



International Civil Aviation Organization

WORKING PAPER

DGP/24-WP/74

30/9/13

English only

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

UN 3242 — AZODICARBONAMIDE

(Presented by Q. Xu)

SUMMARY

A proposal to amend Table 3-1 for UN 3242, **Azodicarbonamide** was made at the 2013 Meeting of the DGP Working Group of the Whole (DGP-WG/13, Montreal, 15 to 19 April 2013). It was argued that an amendment was needed for the sake of alignment with the UN Model Regulation and the IMO IMDG Code to permit **Azodicarbonamide** for transport by air. Some members requested more time to consider this proposal before coming to a decision. There were some concerns that the new packing instruction needed to be further aligned with the Model Regulations.

An extract from the report of DGP-WG/13 is presented in Appendix A to this working paper. The amendment proposed at DGP-WG/13 is reproduced in Appendix B.

Action by the DGP: The DGP is invited to agree to the amendments proposed in Appendix B to this working paper.

APPENDIX A

EXTRACT FROM THE DGP-WG/13 REPORT (DGP/24-WP/3)

3.2.18 UN3242 — Azodicarbonamide [\(DGP-WG/13-WP/9\)](#)

3.2.18.1 A proposal was presented at DGP-WG/12 to amend Table 3-1 and Packing Instruction 459 in order to permit UN 3242 — **Azodicarbonamide** on both passenger and cargo aircraft. It had been suggested that forbidding them from transport was unjustified, on the basis that formulations of azodicarbonamide classified as UN 3224 or UN 3226 were permitted on both passenger and cargo aircraft, even though they each have a lower self-accelerating decomposition temperature (SADT). It was also noted that the limited quantity value for UN 3242 listed in the UN Model Regulations was higher than it was for UN 3224 and UN 3226. It was suggested at DGP-WG/12 that the SADT value was not the determining factor in making these substances forbidden, the determining factor was the fact that these substances had desensitized explosive properties. Permitting them could therefore not be supported without further analysis and review.

3.2.18.2 A revised proposal was presented to DGP-WG/13 which took into account the concerns expressed at DGP-WG/12. Before presenting the proposal, the working group was asked to note a few editorial errors in the working paper, i.e. “AZDICARBONAMIDE” should be replaced with “AZODICARBONAMIDE” in the title to the paper, “2-” should be inserted before “**Bromo-2-nitropropane-1,3-diol**” in the last sentence of paragraph 1.3, and the asterisks (*) should be removed from the end of the entries for Fibreboard (4G) and Fibre (1G) under outer packagings of combination packagings in proposed new Packing Instruction 4XX on page A-2.

3.2.18.3 It was noted that the UN Model Regulations state that UN3242 is not a desensitized explosive even though it is classified as Division 4.1. It was suggested that classification was based on the fact that the substances were similar to self-reactive substances but had an SADT greater than 75°C. It was noted that UN 3241 (**2-Bromo-2-nitropropane-1,3-diol**) was similar to UN 3242 but was permitted for transport by air. UN 3241 was also permitted to be carried in excepted quantities, which was in alignment with the Model Regulations.

3.2.18.4 DGP-WG/12 also noted that the UN packing provisions for these substances were more restrictive than those in Packing Instruction 459. A new packing instruction was therefore proposed for UN 3242.

3.2.18.5 Those who expressed concerns at DGP-WG/12 agreed that, based on a preliminary technical review, the substance should be permitted for air transport. They asked, however, to defer the decision on the proposal until after advice was sought from an expert group on the explosion risks of unstable substances which would be meeting in the near future. Some did not feel the advice of this group was necessary, but others felt the group’s expertise would provide greater comfort in making a decision.

3.2.18.6 There were some concerns that the new packing instruction needed to be further aligned with the Model Regulations. It was agreed that it would be reviewed and revised if necessary. The proposal would then be reconsidered at DGP/24.

APPENDIX B

PROPOSED AMENDMENT TO THE TECHNICAL INSTRUCTIONS

Part 3

**DANGEROUS GOODS LIST,
SPECIAL PROVISIONS AND
LIMITED AND EXCEPTED QUANTITIES**

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

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
Azodicarbo namide	3242	4.1		Solid flammable		A60	II	E0	FORB 4XX	HIDDEN 5 kg	FORB 4XX	HIDDEN 10 kg

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Part 4

PACKING INSTRUCTION

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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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<u>Packing Instruction 4XX</u>							
<u>Passenger and cargo aircraft for UN 3242 only</u>							
<u>General requirements</u>							
Part 4, Chapter 1 requirements must be met, including:							
<u>1) Compatibility requirements</u>							
— Substances must be compatible with their packagings as required by 4:1.1.3.							
<u>2) Closure requirements</u>							
— Closures must meet the requirements of 4:1.1.4.							
<u>COMBINATION PACKAGINGS</u>						<u>SINGLE PACKAGINGS</u>	
<u>UN number and proper shipping name</u>	<u>Inner packaging (see 6:3.2)</u>	<u>Inner packaging quantity (per receptacle) — passenger</u>	<u>Total quantity per package — passenger</u>	<u>Inner packaging quantity (per receptacle) — cargo</u>	<u>Total quantity per package — cargo</u>	<u>Passenger</u>	<u>Cargo</u>
<u>UN 3242 Azodicarbonamide</u>	<u>Plastics</u>	<u>0.5 kg</u>	<u>5 kg</u>	<u>1.0 kg</u>	<u>10 kg</u>	<u>No</u>	<u>No</u>
	<u>Plastic bag</u>	<u>0.5 kg</u>		<u>1.0 kg</u>			
<u>OUTER PACKAGINGS OF COMBINATION PACKAGINGS (see 6:3.1)</u>							
<u>Boxes</u>				<u>Drums</u>			
<u>Fibreboard (4G)</u>				<u>Fibre (1G)</u>			