



**NOTE DE TRAVAIL**

**GROUPE D'EXPERTS SUR LES MARCHANDISES DANGEREUSES (DGP)**

**VINGT-TROISIÈME RÉUNION**

**Montréal, 11 – 21 octobre 2011**

**Point 2 : Élaboration de recommandations relatives à des amendements des *Instructions techniques pour la sécurité du transport aérien des marchandises dangereuses* (Doc 9284) à introduire dans l'édition de 2013-2014**

**TABLEAU 3-1 LISTE DES MARCHANDISES DANGEREUSES**

(Note présentée par T. L. Muller)

**SOMMAIRE**

(Faute de ressources, seul le sommaire a été traduit.)

La présente note propose d'amender la Liste des marchandises dangereuses en modifiant différents renvois ainsi que les rubriques en regard desquelles est indiquée la mention « Interdit », et en ajoutant les n<sup>os</sup> ONU à tous les renvois.

**Suite à donner par le DGP :** Le DGP est invité :

- a) à amender la Liste figurant dans la version anglaise des Instructions techniques en y incluant les renvois et les autres désignations, de la manière indiquée dans la dernière colonne du tableau de l'Appendice A à la présente note. Pour les rubriques 45 et 46 de ce tableau, le terme « stabilized » est placé entre crochets dans le texte anglais amendé, étant donné que le Règlement type de l'ONU utilise le terme « inhibited » dans les renvois ;
- b) à amender les rubriques correspondant aux peroxyde(s) de méthyléthylcétone et à ajouter des rubriques correspondant au triméthyl-3,5,5 peroxyhexanoate de tert-amyle et au peroxyde de disuccinyle, comme l'indique l'Appendice B à la présente note ;
- c) à ajouter les n<sup>os</sup> ONU appropriés dans les renvois où ils ne sont pas déjà indiqués.

La note ne donne pas toutes les indications concernant les renvois auxquels il faudrait ajouter les n<sup>os</sup> ONU. Pour la plupart d'entre eux, ces renseignements figurent dans l'index du Règlement type de l'ONU.

## INTRODUCTION

1.1 The Dangerous Goods List (Table 3-1) in the Technical Instructions contains various so-called cross-references for synonyms or other names. The synonyms are followed by the word "see" and the proper shipping name in boldface characters, e.g. Acetoin, sees **Acetyl methyl carbinol**. The presenter of this working paper noted that some cross references are not in line with the UN Model Regulations, for example, cross references are made to Charges, shaped commercial while this proper shipping name for this entry has been changed many years ago to Charges, shaped.

1.2 Some of the cross-referred proper shipping names are followed by the appropriate UN number(s), e.g. Accumulators, electric, see **Batteries, etc.** (UN Nos. 2794, 2795, 2800, 3028, 3292). However, this is not the case with all cross-references, e.g. some synonyms for Ammunitions are shown with the appropriate UN numbers and some are not. Showing the UN numbers with the cross reference is more user friendly and makes it clear which possible entries for a certain synonym or other name exist in the Dangerous Goods List.

1.3 The Dangerous Goods List also contains dangerous goods that meet the description of dangerous goods forbidden on aircraft under any circumstances. These entries are listed with the word Forbidden across columns 2 and 3 of the list. Appendix B of this working paper contains an error in one of the listed Forbidden organic peroxides and a few forbidden organic peroxides that are not listed.

