

## 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

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Global harmonization of transport of dangerous goods regulations with the Model Regulations

### Information on recommendations made by the ICAO Dangerous Goods Panel Working Group (DGP-WG/15)

Transmitted by the International Civil Aviation Organization (ICAO)

#### Introduction

1. A Dangerous Goods Panel Working Group Meeting (DGP-WG/15) was held in Montréal from 27 April to 1 May 2013. The working group made a review of amendments proposed to the Technical Instructions in order to harmonize with the 19th revised edition of the UN Model Regulations. The Twenty-Fifth Meeting of the Dangerous Goods Panel (DGP/25) will meet from 19 to 30 October 2015 to finalize the amendments.
2. This information paper highlights issues which DGP-WG/15 determined should be brought to the attention of the 47th Session of the Sub-Committee.

#### New provision for viscosity determination (Model Regulations, 2.3.2.2)

3. DGP-WG/15 questioned whether it was appropriate to include the new provision for viscosity determination in a footnote as was done in 2.3.2.2 a) of the Model Regulations (Part 2;3.2.2 a) of the Technical Instructions) or if should be included within the main body of the 2.3.2.2, particularly since the wording of the note indicates a mandatory provision (see highlighted text below). The information in the footnote is as follows:

Viscosity determination: Where the substance concerned is non-Newtonian, or where a flow cup method of viscosity determination is otherwise unsuitable, a variable shear-rate viscometer shall be used to determine the dynamic viscosity coefficient of the substance, at 23 °C, at a number of shear rates. The values obtained are plotted against shear rate and then extrapolated to zero shear rate. The dynamic viscosity thus obtained, divided by the density, gives the apparent kinematic viscosity at near-zero shear rate.

#### UN packaging specification marking (Model Regulations 6.1.3, note)

4. A current misalignment between the note under section 6.1.3 of the Model Regulations and the corresponding paragraph in the Technical Instructions whereby the Technical Instructions included an optional provision for the “/” symbol in the UN specification marking while the UN Model Regulations did not was noted. The UN Sub-

Committee is invited to consider whether the provision should be included in the UN Model Regulations so as to prevent unnecessary rejection of packages by other modes which did not include the symbol. The following is the note as it appears in the Model Regulations with highlighted text showing the additional wording which appears in the Technical Instructions:

*NOTE: The markings, for which examples are given in 6.1.3.10, 6.1.3.11 and 6.1.3.12, may be applied in a single line or in multiple lines provided the correct sequence is respected. Additionally, the inclusion in the specification marking of the “/” symbol is optional.*

## SP378

5. DGP-WG/15 determined that the wording in new SP378 referring to “may be transported” placed an inappropriate responsibility on the operator since it was the shipper’s responsibility to apply the provision. Additionally, the required statement on the transport document provided in sub-paragraph g) was thought to be too prescriptive and that the wording should be modified in line with other special provisions in the Technical Instructions. The new special provision was amended as follows:

Radiation detectors containing this gas in non-refillable cylinders not meeting the requirements of Part 6;5 and Packing Instruction 200 may be ~~transported offered for transport~~ under this entry provided:

...

g) ~~The transport document includes the following statement “Transport in accordance with special provision 378”~~ transport in accordance with this special provision must be noted on the dangerous goods transport document.

...

## SP225

6. The new provision in the second note to SP225 of the UN Model Regulations was added to the corresponding special provision in the Technical Instructions (Special Provision A19) as a regulatory provision and not as part of a note since the provision includes regulatory text. DGP-WG/15 suggested that the UN Sub-Committee consider aligning with the Technical Instructions by also including the new provision in the main body of SP225 rather than in the note. The note reads as follows:

*NOTE: Pressure receptacles which contain gases for use in the above-mentioned extinguishers or for use in stationary fire-fighting installations shall meet the requirements in Chapter 6.2 and all requirements applicable to the relevant dangerous goods when these pressure receptacles are transported separately.*

## Calculation of the transport index

7. A proposal was made to include a recommendation in the form of a note in Part 5 of the *Technical Instructions* (Shipper’s Responsibilities) based on advisory material to the IAEA Regulations for the Safe Transport of Radioactive Material. The note clarifies that the transport index for packages of radioactive material where the measured dose rate

comprises more than one type of radiation should be based on the sum of all the dose rates from each type of radiation. There had been reports of some shippers using only one and it was suggested that this would result in an inaccurate measurement. Although there had been support for the proposed amendment from a safety perspective, DGP-WG/15 recognized the issue was a multi-modal one and should therefore first be reviewed by the IAEA and a proposal brought to the UN Sub-Committee based on this review if deemed appropriate. However, because the current amendment cycles of the IAEA and UN Sub-Committee would preclude any agreed amendment from being incorporated in the next edition of the Technical Instructions, and on the basis that the amendment would not introduce any new provisions but would simply refer to advisory material in an existing IAEA document, the DGP is considering including the proposed note in the next edition of the Technical Instructions ahead of a formal review by the IAEA provided there are no objections from the IAEA or the UN Sub-Committee. The Sub-Committee is invited to indicate whether there are any objections to ICAO including the note highlighted below ahead of a formal review. Provided there are not objections, the text would appear in Part 5 (Shipper's Responsibilities) of the 2017-2018 Edition of the Technical Instructions as follows:

## 1.2 GENERAL PROVISIONS FOR CLASS 7

...

### 1.2.3 Determination of transport index (TI) and criticality safety index (CSI)

#### 1.2.3.1 Determination of transport index

1.2.3.1.1 The transport index (TI) for a package, overpack or freight container, must be the number derived in accordance with the following procedure:

(a) Determine the maximum radiation level in units of millisieverts per hour (mSv/h) at a distance of 1 m from the external surfaces of the package, overpack, or freight container. The value determined must be multiplied by 100 and the resulting number is the transport index. For uranium and thorium ores and their concentrates, the maximum radiation level at any point 1 m from the external surface of the load may be taken as:

0.4 mSv/h for ores and physical concentrates of uranium and thorium;

0.3 mSv/h for chemical concentrates of thorium;

0.02 mSv/h for chemical concentrates of uranium, other than uranium hexafluoride;

(b) For freight containers, the value determined in step a) above must be multiplied by the appropriate factor from Table 5-1;

(c) The value obtained in steps a) and b) above must be rounded up to the first decimal place (e.g. 1.13 becomes 1.2), except that a value of 0.05 or less may be considered as zero.

*NOTE.—If the measured dose rate comprises more than one type of radiation, then the transport index should be based on the sum of all the dose rates from each type of radiation (see paragraph 523.1 of the IAEA Specific Safety Guide No. SSG-26 (2012 Edition)).*

## Report of the DGP Working Group of the Whole Meeting (DGP-WG/15)

8. The report of DGP-WG/15 can be downloaded from <http://www.icao.int/safety/DangerousGoods/Pages/WG15.aspx>.