



WORKING PAPER

**DANGEROUS GOODS PANEL (DGP)
WORKING GROUP MEETING (DGP-WG/16)**

Montreal, 17 to 21 October 2016

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

2.1: Part 1 — General

2.2: Part 2 — Classification

2.3: Part 3 — Dangerous Goods List, Special Provisions and Limited and Excepted Quantities

ALIGNMENT OF TERM “MATERIAL”

(Presented by B. Carrara)

SUMMARY

This working paper invites the DGP-WG to discuss the presence of the word “material” in the text of the Technical Instructions and provide comments on submitting a working paper to the UN Sub-Committee requesting to replace the term “material” in the applicable paragraphs of the UN Model Regulations.

Action by the DGP-WG: The DGP-WG is invited to consider replacing the word “material” by another term when this word means dangerous goods in order to avoid confusion or translation problems.

1. INTRODUCTION

1.1 The word “material” is used in the Technical Instructions with several meanings. However, in more than a thousand appearances, this term is most often related to packing or radioactive material issues.

1.2 Table 1 below presents the number of appearances of the word “material” and the relation of its meaning in the Technical Instructions.

1.3 It may be noted that “material” is used with the meaning of “dangerous goods” only four times. These occurrences are presented in Table 2.

Table 1. Number of appearances of the word “material” in the Technical Instructions

Relation	Quantity
Radioactive material (e.g. radioactive material, fissile material, LSA material, etc.)	816
Packing material (e.g. cushioning material, absorbent material, plastic material, material for refrigeration, etc.)	318
Manufacturing of DG (e.g. polymeric materials)	72
Acronyms/PSN (e.g. The American Society for Testing and Materials, Paint related material, etc.)	64
Magnetized Material	61
Animal/Genetic/Organic material	16
Training/Guidance material	9
Meaning "dangerous goods"	4
Waste material	1
TOTAL	1361

Table 2. Appearances of the word “material” meaning dangerous goods

Reference	Text
Part 1;2.3.2	The following dangerous goods may be acceptable in mail for air carriage subject to the provisions of the appropriate national authorities concerned and these Instructions which relate to such <u>material</u> :
Part 2;3.2.1	3.2.1 Table 2-4 should be used for the determination of the packing group of a liquid that presents a risk due to flammability. For liquids whose only hazard is flammability, the packing group for the <u>material</u> is the packing group shown in Table 2-4. For a liquid possessing an additional hazard(s), the packing group, determined by using Table 2-4, and the packing group based on the severity of the additional hazard(s), must be considered. In such cases, the table of precedence of hazard characteristics appearing in Table 2-1 should be used to determine the correct classification of the liquid.
Part 3; SP A72	A72 (163) A substance specifically listed by name in Table 3-1 must not be transported under this entry. <u>Materials</u> transported under this entry may contain 20 per cent or less nitrocellulose provided the nitrocellulose contains not more than 12.6 per cent nitrogen.
Part 3;5.6	Dangerous goods assigned to codes E1, E2, E4 or E5 are not subject to these Instructions when carried as cargo provided that: a) the maximum net quantity of <u>material</u> dangerous goods per inner packaging is limited to 1 mL for liquids and gases and 1 g for solids;

1.4 In translating the text of the Technical Instructions into national regulations, especially to non-ICAO languages, the difference in meaning may bring interpretation problems. As an example, in sub-paragraph b) of Part 3;5.6, it can be noted that the word “material” relates to packaging issues when the Instructions mandate the usage of cushioning material and, for liquids, absorbent material. Therefore, in sub-paragraphs a) and b) of the same paragraph 3;5.6, the term “material” has two different meanings.

1.5 In cases when “material” means dangerous goods this word could be replaced by one or more of the following terms, depending on the context:

- 1) dangerous goods;
- 2) goods;
- 3) articles; or
- 4) substances.

1.6 In Part 2;3.2.1, the Technical Instructions refer to “material” while the corresponding provision in the UN Model Regulations (2.3.2.1.1) refers to “substances”.

“2.3.2.1.1 For liquids whose only risk is flammability, the packing group for the substance is the hazard grouping shown in 2.3.2.6. “

1.7 Furthermore, considering that Part 3;5.6 and Special Provision A72 also originate from UN text and the UN document uses the term “material”, if necessary, an amendment to the UN Model Regulations should be made before bringing it to the Technical Instructions.

2. ACTION BY THE DGP-WG

2.1 The DGP-WG is invited to discuss the presence of word “material” in the text of the Technical Instructions and to provide comments on submitting a working paper to the UN Sub-Committee requesting to replace the term “material” in the applicable paragraphs of the UN Model Regulations.

2.2 The DGP-WG is invited to consider future consequential amendments to the text of the Technical Instructions as presented in Appendix A and Appendix B.

