5, the division number, as appropriate. ~~The lower half of the label must also contain the pictorial symbol on the Class 9 label for lithium batteries (Figure 5-26).~~ [However for the Class 9 label for lithium batteries \(Figure 5-26\), the upper half of the label must only contain the seven vertical stripes of the symbol and the lower half must contain the group of batteries of the symbol and the class number. Except for the Class 9 label for lithium batteries \(Figure 5-26\),](#) the label may include such text as the UN number, or words describing the hazard class (e.g. "flammable") in accordance with 3.5.1.1 e) provided that the text does not obscure or detract from the other required label elements.

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 UN Model Regulations, 5.2 (see ST/SG/AC.10/44/Add.1)
 

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The text highlighted below is not in alignment with the UN Model Regulations (5.2.2.2.1.5), which refer to the "class mark".

- e) On labels other than those for material of Class 7, the insertion of any text (other than the class or division number or compatibility group) in the space below the symbol must be confined to particulars indicating the nature of the ~~risk~~ [hazard](#) and precautions to be taken in handling. In the case of the Class 9 label for lithium batteries (Figure 5-26), no text other than [the class number](#) must be included in the bottom part of the label.

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3.5.1.2 Illustrations of the class hazard labels, showing the approved symbols and colours, are given in Figures 5-5 to 5-26. The label descriptions used in column 5 of Table 3-1 are indicated in parentheses.

*Note 1.— The asterisk appearing in the bottom corner of the label indicates the location of the class or division number when the label is used to show the primary ~~risk~~ [hazard](#). See Figures 5-5 to 5-8 concerning the location of information on explosives labels.*

*Note 2.— Minor variations in the design of the symbol on labels or other differences such as the width of vertical lines on labels as shown in these Instructions or in regulations of other modes, which do not affect the obvious meaning of the label, are acceptable. For example the hand shown on the Class 8 label may be shown with or without shading, the extreme right and left vertical lines on the Division 4.1 and Class 9 labels may extend to the edge of the label or there may be some white space at the edge, etc.*

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 UN Model Regulations, 5.2.2.2.2 (see ST/SG/AC.10/44/Add.1) and DGP/-WG/17 (see paragraph 3.2.5.1.3 of DGP/26-WP/3).
 

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DGP-WG/17 decided not to align the display of hazards labels with the new format in the Model Regulations.

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UN Model Regulations, 5.2.2.1.13 (see ST/SG/AC.10/44/Add.1) and DGP-WG/17 (see paragraph 3.2.2.1.3 of DGP/26-WP/3)

DGP-WG/17 was invited to consider inclusion of these new provisions for articles, n.o.s and particularly whether it is appropriate to include the provisions for lithium batteries in articles for the air mode, recognizing the potential for additional complexity and risk.

A dedicated working group at DGP-WG/17 proposed that these articles should be forbidden from transport by air under normal circumstances unless approval was granted by the State of Origin and the State of the Operator in accordance with Special Provision A2. An ad hoc group will develop provisions for inclusion in the DGP/26 working paper on UN harmonization (see paragraph 3.2.2.1.3 of DGP/26-WP/3).

The group will also consider where these provisions should be located. They were proposed here as opposed to before the label specifications in 5;3.5.1, as is done in the Model Regulations, so as to avoid the need for consequential changes to the many references to the label specifications.

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**3.6 Labels for articles containing dangerous goods transported as UN Nos. 3537, 3538, 3539, 3540, 3541, 3542, 3543, 3544, 3545, 3546, 3547 and 3548**

3.6.1 Packages containing dangerous goods in articles and dangerous goods in articles transported unpackaged must bear labels according to 3.1.1 reflecting the hazards established according to Part 2, Introductory Chapter, paragraph 6. If the article contains one or more lithium batteries with, for lithium metal batteries, an aggregate lithium content of 2 g or less, and for lithium ion batteries, a Watt-hour rating of 100 Wh or less, the lithium battery mark (Figure 5-3) must be affixed to the package or unpackaged article. If the article contains one or more lithium batteries with, for lithium metal batteries, an aggregate lithium content of more than 2 g and for lithium ion batteries, a Watt-hour rating of more than 100 Wh, the lithium battery label (Figure 5-26) must be affixed to the package or unpackaged article.