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## APPENDIX A

## PROPOSED AMENDMENTS TO CROSS REFERENCES IN TABLE 3-1 OF THE TECHNICAL INSTRUCTIONS

	TI Edition 2011-2012	UN MR 16th edition	Explanation	Proposed change in Table 3-1
1	Aldehyde, see <b>Acetaldehyde</b>	Aldehyde, see UN 1989	Acetaldehyde = UN 1089	Aldehyde, see <b>Aldehydes, n.o.s.</b> (UN No. 1989)
2	Alkyl aluminium halides, see <b>Aluminium alkyl halides</b>	Alkyl aluminium halides, see UN 3393, 3394	UN 3393 = Organometallic substance, solid, pyrophoric, water-reactive UN 3394 = Organometallic substance, liquid, pyrophoric, water-reactive	Alkyl aluminium halides, see <b>Organometallic substance, solid, pyrophoric, water-reactive</b> (UN No. 3393) or <b>Organometallic substance, liquid, pyrophoric, water-reactive</b> (UN No. 3394)
3	-	Aluminium alkyl halides, liquid, see UN 3394		Aluminium alkyl halides, liquid, see <b>Organometallic substance, liquid, pyrophoric, water-reactive</b> (UN No. 3394)
4	-	Aluminium alkyl halides, solid, see UN 3393		Aluminium alkyl halides, solid, see <b>Organometallic substance, solid, pyrophoric, water-reactive</b> (UN No. 3393)
5	-	Aluminium alkyl hydrides, see UN 3394		Aluminium alkyl hydrides, see <b>Organometallic substance, liquid, pyrophoric, water-reactive</b> (UN No. 3394)
6	-	Aluminium alkyls see UN 3394		Aluminium alkyls, see <b>Organometallic substance, liquid, pyrophoric, water-reactive</b> (UN No. 3394)
7	-	Asbestos, white, see UN 2590	UN 2590 = White asbestos	Asbestos, white, see <b>White asbestos</b> (UN No. 2590)
8	Battery, lithium, see <b>Lithium batteries, etc.</b>	Battery, lithium ion, see UN 3480, UN 3481 Battery, lithium metal, see UN 3090, UN 3091		Battery, lithium ion, see <b>Lithium ion batteries, etc.</b> (UN Nos. 3480, 3481) Battery, lithium metal, see <b>Lithium metal batteries, etc.</b> (UN Nos. 3090, 3091)
9	Bifluorides, n.o.s., see <b>Hydrogendifluorides, n.o.s</b>	Bifluorides, n.o.s., see UN 1740	UN 1740 = Hydrogendifluorides, solid, n.o.s.	Bifluorides, n.o.s., see <b>Hydrogendifluorides, solid, n.o.s.</b> (UN No. 1740)
10	Butyl lithium, see <b>Lithium alkyls</b>	Butyl lithium, see UN 3394	UN 3394 = Organometallic substance, liquid, pyrophoric, water-reactive	Butyl lithium, see <b>Organometallic substance, liquid, pyrophoric, water-reactive</b> (UN No. 3394)
11	But-1-yne, see <b>Ethyl acetylene</b>	But-1-yne, see UN 2452	UN 2452 = Ethyl acetylene, stabilized	But-1-yne, see <b>Ethyl acetylene, stabilized</b> (UN No. 2452)
12	Casinghead gasoline, see <b>Natural gasoline</b>	Casinghead gasoline, see UN 1203	UN 1203 = Gasoline or Petrol or Motor spirit	Casinghead gasoline, see <b>Gasoline or Petrol or Motor spirit</b> (UN No. 1203)

1.4

	TI Edition 2011-2012	UN MR 16th edition	Explanation	Proposed change in Table 3-1
13	Chlorotrifluoroethylene, see <b>Trifluorochloroethylene, inhibited</b>	Chlorotrifluoroethylene, see UN 1082	UN 1082 = Trifluorochloroethylene, stabilized	Chlorotrifluoroethylene, see <b>Trifluorochloroethylene, stabilized</b> (UN No. 1082)
14	-	Cupric chlorate see UN 2721	UN 2721 = Copper chlorate	Cupric chlorate, see <b>Copper chlorate</b> (UN No. 2721)
15	Cyanides, organic, toxic, n.o.s., see <b>Nitriles, toxic, n.o.s.</b>	Cyanides, organic, toxic, n.o.s., see UN 3276, UN 3439	UN 3276 = Nitriles, toxic, liquid, n.o.s. UN 3439 = Nitriles, toxic, solid, n.o.s.	Cyanides, organic, toxic, n.o.s., see <b>Nitriles, toxic, liquid, n.o.s.</b> (UN No. 3276) or <b>Nitriles, toxic, solid, n.o.s.</b> (UN No. 3439)
16	Deanol, see <b>Dimethylethanolamine</b>	Deanol, see UN 2051	UN 2051 = 2-Dimethylaminoethanol	Deanol, see <b>2-Dimethylaminoethanol</b> (UN No. 2051)
17	2-Diethylaminoethanol, see <b>Diethylaminoethanol</b>		2-Diethylaminoethanol is the PSN, not Diethylaminoethanol (cross reference should be reversed)	Diethylaminoethanol, see <b>2-Diethylaminoethanol</b> (UN No. 2051)
18	Diethylcarbinol, see <b>Amyl alcohols</b>	Diethylcarbinol, see UN 1105	UN 1105 = Pentanols	Diethylcarbinol, see <b>Pentanols</b> (UN No. 1105)
19	-	Diethylzinc, see UN 3394	UN 3394 = Organometallic substance, liquid, pyrophoric, water-reactive	Diethylzinc, see <b>Organometallic substance, liquid, pyrophoric, water-reactive</b> (UN No. 3394)
20	-	Dimethylzinc, see UN 3394	UN 3394 = Organometallic substance, liquid, pyrophoric, water-reactive	Dimethylzinc, see <b>Organometallic substance, liquid, pyrophoric, water-reactive</b> (UN No. 3394)
21	Dinitrochlorobenzenes, see <b>Chlorodinitrobenzenes</b>	UN refers to UN 1577 and UN 3441	UN 1577 = Chlorodinitrobenzenes, liquid UN 3441 = Chlorodinitrobenzenes, solid	Dinitrochlorobenzenes, see <b>Chlorodinitrobenzenes, liquid</b> (UN No. 1577) or <b>Chlorodinitrobenzenes, solid</b> (UN No. 3441)
22	Electric storage batteries, see <b>Batteries, etc.</b>	Double entry		Remove first cross reference
23	Electric storage batteries, see <b>Batteries, etc.</b> (UN Nos. 2794, 2795, 2800, 3028)			
24	Fertilizer with ammonium nitrate, n.o.s., see <b>Ammonium nitrate fertilizer, n.o.s.</b>	UN refers to UN 2067 and UN 2071	UN 2067 = Ammonium nitrate based fertilizer UN 2071 = Ammonium nitrate fertilizers	Fertilizer with ammonium nitrate, n.o.s., see <b>Ammonium nitrate based fertilizer</b> (UN No. 2067) or <b>Ammonium nitrate fertilizers</b> (UN No. 2071)
25	Fluoric acid, see <b>Hydrofluoric acid, solution, etc.</b>	UN refers to UN 1790	UN 1790 = Hydrofluoric acid	Fluoric acid, see <b>Hydrofluoric acid</b> (UN No. 1790)
26	Heavy hydrogen, see <b>Deuterium</b>	UN refers to UN 1957	UN 1957 = Deuterium, compressed	Heavy hydrogen, see <b>Deuterium, compressed</b> (UN No. 1957)

