



**WORKING PAPER**

**DANGEROUS GOODS PANEL (DGP)**

**TWENTY-THIRD MEETING**

**Montréal, 11 to 21 October 2011**

**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 2013-2014 Edition**

**REQUIREMENTS FOR LIMITED QUANTITIES OF ENVIRONMENTALLY HAZARDOUS SUBSTANCES**

(Presented by the Dangerous Goods Advisory Council)

**SUMMARY**

The proposals in this working paper would clarify that limited quantities of environmentally hazardous substances are not subject to the Technical Instructions.

**Action by the DGP:** The DGP is invited to agree to the proposals as presented in the appendix.

**1. INTRODUCTION**

1.1 Based on a proposal by the International Air Transport Association (IATA) at the DGP-WG/08 meeting in The Hague in November 2008 (see DGP/22-WP/2, paragraph 3.2.11), it was agreed that environmentally hazardous substances (EHS) should be regulated. Up until the current edition of the Technical Instructions, shippers were permitted — but not required — to declare EHS as regulated when transported by air.

1.2 It should be recalled that IATA's proposal recognized that while such materials did not pose a risk in air transport, they were transported to airports. IATA reasoned that for the period when these substances were in transport to the airport they should communicate the environmental hazard so that proper steps could be taken in the event of an emergency.

1.3 Packages of environmentally hazardous substances that exceed the limited quantity threshold values (i.e. more than 5 kg or 5 L per inner packaging or more than 30 kg per outer packaging) are fully regulated as dangerous goods by all modes, and the hazard communication requirements and

packaging requirements are essentially the same for both surface and air transport. However, for limited quantities of environmentally hazardous substances, the requirements for air transport are now substantially more severe than when transported by surface (road, rail and sea). Requirements that apply to limited quantities of EHS transported by air that exceed the requirements that apply in the case of surface transport to the airport include:

- a) the package must bear the Class 9 hazard label whereas no label is required for surface transport;
- b) the package must be marked with the UN number and proper shipping name whereas these markings are not required for surface transport;
- c) the package must bear the limited quantity mark with a Y whereas only an empty limited quantity mark is required for surface transport;
- d) the package must be capable of withstanding a 1.2 meter drop test and must be capable of withstanding a 3 meter stack test whereas strong outer packaging is required for surface transport;
- e) the package is subject to general packing requirements described in the applicable Y packing instructions (Y956 and Y964), including closure requirements not applicable in the case of surface transport; and
- f) the package must be accompanied by a dangerous goods transport document whereas no transport document is required for surface transport.

In addition, air carriers are now required to identify these limited quantities of EHS on the Notification to Captain (NOTOC) and they are subjected to acceptance checks.

1.4 Considering the basis for the IATA proposal was to align the Technical Instructions requirements with those for ground transport to the airport, raises the question of whether the above listed requirements for transporting limited quantities of EHS by air are necessary. In addition, whether EHS in limited quantities actually pose a risk to the environment in air transport is questionable.

1.5 Regulating limited quantities of EHS was not a trivial change. Application of the UN EHS criteria has meant that many more substances are now regulated as dangerous goods. Packages in the EHS limited quantity size range (i.e. up to 5 L or 5 kg per inner packaging) are of a size most commonly transported by air. The additional requirements applied to limited quantities of EHS transported by air come at a substantial cost and one has to ask whether they are justified considering the original intent was to simply harmonize with ground transportation regulations. Is air transport safety enhanced by regulating this large number of packages that really pose no threat onboard an aircraft? Doesn't regulation of limited quantities of EHS detract from air carrier attention to substances that pose an actual danger in air transport and consequently detract from overall air transport safety?

1.6 Further, even though the Y limited quantity mark is intended to reduce confusion, the presence of labels and UN number and proper shipping name markings on limited quantities of EHS are confusing when transported by surface modes. Regulating limited quantities of EHS by air causes even more problems in countries such as the United States where limited quantities of EHS are not subject to regulation when transported by road or rail.

