



WORKING PAPER

DANGEROUS GOODS PANEL (DGP)

TWENTY-SEVENTH MEETING

Montréal, 16 to 20 September 2019

Agenda Item 2: Managing air-specific safety risks and identifying anomalies

2.3: 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

AMENDMENT OF DIVISION 6.1 LIST WITHIN S-7.2.2.2. OF THE SUPPLEMENT TO THE TECHNICAL INSTRUCTIONS

(Presented by S. Bitossi)

SUMMARY

This working paper requests a review of the list of excluded UN numbers for Division 6.1 contained within Part S-7.2.2.2 of the Supplement to the Technical Instructions for the Safe Transport of Dangerous Goods by Air (the Supplement).

Action by the DGP: The DGP is invited to consider forming a working group to conduct a technical review of the Division 6.1 list within Part S 7.2.2.2 of the Supplement against the full list of dangerous goods in Division 6.1, Packing Group III within Table 3-1 (Dangerous goods list) of the Technical Instructions.

1. INTRODUCTION

1.1 In Part 7; 2.1.2 of the Technical Instructions, the State of the Origin and State of the Operator may approve the carriage of certain dangerous goods in the main deck cargo compartments of passenger aircraft, where the aircraft does not meet the requirements of a Class B or Class C cargo compartment.

1.2 This approval is subject to the conditions specified in S-7;2.2 of the Supplement, and more specifically, the approval is restricted to the dangerous goods listed within S-7:2.2.2 (see Appendix A to this working paper).

1.3 Australia is currently updating its dangerous goods regulations and subsequently, conducted a review of the list of Division 6.1 UN numbers noted within S-7:2.2.2, which are excluded for carriage on a passenger aircraft in a main deck cargo compartment other than a Class B or Class C compartment.

1.4 As part of this update, Australia noted that UN 3283 — **Selenium compound, solid, n.o.s.** (Packing Group III only) is listed as one of the excluded dangerous goods classified as toxic substances under Division 6.1 within S-7:2.2.2. However, UN 3440 — **Selenium compound, liquid, n.o.s.** is not included within this list.

1.5 Upon further review, there are potentially other UN numbers which should be reviewed by the DGP for addition to the excluded list within S-7:2.2.2 for Division 6.1.

1.6 The DGP should note that the highest UN number contained within S-7:2.2.2 across all classes and divisions, is UN 3363 (with exception of UN 8000).

1.7 When cross referenced against the list of UN numbers contained within Attachment 1, Chapter 1, Lists of Proper Shipping Names of the Technical Instructions, the highest UN number (aside from UN 8000) is UN 3548. This results in a difference of 180 UN numbers, of which 24 are potentially new Division 6.1 entries.

1.8 Appendix B contains a complete list of UN numbers in Hazard Division 6.1, Packing Group III only, for review.

2. ACTION BY THE DGP

2.1 The DGP is invited to consider forming an out-of-session working group to review the list provided in Appendix B to this working paper for potential inclusion into the list within S-7:2.2.2 of the Supplement for Division 6.1 (as shown in Appendix A to this working paper).

APPENDIX A

PROPOSED AMENDMENT TO PART S-7 OF THE SUPPLEMENT

Part S-7

STATE'S RESPONSIBILITIES
WITH RESPECT TO OPERATORS

(ADDITIONAL INFORMATION
FOR PART 7 OF THE
TECHNICAL INSTRUCTIONS)

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Chapter 2

STORAGE AND LOADING

2.2 LOADING ON PASSENGER AIRCRAFT

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2.2.2 The dangerous goods may only be in the following classes or divisions:

Division 1.4S

Division 2.1 – Aerosols only

Division 2.2 (except UN 2037, UN 2073 and UN 2857)

Class 3 (except UN 1112, UN 2047, UN 2059, UN 2332, UN 3054, and UN 3269)

Division 4.1 (except UN 1309, UN 1313, UN 1314, UN 1318, UN 1324, UN 1330, UN 1338, UN 1353, UN 1869, UN 2000, UN 2213, UN 2714, UN 2715, UN 2878, UN 3089, and UN 3241)

Division 5.1 (except UN 1458, UN 1459, UN 1467, UN 1481, UN 1482, UN 1483, UN 2427, UN 2428, UN 2429, UN 2469, UN 2726, UN 2984, UN 3210, UN 3211, UN 3213, UN 3215, UN 3216, UN 3218, UN 3219)