- a) Part 1;2.3.2 and Part 2;3.2.1 would be amended as shown in Appendix A in the next edition of the Technical Instructions; and
- b) Part 3;5.6 and Special Provision A72 would be amended as shown in Appendix B after UN Sub-Committee decision.

APPENDIX A

PROPOSED AMENDMENT TO THE TECHNICAL INSTRUCTIONS FOR INCORPORATION IN THE 2019-2020 EDITION

Part 1

GENERAL

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Chapter 2

LIMITATION OF DANGEROUS GOODS ON AIRCRAFT

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2.3 TRANSPORT OF DANGEROUS GOODS BY POST

2.3.1 In accordance with the Universal Postal Union (UPU) Convention, dangerous goods as defined in these Instructions, with the exception of those listed below, are not permitted in mail. Appropriate national authorities should ensure that the provisions are complied with in relation to the transport of dangerous goods by air.

2.3.2 The following dangerous goods may be acceptable in mail for air carriage subject to the provisions of the appropriate national authorities concerned and these Instructions ~~which relate to such material:~~

- a) patient specimens as defined in 2;6.3.1.4 provided that they are classified, packed and marked as required by 2;6.3.2.3.8 a), b), c) and d);
- b) infectious substances assigned to category B (UN 3373) only, when packed in accordance with the requirements of Packing Instruction 650, and solid carbon dioxide (dry ice) when used as a refrigerant for UN 3373; and
- c) radioactive material in an excepted package, UN Nos. 2910 and 2911 only, the activity of which does not exceed one-tenth of that listed in Part 2, Chapter 7, Table 2-14, and that does not meet the definitions and criteria of classes, other than Class 7, or divisions, as defined in Part 2. The package must be marked with the name of the shipper and the consignee, the package must be marked "radioactive material — quantities permitted for movement by post" and must bear the radioactive material, excepted package label (Figure 5-33);
- d) lithium ion batteries contained in equipment (UN 3481) meeting the provisions of Section II of Packing Instruction 967. No more than four cells or two batteries may be mailed in any single package; and
- e) lithium metal batteries contained in equipment (UN 3091) meeting the provisions of Section II of Packing Instruction 970. No more than four cells or two batteries may be mailed in any single package.

2.3.3 The procedures of designated postal operators for controlling the introduction of dangerous goods in mail into air transport are subject to review and approval by the civil aviation authority of the State where the mail is accepted.

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Part 2

CLASSIFICATION OF DANGEROUS GOODS

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Chapter 3

CLASS 3 — FLAMMABLE LIQUIDS

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3.2 ASSIGNMENT OF PACKING GROUPS

3.2.1 Table 2-4 should be used for the determination of the packing group of a liquid that presents a risk due to flammability. For liquids whose only hazard is flammability, the packing group for the ~~material~~-substance is the packing group shown in Table 2-4. For a liquid possessing an additional hazard(s), the packing group, determined by using Table 2-4, and the packing group based on the severity of the additional hazard(s), must be considered. In such cases, the table of precedence of hazard characteristics appearing in Table 2-1 should be used to determine the correct classification of the liquid.

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APPENDIX B

PROPOSED AMENDMENT TO THE TECHNICAL INSTRUCTIONS SUBJECT TO SUPPORT
OF THE UN SUB-COMMITTEE

Part 3

DANGEROUS GOODS LIST,
SPECIAL PROVISIONS AND
LIMITED AND EXCEPTED QUANTITIES

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Chapter 3

SPECIAL PROVISIONS

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Table 3-2. Special provisions

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A72 (163) A substance specifically listed by name in Table 3-1 must not be transported under this entry. ~~Materials~~ **[Dangerous goods]** transported under this entry may contain 20 per cent or less nitrocellulose provided the nitrocellulose contains not more than 12.6 per cent nitrogen.

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Chapter 5

DANGEROUS GOODS PACKED IN EXCEPTED QUANTITIES

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5.6 DE MINIMIS QUANTITIES

Dangerous goods assigned to codes E1, E2, E4 or E5 are not subject to these Instructions when carried as cargo provided that:

- a) the maximum net quantity of ~~material~~ **[dangerous goods]** per inner packaging is limited to 1 mL for liquids and gases and 1 g for solids;
- b) the provisions of 5.2 are met, except that an intermediate packaging is not required if the inner packagings are securely packed in an outer packaging with cushioning material in such a way that, under normal conditions of transport, they cannot break, be punctured, or leak their contents; and for liquid dangerous goods, the outer packaging contains sufficient absorbent material to absorb the entire contents of the inner packagings;
- c) the provisions of 5.3 are complied with; and
- d) the maximum net quantity of dangerous goods per outer packaging does not exceed 100 g for solids or 100 mL for liquids and gases.

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