



**WORKING PAPER**

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

**Rio de Janeiro, Brazil, 20 to 24 October 2014**

**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 2017-2018 Edition**

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

**REQUIREMENTS FOR THE TRANSPORT OF ENVIRONMENTALLY HAZARDOUS  
SUBSTANCES (UN 3077 AND UN 3082)**

(Presented by T. Muller)

**SUMMARY**

This working paper proposes several changes to the requirements for the transport of environmentally hazardous substances of Class 9 (UN numbers 3077 and 3082).

**Action by the DGP-WG:** Action by the DGP-WG is in paragraph 2.

**1. INTRODUCTION**

1.1 Based on the adoption of Special Provision 375 by the United Nations Sub-Committee of Experts on the Transport of Dangerous Goods in the 18<sup>th</sup> Edition of the UN Model Regulations, the DGP adopted Special Provision A197 for inclusion in the 2015-2016 Edition of the Technical Instructions. (see page 2A-46 of the DGP/24 Report (DGP/24-WP81)).

1.2 Special Provision A197 is assigned to the entries in Table 3-1 for UN 3077 **Environmentally hazardous substances, solid, n.o.s.** and UN 3082 **Environmentally hazardous substances, liquid, n.o.s.** The special provision indicates that these substances when transported in single or combination packagings containing a net quantity per single or inner packaging of 5 L or less for liquids or having a net mass of 5 kg or less for solids, are not subject to any other provisions of the Instructions provided the packagings meet the general provisions of Part 4;1.1.1, 4;1.1.3.1 and 4;1.1.5.

1.3 In many places in the Technical Instructions, reference is made to the transport of UN 3077 and UN 3082 in quantities not exceeding 5 kg or 5L per inner packaging. This leads to discrepancies, e.g. when UN 3077 or UN 3082 is offered for transport as limited quantities or is contained in machinery or apparatus (UN 3363).

1.4 A search of the requirements for UN 3077 and UN 3082 has led to the following summary of areas where there are discrepancies:

- a) Special Provision A158: Last sentence has become superfluous because a quantity of 10 mL per sealed package or article is not subject to the Technical Instructions
- b) Part 3;4.1.2: Since the limited quantity values for UN 3077 and UN 3082 are identical to those indicated in Special Provision A197, the reference to these UN numbers can be deleted.
- c) Part 3;5.1.1 e) Since the excepted quantity values for UN 3082 is lower than indicated in Special Provision A197, the reference to this UN number can be deleted.
- d) Packing Instruction Y956: Since this packing instruction allows a maximum of 5 kg per inner packaging for UN 3077, there is no need for the maximum quantities per inner packaging for this UN number.
- e) Packing Instruction Y964: Since this packing instruction allows a maximum of 5 L per inner packaging for UN 3082, there is no need for the maximum quantities per inner packaging for this UN number.
- f) Packing Instruction 962: The packing instruction for dangerous goods in machinery or dangerous goods in apparatus only allows 0.5 L for liquids and 1 kg for solids. For UN 3082 and UN 3077 the limit should be increased to 5 L and 5 kg respectively. (Note that Special Provision A197 (UN Special Provision 375 refers to inner packagings and single packagings while Packing Instruction 962 relate to the total quantity of dangerous goods in apparatus or machinery)

1.5 Consequently, since the maximum quantity per inner package for UN 3077 and UN 3082 when packed in excepted packages may not exceed 30 g for solids or 30 mL for liquids, the code E1 in Column 9 of Table 3-1 is redundant. It is therefore proposed to delete E1 against de entries for UN 3077 and UN 3082. The same applies for the reference to packing instructions Y956 and Y964 in Column 10 and the gross mass in column 11 of Table 3-1. It is proposed to delete the reference to these packing instructions and gross mass too.