	TI Edition 2011-2012	UN MR 16th edition	Explanation	Proposed change in Table 3-1
27	Isopropyl bromide, see 2-Bromopropane	UN does not have this reference	2-Bromopropane does not exist as a proper shipping name	Remove cross reference
28	Jet tappers, without detonator, see Charges, shaped, commercial		PSN = Charges, shaped	Jet tappers, without detonator, see Charges, shaped (UN Nos. 0059, 0439, 0440, 0441)
29	Lead (II) perchlorate, see Lead perchlorate	UN refers to UN 1470 and UN 3408	UN 1470 = Lead perchlorate, solid UN 3408 = Lead perchlorate solution	Lead (II) perchlorate, see Lead perchlorate, solid (UN No. 1470) or Lead perchlorate solution (UN No. 3408)
30	-	Lithium alkyls, liquid, see UN 3394	UN 3394 = Organometallic substance, liquid, pyrophoric, water-reactive	Lithium alkyls, liquid, see Organometallic substance, liquid, pyrophoric, water-reactive (UN No. 3394)
31	-	Lithium alkyls, solid, see UN 3393	UN 3393 = Organometallic substance, solid, pyrophoric, water-reactive	Lithium alkyls, solid, see Organometallic substance, solid, pyrophoric, water-reactive (UN No. 3393)
32	-	Lithium alloy batteries UN 3090, UN 3091		Lithium alloy batteries, see Lithium metal batteries, etc. (UN Nos. 3090, 3091)
33	-	Lithium ion polymer batteries UN 3480, UN 3481		Lithium ion polymer batteries, see Lithium ion batteries, etc. (UN Nos. 3480, 3481)
34	-	Magnesium alkyls, see UN 3394	UN 3394 = Organometallic substance, liquid, pyrophoric, water-reactive	Magnesium alkyls, see Organometallic substance, liquid, pyrophoric, water-reactive (UN No. 3394)
35	Magnesium chloride and chlorate mixture, see Chlorate and magnesium chloride mixture	UN refers to UN 1459 and UN 3407	UN 1459 = Chlorate and magnesium chloride mixture, solid UN 3407 = Chlorate and magnesium chloride mixture solution	Magnesium chloride and chlorate mixture, see Chlorate and magnesium chloride mixture, solid (UN No. 1459) or Chlorate and magnesium chloride mixture solution (UN No. 3407)
36	-	Magnesium diphenyl, see UN 3393	UN 3393 = Organometallic substance, solid, pyrophoric, water-reactive	Magnesium diphenyl, see Organometallic substance, solid, pyrophoric, water-reactive (UN No. 3393)
37	1-Methoxy-2-nitrobenzene, see Nitroanisole	UN refers to UN 2730 and UN 3458	UN 2730 = Nitroanisoles, liquid UN 3458 = Nitroanisoles, solid	1-Methoxy-2-nitrobenzene, see Nitroanisoles, liquid (UN No. 2730) or Nitroanisoles, solid (UN No. 3458)

