



## WORKING PAPER

### DANGEROUS GOODS PANEL (DGP) WORKING GROUP MEETING (DGP-WG/19)

Montréal, 1 to 5 April 2019

**Agenda Item 1: Harmonizing ICAO dangerous goods provisions with UN Recommendations on the Transport of Dangerous Goods**

**1.2: Develop proposals, if necessary, for amendments to the *Technical Instructions for the Safe Transport of Dangerous Goods by Air* (Doc 9284) for incorporation in the 2021-2022 Edition**

#### REVISIONS TO PERMITTED PACKAGINGS IN PACKING INSTRUCTIONS

(Presented by D. Brennan)

##### SUMMARY

This working paper proposes revisions to the packagings permitted in the packing instructions to align to those permitted by the UN Model Regulations.

**Action by the DGP-WG:** The DGP-WG is invited to consider the revisions proposed to the packagings permitted in the packing instructions as shown in the appendix to this working paper.

## 1. INTRODUCTION

1.1 In reviewing the composite packagings that are permitted for UN 3241, **2-Bromo-2-nitropropane-1,3-diol** it was identified that there was an inconsistency between the composite (single) packagings permitted by packing instruction P520 in the UN Model Regulations and those shown in Packing Instruction 457. The difference being that composite packaging 6HH2, plastic receptacle with outer solid plastic box is permitted in P520 in the UN Model Regulations, but not shown in Packing Instruction 457.

1.2 Further review of the Class 4 and Class 5 packing instructions has also identified other inconsistencies in the single packagings permitted in the packing instructions. In the packing instructions for Packing Group III liquids in Class 3, Division 6.1 and Class 8, open head drums (1A2, 1B2, 1N2 and 1H2) and jerricans (3A2, 3B2 and 3H2) are permitted, but not in the equivalent packing instructions for Class 4 and Division 5.1. Fibre drums (1G) and plywood drums (1D) are permitted as single packagings

in the cargo aircraft packing instructions for solids, however these packagings are not shown in Packing Instructions 470, 471, 490 and 491.

1.3 To address these inconsistencies and provide better alignment within the Technical Instructions, and between the Technical Instructions and the UN Model Regulations it is proposed to make small additions to some packing instructions.

## 2. ACTION BY THE DGP-WG

2.1 The DGP-WG is invited to consider the inclusion of the packagings identified in the packing instructions as shown in the appendix to this working paper.

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## APPENDIX

### PROPOSED AMENDMENT TO PART 4 OF THE TECHNICAL INSTRUCTIONS

#### Part 4

#### PACKING INSTRUCTIONS

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#### Chapter 6

#### CLASS 4 — FLAMMABLE SOLIDS; SUBSTANCES LIABLE TO SPONTANEOUS COMBUSTION; SUBSTANCES WHICH, IN CONTACT WITH WATER, EMIT FLAMMABLE GASES

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#### Packing Instruction 457

Passenger and cargo aircraft for UN 3241 only

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#### ADDITIONAL PACKING REQUIREMENTS FOR SINGLE PACKAGINGS

— Packagings must meet the Packing Group II performance requirements.

#### SINGLE PACKAGINGS

##### *Composites*

Plastic receptacle with  
outer wooden box (6HC)  
Plastic receptacle with  
outer plywood drum  
(6HD1)  
Plastic receptacle with  
outer plywood box  
(6HD2)  
Plastic receptacle with  
outer fibre drum (6HG1)  
Plastic receptacle with  
outer fibreboard box  
(6HG2)  
Plastic receptacle with  
outer plastic drum  
(6HH1)  
Plastic receptacle with  
outer solid plastic box  
(6HH2)

##### *Drums*

Plastics (1H1, 1H2)

##### *Jerricans*

Plastics (3H1, 3H2)

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## Packing Instructions 462 – 463

Passenger aircraft

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### ADDITIONAL PACKING REQUIREMENTS FOR SINGLE PACKAGINGS

#### *Packing Group III*

— Packagings must meet the Packing Group II performance requirements.

#### SINGLE PACKAGINGS FOR PACKING GROUP III ONLY (PI 463)

<i>Composites</i>	<i>Cylinders</i>	<i>Drums</i>	<i>Jerricans</i>
All (see 6;3.1.18)	See 4;2.7	Aluminium (1B1, <u>1B2</u> ) Other metal (1N1, <u>1N2</u> ) Plastics (1H1, <u>1H2</u> ) Steel (1A1, <u>1A2</u> )	Aluminium (3B1, <u>3B2</u> ) Plastics (3H1, <u>3H2</u> ) Steel (3A1, <u>3A2</u> )

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## Packing Instructions 464 – 465

Cargo aircraft only

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### ADDITIONAL PACKING REQUIREMENTS FOR SINGLE PACKAGINGS

#### *Packing Group III*

— Packagings must meet the Packing Group II performance requirements.

