



**WORKING PAPER**

**DANGEROUS GOODS PANEL (DGP)**

**TWENTY-FOURTH MEETING**

**Montréal, 28 October to 8 November 2013**

**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 2015-2016 Edition**

**RADIATION DETECTORS CONTAINING DIV. 2.2 GASES**

(Presented by Dangerous Goods Advisory Council (DGAC))

**SUMMARY**

This proposal would incorporate requirements for Division 2.2 gas radiation detectors approved by the 43<sup>rd</sup> session of the UN Sub-Committee into the Technical Instructions.

**Action by the DGP:** The DGP is invited to consider DGAC's proposal in the appendix to this paper.

**1. INTRODUCTION**

1.1 The 43<sup>rd</sup> session of the UN Subcommittee agreed to requirements for radiation detectors containing a Division 2.2 gas. The final decision is reflected in the report of the 43<sup>rd</sup> session (see discussion in paragraph 44 on page 11 of ST/SG/AC.10/C.3/86 and new text on page 6 of ST/SG/AC.10/C.3/86/Add.1). The Subcommittee agreed to treat these detectors analogously to detectors containing **boron trifluoride** (UN 1008, see Special Provision A190). While these requirements would normally be introduced in the *Technical Instructions for the Safe Transport of Dangerous Goods by Air* (Doc 9284), 2017-2018 Edition, once amendments for inclusion in the 19<sup>th</sup> edition of the UN Model Regulations were adopted, DGAC proposes early adoption of these requirements in the *Technical Instructions for the Safe Transport of Dangerous Goods by Air* (Doc 9284), 2015-2016 Edition. This would eliminate the need for transporting these devices under approvals by national authorities. It would be similar to what was done for radiation detectors containing boron trifluoride. In the case of these types of detectors, requirements were included in the *Technical Instructions for the Safe Transport of Dangerous Goods by Air* (Doc 9284) in advance of consideration by the UN Subcommittee.



APPENDIX

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)**

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Table 3-1. Dangerous Goods List

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
...												
Argon, compressed	1006	2.2		Gas non-flammable		A69 Ayy		E1	200	75 kg	200	150 kg
...												
Carbon dioxide	1013	2.2		Gas non-flammable		Ayyy		E1	200	75 kg	200	150 kg
...												
Compressed gas, n.o.s.*	1956	2.2		Gas non-flammable		Ayyy		E1	200	75 kg	200	150 kg
...												
Helium, compressed	1046	2.2		Gas non-flammable		A69 Ayyy		E1	200	75 kg	200	150 kg

...

<b>Krypton compressed</b>	1056	2.2		Gas non- flammable		A69 <u>AYYY</u>		E1	200	75 kg	200	150 kg
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<b>Neon, compressed</b>	1065	2.2		Gas non- flammable		A69 <u>AYYY</u>		E1	200	75 kg	200	150 kg
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...

<b>Nitrogen, compressed</b>	1066	2.2		Gas non- flammable		A69 <u>AYYY</u>		E1	200	75 kg	200	150 kg
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<b>Xenon</b>	2036	2.2		Gas non- flammable		A69 <u>AYYY</u>		E1	200	75 kg	200	150 kg
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## Chapter 3

## SPECIAL PROVISIONS

*Parts of this Chapter are affected by State Variations AU 1, AU 2, CA 7, HR 3, IR 3, JM 1, KP 2, NL 1, US 11, ZA 1; see Table A-1*

Table 3-2 lists the special provisions referred to in column 7 of Table 3-1 and the information contained in them is additional to that shown for the relevant entry. Where the wording of the special provision is equivalent to that in the UN Model Regulations, the UN special provision number is shown in parentheses.

Table 3-2. Special provisions

<i>TIs</i>	<i>UN</i>
...	
<u>Ayyy</u>	<p><u>Radiation detectors containing this gas in non-refillable pressure receptacles not meeting the requirements of Part 6:5 and Packing Instruction 200 may be transported under this entry provided:</u></p> <p><u>a) the working pressure in each receptacle does not exceed 50 bar;</u></p> <p><u>b) the receptacle capacity does not exceed 12 litres;</u></p> <p><u>c) each receptacle has a minimum burst pressure of at least three times the working pressure when a relief device is fitted and at least four times the working pressure when no relief device is fitted;</u></p> <p><u>d) each receptacle is manufactured from material which will not fragment upon rupture;</u></p> <p><u>e) each detector is manufactured under a registered quality assurance programme;</u></p> <p><u>f) ISO 9001:2008 may be used for this purpose.</u></p> <p><u>g) detectors are transported in strong outer packagings. The complete package must be capable of withstanding a 1.2 metre drop test without breakage of the detector or rupture of the outer packaging. Equipment that includes a detector must be packed in a strong outer packaging unless the detector is afforded equivalent protection by the equipment in which it is contained; and</u></p> <p><u>h) the dangerous goods transport document includes the following statement "Transport in accordance with Special Provision Ayyy". A packing instruction must not be shown on the transport document.</u></p> <p><u>Radiation detectors, including detectors in radiation detection systems, are not subject to any other requirements of these Instructions if the detectors meet the requirements in a) to f) above and the capacity of detector receptacles does not exceed 50 mL.</u></p>

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