Division 6.1 (except UN 1549, UN 1550, UN 1551, UN 1556, UN 1557, UN 1593, UN 1599, UN 1655, UN 1686, UN 1690, UN 1710, UN 1812, UN 1887, UN 1888, UN 1897, UN 1935, UN 2024, UN 2025, UN 2026, UN 2074, UN 2077, UN 2233, UN 2501, UN 2505, UN 2515, UN 2609, UN 2655, UN 2656, UN 2674, UN 2713, UN 2747, UN 2785, UN 2788, UN 2821, UN 2831, UN 2853, UN 2854, UN 2855, UN 2856, UN 2871, UN 2874, UN 3141, UN 3144, UN 3146, UN 3283, UN 3293)

Division 6.2

Class 7 – Excepted packages of radioactive material and packages assigned category I-White only

Class 8 (except UN 1731, UN 1740, UN 1755, UN 1757, UN 1783, UN 1787, UN 1788, UN 1789, UN 1814, UN 1819, UN 1824, UN 1848, UN 1908, UN 2430, UN 2496, UN 2508, UN 2564, UN 2578, UN 2585, UN 2586, UN 2672, UN 2677, UN 2679, UN 2681, UN 2693, UN 2790, UN 2803, UN 2809, UN 2837, UN 2869, UN 3145, UN 3253, UN 3320)

Class 9 (except UN 1931, UN 1941, UN 1990, UN 2211, UN 2590, UN 3268, UN 3314, UN 3316, UN 3363, UN 8000)

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APPENDIX B

LIST OF DANGEROUS GOODS IN DIVISION 6.1, PACKING GROUP III

- (a) Red bracketed UN numbers are for review and decision for inclusion in S-7;2.2.2. Those not in red and brackets are already included in S-7;2.2.2.
- (b) Proper shipping name (excluding lightface type in the list)
- (c) Hazard class / division and subsidiary hazard (if applicable)
- (d) Status of UN number “**NEW**” means a UN number after UN3363 and yet to be reviewed for inclusion in S-7;2.2.2.
- (e) Decision of the DGP: **I** = Include in S-7;2.2.2 or **D** = Do not include in S-7;2.2.2

UN NUMBER (a)	PROPER SHIPPING NAME (b)	CLASS/ DIV & SUB HAZ (c)	STATUS UN NUMBER (d)	DECISION (I / D) (e)
2831	1,1,1-Trichloroethane	6.1		
[2716]	1,4-Butynediol	6.1		
[2518]	1,5,9-Cyclododecatriene	6.1		
[2688]	1-Bromo-3-chloropropane	6.1		
[3418]	[2,4-Toluylenediamine solution]	6.1	NEW	
[1709]	2,4-Toluylenediamine, solid	6.1		
[2946]	2-Amino-5-diethylaminopentane	6.1		
[2273]	2-Ethylaniline	6.1		
[2300]	2-Methyl-5-ethylpyridine	6.1		
[2942]	2-Trifluoromethylaniline	6.1		
[2849]	3-Chloropropanol-1	6.1		
[2651]	4,4'-Diaminodiphenylmethane	6.1		
[3410]	4-Chloro-o-toluidine hydrochloride solution	6.1	NEW	
[1579]	4-Chloro-o-toluidine hydrochloride, solid	6.1		
2785	4-Thiapentanal	6.1		
2713	Acridine	6.1		
[3426]	Acrylamide solution	6.1	NEW	
2074	Acrylamide, solid	6.1		
[2205]	Adiponitrile	6.1		
[3140]	Alkaloid salts, liquid, n.o.s.*	6.1		
[1544]	Alkaloid salts, solid, n.o.s.*	6.1		
[3140]	Alkaloids, liquid, n.o.s.*	6.1		
[1544]	Alkaloids, solid, n.o.s.*	6.1		
[2937]	alpha-Methylbenzyl alcohol, liquid	6.1		
[3438]	alpha-Methylbenzyl alcohol, solid	6.1	NEW	
2077	alpha-Naphthylamine	6.1		
[2512]	Aminophenols	6.1		
[3424]	Ammonium dinitro-o-cresolate solution	6.1	NEW	
2505	Ammonium fluoride	6.1		