## 2. ACTION BY THE DGP-WG

2.1 The DGP-WG is invited to:

- a) amend the relevant text of the Technical Instructions as shown in the appendix to this working paper; and
  - b) invite the Secretary to bring the above-mentioned discrepancies relating to the transport of UN 3077 and 3082 in excepted and limited quantities and the suggested change of Special Provision A158 to the attention of the UN Subcommittee of Experts on the Transport of Dangerous Goods, on the basis that some of the discrepancies relating to the transport of UN 3077 and 3082 shown in this working paper are also found in the 18<sup>th</sup> Edition of the Model Regulations and therefore have a multimodal effect.
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APPENDIX

PROPOSED AMENDMENT TO PART 4 OF THE TECHNICAL INSTRUCTIONS

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Part 3

DANGEROUS GOODS LIST,  
SPECIAL PROVISIONS AND  
LIMITED AND EXCEPTED QUANTITIES

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Chapter 2

ARRANGEMENT OF THE  
DANGEROUS GOODS LIST (TABLE 3-1)

*Parts of this Chapter are affected by State Variations AU 1, AU 2, AU 3, BE 3, CA 7, CA 8, HR 3, IR 3, KP 2, MO 2, NL 1, RO 3, US 2, US 3, US 6, US 15, ZA 1; see Table A-1*

Table 3-1. Dangerous Goods List

Name 1	UN No. 2	Class or division 3	Subsidiary risk 4	Labels 5	State variations 6	Special provisions 7	UN packing group 8	Excepted quantity 9	Passenger and cargo aircraft		Cargo aircraft only	
									Packing instruction 10	Max. net quantity per package 11	Packing instruction 12	Max. net quantity per package 13
Environmentally hazardous substance, liquid, n.o.s.	3082	9		Miscellaneous	CA 13 DE 5 US 4	A97 A158 A197	III	£1	964 <del>Y964</del>	450 L 30 kg G	964	450 L
Environmentally hazardous substance, solid, n.o.s.	3077	9		Miscellaneous	CA 13 DE 5 US 4	A97 A158 A197	III	£1	956 <del>Y956</del>	400 kg 30 kg G	956	400 kg

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### Chapter 3

## SPECIAL PROVISIONS

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Table 3-2. Special provisions

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A158 (335) Mixtures of solids which are not subject to these Instructions and liquids or solids classified by the shipper as environmentally hazardous substances (UN 3077 and 3082) (see Special Provision A97) may be transported under this entry, provided there is no free liquid visible at the time the substance is loaded or at the time the packaging is closed. ~~Sealed packets and articles containing less than 10 mL of an environmentally hazardous liquid, absorbed into a solid material but with no free liquid in the packet or article, or containing less than 10 g of an environmentally hazardous solid, are not subject to these Instructions.~~

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### Chapter 4

## DANGEROUS GOODS IN LIMITED QUANTITIES

### 4.1 APPLICABILITY

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4.1.2 Only dangerous goods which are permitted on passenger aircraft and which meet the criteria of the following classes, divisions and packing groups (if appropriate) may be carried under these provisions for dangerous goods in limited quantities:

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Division 6.1	Packing Groups II and III
Class 8	Packing Groups II and III and UN 3477 ( <b>Fuel cell cartridges</b> , containing corrosive substances) but excluding UN 2794, UN 2795, UN 2803, UN 2809, UN 3028 and UN 3506
Class 9	Only UN 1941, UN 1990, UN 2071, <del>UN 3077, UN 3082</del> , UN 3316, UN 3334, UN 3335 and ID 8000

*Note.*— Many articles or substances, including the following, are NOT permitted under these limited quantity provisions:

- a) those permitted only on cargo aircraft;
- b) those in Packing Group I;
- c) those in Class 1 or 7 or Divisions 2.1 (except as permitted above), 2.3 or 6.2;
- d) those in Division 4.2 or with a subsidiary risk 4.2.

