



**DANGEROUS GOODS PANEL (DGP)  
MEETING OF THE WORKING GROUP OF THE WHOLE**

**Auckland, New Zealand, 4 to 8 May 2009**

**Agenda Item 5: Resolution, where possible, of the non-recurrent work items identified by the Air Navigation Commission or the panel**  
**5.4: Reformatting of the packing instructions**

**NEW CHARTS FOR SUBSTANCES LISTED IN THE SUPPLEMENT TO THE TECHNICAL INSTRUCTIONS FOR THE SAFE TRANSPORT OF DANGEROUS GOODS BY AIR**

(Presented by R. Richard)

**SUMMARY**

This paper seeks to propose a new organizational chart for Class 3,4,5,6 and 8 for the Supplement of the Technical Instructions for the Safe Transport of Dangerous Goods by Air. It organizes the required quantities based on class, packing group, passenger or cargo and liquid or solid. The chart also includes exceptions that deviate from the general quantities listed for each of the classes.

**1. INTRODUCTION**

1.1 It has been suggested that a more cohesive and condense form of Packing Instructions be created for those substances listed in the Supplement of the Technical Instructions for the Safe Transport of Dangerous Goods.

1.2 The chart presented in proposal 1, was created based off the current supplement chart, classes 3-9. It currently contains the new packing instruction numbers. In addition, it includes, should a substance be forbidden in the supplement, a corresponding packing instruction number in parentheses. These forbidden substances were placed into an already existing new packing instruction (that can be found in the Technical Instructions manual). The majority of the substances were placed in the most restrictive packing instruction based on their class, packing group and sub- risk.

1.3 Proposal 2, as shown below provides a new condensed version of the Packing Instructions for the Supplement. There are two suggested ways of constructing these charts:

- a) The charts can be organized by class and packing group. In which all the substances, classes 3-9, would be given a generic packing instruction number. Substances would be assigned to the packing instruction for that class, sub risk and packing group. The packing instruction quantities would follow the most current restrictive packing instruction; however, this would be seen as a minimum, where states could increase the quantity should they feel the need to.
- b) Packing Instructions can also be organized with exceptions, meaning that the chart would contain a generic packing instruction, based on class and packing group, and then those substances that did not fit into the generic packing instruction, would be listed, with the differences, under exceptions. The quantities in the generic packing instruction are based on the most frequently used quantities within that specific class and packing group.

1.4 Panel members are encouraged to review, discuss and comment on the charts provided in Appendix A between this working group and the DGP Meeting in October

## 2. ISSUES

2.1 There following are questions that may need some discussion:

2.1.1 Drawing attention to the fact that there are some substances that have packing instruction numbers that are not within the same class as the packing instruction within the UN, this working group may like to discuss whether the ICAO should also change from a regular packing instruction for those substances listed below to a more specific packing instruction.

Un number	Un packing instruction	ICAO packing instruction		
2983	P200	361		
2481	P601	361		
1051	P200	F		
1052	P200	F(850)/F(855)		
1834	P602	F(850)/F(854)		

2.1.2 UN3256 is not allowed in bulk in the United Nations Model Regulations, however, it is allowed in large quantities within the Technical Instructions. This working group may want to reconsider the packaging amount allowed within the Technical instructions.

2.1.3 Noting that UN3176, UN2956, UN3251, UN2254, UN1331, UN2956 and UN2304, which consist of mainly of the molten substances, are allowed to be packaged in greater quantity in the Technical Instructions than is allowed in the United Nations Model Regulations. Again this working group may want to reconsider the packaging amount allowed within the Technical instructions. It is doubtful these substances move by aircraft.

2.2 The DGP-WG is invited to discuss the following charts in an effort to make the packing instructions more efficient.

**PROPOSAL 1**

2.3 **ICAO SUPPLEMENT TABLE HERE**

**PROPOSAL 2**

2.4 Below is the format in which the new generic packing instructions would follow. This is just a representation and should this panel decide that this method/format is satisfactory, packing instructions for all classes can be completed for the November meeting.

2.5 Exceptions to the generic packing instruction can be placed in the table as shown below (sample 1), or they can be placed in separate table but located within that packing instruction (as can be seen in sample 2) or lastly they can be placed into a separate packing instruction (sample 3).

**Sample 1**

<b>Packing Instruction Class 3</b>
<b>Passenger and cargo aircraft</b>
<p><b>General requirements</b></p> <p>Part 4, Chapter 1 requirements must be met, including:</p> <p>1) <b>Compatibility requirements</b></p> <ul style="list-style-type: none"> <li>— substances must be compatible with their packaging as required by 4;1.1.3</li> <li>— Metal packagings must be corrosion resistant or be protected against corrosion for substances with a Class 8 subsidiary risk</li> </ul> <p>2) <b>Closure requirements</b></p> <ul style="list-style-type: none"> <li>— Closure requirements must meet the requirements of 4;1.1.4.</li> </ul>

<b>Packaging</b>						
<i>Packing Instruction</i>	<i>Packing Group</i>	<i>Inner packaging</i>	<i>Passenger Inner packaging quantity (per receptacle)</i>	<i>Total quantity per package</i>	<i>Cargo Inner packaging quantity (per receptacle)</i>	<i>Total quantity per package</i>
S001	I	Glass	0.5L	1L	1L	5L
		Plastic	F		F	
		Metal	1L		5L	
S002	II	Glass	1 L	5L	2.5L	60L
		Plastic	2.5 L		5L	
		Metal	2.5 L		10L	
<b>Exceptions</b>						
UN2363	I	Glass	0.5L	1L	1L	30L
		Plastic	0.5L		F	
		Metal	0.5L		2.5L	

