



WORKING PAPER

DANGEROUS GOODS PANEL (DGP)

TWENTY-SEVENTH MEETING

Montréal, 16 to 20 September 2019

Agenda Item 1: Harmonizing ICAO dangerous goods provisions with UN Recommendations on the Transport of Dangerous Goods

1.3: Develop proposals, if necessary, for amendments to the *Supplement to the Technical Instructions for the Safe Transport of Dangerous Goods by Air (Doc 9284SU)* for incorporation in the 2021-2022 Edition

DRAFT AMENDMENTS TO THE SUPPLEMENT TO THE TECHNICAL INSTRUCTIONS TO ALIGN WITH THE UN RECOMMENDATIONS

(Presented by the Secretary)

SUMMARY

This working paper contains draft amendments to the Supplement to the Technical Instructions to reflect the decisions taken by the UN Committee of Experts on the Transport of Dangerous Goods and on the Globally Harmonized System of Classification and Labelling of Chemicals at its ninth session (Geneva, 7 December 2018).

The DGP is invited to agree to the draft amendments in this working paper.

Part S-3

DANGEROUS GOODS LIST, SPECIAL PROVISIONS AND QUANTITY LIMITATIONS

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Chapter 2

SUPPLEMENTARY DANGEROUS GOODS LIST

Name	UN No.	Class or division	Subsidiary hazard	Labels	State variations	Special provisions	UN packing group	Excepted quantity	Passenger and cargo aircraft		Cargo aircraft only	
									Packing instruction	Max. net quantity per package	Packing instruction	Max. net quantity per package
1	2	3	4		6	7	8	9	10	11	12	13

UN Model Regulations, Chapter 3.2, dangerous goods list (see ST/SG/AC.10/46/Add.1)

<u>Detonators, electronic programmable for blasting†</u>	<u>0511</u>	<u>1.1B</u>		<u>Explosive</u>				<u>E0</u>	<u>FORBIDDEN (131)</u>		<u>FORBIDDEN (131)</u>	
<u>Detonators, electronic programmable for blasting†</u>	<u>0512</u>	<u>1.4B</u>		<u>Explosive 1.4</u>				<u>E0</u>	<u>FORBIDDEN (131)</u>		<u>131I</u>	<u>75 kg</u>
Desensitized explosive, solid, n.o.s.*	3380	4.1		Solid flammable	BE 3	A133 <u>A217</u>	I		FORBI	DDEN	FORBI	DDEN
Nitrocellulose , dry or wetted with less than 25% water (or alcohol), by mass	0340	1.1D		Explosive		<u>A216</u>			FORBIDDEN (112 b) or c))		FORBIDDEN (112 b) or c))	
Nitrocellulose , unmodified or plasticized with less than 18% plasticizing substance, by mass	0341	1.1D		Explosive		<u>A216</u>			FORBIDDEN (112 b))		FORBIDDEN (112 b))	

Name	UN No.	Class or division	Subsidiary hazard	Labels	State variations	Special provisions	UN packing group	Excepted quantity	Passenger and cargo aircraft		Cargo aircraft only	
									Packing instruction	Max. net quantity per package	Packing instruction	Max. net quantity per package
1	2	3	4		6	7	8	9	10	11	12	13
Nitrocellulose, plasticized with not less than 18% plasticizing substance, by mass	0343	1.3C		Explosive		A216 A313			FORBIDDEN (111)		FORBIDDEN (111)	
Nitrocellulose, wetted with not less than 25% alcohol, by mass	0342	1.3C		Explosive		A216 A313			FORBIDDEN (114 a))		FORBIDDEN (114 a))	
Dipropylamine	2383	3	8	Liquid flammable & Corrosive		A209 A330	II	E2	352 Y340	1 L 0.5 L	363	5 L
<u>Dangerous goods in articles</u>	3363	9		<u>Miscellaneous</u>		A48 A107 A332		E0	see 962		see 962	
2-Dimethylaminoethyl methacrylate, stabilized	2522	6.1		Toxic		A209 A330	II	E4	654 Y641	5 L 1 L	662	60 L
Engine, internal combustion, flammable gas powered	3529	2.1		Gas flammable		A70 A87 A176 A208		E0	FORBI	DDEN	220	No limit
Machinery, internal combustion, flammable gas powered	3529	2.1		Gas flammable		A70 A87 A176 A208		E0	FORBI	DDEN	220	No limit

UN Model Regulations, Chapter 3.2, dangerous goods list, SP395 (see ST/SG/AC.10/46/Add.1) and paragraphs 3.1.2.5.1 a), 3.1.2.6.1 d) and 3.1.3.1.1 of the DGP-WG/19 Report:

<u>Medical waste, Category A, affecting humans, solid</u>	3549	6.2		<u>Infectious</u>		A2 A218		E0	FORBI	DDEN	622	400 kg
<u>Medical waste, Category A, affecting animals only, solid</u>	3549	6.2		<u>Infectious</u>		A2 A218		E0	FORBI	DDEN	622	400 kg

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Chapter 6

SPECIAL PROVISIONS

Against the entries in the Supplementary Dangerous Goods List (Table S-3-1), column 7 shows any special provisions that are applicable. Where these special provisions have not been listed in Table 3-2 of the Technical Instructions, they are listed in Table S-3-4 below.

Table S-3-4. Special Provisions

Supplementary special provisions

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UN Model Regulations, Chapter 3.3, SP 370 (see ST/SG/AC.10/46/Add.1)

A326 (370) This entry only applies to ammonium nitrate that meets one of the following criteria:

- ammonium nitrate with more than 0.2% combustible substances, including any organic substance calculated as carbon, to the exclusion of any added substance; ~~and~~ or
- ammonium nitrate with not more than 0.2% combustible substances, including any organic substance calculated as carbon, to the exclusion of any added substance, that gives a positive result when tested in accordance with Test Series 2 (see UN *Manual of Tests and Criteria*, Part I). See also UN 1942.