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DGP is invited to consider whether the following should be replaced with text used elsewhere in the Technical Instructions, i.e. “When required by the provisions of 4;1.1.13, either the “Package orientation” label (Figure 5-29), or preprinted package orientation labels meeting the same specification as either Figure 5-29 or ISO Standard 780:1997, must be affixed to or printed on at least two opposite vertical sides of the package with the arrows pointing in the correct direction.”

3.6.2 When it is required to ensure articles containing liquid dangerous goods remain in their intended orientation, orientation marks meeting the requirements of 4;1.1.13 must be affixed and visible on at least two opposite vertical sides of the package or of the unpackaged article where possible, with the arrows pointing in the correct upright direction.

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*Renumber subsequent paragraphs accordingly*

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## Chapter 4

### DOCUMENTATION

#### 4.1.4 Information required on the dangerous goods transport document

##### 4.1.4.1 Dangerous goods description

The dangerous goods transport document must contain the following information for each dangerous substance, material or article offered for transport:

- a) the UN or ID number preceded by the letters "UN" or "ID" as appropriate;
- b) the proper shipping name, as determined according to 3;1.2, including the technical name enclosed in parenthesis, as applicable (see 3;1.2.7);

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ICAO translators and editors of versions other than English: There may be a need for amendment to 4.1.4 c) for the sake of alignment with 5.4.1.4.1 c) of the UN Model Regulations (see ST/SG/AC.10/44/Add.1)

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- c) the primary hazard class or, when assigned, the division of the goods, including for Class 1 the compatibility group letter. The words "Class" or "Division" may be included preceding the primary hazard class or division numbers;

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UN Model Regulations, 5.4.1.4.1 (d) (see ST/SG/AC.10/44/Add.1)

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- d) subsidiary hazard class or division number(s) corresponding to the subsidiary ~~risk~~ hazard label(s) required to be applied, when assigned, must be entered following the primary hazard class or division and must be enclosed in parenthesis. The words "Class" or "Division" may be included preceding the subsidiary hazard class or division numbers;
- e) where assigned, the packing group for the substance or article which may be preceded by "PG" (e.g. "PG II").

+ ~~Note. — Until 31 March 2017, shippers may identify engines as Class 9, UN 3166 using the proper shipping names and Packing Instruction 950 or 951 as shown in the 2015-2016 Edition of these Instructions. In that instance the dangerous goods transport document must indicate the packing instruction number and the UN number and proper shipping name in effect in the 2015-2016 Edition of these Instructions. The marks and labels applied, when required, must be consistent with the information shown on the dangerous goods transport document.~~

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UN Model Regulations, 5.4.1.5.5 (see ST/SG/AC.10/44/Add.1)

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Did not include amendment to heading which includes reference to "polymerizing substances" in the Technical Instructions as there is no reference to polymerizing substances in 4.1.5.4.1 or 4.1.5.4.2 (the UN Model Regulations include provisions for temperature control which are not included in the Technical Instructions).

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##### 4.1.5.4 Self-reactive substances and organic peroxides

4.1.5.4.1 When organic peroxides and self-reactive substances are transported under conditions where approval is required (for organic peroxides, see 2;5.3.2.5 for self-reactive substances, see 2;4.2.3.2.5), a statement to this effect must be included in the dangerous goods transport document. A copy of the classification approval and conditions of transport for non-listed organic peroxides and self-reactive substances must be attached to the dangerous goods transport document.

4.1.5.4.2 When a sample of an organic peroxide (see 2;5.3.2.6) or a self-reactive substance (see 2;4.2.3.2.6) is transported, a statement to this effect must be included in the dangerous goods transport document.

4.1.5.6 *Firework classification reference*

4.1.5.6.1 When fireworks of UN 0336 or UN 0337 are transported, the dangerous goods transport document must include a classification reference(s) issued by the appropriate national authority.

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UN Model Regulations, 5.4.1.5.10 (see ST/SG/AC.10/44/Add.1)

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4.1.5.6.2 The classification reference(s) must consist of the appropriate national authority's State, indicated by the distinguishing sign ~~for motor~~ used on vehicles in international traffic, the appropriate national authority identification and a unique serial reference. Examples of such classification references are:

GB/HSE123456  
D/BAM1234  
USA EX20091234.

*Note.— The distinguishing sign used on vehicles in international traffic is the distinguishing sign of the State of registration used on motor vehicles and trailers in international road traffic, e.g. in accordance with the Geneva Convention on Road Traffic of 1949 or the Vienna Convention on Road Traffic of 1968.*

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