1.7 It is DGAC's opinion that limited quantities of EHS (i.e. those classified as UN 3077 or UN 3082 in inner packagings of 5 L/kg in packages where the gross mass is less than 30kg) should not be subject to the Technical Instructions. Where such packages are required to be marked with the limited quantity diamond for surface transport (see paragraph 3.4.7 of the UN Model Regulations), we propose that the package be marked with the UN number (i.e. UN 3077 or UN 3082) in association with the limited quantity mark to avoid confusion.

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APPENDIX

PROPOSED AMENDMENTS TO THE TECHNICAL INSTRUCTIONS

PROPOSAL 1:

In the Dangerous Goods Lists for the entries UN 3082 and UN 3077 add a reference to new Special Provision AXXX in column 7 and delete Y964 and Y956 from column 10 and “30 kg G” from column 11 as follows:

Part 3

DANGEROUS GOODS LIST,  
SPECIAL PROVISIONS AND  
LIMITED AND EXCEPTED QUANTITIES

...

Chapter 2

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

Name	UN No.	Class or division	Subsidiary risk	Labels	State variations	Special provisions	UN packing group	Excepted quantity	Passenger aircraft		Cargo aircraft	
									Packing instruction	Max. net quantity per package	Packing instruction	Max. net quantity per package
1	2	3	4	5	6	7	8	9	10	11	12	13
Environmentally hazardous substances, liquid, n.o.s.*	3082	9		Miscellaneous	CA 13 DE 5 US 4	A97 A158 <del>AXXX</del>	III	E1	964 Y964	450L 30 kg G	964	450 L
Environmentally hazardous substances, solid, n.o.s.*	3077	9		Miscellaneous	CA 13 DE 5 US 4	A97 A158 A179 <del>AXXX</del>	III	E1	956 Y956	400 kg 30 kg G	956	400 kg

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**PROPOSAL 2:**

Add the following special provision to Table 3-2 in Part 3;3 as follows:

**Chapter 3**  
**SPECIAL PROVISIONS**

...

**Table 3-2. Special provisions**

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*TIs UN*

<i>TIs</i>	<i>UN</i>
<u>Axxx</u>	<u>Substances that are only classified as dangerous goods on the basis of their meeting the criteria for environmentally hazardous substances of 2.9.2.1 a) are not subject to these Instructions when in inner packagings of not more than 5 kg (solids) or 5 L (liquids) in outer packagings of not more than 30 kg gross mass. When such packagings bear a limited quantity mark for purposes of surface transport, the UN number 3077 or 3082 must be marked on the package adjacent to the limited quantity mark required for surface transportation.</u>

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**PROPOSAL 3:**

In 3;4.1.2 for the row for “Class 9” delete UN 3077 and UN 3082 as follows:

**Chapter 4**  
**DANGEROUS GOODS IN LIMITED QUANTITIES**

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**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:

Class 2	Only UN 1950 in Divisions 2.1 and 2.2, and UN 2037 in Divisions 2.1 and 2.2 without a subsidiary risk
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Class 9	Only UN 1941, UN 1990, UN 2071, <del>UN 3077, UN 3082</del> , UN 3316, UN 3334 and UN 3335
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**PROPOSAL 4:**

In 4;11 in Packing Instruction Y956 delete UN 3077 from the heading and the entry for UN 3077 in the table of packagings and in packing instruction Y964 delete UN 3082 from the heading and the entry for UN 3082 in the table of packagings.

**Part 4**

**PACKING INSTRUCTIONS**

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Packing Instruction Y956						
Limited quantities						
Passenger and cargo aircraft for <del>UN 3077</del> and UN 3335 only						
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COMBINATION PACKAGINGS						SINGLE PACKAGINGS
UN number and proper shipping name	Packing group	Inner packaging (see 6;3.2)	Inner packaging quantity (per receptacle)	Total quantity per package	Total gross mass per package	
<del>UN 3077 Environmentally hazardous substance, solid, n.o.s.</del> UN 3335 Aviation regulated solid, n.o.s.*	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 Y964

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

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

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— END —