UN NUMBER (a)	PROPER SHIPPING NAME (b)	CLASS/ DIV & SUB HAZ (c)	STATUS UN NUMBER (d)	DECISION (I / D) (e)
2854	Ammonium fluorosilicate	6.1		
[1548]	Aniline hydrochloride	6.1		
[2431]	Anisidines	6.1		
3141	Antimony compound, inorganic, liquid, n.o.s.*	6.1		
1549	Antimony compound, inorganic, solid, n.o.s.*	6.1		
1550	Antimony lactate	6.1		
1551	Antimony potassium tartrate	6.1		
2871	Antimony powder	6.1		
1556	Arsenic compound, liquid, n.o.s.*	6.1		
1557	Arsenic compound, solid, n.o.s.*	6.1		
[2994]	Arsenical pesticide, liquid, toxic*	6.1		
[2993]	Arsenical pesticide, liquid, toxic, flammable	6.1 (3)		
[2759]	Arsenical pesticide, solid, toxic*	6.1		
[1564]	Barium compound, n.o.s.*	6.1		
[1884]	Barium oxide	6.1		
[1566]	Beryllium compound, n.o.s.*	6.1		
[3411]	beta-Naphthylamine solution	6.1	NEW	
[3016]	Bipyridilium pesticide, liquid, toxic*	6.1		
[3015]	Bipyridilium pesticide, liquid, toxic, flammable,	6.1 (3)		
[2781]	Bipyridilium pesticide, solid, toxic*	6.1		
1887	Bromochloromethane	6.1		
2515	Bromoform	6.1		
[2667]	Butyltoluenes	6.1		
[2570]	Cadmium compound	6.1		
[2992]	Carbamate pesticide, liquid, toxic*	6.1		
[2991]	Carbamate pesticide, liquid, toxic, flammable,	6.1 (3)		
[2757]	Carbamate pesticide, solid, toxic*	6.1		
[2516]	Carbon tetrabromide	6.1		
2233	Chloroanisidines	6.1		
[2235]	Chlorobenzyl chlorides, liquid	6.1		
[3427]	Chlorobenzyl chlorides, solid	6.1	NEW	
[2669]	Chlorocresols solution	6.1		
1888	Chloroform	6.1		
[2237]	Chloronitroanilines	6.1		
[2433]	Chloronitrotoluenes, liquid	6.1		
[3457]	Chloronitrotoluenes, solid	6.1	NEW	
[2021]	Chlorophenols, liquid	6.1		
[2020]	Chlorophenols, solid	6.1		
[3429]	Chlorotoluidines, liquid	6.1	NEW	
[2239]	Chlorotoluidines, solid	6.1		
[3010]	Copper based pesticide, liquid, toxic*	6.1		
[3009]	Copper based pesticide, liquid, toxic, flammable,	6.1 (3)		
[2775]	Copper based pesticide, solid, toxic*	6.1		
[3026]	Coumarin derivative pesticide, liquid, toxic*	6.1		

UN NUMBER (a)	PROPER SHIPPING NAME (b)	CLASS/ DIV & SUB HAZ (c)	STATUS UN NUMBER (d)	DECISION (I / D) (e)
[3025]	Coumarin derivative pesticide, liquid, toxic, flammable	6.1 (3)		
[3027]	Coumarin derivative pesticide, solid, toxic*	6.1		
1935	Cyanide solution, n.o.s.*	6.1		
[1588]	Cyanides, inorganic, solid, n.o.s.*	6.1		
[2872]	Dibromochloropropanes	6.1		
[2664]	Dibromomethane	6.1		
[2873]	Dibutylaminoethanol	6.1		
1593	Dichloromethane	6.1		
[1597]	Dinitrobenzenes, liquid	6.1		
1599	Dinitrophenol solution	6.1		
[3142]	Disinfectant, liquid, toxic, n.o.s.*	6.1		
[1601]	Disinfectant, solid, toxic, n.o.s.*	6.1		
[1602]	Dye intermediate, liquid, toxic, n.o.s.*	6.1		
[1602]	Dye intermediate, liquid, toxic, n.o.s.*	6.1		
[3143]	Dye intermediate, solid, toxic, n.o.s.*	6.1		
[3143]	Dye, solid, toxic, n.o.s.*	6.1		
[2525]	Ethyl oxalate	6.1		
[2941]	Fluoroanilines	6.1		
2856	Fluorosilicates, n.o.s.*	6.1		
2874	Furfuryl alcohol	6.1		
[2689]	Glycerol alpha-monochlorohydrin	6.1		
[2661]	Hexachloroacetone	6.1		
[2729]	Hexachlorobenzene	6.1		
[2279]	Hexachlorobutadiene	6.1		
[2875]	Hexachlorophene	6.1		
3293	Hydrazine, aqueous solution	6.1		
[2206]	Isocyanate solution, toxic, n.o.s.*	6.1		
[2206]	Isocyanates, toxic, n.o.s.*	6.1		
[2290]	Isophorone diisocyanate	6.1		
[1616]	Lead acetate	6.1		
[2291]	Lead compound, soluble, n.o.s.*	6.1		
2853	Magnesium fluorosilicate	6.1		
[1851]	Medicine, liquid, toxic, n.o.s.	6.1		
[3249]	Medicine, solid, toxic, n.o.s.	6.1		
[3012]	Mercury based pesticide, liquid, toxic*	6.1		
[3011]	Mercury based pesticide, liquid, toxic, flammable,	6.1 (3)		
[2777]	Mercury based pesticide, solid, toxic*	6.1		
2024	Mercury compound, liquid, n.o.s.*	6.1		
2025	Mercury compound, solid, n.o.s.*	6.1		
[3281]	Metal carbonyls, liquid, n.o.s.*	6.1		
[3466]	Metal carbonyls, solid, n.o.s.*	6.1	NEW	
[2299]	Methyl dichloroacetate	6.1		
[2533]	Methyl trichloroacetate	6.1		