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	TI Edition 2011-2012	UN MR 16th edition	Explanation	Proposed change in Table 3-1
38	1-Methoxy-3-nitrobenzene, see <b>Nitroanisole</b>	UN refers to UN 2730 and UN 3458	UN 2730 = Nitroanisoles, liquid UN 3458 = Nitroanisoles, solid	1-Methoxy-3-nitrobenzene, see <b>Nitroanisoles, liquid</b> (UN No. 2730) or <b>Nitroanisoles, solid</b> (UN No. 3458)
39	1-Methoxy-4-nitrobenzene, see <b>Nitroanisole</b>	UN refers to UN 2730 and UN 3458	UN 2730 = Nitroanisoles, liquid UN 3458 = Nitroanisoles, solid	1-Methoxy-4-nitrobenzene, see <b>Nitroanisoles, liquid</b> (UN No. 2730) or <b>Nitroanisoles, solid</b> (UN No. 3458)
40	beta-Methyl acrolein, see <b>Crotonaldehyde, stabilized</b>	UN refers to UN 1143	UN 1143 = Crotonaldehyde or Crotonaldehyde stabilized	beta-Methyl acrolein, see <b>Crotonaldehyde</b> or <b>Crotonaldehyde stabilized</b> (UN No. 1143)
41	Methyl amyl ketone, see <b>Amyl methyl ketone</b>	UN refers to UN 1110	UN 1110 = n- Amyl methyl ketone	Methyl amyl ketone, see <b>n-Amyl methyl ketone</b> (UN No. 1110)
42	Methylene-di-(phenylene diisocyanate), see <b>Diphenylmethane-4,4'-diisocyanate</b>	Diphenylmethane-4,4'-diisocyanate was removed from the DGL		Remove cross reference
43	Methylene-di-(4-phenyl isocyanate), see <b>Diphenylmethane-4,4'-diisocyanate</b>	Diphenylmethane-4,4'-diisocyanate was removed from the DGL		Remove cross reference
44	Methyl mercaptopropionaldehyde, see <b>4-Thia-pentanal</b>	UN refers to UN 2785	UN 2785 = 4-Thiapentanal	Methyl mercaptopropionaldehyde, see <b>4-Thiapentanal</b> (UN No. 2785)
45	Methylstyrene, inhibited, see <b>Vinyltoluenes, inhibited</b>	Methylstyrene, inhibited, see UN 2618	UN 2618 = Vinyltoluenes, stabilized	Methylstyrene, <b>[stabilized]</b> , see <b>Vinyltoluenes, stabilized</b> (UN No. 2618)
46	Methyl vinyl benzene, inhibited, see <b>Vinyltoluene, inhibited</b>	Methyl vinyl benzene, inhibited, see UN 2618	UN 2618 = Methyl vinyl benzene, stabilized	Methyl vinyl benzene, <b>[stabilized]</b> , see <b>Vinyltoluenes, stabilized</b> (UN No. 2618)
47	Non-activated carbon, see <b>Carbon, animal or vegetable origin</b>	UN refers to UN 1361	PSN for UN 1361 = Carbon, (animal or vegetable origin should be shown in light type)	Non-activated carbon, see <b>Carbon</b> (UN No. 1361)