This entry must not be used for ammonium nitrate for which a proper shipping name already exists in the Table 3-1 of the Technical Instructions including ammonium nitrate mixed with fuel oil (ANFO) or any of the commercial grades of ammonium nitrate.

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UN Model Regulations, Chapter 3.3, SP 379 (see ST/SG/AC.10/46/Add.1)

A329 (379) Anhydrous ammonia adsorbed or absorbed on a solid contained in ammonia dispensing systems or cylinders intended to form part of such systems may be transported on cargo aircraft only with the prior approval of the appropriate authority of the State of Origin and the State of the Operator under the written conditions established by those authorities in addition to the following:

- a) the adsorption or absorption presents the following properties:
 - 1) the pressure at a temperature of 20°C in the cylinder is less than 0.6 bar;
 - 2) the pressure at a temperature of 35°C in the cylinder is less than 1 bar;
 - 3) the pressure at a temperature of 85°C in the cylinder is less than 12 bar;
- b) the adsorbent or absorbent material must not have dangerous properties listed in Classes 1 to 8;
- c) the maximum contents of a cylinder must be 10 kg of ammonia; and
- d) cylinders containing adsorbed or absorbed ammonia must meet the following conditions:
 - 1) cylinders must be made of a material compatible with ammonia as specified in ~~ISO 11114-1:2012~~ ISO 11114-1:2012 + A1:2017;
 - 2) cylinders and their means of closure must be hermetically sealed and able to contain the generated ammonia;
 - 3) each cylinder must be able to withstand the pressure generated at 85°C with a volumetric expansion no greater than 0.1%;

- 4) each cylinder must be fitted with a device that allows for gas evacuation once pressure exceeds 15 bar without violent rupture, explosion or projection; and
- 5) each cylinder must be able to withstand a pressure of 20 bar without leakage when the pressure relief device is deactivated.

When offered for transport in an ammonia dispenser, the cylinders must be connected to the dispenser in such a way that the assembly is guaranteed to have the same strength as a single cylinder.

The properties of mechanical strength mentioned in this special provision must be tested using a prototype of a cylinder and/or dispenser filled to nominal capacity, by increasing the temperature until the specified pressures are reached.

The test results must be documented, must be traceable and must be communicated to the relevant authorities upon request.

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UN Model Regulations, 4.1.4.1, P622 (see ST/SG/AC.10/46/Add.1) and paragraphs 3.1.2.5.1 a), 3.1.2.6.1 d) and 3.1.3.1.1 of the DGP-WG/19 Report:

Packing Instruction 622

Cargo aircraft only for UN 3468 only

This instruction applies to waste of UN 3549 transported for disposal.

General requirements

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

1) Compatibility requirements

- Substances must be compatible with their packagings as required by 4:1.1.3.
- Metal packagings must be corrosion resistant or be protected against corrosion.

2) Closure requirements

- 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>Intermediate packaging</u>	<u>Total quantity per package</u>	
UN 3549 <u>Medical waste, Category A, affecting humans, solid</u>	<u>Metal</u>	<u>Metal</u>	<u>400 kg</u>	<u>No</u>
	<u>Plastics</u>	<u>Plastics</u>		
UN 3549 <u>Medical waste, Category A, affecting animals only, solid</u>	<u>Metal</u>	<u>Metal</u>	<u>400 kg</u>	<u>No</u>
	<u>Plastics</u>	<u>Plastics</u>		

ADDITIONAL PACKING REQUIREMENTS

- Outer packaging must meet Packing Group I performance requirements for solids.
- Fragile articles must be contained in either a rigid inner packaging or rigid intermediate packaging.
- Inner packagings containing sharp objects such as broken glass and needles must be rigid and resistant to puncture.
- The inner packaging, the intermediate packaging, and the outer packaging must be capable of retaining liquids. Outer packagings that are not capable of retaining liquids by design must be fitted with a liner or suitable measure of retaining liquids.
- The inner packaging and/or the intermediate packaging may be flexible. When flexible packagings are used, they must be capable of passing the impact resistance test to at least 165 g according to ISO 7765-1:1988 *Plastics film and sheeting — Determination of impact resistance by the free-falling dart method — Part 1: Staircase methods* and the tear resistance test to at least 480 g in both parallel and perpendicular planes with respect to the length of the bag in accordance with ISO 6383-2:1983 *Plastics — Film and sheeting — Determination of tear resistance — Part 2: Elmendorf method*. The maximum net mass of each flexible inner packaging must be 30 kg.
- Each flexible intermediate packaging must contain only one inner packaging.
- Inner packagings containing a small amount of free liquid may be included in intermediate packaging provided that there is sufficient absorbent or solidifying material in the inner or intermediate packaging to absorb or solidify all the liquid content present. Suitable absorbent material which withstands the temperatures and vibrations liable to occur under normal conditions of transport must be used.
- Intermediate packagings must be secured in outer packagings with suitable cushioning and/or absorbent material.

OUTER PACKAGINGS OF COMBINATION PACKAGINGSBoxes

Fibreboard (4G)
Aluminium (4B)
Plastics (4H2)
Plywood (4D)
Other metal (4N)
Steel (4A)

Drums

Fibre (1G)
Plastics (1H2)
Plywood (1D)
Steel (1A2)
Other metal (1N2)
Aluminium (1B2)

Jerricans

Aluminium (3B2)
Plastics (3H2)
Steel (3A2)

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