



**WORKING PAPER**

**DANGEROUS GOODS PANEL (DGP)**

**TWENTY-SECOND MEETING**

**Montréal, 5 to 16 October 2009**

**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 2011-2012 Edition**

**TRANSPORT OF SOLID EHS IN INTERMEDIATE BULK CONTAINERS (IBCs)**

(Presented by the Dangerous Goods Advisory Council)

**SUMMARY**

This paper proposes to allow IBCs for substances transported under UN 3077, **Environmentally hazardous substance, solid, n.o.s.\***.

**Action by the DGP:** In response to comments received from DGP-WG09, consistent with UN Model Regulations Packing Instruction IBC 08 (except 13H1 and 13L1 are not proposed) and in order to permit continued use of IBCs for the purpose of transporting solid substances classified as UN 3077, the DGP is invited to amend the *Technical Instructions* as shown in the appendix by adding a new special provision; modifying new Packing Instruction 956 applicable to UN 3077; and adding new text to 6;1.3 to account for IBCs proposed for use for UN 3077 in Table 6-2.

**1. INTRODUCTION**

1.1 Based on discussions at the DGP Working Group of the Whole Meeting in Auckland (DGP-WG09, 4 to 8 May 2009) (DGP/22-WP/3 paragraph 3.2.20 refers), there was general support for permitting environmentally hazardous solid substances assigned to UN 3077 to be transported in intermediate bulk containers (IBCs). As noted in paragraph 3.2.20.1 of DGP/22-WP/3, IBCs are currently in use for transporting these materials which until now have been transported by air without being subject to the *Technical Instructions for the Safe Transport of Dangerous Goods by Air* (Doc 9284). A common purpose is for transporting agricultural products. The agricultural industry using these products is fully adapted (i.e. specialized handling and application equipment) to using IBCs and continued use of IBCs will keep packaging waste to a minimum. On the basis of comments received at the meeting, DGAC agreed to submit a revised proposal for consideration by the panel.

2. **COMMENTS PROVIDED AT DGP-WG09**

2.1 Comments provided at the working group meeting included:

- a) the need to clarify that the quantity limit in the dangerous goods list did not apply when IBCs are used;
- b) sufficient information needed to be provided to allow airline acceptance personnel to verify compliance with the regulations;
- c) all IBC types that could be used should be permitted, not only those that are in common usage for agricultural purposes [DGAC had proposed UN IBC codes 11G, 13H1, 13H2, 13H3, 13H4 and 13H5];
- d) a quantity limit of 1 000 kg was a more logical limit than the 600 kg limit proposed; and
- e) IBCs should be identified in the Index of Packagings in Table 6-2.

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APPENDIX

PROPOSED AMENDMENT TO THE TECHNICAL INSTRUCTIONS

Part 3

DANGEROUS GOODS LIST,  
SPECIAL PROVISIONS AND  
LIMITED AND EXCEPTED QUANTITIES

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Chapter 3

SPECIAL PROVISIONS

Table 3-2. Special provisions

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Axxx For UN 3077, irrespective of the maximum net quantities specified in the columns 11 and 13 of the Dangerous Goods List (Table 3 1), intermediate bulk containers (IBC) with a maximum net quantity not exceeding 1 000 kg are permitted as set out in Packing Instruction 956.

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Part 4

PACKING INSTRUCTIONS

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**Packing Instruction 956**

Passenger and cargo aircraft for UN 1841, UN 1931, UN 3432, UN 2969, UN 3077, UN 3152 and UN 3335 only

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**SINGLE PACKAGINGS**

<i>Bags</i>	<i>Boxes</i>	<i>Composites</i>	<i>Cylinders</i>	<i>Drums</i>	<i>Jerricans</i>
Paper (5M2)	Aluminium (4B)	All (see	See 4;2.7	Aluminium (1B1,	Aluminium (3B1,
Plastic film	Fibreboard (4G)	6;3.1.18)		1B2)	3B2)
(5H4)	Natural wood			Fibre (1G)	Plastic (3H1,
Textile (5L3)	(4C2)			Other metal	3H2)
Woven plastic	Plastic (4H2)			(1N1, 1N2)	Steel (3A1, 3A2)
(5H3)	Plywood (4D)			Plastic (1H1,	
	Reconstituted			1H2)	
	wood (4F)			Plywood (1D)	
	Steel (4A)			Steel (1A1, 1A2)	