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	TI Edition 2011-2012	UN MR 16th edition	Explanation	Proposed change in Table 3-1
48	Non-activated charcoal, see <b>Carbon, animal or vegetable origin</b>	UN refers to UN 1361	PSN for UN 1361 = Carbon, (animal or vegetable origin should be shown in light type)	Non-activated charcoal, see <b>Carbon</b> (UN No. 1361)
49	Orthophosphoric acid, see <b>Phosphoric acid</b>	UN refers to UN 1805 and UN 3453	UN 1805 = Phosphoric acid, solution UN 3453 = Phosphoric acid, solid	Orthophosphoric acid, see Phosphoric acid, solution (UN No. 1805) or Phosphoric acid, solid (UN No. 3453)
50	-	3-Pentanol see UN 1105	UN 1105 = Pentanols	3-Pentanol, see Pentanols (UN No. 1105)
51	Phenylethylene, see <b>Styrene monomer, inhibited</b>	UN refers to UN 2055	UN 2055 = Styrene monomer, stabilized	Phenylethylene, see <b>Styrene monomer, stabilized</b> (UN No. 2055)
52	Picrotoxin, see <b>Toxins, extracted from living sources, n.o.s.</b>	UN refers to UN 3172 and UN 3462	UN 3172 = Toxins, extracted from living sources, liquid, n.o.s. UN 3462 = Toxins, extracted from living sources, solid, n.o.s.	Picrotoxin, see <b>Toxins, extracted from living sources, liquid, n.o.s.</b> (UN No. 3172) or <b>Toxins, extracted from living sources, solid, n.o.s.</b> (UN No. 3462)
53	Potassium bifluoride, see <b>Potassium hydrogendifluoride</b>	UN refers to UN 1811	UN 1811 = Potassium hydrogendifluoride, solid	Potassium bifluoride, see <b>Potassium hydrogendifluoride, solid</b> (UN No. 1811)
54	Shaped charges, see <b>Charges, shaped, commercial</b>	UN refers to UN 0059, 0439, 0440, 0441	Proper shipping name = Charges, shaped	Shaped charges, see <b>Charges, shaped</b> (UN Nos. 0059, 0439, 0440, 0441)
55	Sodium potassium alloys, see <b>Potassium sodium alloys</b>	UN refers to UN 1422 and UN 3404	UN 1422 = Potassium sodium alloys, liquid UN 3404 = Potassium sodium alloys, solid	Sodium potassium alloys, see <b>Potassium sodium alloys, liquid</b> (UN No. 1422) or <b>Potassium sodium alloys, solid</b> (UN No. 3404)
56	Sulphuretted hydrogen, see <b>Hydrogen sulphide, liquefied</b>	UN refers to UN 1053	UN 1053 = Hydrogen sulphide	Sulphuretted hydrogen, see <b>Hydrogen sulphide</b> (UN No. 1053)
57	Tetrafluorodichloroethane, see <b>Dichlorotetrafluoroethane</b>	UN refers to UN 1958	UN 1958 = 1,2-Dichloro-1,1,2,2-tetrafluoroethane or Refrigerant gas R 114	Tetrafluorodichloroethane, see <b>1,2-Dichloro-1,1,2,2-tetrafluoroethane</b> or <b>Refrigerant gas R 114</b> (UN No. 1958)
58	Trichloroacetaldehyde, see <b>Chloral, anhydrous, inhibited</b>	UN refers to UN 2075	UN 2075 = Chloral, anhydrous, stabilized	Trichloroacetaldehyde, see <b>Chloral, anhydrous, stabilized</b> (UN No. 2075)

1.7

	<b>TI Edition 2011-2012</b>	<b>UN MR 16th edition</b>	<b>Explanation</b>	<b>Proposed change in Table 3-1</b>
59	2,4,4-Trimethylpentene-1, see <b>Diisobutylene, isomeric compounds</b>	UN refers to UN 2050	UN 2050 = Diisobutylene, isomeric compound	2,4,4-Trimethylpentene-1, see <b>Diisobutylene, isomeric compound</b> (UN No. 2050)
60	2,4,4-Trimethylpentene-2, see Diisobutylene, isomeric compounds	UN refers to UN 2050	UN 2050 = Diisobutylene, isomeric compound	2,4,4-Trimethylpentene-2, see <b>Diisobutylene, isomeric compound</b> (UN No. 2050)
61	Villiaumite, see <b>Sodium fluoride</b>	UN refers to UN 1690	UN 1690 = Sodium fluoride, solid	Villiaumite, see <b>Sodium fluoride, solid</b> (UN No. 1690)

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**APPENDIX B**

**AMENDMENTS AND ADDITIONS FOR "FORBIDDEN" ITEMS IN TABLE 3-1 OF THE TECHNICAL INSTRUCTIONS**

<b>Table 3-1</b>			<b>Remarks</b>	<b>Proposed changes to Table 3-1</b>	
<b>Column 1</b>	<b>Column 2-3</b>	<b>Column 1</b>		<b>Column 2-3</b>	
1	Methyl ethyl ketone peroxide(s), more than 50%	FORBIDDEN	Table 2-7 shows FORBIDDEN if $\geq 48\%$ and if available oxygen $>10\%$ and $\leq 10.7\%$ with or without water.	Methyl ethyl ketone peroxide(s), 48% or more if available oxygen above 10% and not more than 10.7% with or without water	FORBIDDEN
2	-	-	tert-Amylperoxy-3,5,5-trimethylhexanoate $\leq 100\%$ is shown as FORBIDDEN in Table 2-7	tert-Amylperoxy-3,5,5-trimethylhexanoate	FORBIDDEN
3	-	-	Disuccinic acid peroxide $\geq 72\%$ is shown as FORBIDDEN in Table 2-7	Disuccinic acid peroxide 72% or more	FORBIDDEN

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