### **ADDITIONAL PACKING REQUIREMENTS**

#### Packing Group I

— Inner Packaging must be packed with absorbent material and placed in a rigid leak proof receptacle before packing in outer packaging

### **OUTER PACKAGINGS**

Boxes	Drums	Jerricans
Aluminium (4B)	Aluminium (1B2)	Aluminium (3B2)
Fibreboard (4G)	Fibre (1G)	Plastic (3H2)
Natural wood (4C1,4C2)	Other metal (1N2)	Steel (3A2)
Plastic (4H1, 4H2)	Plastic (1H2)	
Plywood (4D)	Plywood (1D)	
Reconstituted wood (4F)	Steel (1A2)	
Steel (4A)		

**Sample 2**

<b>Packing Instruction Class 3</b>
<b>Passenger and cargo aircraft</b>

**General requirements**

Part 4, Chapter 1 requirements must be met, including:

**1) Compatibility requirements**

- substances must be compatible with their packaging as required by 4;1.1.3
- Metal packagings must be corrosion resistant or be protected against corrosion for substances with a Class 8 subsidiary risk

**2) Closure requirements**

- Closure requirements must meet the requirements of 4;1.1.4.

<b>Packaging</b>						
<i>Packing Instruction</i>	<i>Packing Group</i>	<i>Inner packaging</i>	<i>Passenger Inner packaging quantity (per receptacle)</i>	<i>Total quantity per package</i>	<i>Cargo Inner packaging quantity (per receptacle)</i>	<i>Total quantity per package</i>
S001	I	Glass	0.5L	1L	1L	5L
		Plastic	F		F	
		Metal	1L		5L	
S002	II	Glass	1 L	5L	2.5L	60L
		Plastic	2.5 L		5L	
		Metal	2.5 L		10L	

**Exceptions**

<b>Packaging</b>						
<i>Packing Instruction</i>	<i>Packing Group</i>	<i>Inner packaging</i>	<i>Passenger Inner packaging quantity (per receptacle)</i>	<i>Total quantity per package</i>	<i>Cargo Inner packaging quantity (per receptacle)</i>	<i>Total quantity per package</i>
UN2363	I	Glass	0.5L	1L	1L	30L
		Plastic	0.5L		F	
		Metal	0.5L		2.5L	
UN1194	I	Glass	Forbidden	Forbidden	1L	30L
		Plastic			F	
		Metal			2.5L	

### ADDITIONAL PACKING REQUIREMENTS

#### Packing Group I

- Inner Packaging must be packed with absorbent material and placed in a rigid leak proof receptacle before packing in outer packaging

### OUTER PACKAGINGS

Boxes	Drums	Jerricans
Aluminium (4B)	Aluminium (1B2)	Aluminium (3B2)
Fibreboard (4G)	Fibre (1G)	Plastic (3H2)
Natural wood (4C1,4C2)	Other metal (1N2)	Steel (3A2)
Plastic (4H1, 4H2)	Plastic (1H2)	
Plywood (4D)	Plywood (1D)	
Reconstituted wood (4F)	Steel (1A2)	
Steel (4A)		

### Sample 3

<b>Packing Instruction Class 3 exceptions</b>
<b>Passenger and cargo aircraft</b>
<p><b>General requirements</b></p> <p>Part 4, Chapter 1 requirements must be met, including:</p> <p>1) <b>Compatibility requirements</b></p> <ul style="list-style-type: none"> <li>— substances must be compatible with their packaging as required by 4;1.1.3</li> <li>— Metal packagings must be corrosion resistant or be protected against corrosion for substances with a Class 8 subsidiary risk</li> </ul> <p>2) <b>Closure requirements</b></p> <ul style="list-style-type: none"> <li>— Closure requirements must meet the requirements of 4;1.1.4.</li> </ul>
<b>Packaging</b>

<i>Packing Instruction</i>	<i>Packing Group</i>	<i>Inner packaging</i>	<i>Passenger Inner packaging quantity (per receptacle)</i>	<i>Total quantity per package</i>	<i>Cargo Inner packaging quantity (per receptacle)</i>	<i>Total quantity per package</i>
UN2363	I	Glass	0.5L	1L	1L	30L
		Plastic	0.5L		F	
		Metal	0.5L		2.5L	
UN1194	I	Glass	Forbidden	Forbidden	1L	30L
		Plastic			F	
		Metal			2.5L	

**ADDITIONAL PACKING REQUIREMENTS**

Packing Group I

— Inner Packaging must be packed with absorbent material and placed in a rigid leak proof receptacle before packing in outer packaging

**OUTER PACKAGINGS**

Boxes	Drums	Jerricans
Aluminium (4B)	Aluminium (1B2)	Aluminium (3B2)
Fibreboard (4G)	Fibre (1G)	Plastic (3H2)
Natural wood (4C1,4C2)	Other metal (1N2)	Steel (3A2)
Plastic (4H1, 4H2)	Plastic (1H2)	
Plywood (4D)	Plywood (1D)	
Reconstituted wood (4F)	Steel (1A2)	
Steel (4A)		