For UN 3077, irrespective of the maximum net quantities specified in the columns 11 and 13 of the Dangerous Goods List (Table 3-1) and as provided above for single packagings, intermediate bulk containers (IBC) with a maximum net quantity not exceeding 1 000 kg are permitted as shown below. Each IBC must be in accordance with Chapter 6.5 of the United Nations Model Regulations and must bear the required UN mark.

**INTERMEDIATE BULK CONTAINERS FOR UN 3077 ONLY**

<u>Metal</u>	<u>Rigid Plastic</u>	<u>Composite with inner plastic receptacle</u>	<u>Fibreboard</u>	<u>Wooden</u>	<u>Flexible</u>
<u>Steel (11A), (21A), (31A)</u> <u>Aluminum (11B), (21B), (31B)</u> <u>Other than steel or aluminum (11N), (21N), (31N)</u>	<u>for solids, filled or discharged by gravity, fitted with structural equipment (11H1)</u> <u>for solids, filled or discharged by gravity, freestanding (11H2)</u> <u>for solids, filled or discharged under pressure, fitted with structural equipment (21H1)</u> <u>for solids, filled or discharged under pressure, freestanding (21H2)</u> <u>for liquids, fitted with structural equipment (31H1)</u>	<u>for solids, filled or discharged by gravity, with rigid plastic inner receptacle (11HZ1)</u> <u>for solids, filled or discharged by gravity, with flexible plastic inner receptacle (11HZ2)</u> <u>for solids, filled or discharged under pressure, with rigid plastic inner receptacle (21HZ1)</u> <u>for solids, filled or discharged under pressure, with flexible plastic inner receptacle (21HZ2)</u>  <u>(The IBC Code must be completed by replacing the letter Z with a capital letter indicating the nature of the material used for the outer casing (A for steel; B for aluminum; C for natural wood; D for plywood; F for reconstituted wood; G for fibreboard; H for plastic material; L for textile; M for paper, multiwalled; and N for metal other than steel or aluminium).)</u>	<u>for solids, filled or discharged by gravity (11G)</u>	<u>Natural wood for solids, filled or discharged by gravity with inner liner (11C)</u> <u>Plywood for solids, filled or discharged by gravity, with inner liner (11D)</u> <u>Reconstituted wood for solids, filled or discharged by gravity, with inner liner (11F)</u>	<u>Woven plastic, coated (13H2)</u> <u>Woven plastic with liner (13H3)</u> <u>Woven plastic, coated and with liner (13H4)</u> <u>Plastic film (13H5)</u> <u>Textile coated (13L2)</u> <u>Textile with liner (13L3)</u> <u>Textile coated and with liner (13L4)</u> <u>Paper multiwall (13M1)</u> <u>Paper multiwall, water resistant (13M2)</u>

**ADDITIONAL PACKING REQUIREMENTS FOR FOR INTERMEDIATE BULK CONTAINERS**

— Flexible IBCs must be sift-proof and water resistant or must be fitted with a sift-proof and water resistant liner.

**Part 6****PACKAGING NOMENCLATURE, MARKING,  
REQUIREMENTS AND TESTS**

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**Chapter 1****APPLICABILITY, NOMENCLATURE AND CODES**

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**1.3 INDEX OF PACKAGINGS**

Table 6-2 contains an index of packagings, other than inner packagings, referred to in Chapters 1 to 4. It lists all the packagings, except inner packagings, specified in the United Nations Recommendations for the Transport of Dangerous Goods, and notes those not used in these Instructions for air transport. The index lists the number of the paragraph containing the requirements of those packagings used in these Instructions. The performance tests are specified in Chapter 4. Table 6-3 contains an index of inner packagings and lists the paragraph number containing the requirements together with, where applicable, individual performance tests (e.g. for aerosols). [In addition to the listed packagings, intermediate bulk containers are permitted for UN 3077 as shown in Packing Instruction 956.](#)

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