UN NUMBER (a)	PROPER SHIPPING NAME (b)	CLASS/ DIV & SUB HAZ (c)	STATUS UN NUMBER (d)	DECISION (I / D) (e)
[2432]	N,N-Diethylaniline	6.1		
[2272]	N-Ethylaniline	6.1		
[2753]	N-Ethylbenzyltoluidines, liquid	6.1		
[3460]	N-Ethylbenzyltoluidines, solid	6.1	NEW	
[2274]	N-Ethyl-N-benzylaniline	6.1		
3144	Nicotine compound, liquid, n.o.s.*	6.1		
1655	Nicotine compound, solid, n.o.s.*	6.1		
[1656]	Nicotine hydrochloride, liquid	6.1		
[1656]	Nicotine hydrochloride, solution	6.1		
[3144]	Nicotine preparation, liquid, n.o.s.*	6.1		
1655	Nicotine preparation, solid, n.o.s.*	6.1		
[1658]	Nicotine sulphate solution	6.1		
[3276]	Nitriles, liquid, toxic, n.o.s.*	6.1		
[3439]	Nitriles, solid, toxic, n.o.s.*	6.1	NEW	
[2730]	Nitroanisoles, liquid	6.1		
[3458]	Nitroanisoles, solid	6.1	NEW	
[2732]	Nitrobromobenzenes, liquid	6.1		
[3459]	Nitrobromobenzenes, solid	6.1	NEW	
[3434]	Nitrocresols, liquid	6.1	NEW	
[2446]	Nitrocresols, solid	6.1		
[1663]	Nitrophenols	6.1		
[2660]	Nitrotoluidines (mono)	6.1		
[2294]	N-Methylaniline	6.1		
[1591]	o-Dichlorobenzene	6.1		
[3280]	Organoarsenic compound, liquid, n.o.s.*	6.1		
[3465]	Organoarsenic compound, solid, n.o.s.*	6.1	NEW	
[2996]	Organochlorine pesticide, liquid, toxic*	6.1		
[2995]	Organochlorine pesticide, liquid, toxic, flammable,	6.1 (3)		
[2761]	Organochlorine pesticide, solid, toxic*	6.1		
[3282]	Organometallic compound, liquid, toxic, n.o.s.*	6.1		
[3467]	Organometallic compound, solid, toxic, n.o.s.*	6.1	NEW	
[3278]	Organophosphorus compound, liquid, toxic, n.o.s.*	6.1		
[3464]	Organophosphorus compound, solid, toxic, n.o.s.*	6.1	NEW	
[3018]	Organophosphorus pesticide, liquid, toxic*	6.1		
[3017]	Organophosphorus pesticide, liquid, toxic, flammable,	6.1 (3)		
[2783]	Organophosphorus pesticide, solid, toxic*	6.1		
2788	Organotin compound, liquid, n.o.s.	6.1		
3146	Organotin compound, solid, n.o.s.	6.1		
[3020]	Organotin pesticide, liquid, toxic*	6.1		
[3019]	Organotin pesticide, liquid, toxic, flammable	6.1 (3)		
[2786]	Organotin pesticide, solid, toxic*	6.1		
[2903]	Pesticide, liquid, toxic, flammable	6.1 (3)		
[2902]	Pesticide, liquid, toxic, n.o.s.*	6.1		