#### SINGLE PACKAGINGS FOR PACKING GROUP III ONLY (PI 465)

<i>Composites</i>	<i>Cylinders</i>	<i>Drums</i>	<i>Jerricans</i>
All (see 6;3.1.18)	See 4;2.7	Aluminium (1B1, <u>1B2</u> ) Other metal (1N1, <u>1N2</u> ) Plastics (1H1, <u>1H2</u> ) Steel (1A1, <u>1A2</u> )	Aluminium (3B1, <u>3B2</u> ) Plastics (3H1, <u>3H2</u> ) Steel (3A1, <u>3A2</u> )

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## Packing Instructions 470 – 471

Cargo aircraft only

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**ADDITIONAL PACKING REQUIREMENTS FOR SINGLE PACKAGINGS***Packing Group III*

- Packagings must meet the Packing Group II performance requirements.
- Fibreboard, wood and plywood single packagings must be fitted with a suitable liner.

**SINGLE PACKAGINGS**

<i>Boxes</i>	<i>Composites</i>	<i>Cylinders</i>	<i>Drums</i>	<i>Jerricans</i>
Aluminium (4B)	All (see 6;3.1.18)	See 4;2.7	Aluminium (1B1, 1B2)	Aluminium (3B1, 3B2)
Fibreboard (4G)			Other metal (1N1, 1N2)	Plastics (3H1, 3H2)
Natural wood (4C2)			<u>Fibre (1G)</u>	Steel (3A1, 3A2)
Other metal (4N)			Plastics (1H1, 1H2)	
Plastics (4H2)			<u>Plywood (1D)</u>	
Plywood (4D)			Steel (1A1, 1A2)	
Reconstituted wood (4F)				
Steel (4A)				

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## Packing Instructions 478 – 479

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**ADDITIONAL PACKING REQUIREMENTS FOR SINGLE PACKAGINGS***Packing Group III*

- Packagings must meet the Packing Group II performance requirements.

**SINGLE PACKAGINGS FOR PACKING GROUP III (PI 479 only)**

<i>Composites</i>	<i>Cylinders</i>	<i>Drums</i>	<i>Jerricans</i>
All (see 6;3.1.18)	See 4;2.7	Aluminium (1B1, <u>1B2</u> )	Aluminium (3B1, <u>3B2</u> )
		Other metal (1N1, <u>1N2</u> )	Plastics (3H1, <u>3H2</u> )
		Plastics (1H1, <u>1H2</u> )	Steel (3A1, <u>3A2</u> )
		Steel (1A1, <u>1A2</u> )	

## Packing Instructions 480 – 482

Cargo aircraft only

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### SINGLE PACKAGINGS FOR PACKING GROUP III ONLY (PI 482)

<i>Composites</i>	<i>Cylinders</i>	<i>Drums</i>	<i>Jerricans</i>
All (see 6;3.1.18)	See 4;2.7	Aluminium (1B1, <u>1B2</u> ) Other metal (1N1, <u>1N2</u> ) Plastics (1H1, <u>1H2</u> ) Steel (1A1, <u>1A2</u> )	Aluminium (3B1, <u>3B2</u> ) Plastics (3H1, <u>3H2</u> ) Steel (3A1, <u>3A2</u> )

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## Packing Instructions 487 – 491

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### SINGLE PACKAGINGS FOR PACKING GROUPS II AND III ONLY

<i>Boxes</i>	<i>Composites</i>	<i>Cylinders</i>	<i>Drums</i>	<i>Jerricans</i>
Aluminium (4B) Fibreboard (4G) Natural wood (4C2) Other metal (4N) Plastics (4H2) Plywood (4D) Reconstituted wood (4F) Steel (4A)	All (see 6;3.1.18)	See 4;2.7	Aluminium (1B1, 1B2) <u>Fibre (1G)</u> Other metal (1N1, 1N2) Plastics (1H1, 1H2) <u>Plywood (1D)</u> Steel (1A1, 1A2)	Aluminium (3B1, 3B2) Plastics (3H1, 3H2) Steel (3A1, 3A2)

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## Chapter 7

CLASS 5 — OXIDIZING SUBSTANCES;  
ORGANIC PEROXIDES

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## Packing Instructions 553 – 555

Cargo aircraft only

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**ADDITIONAL PACKING REQUIREMENTS FOR SINGLE PACKAGINGS***Packing Group III*

— Packagings must meet the Packing Group II performance requirements.

**SINGLE PACKAGINGS FOR PACKING GROUP III (PI 555)***Composites*

All (see 6;3.1.18)

*Drums*Aluminium (1B1, 1B2)  
Other metal (1N1, 1N2)  
Plastics (1H1, 1H2)  
Steel (1A1, 1A2)*Jerricans*Aluminium (3B1, 3B2)  
Plastics (3H1, 3H2)  
Steel (3A1, 3A2)

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