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**Chapter 5****DANGEROUS GOODS PACKED IN EXCEPTED QUANTITIES**

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**5.1 EXCEPTED QUANTITIES**

5.1.1 Excepted quantities of dangerous goods of certain classes, other than articles, meeting the provisions of this chapter are not subject to any other provisions of these Instructions except for:

- a) the prohibition in post in 1;2.3;
- b) the definitions in 1;3;
- c) the training requirements in 1;4;
- d) the classification procedures and packing group criteria in Part 2;
- ≠ e) the packaging requirements of 4;1.1.1, 4;1.1.3.1, 4;1.1.3.3, 4;1.1.5, 4;1.1.6, 4;1.1.7 and 4;1.1.8 ~~(4;1.1.6 does not apply to UN 3082)~~;
- f) the loading restriction in 7;2.1;
- g) the reporting requirements of dangerous goods accidents, incidents and other occurrences in 7;4.4 and 7;4.5; and

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**Part 4****PACKING INSTRUCTIONS**

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**Packing Instruction Y956**

Limited quantities  
Passenger and cargo aircraft for ~~UN 3077 and~~ UN 3335 only

**General requirements**

Part 4, Chapter 1 requirements must be met (except that 4;1.1.2, 1.1.9 c), 1.1.9 e), 1.1.16, 1.1.18 and 1.1.20 do not apply), including:

**1) Compatibility requirements**

- Substances must be compatible with their packagings as required by 4;1.1.3.

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<b>COMBINATION PACKAGINGS</b>						<b>SINGLE PACKAGINGS</b>
<i>UN number and proper shipping name</i>	<i>Packing group</i>	<i>Inner packaging (see 6;3.2)</i>	<i>Inner packaging quantity (per receptacle)</i>	<i>Total quantity per package</i>	<i>Total gross mass per package</i>	
UN 3077 <del>Environmentally hazardous substance, solid, n.o.s.</del> UN 3335 <b>Aviation regulated solid, n.o.s.*</b>	III	Glass	5.0 kg	30 kg	30 kg	No
		Plastics	5.0 kg			
		Metal	5.0 kg			
		Paper bag	5.0 kg			
		Plastic bag	5.0 kg			
Fibre	5.0 kg					

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## Packing Instruction 962

Passenger and cargo aircraft for UN 3363 only

### General requirements

Part 4, Chapter 1 requirements must be met (except that the requirements of 4;1.1.2, 1.1.9, 1.1.13 and 1.1.16 do not apply), including:

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<i>UN number and proper shipping name</i>	<i>State</i>	<i>Total net quantity of dangerous goods in one package (excluding magnetic material)</i>
UN 3363 <b>Dangerous goods in apparatus or Dangerous goods in machinery</b>	Liquid	0.5 L <i>(see Note 1)</i>
	Solid	1 kg <i>(see Note 2)</i>
	Gas (Division 2.2 only)	0.5 kg

*Note 1.— For UN 3082 only, the total net quantity allowed in one package is 5 L*

*Note 2.— For UN 3077 only, the total net quantity allowed in one package is 5 kg*

### ADDITIONAL PACKING REQUIREMENTS

— Receptacles containing dangerous goods must be so secured or cushioned so as to prevent their breakage or leakage and so as to control their movement within the machinery or apparatus during normal conditions of transport. Cushioning material must not react dangerously with the contents of the receptacles. Any leakage of the contents must not substantially impair the protective properties of the cushioning material.

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## Packing Instruction Y964

Limited quantities  
Passenger and cargo aircraft for UN 1941, UN 1990, ~~UN 3082~~ and UN 3334 only

### General requirements

Except for ~~UN 3082~~ when the requirements of 4;1.1.6 do not apply, Part 4, Chapter 1 requirements must be met (except that 4;1.1.2, 1.1.9 c), 1.1.9 e), 1.1.16, 1.1.18 and 1.1.20 do not apply), including:

#### 1) Compatibility requirements

- Substances must be compatible with their packagings as required by 4;1.1.3.

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COMBINATION PACKAGINGS					SINGLE PACKAGINGS
<i>UN number and proper shipping name</i>	<i>Inner packaging (see 6;3.2)</i>	<i>Inner packaging quantity (per receptacle)</i>	<i>Total quantity per package</i>	<i>Total gross mass per package</i>	
UN 1941 <b>Dibromodifluoromethane</b> UN 1990 <b>Benzaldehyde</b> <del>UN 3082 <b>Environmentally hazardous substance, liquid, n.o.s.</b></del> UN 3334 <b>Aviation regulated liquid, n.o.s.*</b>	Glass	5.0 L	30 kg	30 kg	No
	Plastics	5.0 L			
	Metal	5.0 L			

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