UN NUMBER (a)	PROPER SHIPPING NAME (b)	CLASS/ DIV & SUB HAZ (c)	STATUS UN NUMBER (d)	DECISION (I / D) (e)
[2588]	Pesticide, solid, toxic, n.o.s.*	6.1		
[2311]	Phenetidines	6.1		
2821	Phenol solution	6.1		
[3348]	Phenoxyacetic acid derivative pesticide, liquid, toxic*	6.1		
[3347]	Phenoxyacetic acid derivative pesticide, liquid, toxic, flammable	6.1 (3)		
[3345]	Phenoxyacetic acid derivative pesticide, solid, toxic	6.1		
[2470]	Phenylacetoneitrile, liquid	6.1		
[1673]	Phenylenediamines	6.1		
2026	Phenylmercuric compound, n.o.s.*	6.1		
[3413]	Potassium cyanide solution	6.1	NEW	
[3422]	Potassium fluoride solution	6.1	NEW	
1812	Potassium fluoride, solid	6.1		
2655	Potassium fluorosilicate	6.1		
[3352]	Pyrethroid pesticide, liquid, toxic	6.1		
[3351]	Pyrethroid pesticide, liquid, toxic, flammable	6.1 (3)		
[3349]	Pyrethroid pesticide, solid, toxic	6.1		
2656	Quinoline	6.1		
[2876]	Resorcinol	6.1		
[3440]	Selenium compound, liquid, n.o.s.*	6.1	NEW	
3283	Selenium compound, solid, n.o.s.*	6.1		
[2473]	Sodium arsenilate	6.1		
1686	Sodium arsenite, aqueous solution	6.1		
[2659]	Sodium chloroacetate	6.1		
[3414]	Sodium cyanide solution	6.1	NEW	
[3415]	Sodium fluoride solution	6.1	NEW	
1690	Sodium fluoride, solid	6.1		
2674	Sodium fluorosilicate	6.1		
[3014]	Substituted nitrophenol pesticide, liquid, toxic*	6.1		
[3013]	Substituted nitrophenol pesticide, liquid, toxic, flammable,	6.1 (3)		
[2779]	Substituted nitrophenol pesticide, solid, toxic*	6.1		
[3284]	Tellurium compound, n.o.s.*	6.1		
2747	tert-Butylcyclohexyl chloroformate	6.1		
[2504]	Tetrabromoethane	6.1		
1897	Tetrachloroethylene	6.1		
[3006]	Thiocarbamate pesticide, liquid, toxic*	6.1		
[3005]	Thiocarbamate pesticide, liquid, toxic, flammable,	6.1 (3)		
[2771]	Thiocarbamate pesticide, solid, toxic*	6.1		
[3287]	Toxic liquid, inorganic, n.o.s.*	6.1		
[2810]	Toxic liquid, organic, n.o.s.*	6.1		
[3288]	Toxic solid, inorganic, n.o.s.*	6.1		
[2811]	Toxic solid, organic, n.o.s.*	6.1		

UN NUMBER (a)	PROPER SHIPPING NAME (b)	CLASS/ DIV & SUB HAZ (c)	STATUS UN NUMBER (d)	DECISION (I / D) (e)
[3172]	Toxins, extracted from living sources, liquid, n.o.s.*	6.1		
[3462]	Toxins, extracted from living sources, solid, n.o.s.*	6.1	NEW	
2609	Triallyl borate	6.1		
[2998]	Triazine pesticide, liquid, toxic*	6.1		
[2997]	Triazine pesticide, liquid, toxic, flammable,	6.1 (3)		
[2763]	Triazine pesticide, solid, toxic*	6.1		
[2321]	Trichlorobenzenes, liquid	6.1		
1710	Trichloroethylene	6.1		
[2328]	Trimethylhexamethylene diisocyanate	6.1		
2501	Tris-(1-aziridiny) phosphine oxide solution	6.1		
[3285]	Vanadium compound, n.o.s.*	6.1		
[2862]	Vanadium pentoxide	6.1		
2855	Zinc fluorosilicate	6.1		

Note: The list has been sorted in alphabetical order according to Proper Shipping Name for ease of reviewing potential like/related dangerous goods.

— END —